Engineering Package

END-POINT

telecor™

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eMH eSeries Master Clock & Message Host

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DWCLT DWConnect LT

Documents

IDF CLOSET eSeries Network

PoE Network Switch

GYM

eSBM-TB
Speaker Breakout Module

Local Sound
System Audio Equipment
Rack

CAT 6 Typical

Typical
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Typical eSeries
Wall Mounted Clocks

PoE
Single Face 12" Clocks

PoE
Double Face 12" Clocks

eSBM-TB
Speaker Breakout Module

TELECOR Power Amplifier (SI-60)

1 pr AWG 18 Typical

To
Additional
Corridor
Speaker

To
Additional
Horn Loundspeaker

Outdoor
25/70V ReEntrant
Horn/Loundspeakers

Typical
Classroom e2443
Message/Clock/Speaker Assembly

e2443

eCS
Call Station

TYPICAL
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SECOND FLOOR

FIRST FLOOR

Facility Network

PoE Network Switch (by others)

MAIN EQUIPMENT CABINET

PoE Network Switch

Laptop Computer (by others)
with eSeries Manager Software

USB cable

ePort
Management Interface

Facillity Phone System
(by others)

VoIP Phone

VoIP Phone

eSIP, SIP Interface

eSIP

EMH Master Clock & Message Host

EMH

Ethernet 25 Watt Amp

eAMP

TMS Media Source

eSBM-TB
Speaker Breakout Module

TELECOR Power Amplifier

Administrative Office
e300 eConsole

CAFETORIUM

Local Sound
System Audio Equipment
Rack

eSBM-TB
Speaker Breakout Module

Typical
E365-TB Message/Clock Display

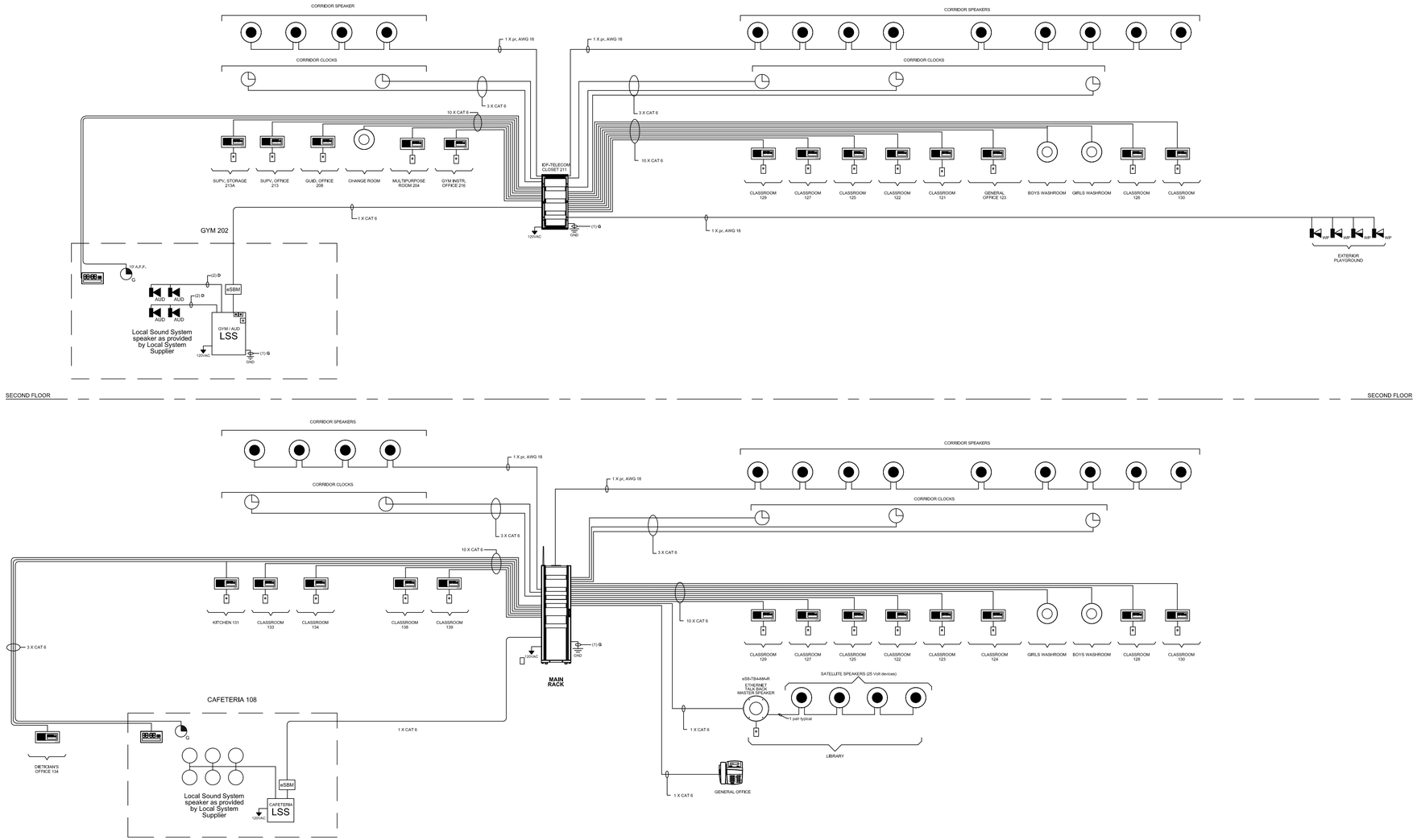
PoE
Single Face 12" Clocks

SATELLITE SPEAKERS (25 Volt Devices)

eSb-TB44MAR
ETHERNET
POWERED
MASTER SPEAKER

1 pr Typical

telecor	TITLE: eSeries Endpoint System Equipment Cabinet Block Diagram		
	PROJECT: eSeries		
SCALE:NTS	APPROVED BY: P.J	DWN BY:	FILE NAME: 002-2-B-r0.0_eSeries_Endpoint_System_Equipment_Cabinet_Block_Diagram
DATE : 12/14/2021	DWG.NO:002-2-B-r0.0	REV : 0	



LEGEND:

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- ES8-TB4-MA-R Talk Back Master Speaker
- STB-10 25/70 Assembly
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- PoE 12" Single Face Analog Clock
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- A-15 T Horn Loudspeaker WP denotes Weather Proof
- eSBM — ESBM-TB Speaker Breakout Module
- CAFETERIA LSS — CAFETERIA LOCAL SOUND SYSTEM. This is a none Telecor System that Integrates through an eSBM. Local Sound System shall Incorporate an overtide feature that will allow a page from the eSeries system to mute any local audio and broadcast announcements over the Local Sound System Speakers. Local Speakers shall be an Integral part of the Local Sound System.
- GYM / AUD LSS — GYMATORIUM LOCAL SOUND SYSTEM. This is a none Telecor System that Integrates through an eSBM. Local Sound System shall Incorporate an overtide feature that will allow a page from the eSeries system to mute any local audio and broadcast announcements over the Local Sound System Speakers. Local Speakers shall be an Integral part of the Local Sound System.

telecor		TITLE: eSeries Endpoint System Riser Diagram	
		PROJECT: eSeries	
SCALE:NTS	APPROVED BY: P.J	DWN BY:	FILE NAME: 002-1-R-r0.0_eSeries_ Endpoint_System_Riser_Diagram
DATE : 12/14/2021	DWG.NO:002-1-R-r0.0	REV : 0	

SECTION 275123 - eSERIES END POINT INTERCOM, PAGING, AND EMERGENCY MESSAGING SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. The system specified is based on the Telecor eSeries Supervised Network based Communications System providing at least the features and functions outlined below. The System shall be installed and programmed by a local authorized and certified Telecor dealer.

B. Supply and install a complete supervised network-based intercom system. Field wiring shall be CAT 5E or CAT 6 cable, control wiring for power distributions and very long runs, and utilize an optional fiber backbone (when distances exceed normal Ethernet limitations). All station equipment shall utilize standard RJ-45 modular connections. All remote devices utilizing standard structured cabling shall be capable of PoE (Power over Ethernet) or power supplied within the CAT 5E or CAT 6 cable jacket. Wiring shall be capable of either being installed in conduit or cable trays, where shown on the plans.

C. The system shall be capable of interconnecting with the building LAN (Local Area Network). This connection shall be minimal and utilize only one Ethernet 100 Mbps (or optionally 1 Gb) connection per station to accomplish all intercom operations. Ethernet ports and associated network switches that are required to connect any intercom devices will be provided by the OWNER.

D. Provide a separate circuit for each room and administrative office so each room, speaker, amplifier, and emergency messaging display/clock can be individually addressed.

E. Overall intercom communications network shall utilize Ethernet or VoIP communications between all major components: administrative consoles, intercom stations, amplifiers and individual paging speakers, and network switches. Systems not utilizing Ethernet or VoIP communications protocol to each end-point device will not be acceptable. Systems not capable of supervising all networked devices including network amplifiers, network speakers, notification switches, and emergency messaging display/clocks will not be acceptable.

F. The network shall support a VLAN configuration to separate activity in the intercom system from other in building LAN traffic. In locations where the supervised network communications system will be considered as part of the facilities life safety systems, a dedicated and isolated network shall be required.

G. The system shall interface to the facility's IP-PBX via SIP trunk connectivity.

H. The Communications System shall include master clock support and synchronization of digital secondary clocks, event scheduling, and messaging software allowing the facility to configure multiple schedules per school, multi zone time tone signaling for class changes, and message notification.

I. The Communication System shall include alarm features, including a comprehensive command center and alarm-focused emergency management capabilities. In the event of an alarm condition, all nonessential system operations shall be automatically suspended. Control of the system shall be transferred to a command center console operated by the incident commander. All call-ins placed from room stations shall be re-routed automatically to the command center console.

J. The Communications System shall include software for the management of communications during an alarm condition in the facility using a GUI located at the command center. This includes activating, clearing and providing status of all alarms in the facility, including comprehensive management of lockdown and acknowledge status of each classroom designated as a Shelter-in-Place location.

1.3 DEFINITION OF TERMS

A. Installer(s): Shall refer to the person, persons, or company who or which contracts to perform the work specified herein.

1.4 SUBMITTALS

A. Submit the shop drawings, product data, and quality control submittals specified below at the same time as a package.

B. Shop Drawings: Composite wiring and/or schematic diagrams of the complete system as proposed to be installed. Drawing shall include relative position of all major components, typical connections, field components, accessories, and cable types.

C. Product Data: Include catalogue data sheets, manufacturer's default specifications, user operation guides, and bill of materials.

D. Quality control shall include the following:
   1. Name, address, and telephone number of the nearest fully equipped service organization.
   2. Submit a certificate of completion of installation and service training from the system manufacturer.
   3. Submit a list of comparable completed projects. Furnish the name, address, telephone number, and contact name of end user.

E. Field Test Reports: Indicate and interpret test results for compliance with performance requirements. Include record of final matching transformer-tap settings and signal ground-resistance measurement certified by Installer.

F. Maintenance Data: For equipment to be included in maintenance manuals specified in Division 1.
    a. Record of Owners equipment-programming option decisions.
    b. All instructions necessary for proper operation and manufacturer's instructions.
    c. "Proof of Performance" information.
    d. Manufacturer's maintenance information.
    e. Copies of non-proprietary computer programs and system set up disks documenting all programmable features of the installed system.

G. Record Drawings: Prior to final

H. acceptance, provide three (3) complete sets of drawings indicating all cable numbers and construction details in accordance with the actual system installation. Revise all shop drawings to represent actual installation conditions. These Record Drawings will be used during "Final Acceptance Testing".

I. System Training: Submit the following information describing the training programs and system trainers as outlined in paragraph 1.6 of this specification and in accordance with Division 1 specifications.
    a. Include with the submittal a preliminary staff development training program in outline form for review and approval by the owner's representative.
    b. Include with the submittal a current copy of the trainer's certification from the manufacturer that certifies and identifies the trainer(s) who are eligible to provide training and support for the project.
    c. Include with the submittal a current copy of trainer's needs assessment form which will be reviewed with the owner's designated representative for the system's preliminary system programming and configuration.
    d. Include with the submittal copies of all documentation used to identify for the owner those participants attending and completing the training programs.

J. A copy of the manufacturer's standard statement of warranty proving all equipment provided for the school communications network is covered with the required **five-year** warranty shall be included with the project submittal. This statement of warranty shall be provided on the manufacturer's stationary.

1.5 QUALITY ASSURANCE

A. Manufactures: Firms regularly engaged in manufacture of integrated communication systems, time keeping systems, and ancillary equipment, of types and capacities required, whose products have been in satisfactory use in similar service for no less than five years.

B. Installer's Qualifications: Firms with at least five years of successful installation experience with projects utilizing integrated communications systems and equipment similar to that required for this project.

C. All items of equipment including wire and cable shall be designed by the manufacturer to function as a complete system and shall be accompanied by the manufacturer's complete service notes and drawings detailing all interconnections.

D. The Contractor shall be an established communications and electronics Contractor that has had and currently maintains a locally run and operated business for at least five years. The Contractor shall be a duly authorized distributor of the equipment supplied with full manufacturer's warranty privileges.

E. The Contractor shall show satisfactory evidence, upon request, that they maintain a fully equipped service organization capable of furnishing adequate inspection and service to the system. The Contractor shall maintain at their facility the necessary spare parts in the proper proportion as recommended by the manufacturer to maintain and service the equipment being supplied.

F. Except where specifically noted otherwise, all equipment supplied shall be the standard product of a single manufacturer of known reputation and experience in the industry. The Contractor shall have attended the manufacturer’s installation and service school and upon request must show proof of attending such a school.

G. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.

H. Comply with NFPA 70.

I. Comply with NEMA Standard SB-40 for Emergency Communications in K-12 schools.

1.6 IN-SERVICE TRAINING

A. The contractor shall provide and implement a complete and comprehensive staff training program for all administrators, facility staff members, and teachers. This mandatory training program will provide school staff a complete understanding of how to utilize and properly operate all functions.

B. The training program shall be implemented by a staff member/trainer employed by the contractor. The trainer must be factory certified to provide training on their product.

C. All staff development training is to be coordinated through the owner’s designated representative. As training sessions are completed, the trainer will provide the school’s administrative staff and school district’s staff a document listing all the staff and faculty members who attended, received, and completed the training program.

1.7 WARRANTY

A. Provide a **manufacturer’s five-year extended limited warranty** of the school communications network equipment against defects in material and workmanship. This warranty will cover all electronic system components. Additional warranties cover clocks, speakers, and call-in switches. If any defects are found within the warranty period, the defective equipment shall be replaced at no cost (equipment only); a one-year warranty shall be provided for labor.

B. The Contractor shall, at the Owner's request, make available a service contract offering continuing factory authorized service of this system after the initial warranty period.

C. The system manufacturer shall maintain engineering and service departments capable of rendering advice regarding installation and final adjustment of the system.

1.8 MANUFACTURERS

A. Manufacturers: Full Network based solution Subject to compliance with requirements, provide a system by one of the following manufacturers which are currently in use by the owner:
   1. Telecor

PART 2 - PRODUCTS

2.1 SYSTEM REQUIREMENTS

A. The system shall utilize a decentralized network structure not requiring any head-end equipment, central server, or any other control hardware to maintain system operation. Systems utilizing centralized electronics and subject to a single-point-of-failure (power supply, CPU, server, power, etc.) shall not be accepted unless the system has 100% duplication of all centralized operating equipment running concurrently and can automatically take over, including up to the minute programming configuration in the event of a failure of the main system head-end electronics or any required, centralized electronics required to make the system fully operational. Systems that are not based on decentralized structure or systems that do not provide 100% duplication of head-end or systems that operate in a “down-graded” operational mode as the result of a centralized failure are not acceptable.

B. All station devices shall receive power and data through a Power-Over-Ethernet switch. Once plugged into the LAN through a Power-over-Ethernet network switch, all networked devices shall be immediately operational and as applicable shall place or receive calls and pages from stations as well as page all devices in the network. Consoles, intercom stations, clocks, emergency displays, or speakers connected to the network shall not require any network configuration or administration to function.

C. Each Intercom Station, Loudspeaker, clock/message display, shall be assignable to all or any combination of Unlimited Paging, Program Distribution or Time Zones in the system.

D. Each Classroom shall be provided with two Call Stations located in separate locations in order to comply with NEMA Standard SB40 for Emergency Communications in K-12 Schools. One Call switch shall provide the ability to generate normal calls to a designated location while the other shall generate Emergency level calls.

E. Speech shall be transmitted in the frequency range from 50 Hz to 7 kHz and shall use a maximum of 128 kbps of bandwidth during a call. In order to assure maximum intelligibility, all system audio shall be HD Audio as defined in Intel™ High Definition Audio Specifications, June 17, 2010.

F. Intercom communications between consoles and system devices shall be non-blocking with no channel restrictions or limitations (other than network capacity) to the number of

simultaneous conversations at any time between pairs of intercom stations, intercom station to console, console to console, console to speaker or zone of speakers, program source to a speaker or zone of speakers, or bell tones to a speaker or zone of speakers regardless of number of stations or consoles.

G. Any and all devices shall have the ability to have their programming downloaded, individually or simultaneously via the network. Programming shall be downloadable in a series of human readable, industry standard comma-separated values (CSV) files that can be saved and edited using common spreadsheet applications. Consoles, intercom stations, clocks, displays, and speakers residing on a network shall have the ability to update their programming, simultaneously from a CSV file. Furthermore, all devices shall also have the capability to be configured directly, such that device numbers, names, zones, and call-in destinations can be altered in real time without the uploading or downloading of their programming. System shall be capable of uploading firmware updates to all device classes simultaneously, via the network, without the requirement of tools, by authorized technician or qualified facility technician or representatives.

H. Audio communications between all devices shall be accomplished with latency values of a maximum of 0.1 seconds and connection times of 0.01s for 1 to 500 speakers.

I. The system shall support a minimum of 50 channels of simultaneous duplex communication paths on the intercom system LAN, plus a minimum of 10 simultaneous duplex channels for PBX integration.

J. The system shall be capable of routing calls from the Public Switched Telephone Network (PSTN) into any classroom, zone or the entire school via the District's SIP enabled Telephone System. This shall allow for remote monitoring and two-way voice communications from outside the facility to classrooms as well as paging into areas of the school. Additional features shall include:
    1. The ability to place call-ins from classroom call stations to SIP Telephones.
    2. The ability to initiate calls from SIP Telephones to eSeries Classroom Speakers.
    3. The ability to initiate zone and all call paging announcements from SIP Telephones to eSeries Speakers throughout the facility.
    4. The ability to make outside calls from Administrative Consoles to the PSTN via the Districts Phone System.
    5. The ability to receive Live District Wide Paging Announcements from the District Office

K. The System shall allow users to configure multiple schedules per school, with an unlimited number of programmable events in each schedule. Each Event shall sound a user selectable tone, play a user provided audio file or an external audio source. In addition, a textual message shall be programmed to display on associated message displays throughout the school. All scheduling assignments shall be performed via a simple to use, Graphical User Interface (GUI) from a non-dedicated PC, residing in the School. Programming shall also be accomplished from a non-dedicated PC at the District Office. The following features and functions shall be provided. Systems that cannot provide these, shall not be acceptable.
    1. The system schedules shall facilitate the requirements of combined facilities (e.g. elementary and middle schools in a common building) where multiple schedules running concurrently would be required.

2. Each event shall play any of the available tones, audio files or audio sources provided. Events shall be directed to any one or more Time Zones in the systems.
3. Events shall include textual messages to clock/message displays. These shall be formatted as fixed, flashing or scrolling displays that can include up to 200 characters in length.
4. Time Tones may be manually activated from Administrative Consoles or selected SIP phones residing on the schools IP PBX.
5. An integral Master Clock shall provide time synchronization to all secondary, digital clock/Message Displays throughout the school. The communications shall be capable of obtaining it's time synch signal from any NTP timeserver.

L. The System shall be capable of automatically distribute SMS and email notifications to relevant staff members when an emergency event is occurring the facility. Notifications shall be distributed to user alert devices such as mobile phones and smart devices. Mobile phones shall receive the notifications as SMS messages while smart devices shall receive email messages. Emergency events include:
1. The activation of emergency-themed element icons on a PC GUI (e.g., Lockdown, Evacuate, etc.)
2. Emergency Calls placed from Call Stations located room locations.

M. The system shall automatically distribute SMS and email notifications to appropriate technical support staff in the event that the system is experiencing a fault.

2.2 EQUIPMENT AND MATERIAL

A. Supervised Interactive Graphical User Interface
1. The system shall include an Interactive Graphical User Interface (subsequently referred to as IGUI). The software shall reside on Telecor provided PC and should have ability to interface to District Wide Emergency Communication system located in the district office.
2. The IGUI shall be supervised and shall utilize an easy-to-use graphical user interface for quick and easy graphically aided navigation to access functionality for all intercom stations, paging zones, and program distribution sources. Emergency operations shall be simplified through the IGUI allowing stored audio files and alphanumeric messages for message displays to be activated from the IGUI. The IGUI shall allow common operations such as daily announcements to become simplified into single touch activated icons; removing multi-step console set ups and dial strings.
3. The voice device used to originate voice communication for the IGUI to selected locations shall be a system console, telephone handset, or microphone independent from the computer hosting the IGUI. The voice device shall remain functional and accessible regardless of the operational state of a computer supporting the IGUI.
4. The IGUI shall allow the creation of a custom operating screen(s) based on the floor plans of the facilities. Icons representing intercom stations, zones used for paging, tone distribution, textual Message distribution, and audio program distribution shall be incorporated onto the floor plans. The IGUI software shall provide:
   a. Simple routine call processing, including: hold, transfer, and forward

b. Activation of remote station auxiliary relays for applications such as door lock or release
c. Emergency functions
d. Paging
e. Audio program distribution
f. Customizable page elements
g. Customizable operating screen
h. Element library for emergency event icons
i. Initiation of emergency and non-emergency messaging, textual and audible
j. Remote station volume adjustment
k. Remote activation of do not disturb status and/or message waiting status
l. Remote station trouble indication
m. Remote station background music channel selection
n. Dynamic zone management for interactive on-the-fly console specific zones
o. Single touch emergency response (supporting both actual emergencies and drills) including but not limited to all or any combination of the following:
    1) Live voice notification
    2) Pre-recorded audio message
    3) Digital plain text messaging with simultaneous numerically coded message capability
    4) Remote system activation, i.e., access control systems, CCTV systems, door release systems, etc.

5. The IGUI must provide an efficient and reliable method of notifying the occupants within the facility of critical situations. A variety of emergency tone signals that reside within the intercom/paging system shall be activated by clicking on pre-programmed buttons on the IGUI screen, initiating the transmission of tone signals to speakers, and alphanumeric messages to message displays/digital clocks. A "lockdown" icon shall be designed as per Owner direction, with Owner selecting the appropriate tone. Whole building macros for emergency or off-normal response shall be built into the internal communication system as directed by the Owner. Each macro shall be capable of being activated by the console, the IGUI as indicated on plans or as directed by the Owner or AHJ. It shall be possible to activate a WAV file message or Owner selected tone coinciding with multi-language textual messages for distributions to zones as directed by the Owner, all from a single activation icon located on the IGUI. Other single action macros shall be activated in similar fashion via the IGUI and a custom-labeled icon. Plain language labeling of all icons on the IGUI shall be user changeable.

B. Emergency Notification

1. The system shall be capable of providing emergency notifications by email and SMS to mobile devices and designated PCs. during an emergency utilizing a district wide communication system. This feature will notify all relevant staff members so that they are made aware of the emergency event and can respond appropriately. Up to 100 users can be supported directly. When integrated with the facility's email server, it can effectively distribute notifications to an unlimited number of alert devices.
2. Alert devices may be mobile phones and smart devices. Mobile phones shall receive the notifications as SMS messages while smart devices shall receive email messages.

3. When deployed, the emergency notification feature shall support the fault monitoring capabilities of the Master Clock/Message Host. Trouble/fault notifications from eSeries devices shall be annunciated on the IGUI with a flashing Icon. Activation of this icon shall distribute notifications of a fault to appropriate technical support staff.

C. Emergency Alert

1. The Emergency Alert platform shall consist of displays, adapters, and integrators as located on the drawings and specifications.
2. The platform shall allow visual displays to be integrated into Telecor's eSeries System. These displays shall show the time, weather, information, alarms, messages, and emergency alarms. Multiple visual layouts and color schemes shall be available for use. The time shall be displayed as either an analog or digital clock. Messages and emergency alarms shall include plain text and audio. Messages shall have the ability to be scheduled to appear at certain times and days of the week. Live local weather at the facility shall also be shown on each screen.
3. Messages shall be configurable to appear on specific displays and zones (which shall group together multiple displays).
4. Severe weather notifications issued by the National Oceanic and Atmospheric Administration (NOAA) shall activate weather alerts automatically.
5. Emergency alarm screens shall be activated from the IGUI. This shall allow complete integration with an operational control from the facility's Telecor communications system. Emergency Alert alarms shall activate in conjunction with the delivery of SMS text messages and email notifications.
6. The Emergency Alert platform shall support an unlimited number of displays. All displays shall have adjustable brightness levels. A scheduled sleep mode feature shall be available for further energy conservation. Should a display lose power, it shall automatically resume regular operation upon power and network restoration.
7. Displays shall connect via wired Ethernet or wireless Wi-Fi to the facility LAN which shall have access to the Emergency Alert cloud-based web portal. This portal shall be used to manage and configure the Emergency Alert platform and its features. The cloud-based nature of the Emergency Alert platform shall provide the ability to manage different sites, each with their own sets of displays, through the web portal.
8. The Emergency Alert display shall consist of a 22" HD screen. The display shall be equipped with both wired and wireless network adapters for connection to the facility LAN.
9. The display shall be wall mounted with a surface mount bracket in either a landscape or portrait orientation.
10. The adapter shall allow any third-party display capable of receiving HDMI input to serve as an Emergency Alert display. This shall include large-format HD resolution displays. The adapter shall include wired and wireless network adapters to allow the display to connect to the facility LAN.
11. The integrator provide integration between Telecor's eSeries System and the Emergency Alert platform.
12. Emergency Alert platform messages and emergency alarms shall have the ability to be configured so that they can be activated from the IGUI.

D. Supervised SIP Trunk IP/PBX Interface

1. The system Session Internet Protocol (SIP) Interface shall be a VoIP PBX phone interface of the same manufacturer as the supervised network intercom and paging system. Third party gateway devices shall not be accepted.
2. The SIP Interface shall be supervised and shall connected directly to the facilities network and the PBX's network and shall provide the following:
   a. Establish a barrier gateway between the intercom and paging network and the PBX and/or common computer network.
   b. Transparent audio operation between VoIP PBX phones and any device on the supervised network intercom and paging system. Paging access from any telephone on the facility system VoIP PBX to any intercom speaker, speaker zone, intercom station, console, all speakers, or paging horns and zones throughout the facility.
   c. Any call-in from the supervised network intercom and paging system shall be capable of being routed directly to a VoIP PBX phone. Call-in stations can be configured and programmed to automatically dial any number on the publicly switched telephone network, landline, or cellular number through the SIP interface and via the PBX.
   d. Ability to escalate a call-in to be redirected to a VoIP PBX connected phone via the SIP Interface. Escalation can also include the ability to dial any number on the publicly switched telephone network, landline, or cellular number through the SIP interface via the PBX.
   e. Ability to initiate alarm and crisis response protocols from any VoIP PBX connected phone.
   f. Ability to require security access code to utilize the intercom or paging system emergency communication features.
   g. Minimum of 10 simultaneous telephone channels of access to/from VoIP PBX phone system. Full caller ID support from any supervised network intercom call-in device to a VoIP PBX connected phone identifying the calling station ID/Location.
   h. Emergency level call-in to be uniquely identified as emergency on the VoIP PBX phones.
   i. Activation of all supervised networked intercom and paging system emergency tones and pre-recorded announcements from any phone connected to the building VoIP PBX phone system.
   j. The SIP Interface shall additionally allow for calls to be placed from a console to any phone number on the publicly switched telephone network (landline or cellular). Additionally, intercom calls at a console may be transferred to any number on the publicly switched telephone network to any landline or cellular number through the SIP interface via the PBX.
3. Systems that connect to a building or district phone system and are limited to a SLT or CO connection will not be accepted as a substitute for a fully operational SIP Interface.

E. Control Interface

1. The Control Interface shall provide a Desktop Application for PC interaction with the Intercom and Paging system, a Command Interface Protocol for external system interaction with third party systems, Group Zone functionality, and a Scripting Engine supporting multiple sequential operations.

2. The system shall incorporate a Windows based Desktop application that makes use of a Command Protocol Interface, allowing external systems to interact with the Network Intercom and Paging System. Combined with the Scripting and Group Zones features, the Desktop application shall generate a preprogrammed series of operations from a single action. These features shall be used in conjunction with a graphical user interface and the Microsoft Windows desktop.
3. Default Scripts shall be used to generate customized shortcuts according to the needs of a facility. These shortcuts shall then be placed directly on the Windows desktop and shall activate virtually any Intercom and Paging function by clicking on the shortcut icon. These shall include activating:
   a. Alerts, audio distributions, coded and plain text messages, intercom operations.
   b. Pre-Recorded Evacuate, Lockdown, and All Clear audio files.
   c. Companion text messages for audio alerts.
   d. Coded messages on all secondary digital clocks and displays.
4. The Desktop Application shall also activate SMS text messages, computer pop-up notifications, and email distributions in conjunction with any script. Desktop icons such as a Panic Button shall send SMS notifications to a crisis team, advance warning to building occupants through pop-ups to heighten the level of awareness.
5. Any Desktop location running the Application shall have the ability to create and send an instant message using the Desktop's keyboard and display. The textual message can be sent independently or as a companion message to an audible alert.
6. The Desktop Application shall be capable of utilizing Soft Call and Panic buttons. Soft Call buttons shall be created to operate as a call button on the desktop with a normal or emergency call priority. They shall also be combined with other preset or on-the-fly custom text messages. Panic buttons shall allow a user to unobtrusively activate an audio path from the panic button location to another eSeries device at a security location. This shall allow security personnel to listen to an occurring situation and provide the appropriate response.
7. The System shall be capable of streaming multiple audio programs over 10 available channels, simultaneously, to speaker locations in the facility. The ability to turn the broadcast on or off to a specific location shall be controlled from the Desktop Application.
8. A user from the Desktop Application shall enable or disable Do Not Disturb (DND) mode for a group of devices such as speakers or intercom stations.
9. Volume Adjustments to individual devices, devices in a zone, or all devices in the intercom and Paging System shall be made from the Desktop Application.
10. The Desktop Application shall be used to create a call directory to provide the user with the ability to quickly and easily place calls to a large number of prospective recipients and locations. The shortcuts shall be customized with the name of the call recipient or location. The call directory shall also contain shortcuts that activate message-waiting indications in addition to the option of placing calls.
11. The system shall interface with other external systems using a Command Interface Protocol. External systems include integrated security management

or building management systems via devices such as computers, programmable logic controllers, or software-based annunciator panels.

12. The Command Interface Protocol shall be used to send real time commands and receive real time status messages between the third party system and eSeries devices. The Command Interface Protocol shall be an ASCII protocol that includes both outbound messaging, and support for inbound command via a virtual COM port and a physical USB connection.
13. Scripting shall allow operations to be carried out in sequence. Scripts shall be activated in various ways including: automatically based on the day of week and time of day, using a Console or a phone, by using the Desktop Application, or from other scripts.
14. When scripts from a Console or PBX phone (via a SIP interface), the name of the script shall be displayed on the Console or phone. Then the user shall be presented with options to enable or disable the script (depending on the current state of the script). Consoles and PBX phones that dial the script number shall hear voice prompts for enabling or disabling the script.
15. Scripts shall be used for scheduling time tone programs that include tones, pre-recorded messages, and textual messages displayed on Message Display/Calendar Clocks reoccurring at specific times and days.
16. Scripts shall perform cascading evacuation operations where evacuation audio messages are automatically first distributed to zones closest to the location of an emergency before spreading outwards to other zones according to a time schedule, thus reducing evacuation route congestion throughout the facility.
17. Group Zones shall allow groups of page zones or devices to be defined as a group zone with a dial number. Group Zones shall be accessed from the Desktop Application, Consoles or PBX phones.
18. Group zones shall be the destination for various functions including textual messages, or audio operations, such as pages or audio program distributions). Group zones shall be assigned customized names, which will appear on Console or phone displays when they are dialed.
19. Group Zones shall make it possible for a dial number to be forwarded to different destinations based on time and day. For example, common audio operations directed to a Group Zone dial number shall be configured to go to the usual destination during regular hours but to a different destination outside of regular hours.
20. Group Zone shall support designated priorities, such as emergency. Operations that are to a zone with a priority are automatically elevated to override any normal or lower priority operations the devices in that group zone are receiving.

F. Alarm Manager

1. The Alarm Manager shall be a Telecor Model eAM equipped with eVCAM software or approved equal. The Alarm Manager shall manage system wide communications during an alarm condition in the facility through a GUI and associated software. The Alarm Manager and associated software shall reside on the facility-provided PC.
2. During an alarm condition, all non-emergency operations shall be restricted. Operations shall be transferred to an Alarm Management Console located at the Command Center location within the facility. The command Center shall

be equipped with a Console, associated GUI, PC and software to manage emergency operations during an alarm condition.

3. Included in the GUI shall be ICONS that represent the following alarm types:
   a. Lockdown
   b. Lockout
   c. Evacuation
   d. Reverse Evacuation
   e. Severe Weather
   f. Tornado
   g. Fire
   h. CO Detection
   i. General Emergency
   j. All Clear
4. Alarms shall be activated by "Clicking" on the respective ICON on the GUI. When the corresponding alarm becomes active, the ICONS shall visually change to reflect the current condition.
5. Operation of the Alarm Management Console shall be consistent with NFPA72 Emergency Communication Requirements. Operations activated by an Alarm Management Console shall have the highest priority and shall not be overridden by another operator. This shall eliminate the risk of different operators issuing conflicting instructions.
6. The Alarm Management Console shall perform live paging announcements which shall automatically suspend a pre-recorded portion of an alarm until the conclusion of the paging announcement.
7. From the Command Center, it shall be possible to change the type of alarm, silence an alarm, perform live paging in the alarmed areas, covertly listen to stations, as well as clear the alarm.
8. Call-ins placed from stations in an alarmed area shall automatically be routed to the Alarm Management Console during an alarm condition.
9. Locations designated for "Shelter in Place" such as classrooms, offices, and areas of refuge shall be equipped with Alarm Acknowledgment call stations. These stations shall be used to confirm the status of the occupants in these locations during a Lockdown Alarm Condition. Call stations shall receive pre-recorded verbal instructions to be carried out to secure the "Shelter in Place" locations. Once secure, the status shall be acknowledged by pressing a touch point on the Alarm Acknowledgement Call Station.
10. All "Shelter in Place" locations shall be monitored on the Command Center GUI in real time using the Alarm Manager software. A graphic of the school floor plan shall display the status of the room with color-coded ICONS.
    a. Orange shall indicate that the room has received instructions to secure the room and acknowledgement is pending.
    b. Green shall indicate that the room has acknowledged that the room is secure.
    c. Red shall indicate that the room status is unknown as no acknowledgement has been received from the room.
11. If the Alarm Acknowledgement is not received from the room location after a preset period of time, the station shall automatically place a call to the Alarm Management Console. The Console Operator shall answer the incoming calls utilizing the covert listen function, which allows the operator to aurally monitor the room without the occupant's knowledge. During a convert listen operation, the pre-announce and supervisor tones are suspended. Once the operator determines that the conditions in the room are

typical of the situation, the operator shall establish a two-way intercom conversation with the classroom to determine why people in a Shelter-in-Place location did not complete the emergency response procedure.

12. The Alarm Manager shall support Medical and Security Alert Calls from Alert Call stations. Calls from these stations shall be annunciated at the Alarm Management Console, identifying the origin and type of Call. In addition, a pre-recorded announcement stating the origin and type of alarm shall be broadcast over the local speaker, and a textual message shall be scrolled on the local Message display. The audio broadcast and the textual message shall also be broadcast to one of more zones of loudspeakers.

G. Master Clock/Message Host

1. The Master Clock/Message Host shall be a time master device for the eSeries network which enables configuration and activation of eSeries operations from a web-based graphical user interface (GUI). An unlimited number of operations shall be managed for activation by schedules or users. The application shall be web-based and secured via HTTPS certification. It shall be preconfigured with a variety of default operations, schedules, audio, and icons for quick customization. Users shall log into the application from any desktop computer or mobile smart device using a supported web-browser. Supported web browsers shall include Microsoft Edge, Mozilla Firefox, Google Chrome, and Apple Safari.
2. Master Clock/Message Host functionality shall include central time keeping and synchronization of all other eSeries devices throughout the eSeries network.
3. The Master Clock/Message Host shall manage an unlimited number of calendar-based schedules, which are collections of operations intended to be performed frequently, periodically, or on specific dates and times. For example, a schedule may be a series of bell tones that consistently indicate class changes. Users shall set schedules so that the operations they contain will activate accordingly.
4. Schedules shall be viewed, enabled or disabled in a calendar. The calendar shall display schedules on a daily, weekly, monthly or yearly basis. The Master Clock shall support scheduling operations up to 10 years into the future.
5. An unlimited number of holidays shall be specified and marked on the calendar. This shall indicate days where disabling all schedules may be appropriate.
6. The Master Clock/Message Host shall obtain time from and synchronizes with Network Time Protocol (NTP) servers directly or via an NTP-enabled SIP interface present on the eSeries network.
7. Operations shall include several components, including: pre-announce tones, pre-recorded audio, scrolling textual messages, and coded messages. If desired, specific details of the components shall be customized. Customization shall include: the number of times the pre-announce tone plays, the message scroll speed, and the delay before pre-recorded audio repeats. Depending on the operation type, user-activated operations shall be distributed immediately or queued for later distribution.
8. The Home page shall provide a quick overview of Master Clock/Message Host managed operations. This shall include the next scheduled operation, the schedules that are currently active, and the next scheduled school drill.

The Master Clock/Message Host shall include user specific short tutorial videos that explain various aspects of the GUI and provides built-in on demand training.

9. The Live page shall show currently active and upcoming operations. A history of recently performed operations shall confirm operations occurred as intended. Also, users shall easily initiate on-the-fly operations on the Live page by configuring and activating them on demand.
10. Routine operations shall include an unlimited number of pre-configured common audio distributions. Examples shall include announcements for special assemblies, bus arrivals, staff meetings, and festive events.
11. Operations shall be associated with eSeries scripts so that they shall be activated by users. The Master Clock/Message Host GUI shall indicate if the script is active even if it was activated via other means such as dial access code or IGUI. Other emergency operations (such as Lockdown) shall also be seamlessly integrated with the IGUI.
12. Audio files shall be used for tones or announcements while images shall be used as icons throughout the GUI to represent different operations or schedules. Audio file formats shall include (WAV and MP3) and images to support operations.
13. Access shall be user-account controlled. An unlimited number of users shall be supported with a high level of individual customization. Users shall be given access to only the pages and operations relevant to their intended roles. For each page, users shall be granted permissions to activate or configure operations and schedules from a desktop or, for certain users, from mobile devices. An administrator account shall have full access to view and make configuration changes on all pages, while an operator account shall be limited to activating routine or emergency operations and enabling or disabling schedules.
14. Users with administrative privileges shall have the ability to configure the site name, time, time zone, test zone, and import and export databases. To aid installers with initial configuration, a test mode shall be provided as well as a database import/export feature. Test mode shall redirect all activated operations to a test zone (that only the installer occupies) to prevent disrupting other people during configuration and testing. Database import/export shall allow the configuration to be exported for backup purposes or to copy to other installations.
15. The system shall be configured for an unlimited number of dedicated emergency response operations. A corresponding drill operation shall be automatically created for each emergency situation. Users shall activate emergency response operations from facility PCs or remote mobile devices.
16. The Master Clock/Message Host shall support the operation of Virtual Call Stations that reside on client PCs, including management of all network connections between Virtual Call Stations and the Network Intercom and Paging System.
17. The Master Clock/Message Host shall feature a Maintenance Portal. The portal shall provide trouble notifications for faults being experienced by any eSeries device on the eSeries Network.
    a. The notification includes a details fault report that provides the device name, dial number and the nature of the fault. These shall be easily copied into other documents and emails.

b. The Portal shall be configured to use an email account to automatically send trouble notification emails to a list of designated addresses. These emails shall list the details of all the current faults.
c. A link to the Master Clock/Message Host web interface shall be provided in order for the recipient to perform trouble shooting actions such as viewing up to-do-date fault information, enabling service mode status, and making configuration changes.
d. The volume of station devices shall be remotely adjustable via a web browser.

H. Mobile Quick Access
1. The system shall include a Mobile Quick Access feature that allows staff members to quickly activate Emergency Notifications. (e.g. Lockdown) using mobile smart devices.
2. Notifications shall include the broadcast of pre-recorded audio announcements over the facility's public address speakers and textual messages to eSeries displays with a single activation.
3. The feature shall include emails and SMS messages that shall be delivered to custom lists of recipients.
4. Button options shall be customizable allowing staff a choice of notifications from their mobile device depending on the staff's authority.

I. Supervised Speaker Breakout Module
1. The Speaker Breakout Module shall provide the means of integrating traditional analog speakers and call initiating devices to the eSeries System. The Speaker Breakout Module shall also be a Single Zone Paging Adapter that can drive an amplifier to provide paging coverage in a facility. The Speaker Breakout Module shall have three relay outputs that can activate automatically during a call processing operation.
2. The Speaker Breakout Module shall receive power and data through a Power-Over-Ethernet switch. Once plugged into the LAN through a Power over Ethernet network switch, the Speaker Breakout Module shall place or receive calls and pages from the eSeries network. The Speaker Breakout Module shall not require any network configuration or administration to function.
3. Speech shall be transmitted through the Speaker Breakout Module in crystal-clear HD Audio. Audio shall be transmitted in the frequency range from 50 Hz to 7 kHz and shall use a maximum of 128 kbps of bandwidth during a call. Audio between the Speaker Breakout Module and Consoles shall be non-blocking.
4. The Speaker Breakout Module shall support Ceiling Inlay Speakers which shall connect to the Speaker Breakout Module via a standard CAT5 cable or conventional 8Ω/25V/70V speakers to provide paging and talkback operation from Consoles or phones via a SIP interface and an IP-PBX.
5. The volume of the speakers shall be adjustable individually, by zone, or across the entire eSeries network via the Management Interface or Control Interface. Volume controls incorporated into certain call station models shall also allow a user to adjust the speaker volume locally. Volume levels shall be set by specific functions: intercom, paging, emergency paging, and Public Channel operations.
6. Call-in capabilities shall be provided with the addition of call stations. Call stations models shall be able to initiate normal calls, emergency calls, or both.

Advanced stations that provide additional features shall also be available. These features shall include Privacy mode, Do Not Disturb mode, volume control, and Public Channel select. All call stations shall also provide "message waiting" indication.

7. The Speaker Breakout Module shall also support placing normal and emergency priority call-ins from simple pushbutton call switches. Pressing the normal call switch shall initiate a normal call-in, and either pressing it three times quickly or pressing and holding it for three seconds to shall place an emergency call-in. Pressing the emergency switch once shall place an emergency call-in.
8. The Speaker Breakout Module shall have the ability to direct normal and emergency call-ins to different devices. If the device that is configured to receive the call-in loses network connectivity, the Speaker Breakout Module shall automatically search for an alternate destination. If no other suitable call-in destinations exist, the Speaker Breakout Module shall audibly and visually indicate a fault.
9. The Speaker Breakout Module shall have a call-in roll-over feature where if a call-in to the primary call destination is not answered after a pre-set amount of time, the call shall be automatically copied to a secondary call destination. If both the primary and secondary call destinations are unavailable, the call shall be redirected to a back-up Console.
10. The Speaker Breakout Module shall have the capability to be configured as a member of one or more paging zones.
11. The Speaker Breakout Module shall have a built-in 4-watt audio amplifier that shall drive up to 4 watts of audio to a small zone of 25/70 volt loudspeakers. The Speaker Breakout Module shall provide a line level audio output that can connect to an external power amplifier for applications where the speaker zone load exceeds 4 watts.
12. The Speaker Breakout Module shall be monitored for network connectivity. If the Speaker Breakout Module 's network connection is lost, targeted Consoles shall report that station as absent and display its dial number. When the Speaker Breakout Module is used with Call Stations, the Speaker Breakout Module shall also provide full supervision and monitoring for Call Station and call-in destination connectivity. If a wiring fault is detected between a Call Station and the Speaker Breakout Module, the Speaker Breakout Module shall audibly and visually indicate the error utilizing the status LEDs on the Speaker Breakout Module. The Call Stations shall pulse their status LED to indicate a trouble condition. In case of a fault, the Management Interface or Logging Interface shall log the location, time, date and type of fault. If so configured, the Management Interface, Logging Interface, and Network Amplifiers shall also generate an alarm tone.
13. The Speaker Breakout Module’s status LED that shall flash in different patterns to indicate normal operation, call-in assurance, message-waiting, a call or paging audio in progress, or to indicate an error.
14. The Speaker Breakout Module shall be equipped with three relays that can be used to operate auxiliary devices such as strobe lights, tone initiating devices and door locks.
15. The Speaker Breakout Module shall be wall-mounted using the attached mounting brackets.
16.

J. General Purpose I/O Device

1. The General Purpose Input/Output Device shall be a Telecor model eNODE or approved equal. It shall allow third party devices and systems to interface with Network Intercom and Paging System through contact closures.
2. The I/O Device shall have a minimum of 4 inputs and 4 outputs.
3. The inputs shall connect to dry relay contacts of third-party devices and shall activate any eSeries operations. Each input shall be configurable and shall support connection to sustained or momentary contact closures. Inputs shall differentiate between single or multiple momentary contact closures.
4. Outputs shall activate third party devices and systems. Outputs shall activate in response to:
   a. Paging Audio or intercom calls
   b. Scripts
   c. Alarms
   d. Events in the Master Clock / Message Host
   e. Manual Dialing of an dial number
   f. Analog Clock Correction
   g. Trouble Status Indication
   h. Service Mode
5. The I/O Device shall support tracking features where the output will automatically activate if the I/O Device detects the activation of paging audio, call-ins, Scripts and Alarms.
6. The I/O Device Output shall be capable of being manually dialed and activated from a console, or a phone on the facility's PBX. Once dialed, the caller shall be prompted by voice commands.
7. The I/O Device shall be integrated with the Master Clock/Message Host, allowing outputs to be activated according to scheduled events. The outputs can also be programmed to provide correction to synchronous movement analog clocks.
8. All I/O Device Inputs and Outputs shall be monitored and shall detect opens, shorts and ground faults on the connection between the third-party device and the I/O device. If any of these conditions are detected, a fault condition shall be raised on the system.

K. Supervised Network Administrative Console

1. The Administrative Console shall be supervised and allow the operator to establish two-way communications with an intercom station, talkback speaker, or another Console using the handset or speakerphone. VOX functioning shall be automatically enabled when the handset is used. The Push-to-Talk button shall toggle the Console between talk and listen mode when the speakerphone is used. The Console shall provide a 2-line by 20-character LCD display. The display shall be adjusted to a range of angles for optimum viewing. When there are no active calls, the display shall show the Console name and dial number. If a time server is connected to the network, the display shall also show the time and date.
2. Incoming calls to a Console shall show the originating station dial number and name on the Console display. Calls shall be displayed in the order they are received. The operator shall scroll through the list of calls and answer them out of sequence. Emergency call-ins shall be distinctly annunciated both visually and audibly.

3. The Console shall allow call-ins to be forwarded to another Console, or for calls to be put on hold or transferred to another Console location. Additionally, call-ins or calls shall be forward/transfer-able to PBX telephone extensions via a SIP trunk interface.
4. The Console shall select remote audio sources connected at any location on the local area network, and distribute the audio broadcast from the source to all speakers in a facility or to selected areas such as a speaker zone or a selection of speakers. The Console shall be capable of audio source verification by attendant prior to page zone activation. In this manner, attendants shall listen to the audio source locally, including listening to pre-recorded announcements, prior to system broadcast.
5. The Console shall select a tone or a pre-recorded announcement and broadcast the tone or announcement to all facility speakers or to select areas, such as a speaker zone or a selection of speakers.
6. The Console shall be equipped with digital volume control that shall allow for the separate adjustment of the speaker listen and handset listen volumes. The levels for intercom listen, tones, and program distributions shall be independently adjusted and stored in memory.
7. The system shall allow user programming of alphanumeric architectural room names and numbers. The Console shall be capable of using 1 to 7 digit sequences for dial out and call-in identification, and shall display station numbering, station name, and call-in priority.
8. The end-user shall be allowed to choose and determine the number and location of Consoles. The end-user shall not be limited by pre-set manufacturer limitations of the number of Consoles required by this project; allowing for unrestricted future expansion. Consoles may be added at any time. Consoles added by the end-user that exceed the engineered design for this project shall be at owner's expense. Communication between consoles or consoles and intercom stations or rooms shall not be inhibited by channel number restrictions.
9. The Console shall be capable of displaying room statuses such as Privacy and Do Not Disturb and shall have the ability to override any status limiting communication between the Console and a station with Privacy or Do Not Disturb status activated. Temporary override shall not interfere with continued activation of Privacy and Do Not Disturb after communication has been established and electively terminated.

L. Supervised Network Amplifiers
1. The Supervised Network Amplifier (subsequently referred to as Network Amplifier) shall provide a minimum of 25 watts for paging and public address and shall be capable of utilizing analog amplifiers to increase the amount of amplified signal from the network amplifier. The Network Amplifier shall be connected directly to the network switch by an RJ45 connector and shall receive signals directly from the network.
2. The Network Amplifier shall be supervised and in the event that network communications is lost, an audible alert shall sound on the Amplifier. The Network Amplifier shall provide a silence feature to mute the audible alert for 24 hours.
3. The Network Amplifier shall also be capable of receiving local input from local devices such as tape decks, iPod docks, CD players, etc. The network amplifier shall be capable of transmitting signals received from the local

input to other network locations or locally to directly connected 25/70 volt or 8-ohm analog speakers.

4. Each Network Amplifier shall be capable of providing two audio inputs for local devices and shall be programmable as either a microphone or line-level input.
5. The Network Amplifier shall be controlled remotely such that audio programs, input, tones, textual messages, or announcements may be initiated by other devices connected at different locations on the local area network.
6. The Network Amplifier shall have a minimum of 4 local tone/pre-recorded announcement audio message control lines which when activated will distribute tones/pre-recorded audio messages to intended network amplifiers for re-distribution, network talk-back speakers (or a zone), and/or local 25/70 volt or 8-ohm analog speakers directly connected to amplifier. Each network amplifier shall be capable of storing four (4) pre-recorded announcements in addition to a minimum of 16 tones. Tones and announcements shall be activated locally or from other network devices.
7. The Network Amplifier shall store and transmit companion textual messages for each stored audio announcements. Textual messages shall be automatically broadcasted to the same zones along with the audio messages such that any device programmed for that zone automatically receives both the audio and textual announcement/message and automatically reproduced each or both messages to the extent of the devices' capabilities.
8. The Network Amplifier shall be capable of transmitting HD level audio as defined by Intel™ High Definition Audio specifications, June 17th, 2010 at a minimum.
9. The Network Amplifier shall shut down to protect itself should an output short circuit fault or overload occur that jeopardizes the integrity of the Network Amplifier.

M. Power Amplifiers

1. Power Amplifiers shall be used to drive groups of speakers located in corridors and outdoor locations that are assigned to speaker zones. Amplifier Zones shall be sized at 1 watt per corridor speaker, and 3.5 watts per horn. The amplifier load shall not exceed 80% capacity.
2. The Power Amplifiers shall be capable of producing an audio output of 60, 125 or 250 watts RMS at less than 1% distortion with balanced output.
3. They shall be designed to operate on a line voltage of 115 AC.

N. Supervised Call Stations

1. The Supervised Call Stations, as indicated on the drawings, shall be Telecor model eCS-1 eCS-2, eCS-3, eCS-6 or approved equal. The station shall be used to initiated calls from remote locations to eSeries Consoles.
2. Call Stations shall be monitored for call line failure. In the event of an open circuit, short circuit or short to ground, the System shall detect the fault and notify a designated console operator automatically. The type of fault and its identity on the system shall be displayed on a designated console screen.
3. Call Stations shall provide "message waiting" indications to staff members. If no one is present in a room to respond to a call, or the room is in Privacy or Do Not Disturb mode, the console operator shall have the option to leave a Message Waiting (MW) indication at the Station. If the MW option is chosen, the LED indicator on the room call switches shall begin to pulse.

When a call-in is initiated from the room, the MW indication shall be automatically deactivated, and the call-in shall be automatically routed to the console that left the MW indication.

4. Call Stations shall utilize a momentary contact touchpoint to initiate a "Normal" priority level call. Stations equipped with an "Emergency" touchpoints shall initiate "Emergency" priority level calls. All stations shall have a Call Assurance LED. The LED shall flash when a call in initiated, confirming call placement to the user. The LED shall continue to flash until the call is answered by the console operator.
5. Calls Stations that are equipped with "Privacy" touchpoints shall place the room into a "Privacy" state, preventing the monitoring of audio activity in that room. When in the state privacy, the touchpoint shall illuminate indicating privacy status. When a call is initiated from the Call Station, the privacy state shall automatically be suspended for the duration of the call and automatically re-enabled when the call is complete. If a Console places a call to a location that has a Call Station that is in "Privacy", the caller shall be given verbal instructions, automatically generated by the console, that the room has been placed in privacy and the caller's options are to cancel the call, leave a message waiting indication or connect regardless. If they choose to connect, the audio shall be allowed to be transmitted from the console to the room, but the calling party shall not listen to the room audio unless the party in the room turns off the privacy feature.
6. Call stations that are equipped with "DO NOT DISTURB" (DND) touchpoints shall place the room into DND mode when pressed. When DND mode is enabled, the back lit LED on the station shall illuminate, indicating that the station is in a DND state. Schedule scheduled events, zone pages and normal priority audio programs shall be blocked from being broadcast into a room that is set into the DND state. However, Emergency pages, manual tones and high priority audio programs shall continue to be broadcast into the room. If a call-in is initiated from a room is set to DND, the DND status shall be automatically suspended for the duration of the call, and automatically re-enabled when the call is completed. If a call is placed from a Console to a location that has a Call Station set to DND, the caller shall be given verbal instructions, automatically generated by the console, that the room has been placed in DND and the callers options are to cancel the call, leave a message waiting indication or connect regardless. If they choose to connect, the intercom call shall proceed normally allowing the caller to speak to the party in the room
7. Call Stations denoted with a V suffix (eCS-1V, eCS-2V eCS-6V) shall have the ability to control the volume of the local eSeries room speaker. Call Stations with Volume Controls shall include volume up and volume down momentary contact touchpoints to adjust volume of audio being broadcast over the speaker. Separate user-set volume levels shall be maintained for intercom calls, normal and emergency priority paging announcements. Volume controls shall be disabled when there is no audio being broadcast to the speaker.

O. Alarm Acknowledge and Alert Call Stations

1. The Alarm Acknowledge and Alert Call Stations, as indicated on the drawings, shall be Telecor model eCS-9 or eCS-10 or approved equal. The station shall have the ability to generate Emergency Priority Level call-ins,

perform Alarm acknowledge operations and initiate Medical and Security Alerts. The station shall be designed to operate in conjunction with the Alarm Manager.

2. Call Stations shall be monitored for call line failure. In the event of an open circuit, short circuit or short to ground, the System shall detect the fault and notify a designated console operator automatically. The type of fault and its identity on the system shall be displayed on a designated console screen.
3. The Stations shall initiate Emergency priority level call-ins from remote locations to Consoles. Stations shall be equipped with a Call assurance LED that shall provide call confirmation whereby the LED shall flash, confirming the call-in placement. The LED shall continue to flash until the call in is answered.
4. Locations for "Shelter-in-Place" such as classrooms, offices and areas of refuge, as noted on the drawings, shall be equipped with Alarm Acknowledge or Alert Call Stations. During an Alarm Condition these stations shall notify the Alarm Management Console of the completion of alarm related emergency responses by the occupants of a "Shelter-in-Place" location.
5. The eCS-10 or approved equal stations shall have all the features the eCS-9 station, as well as additional Medical and Security Alert touchpoints. These touchpoints shall have the ability to place call-ins to Console identifying the call as a Medical or Security alert priority level.
6. Medical or Security level call-ins shall combine a call-in, audio announcement, and a scrolling textual message into a single emergency priority operation. The origin and priority of the call shall be displayed at the Console location. Additionally, an announcement shall be broadcast over a selected zone(s) of loudspeakers, broadcasting the location and type of alarm. A textual message identifying the origin of the alarm and alarm type shall also scroll across selected message display(s). The broadcast and messages shall continue to scroll until the call-in is answered.

P. Virtual Call Stations

1. The system shall include Virtual Call Stations that shall reside on classroom PC's as well as portable PC's that are used in classroom locations that are equipped with network speakers. Virtual Call Stations shall mimic the look and behavior of physical Call Stations. These shall feature interactive and animated buttons which react to user inputs such as mouse clicks or finger presses on touch screen devices.
2. Virtual Call Stations shall include Call Assurance indication via a virtual LED representation. When a call is placed the virtual LED shall blink to indicate that the call has been placed.
3. Virtual Call Stations shall be customizable to have any or all of the following configurations:
   a. Push to Call
   b. Emergency
   c. Privacy
   d. Do Not Disturb
   e. Channel Select
   f. Volume
   g. Alarm Acknowledgment
   h. Medical Alert
   i. Security Alert

4. Virtual Call Stations shall be configured with Volume buttons that shall adjust the volume in a room. Volume adjustments shall only affect the current active audio broadcast into the room, for example lowering the volume of paging announcements and not affecting the volume of intercom or emergency announcements.
5. When used with the Call Manager feature, Virtual Call Stations shall support Alarm Acknowledgement as well as Medical and Security Alert functionality. Alarm Acknowledgement functionality shall be used in conjunction with Alarm Manager operations to signal completion of emergency response instructions. Medical and Security Alert touchpoints shall activate a combined emergency response that shall initiate a priority call-in, as well as an audio broadcast and a scrolling text message on Message Displays.
6. When used with portable PC's that are moved between locations, users shall be prompted to enter the room number of their current location.
7. The implementation of the Virtual Call Station shall be a client-server model. The server software shall reside in the Master Clock and Message host hardware. The client portion shall be installed on computers throughout the facility and connected to the facility network.

Q. SUPERVISED MESSAGE DISPLAY/CALENDAR CLOCK/SPEAKER/STROBE

1. The Supervised Message Display/Calendar Clock/Speaker/Strobe Assembly (subsequently referred to as MDCSS Assembly), as indicated on the drawings, hall be a Telecor model e2444-LD or approved equal
2. The MDCSS Assembly shall receive power and data over a RJ45 connect CAT5E/6 cable via a Power-Over-Ethernet switch port. Once plugged into the LAN through a Power over Ethernet network switch, the MDCSS shall be immediately functional and shall not require any network configuration or administration to function
3. The MDCSS Assembly shall be supervised and monitored for connectivity to the network. Additionally, any Call Stations connected to the MDCSS shall be monitored for call line failure. In the event of an open circuit, short circuit or short to ground, the System shall detect the fault and notify a designated console operator automatically
4. The MDCSS Assembly's Speaker shall have a power rating of 10 watts of audio signal and provide a minimum of 92db @ 1 meter SPL for maximum intelligibility.
5. The MDCSS Speaker shall provide transmission of HD audio as generated from intercom console and/or associated push-to-talk, intelligent microphone, supervised network amplifier, or program sources connected to the network.
6. The MDCSS Speakers shall support talkback; to optimize intelligibility talkback capabilities shall be supported.
7. The MDCSS Assembly shall support the direct connection with RJ45 connectors of two supervised room Call Stations. The stations shall provide the means for: normal calls, emergency calls, privacy mode, and do not disturb mode, as well as for the adjustment of Audio Volume. Call Stations shall include a call placed assurance status LED to indicate a call has been placed. Call Stations shall be supervised and immediately indicate disconnection or a wiring fault.

8. Emergency Call Stations shall be separate and clearly labeled with a red button so as to impart obvious operation in the event of an emergency. Systems that only provide a single call station with dual emergency and normal operation based on a sequence of button presses shall not be acceptable.
9. The volume of the MDCSS Speaker shall be adjusted individually, by zone, or across the entire network. Volume controls incorporated into certain Call Station models shall allow a user to adjust the volume of a local MDCSS speaker. Volume levels can be set for specific functions: intercom, paging, emergency paging, and Public Channel operations.
10. Volume controls shall be capable of establishing and maintaining levels for intercom, paging, program distribution, and tones, independently for each of the above functions. Emergency announcements shall not be affected by the adjustment of other speaker volume/levels such as paging, intercom, or other lower priority audio broadcasts. Systems that utilize a manually operated transformer or resistive volume control design shall not be acceptable.
11. The MDCSS Speaker shall have the capability to be configured as a member of one or more paging zones.
12. The MDCSS Assembly shall include an integral LED Strobe that shall illuminate for the duration of an announcement being broadcast over the MDCSS speaker to alert room occupants of the announcement in progress.
13. The LED Strobe shall be configured to illuminate in up to 4 colors (white, red, green or blue) with various flash patterns. Patterns can be set to activate based on the priority of announcements. For example, using a distinct color and flash pattern for an Emergency Announcement while a routine announcement or intercom call can be assigned another pattern and color.
14. The MDCSS Assembly shall include a Message Display/Clock that shall simultaneously display plain text emergency or routine messages and independent numerically-coded messages. When not displaying a message, it shall display the current time and date. Hours and minutes shall be displayed with large 2.25” digits. Seconds shall be slightly smaller for easy distinction. The date shall be displayed in plain text by a 10-character, dot matrix display showing the day of the week, followed by the month and date. The date shall be displayed in the English, Spanish or French language.
15. The Message Display/Clock shall automatically broadcast the audio announcement and a corresponding text message that is initiated on the over the communications system. These shall be enhanced by strobe illumination.
16. The Message Display/Clock shall also display text-only messages independent of any audio messages.
17. In addition to plain text messages, the Message Display/Clock shall also simultaneously display numerically-coded messages which can be activated independently to provide trained staff with additional context to the plain text messages.
18. The Message Display/Clock shall include elapsed timer and count-down functions. Used in conjunction with a Timer Button Panel, users shall set the Clock to count upwards from zero to 24 hours or count down from a specified value to zero. Additionally, the unit shall have a local input that will accept a relay closure to activate the elapsed or countdown timer operation. Timers embedded into pre-set plain text messages shall display messages for a pre-set period of time.

19. All Message Display/Clocks shall be continuously synchronized to a Time Master connected anywhere on the same network Time corrections shall be performed instantaneously so that all Clocks display the correct time. If communication is lost with the Time Master, Clocks shall maintain the time independently and stay synchronized with each other. Once communication with the Time Master is re-established, the displays shall automatically resynchronize with the Time Master.
20. The MDCSS Assembly shall integrate with the Classroom Sound Field System and automatically mute the System during an intercom call, paging announcement or class change tone signal. Integration shall include the ability for an Emergency level call to be initiated from the Sound Field pendant microphone to the Administrative Console.
21. The MCDSS Assembly shall be equipped with 3 control relays to support integration with ancillary classroom devices. The relays shall be automatically activated during an emergency call-in or when receiving a broadcast or textual emergency message.
22. The LED strobe shall require Class 4, PoE+ power from the Network Switch.
23. The MCDSS Assembly shall be flush mounted using an e2444-BBF, or approved equal enclosure. In applications where surface mounting is required, an e2444-BBS or approved equal enclosure shall be provided.

R. Supervised Message Display/Calendar Clock/Speaker
1. The Supervised Message Display/Calendar Clock/Speaker Assembly as indicated on the drawings, shall be a Telecor model e2444 or approved equal.
2. The Assembly shall be identical to the Supervised Message Display/Calendar Clock/Speaker/Strobe Assembly as described in section 2.16 of the specifications, however it will not be equipped with the LED Strobe.

S. Digital Message Display/Calendar Clock
1. The Digital Message Display/Calendar Clocks, as indicated on the drawings, shall be a Telecor model e365-TB or approved equal. The unit shall simultaneously display the current time and date. The time is displayed in hours, minutes, and seconds. Hours and minutes are displayed with large 2.25” digits. Seconds are slightly smaller for easy distinction. The date is displayed in plain text by a 10-character, dot matrix display showing the day of the week, followed by the month and date. The date shall be displayed in the English, Spanish or French language.
2. The Digital Message Display/Calendar Clock shall receive power and data over a RJ45 connect CAT5E/6 cable via a Power-Over-Ethernet switch port. Once plugged into the LAN through a Power over Ethernet network switch, the Display shall be immediately functional and shall not require any network configuration or administration to function.
3. The Digital Message Display/Calendar Clock shall be supervised and monitored for connectivity to the network. Additionally, any Call Stations connected to the Display shall be monitored for call line failure. In the event of an open circuit, short circuit or short to ground, the System shall detect the fault and notify a designated console operator automatically
4. These Displays shall be designed for use in conjunction with the Master Clock/Message Host. All secondary clocks shall be synchronized with the Master Clock. Corrections shall be done instantaneously and all clocks shall display the identical time and date. In the event of a power failure, the System

shall maintain accurate timekeeping during the outage. Once power is restored, all clocks shall be immediately updated with the correct time and date.

5. In addition to displaying the time, the Unit shall display textual messages in the dot matrix section of the display to the audio announcement that is being broadcast over the communication system speakers. These messages shall be used to alert personnel of an emergency or a situation of concern.
6. The Unit shall also display text-only messages independent of any audio messages.
7. In addition to plain text messages, the Digital Message Display/Calendar Clock shall also simultaneously display numerically-coded messages which can be activated independently to provide trained staff with additional context to the plain text messages.
8. The Digital Message Display/Calendar Clock shall include elapsed timer and count-down functions. Used in conjunction with a Timer Button Panel, users shall set the Clock to count upwards from zero to 24 hours or count down from a specified value to zero. Additionally, the unit shall have a local input that shall accept a relay closure to activate the elapsed or countdown timer operation. Timers embedded into pre-set plain text messages shall display messages for a pre-set period of time.
9. Messages shall be programmed using the Editor software or from a web based Graphical User Interface (GUI). Messages can be activated by the Master Clock/Message Host, allowing text to be displayed at specific times and days of the week. Messages shall be displayed using a variety of visual effects including scrolling or flashing single lines of text, as well as alternating between different lines of text. The dot matrix display shall default back to the date when not displaying messages.
10. The Digital Message Display/Calendar Clock shall be suitable for surface or recessed installations using the appropriate enclosure. For surface installations, the 2431-BBS enclosure is required. For recessed installations, the 2431-BBF enclosure is used. Two surface-mount enclosures shall be mounted back-to-back with a 2423 Dual Mounting Kit, creating a double-faced version.

T. Supervised Network Intercom Talk Back Speaker

1. The Supervised Network Intercom Talk-Back Speaker (subsequently referred to as Network Speaker) shall be a Telecor model eS8-TB. The Network Speaker shall be supervised and capable of up to 10 watts of audio signal and provide a minimum of 92db @ 1 meter SPL for maximum intelligibility. Speaker spacing shall be as defined by manufacturer to provide maximum intelligibility.
2. The Network Speaker shall provide transmission of HD audio as generated from intercom console and/or associated push-to-talk, intelligent microphone, supervised network amplifier, or program sources connected to the network.
3. The Network Speaker shall provide a dry contact output that can be activated remotely from a station or from a console, such as may be required in a door release application.
4. The Network Speaker shall receive power and data over a RJ45 connect CAT5E/6 cable via a Power-Over-Ethernet switch port. Once plugged into the LAN through a Power over Ethernet network switch, the Network

Speaker shall be immediately functional and receive calls and pages from consoles on the network. The Network Speaker shall not require any network configuration or administration to function.

5. The Network Speakers shall support talkback; to optimize intelligibility talkback capabilities shall be supported via a microphone conditioned for low noise, HD audio, and with compression and noise gate capability. Stations that use the speaker instead of a separate microphone for talkback capability shall not be accepted.
6. The Network Speaker shall have a call-in roll-over feature where if it places a call-in to a primary call destination which is not answered after a preset amount of time, the call-in shall be automatically escalated to a secondary call-in destination. If both the primary and secondary call-in destinations are unavailable, the call-in shall be redirected to a back-up Station, Console, or telephone device.
7. The Network Speaker shall have the capability to be configured as a member of one or more paging zones.
8. The Network Speaker shall support the direct connection with RJ45 connectors of two, supervised room notification stations. The stations shall provide the means for: normal calls, emergency calls, privacy mode, and do not disturb mode. Notification stations shall include a call placed assurance status LED to indicate a call has been placed. Notification stations shall be supervised and immediately indicate disconnection or a wiring fault.
9. In addition to the visual call-in assurance status indicators on the notification stations, call-in assurance status indication must also be provided on the associated speaker. Also, in addition to visual call-in assurance, audible call-in assurance shall also be provided in support of persons with visual disabilities.
10. Under blackout conditions, the notification station shall be illuminated such that it can be located in the dark.
11. Normal call stations must support the ability to activate emergency call-in signals via multiple button presses and press and hold operations. Emergency call stations shall be separate and clearly labeled with a red button so as to impart obvious operation in the event of an emergency. Systems that only provide a single call station with dual emergency and normal operation shall not be acceptable.
12. The Network Speaker shall provide local, visual indication of operation or failed-communication and shall immediately annunciate a loss of communication at the main console location.
13. Network Speaker volume must be capable of individual level settings through the network. Settings must not be adjustable without authorization. Volume controls located in rooms must be centrally lockable via the network. Systems that allow a volume adjustment without authorization shall not be acceptable. Systems that utilize a manually operated transformer or resistive volume control design shall not be acceptable. Volume controls shall be capable of establishing and maintaining levels for intercom, paging, program distribution, and tones, independently for each of the above functions. Emergency announcements shall be sent at a volume/level as required by the AHJ and shall not be affected by the adjustment of other speaker volume/levels for the purposes of paging, intercom, or other lower priority audio events.

U. Supervised Network Master/Satellite Talkback Speaker

1. The Supervised Network Master/Satellite Talkback Speaker (subsequently referred to as the Master Talkback Speaker) shall be a Telecor model eS8-TB4 or approved equal. The Master Talkback Speaker shall support all functionality of the Telecor model eS8-TB (specified above).
2. The Master Talkback Speaker shall be supervised and shall support the connection of Satellite Speakers, and support up to four watts of additional 25V Satellite Speaker load. Satellite Speakers shall be Telecor model S8T2570 or approved equal.
3. The Satellite speakers shall not support talkback; to optimize intelligibility talkback capabilities shall be supported from a single point via a microphone conditioned for low noise, HD audio, and with compression and noise gate capability. Stations that use the speaker instead of a separate microphone for talkback capability shall not be accepted.
4. The Satellite Speaker shall receive power over a RJ45 connect CAT5E/6 cable via the Supervised Network Master/Satellite Talkback Speaker. Both the Supervised Network Master/Satellite Talkback Speaker and the Satellite Speaker shall receive all power through a single Power-Over-Ethernet switch port. Systems that require auxiliary power or additional external or supplementary audio power amplification are not acceptable.

V. Security Intercom Stations

1. The Security Intercom Stations as indicated on the drawings, shall be a Telecor model eSTN-1 or approved equal. The Station shall provide for two-way communications as well as call-in capabilities.
2. The Station shall receive power and data through a Power-Over-Ethernet switch. Once plugged into the LAN through a Power over Ethernet network switch, the Station shall receive calls and pages from the eSeries network. The Station shall not require any network configuration or administration to function.
3. The Station shall have a call-in roll-over feature whereby if a call-in to the primary call destination is not answered after a preset amount of time, the call shall be automatically copied to a secondary call destination. If both the primary and secondary call destinations are unavailable, the call shall be redirected to a back-up Station or Console.
4. The Station shall have the capability to be configured as a member of one or more paging zones
5. The Station shall be tamper-proof in design and construction and shall provide for two-way communications as well as call-in capabilities. The faceplate shall be fabricated from 11-gauge stainless steel with a brushed, mar-resistant finish. The speaker shall be protected against tampering by three barriers located between the faceplate and the speaker cone. A Mylar speaker cone shall be used in order to prevent damage to the speaker from liquids.
6. The Security Intercom Stations shall mount onto standard, three-gang electrical boxes, of a depth of no less than 2.875". Mounting hardware shall be tamper-proof. The switch actuator shall be fabricated from solid metal, and connected to the faceplate by a pair of welded studs. It shall be no less than 1/2" in diameter and shall be situated flush to the front of the faceplate. The actuator shall activate a momentary contact switch whose movement

shall be limited by a mechanical stop to prevent damage caused by heavy impact.

W. LED Strobes

1. The LED Strobes, as indicated on the drawings, shall be a Telecor model eLD1 or approved equal. The LED strobes shall illuminate for the duration of an announcement being broadcast over local speaker or horn to alert room occupants of the announcement in progress
2. The LED Strobe shall receive power and data through a Power-Over-Ethernet switch. Once plugged into the LAN through a Power over Ethernet network switch. When the LED strobe is installed in locations with an associated Talkback Speaker, Breakout Module or Message Display Calendar Clock, the Strobe and the associated device shall only require a single Ethernet drop.
3. The LED Strobe shall be configured to illuminate in up to 4 colors (white, red, green or blue) with various flash patterns. Patterns can be set to activate based on the priority of announcements. For example, using a distinct color and flash pattern for an Emergency Announcement while a routine announcement or intercom call can be assigned another pattern and color.
4. The LED Strobe shall be assigned to an associated speaker, an individual speaker zone, multiple zones or all zones. The Strobe shall be activated by placing an intercom call to the room speaker associated with the Strobe, broadcasting an announcement to that speaker, or by an activation of an alarm event such as a Lockdown. The Strobe shall illuminate for the duration of the announcement or event
5. The LED strobe shall require Class 4, PoE+ power provided from the Network Switch
6. The LED Strobe shall be flush mounted using a standard 4, 11/16" square x 2" deep backbox.

X. Vandal Resistant Horn/Loudspeaker

1. The Vandal Resistant Horn/Loudspeakers, as indicated on the drawings, shall be a vandal-resistant loudspeaker assembly that utilizes a double re-entrant horn compression type loudspeaker. It shall be used in locations as indicated on the drawings.
2. These are weatherproof units that are designed for outdoor installation. They are capable of delivering 16 watts of continuous power and include an integral 25/70 volt line-matching transformer. The transformer features color-coded primary taps at 16, 8, 4, 2, and 1 watts. The nominal frequency range is 350 Hz to 10 kHz, with a sensitivity of 96 dB SPL (1 watt/1 meter).
3. The Vandal Resistant Horn/Loudspeaker shall be assembled onto a 16-gauge steel baffle that incorporates a unique interwoven steel security screen for maximum speaker protection while remaining acoustically transparent. This shall prevent any object from penetrating the loudspeaker. The baffle shall be finished in a powder epoxy coating that provides a resilient surface suitable for harsh environments.
4. The Vandal Resistant Horn/Loudspeakers shall be secured to the backbox with "pin-in-torx" tamper-proof screws, which are included with the unit. The Vandal Resistant Horn/Loudspeakers shall be suitable for flush mounting using the H16 Recessed Back Box. Alternatively, surface installations shall be accommodated using the SH-16 Surface Enclosure.

Y. Loudspeakers

1. The Speakers, as indicated on the drawings, shall be 24” x 24 Lay-in Tile Speaker Assemblies, 12” x 24” Lay-in Tile Speaker Assemblies, and Pre-assembled 8” Packaged Ceiling Speakers or approved equals.
2. The 24” x 24” Lay-in Tile Speaker Assembly shall incorporate an 8" cone loudspeaker, equipped with a dual 25/70 volt line-matching transformer, pre-assembled into a 24" x 24" square perforated steel baffle and combination backbox, designed to be installed flush in a suspended ceiling
3. The loudspeaker shall have a wide frequency response for general-purpose voice and music reproduction. The line-matching transformer shall have primary taps at 5, 2.5, 1.25, 0.63, and 0.32 watts. The baffle is finished in a mar-resistant, white epoxy coating. The baffle is finished in a mar-resistant, white epoxy coating.
4. The speaker assembly shall be designed to be installed in a suspended ceiling. Installation is quick and simple as the 24" x 24" is designed to fit into a common 2-foot square ceiling grid. Tie off tabs allow the assembly to be secured to the building structure or ceiling grid to address any safety concerns.
5. The 12” x 24” Lay-in Tile Speaker Assembly shall incorporate an 8" cone loudspeaker, equipped with a dual 25/70 volt line-matching transformer, pre-assembled into a 12" x 24" square perforated steel baffle and combination backbox, designed to be installed flush in a suspended ceiling.
6. The loudspeaker shall have a wide frequency response for general-purpose voice and music reproduction. The line-matching transformer shall have primary taps at 5, 2.5, 1.25, 0.63, and 0.32 watts. The baffle is finished in a mar-resistant, white epoxy coating. The baffle is finished in a mar-resistant, white epoxy coating.
7. The speaker assembly shall be designed to be installed in a suspended ceiling. Installation is quick and simple as the 12" x 24" is designed to fit into a common 2-foot square ceiling grid. Tie off tabs allow the assembly to be secured to the building structure or ceiling grid to address any safety concerns.
8. The Pre-assembled 8” Packaged Ceiling Speaker shall include the loudspeaker/transformer/baffle assembly.
9. The loudspeaker size shall be 8 inches in diameter and have a power handling capacity of 15 watts. The voice coil shall be of high-temperature bonded construction, be one inch in diameter and have an impedance of 8 ohms. The speaker shall have a frequency range of at least 65 Hz to 17,000 Hz and an axial sensitivity of 92dB at 1 m, with a 1 watt input signal @ 1000 Hz. The loudspeaker shall be equipped with a factory wired 25/70 volt line-matching transformer. The transformer shall have the primary taps at 5/16, 5/8, 1-1/4, 2-1/2, and 5 watts. The insertion loss shall be no greater than 1.0 dB. The transformer shall be mounted to the speaker with the secondary leads soldered to the speaker terminals.
10. The assembly shall include a baffle constructed of 22 gauge, cold-rolled steel finished with a mar-resistant white, semi-gloss, epoxy coating. The baffle shall have a diameter of 13".
11. The Pre-assembled 8” Packaged Ceiling Loudspeaker shall mount to a T7 support bridge, used to attach the assembly to suspended ceilings. The support bridge shall accept an enclosure, model H7, for applications where a protective enclosure is required. The H7 enclosure shall attach to the support

bridge with appropriate mounting screws. The enclosure shall be a Telecor H7 or approved equal. A circular molded polystyrene damping pad shall be fitted to the inside top of the enclosure to prevent acoustical and mechanical resonances. The pad's surface shall be molded with a triangular pattern for enhancing low frequencies and shall optimize the audio response of the enclosure.

Z. Re-entrant Horn/Loudspeakers

1. The Re-Entrant Horn/Loudspeakers, as indicated on the drawings, shall be a double re-entrant type, with a flared bell and an integral compression driver rated for 15 watts of continues audio power. The frequency response shall be 375 -14,000Hz. Nominal sensitivity shall be such that a sound pressure level of 110 dB at 1000 Hz. (on axis) at distance of one meter is produced with an input of one watt. Sound dispersion shall be no less than 100 degrees, regardless of the mounting position. The horn shall contain a weatherproof, built-in, 25/70 volt line-matching transformer. Power taps shall be at 0.48, 0.94, 1.8, 7.5 or 15 watts for a 25V line and 1, 2, 3.8, 7.5 or 15 watts for a 70 V line. The power taps shall be screwdriver adjustable. Impedance selection shall be 5,000, 2500, 1300, 666, 333, 87, or 45 ohms.
2. The unit shall include a die-cast universal mounting bracket, allowing the horn to be positioned both in the vertical and horizontal planes with a single adjustment. The wiring terminals and the screwdriver power tap shall be enclosed by a clear plastic cover for security and weather protection. The horn shall be finished in a grey epoxy. Dimensions shall be 9 1/4" deep with a diameter of 8".

AA. Digital Clocks

1. The Digital Clocks shall be Telecor model eCLK-2.5 / eCLK-4 or approved equal.
2. The eCLK-2.5 shall incorporate a 2.5" display and located as indicated on the drawings. It shall be suitable for surface or recessed installations using the appropriate enclosure. For surface installations, the 2421-BBS or approved equal Enclosure shall be used. For recessed installations, the 2421-BBF or approved equal Enclosure shall be used.
3. The eCLK-4 shall incorporate a 4" display and located as indicated on the drawings. It shall be suitable for surface or recessed installations using the appropriate enclosure. For surface installations, the 2431-BBS or approved equal Enclosure shall be used. For recessed installations, the 2431-BBF or approved equal Enclosure shall be used
4. The Digital Clocks shall utilize seven-segment, AlGaAs "Supper Bright" LED displays which provide exceptional visibility. The Clocks shall incorporate a single piece front cover that is free of grooves and gaps. This shall keep infectious contaminants out of the eClock. The cover's non-porous surface shall allow for easy, comprehensive, hygienic cleaning with anti-bacterial agents.
5. The Digital Clocks shall receive power and data through a Power-Over-Ethernet switch. The Digital Clocks shall not require any network configuration or administration to function. Once plugged into the LAN through a Power over Ethernet network switch, the Digital Clocks shall be functional.

6. These Displays shall be designed for use in conjunction with the Master Clock/Message Host. All secondary clocks shall be synchronized with the Master Clock. Corrections shall be done instantaneously and all clocks shall display the identical time and date. In the event of a power failure, the System shall maintain accurate timekeeping during the outage. Once power is restored, all clocks shall be immediately updated with the correct time and date.
7. Two surface-mount enclosures shall be mounted back-to-back with a 2423 Dual Mounting Kit, creating a double-faced version.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with the Installer present, for compliance with requirements and other conditions affecting the performance of the School Communications and School Safety Network.

B. Do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Install system in accordance with NFPA 70 and other applicable codes. Install equipment in accordance with manufacturer's written instructions.

B. Furnish and install all material, devices, components, and equipment for a complete operational system.

C. Impedance and Level Matching: Carefully match input and output impedances and signal levels at signal interfaces. Provide matching networks where required.

D. Control Circuit Wiring: Install control circuits in accordance with NFPA 70 and as indicated. Provide number of conductors as recommended by system manufacturer to provide control functions indicated or specified.

E. All housings are to be located as indicated.

F. The contractor shall provide necessary transient protection on the AC power feed, all copper station lines leaving or entering the building, and all central office trunks. All protection shall be as recommended by the equipment supplier and referenced to earth ground.

G. Wiring within Enclosures: Provide adequate length of conductors. Bundle, lace, and train the conductors to terminal points with no excess. Provide and use lacing bars.

H. Provide physical isolation from speaker-microphone, telephone, line-level wiring, and power wiring. Run in separate raceways, or where exposed or in same enclosure, provide 12-inch minimum separation between conductors to speaker-microphones, telephone

wiring and adjacent parallel power. Provide physical separation as recommended by equipment manufacturer for other system conductors.

I. Identification of Conductors and Cables: Use color coding of conductors and apply wire and cable marking tape to designate wires and cables so all media are identified in coordination with system wiring diagrams.

J. Weatherproofing: Provide weatherproof enclosures for items to be mounted outdoors or exposed to weather.

3.3 GROUNDING

A. Provide equipment grounding connections for Integrated Electronic Communications Network systems as indicated. Tighten connections to comply with tightening torques specified in UL Standard 486A to assure permanent and effective grounds.

B. Ground equipment, conductor, and cable shields to eliminate shock hazard and to minimize to the greatest extent possible, ground loops, common mode returns, noise pickup, cross talk, and other impairments. Provide 5-ohm ground at main equipment location. Measure, record, and report ground resistance.

C. Provide all necessary transient protection on the AC power feed and on all copper station lines leaving or entering the building. Note in system drawings, the type and location of these protection devices as well as all wiring information.

3.4 FIELD QUALITY CONTROL

A. Manufacturer's Field Services: Provide services of a duly factory authorized service representative for this project location to supervise the field assembly and connection of components and the pre-testing, testing, and adjustment of the system.

B. Inspection: Make observations to verify that units and controls are properly labeled, and interconnecting wires and terminals are identified. Provide a list of final tap settings of paging speaker line matching transformers.

C. Testing: Rectify deficiencies indicated by tests and completely re-test work affected by such deficiencies at Contractor's expense. Verify by the system test that the total system meets the Specifications and complies with applicable standards.

3.5 FINAL ACCEPTANCE TEST

A. The Final Acceptance Testing shall be provided to the Owner or the Owner’s designated representative only. Final acceptance testing to any other trade or service provider for the project will not comply with the requirements of this section.

B. The contractor will provide a Final Acceptance Test record document signed by both the contractor and the Owner or designated Owner’s Representative establishing the “In Warranty” date. The warranty period will not commence until the Final Acceptance Test is completed.

C. Be prepared to verify the performance of any portion of the installation by demonstration, listening and viewing test, and instrumented measurements. Make additional adjustments within the scope of work and which are deemed necessary by the Owner because of the acceptance test.

3.6 COMISSIONING

A. The contractor shall train the Owner's maintenance personnel in the procedures and schedules involved in operating, troubleshooting, servicing, and preventative maintenance of the system. This training will be in accordance with the training as outlined in Section 1.6 of these specifications. In addition to the Training Materials provided, the contractor will also furnish Operators Manuals and Users Guides at the time of this training.

B. Schedule training with Owner through the owner’s representative, with at least seven days advance notice.

3.7 OCCUPANCY ADJUSTMENTS

A. The contractor shall provide Occupancy Adjustments in accordance with Section 1.6 of these specifications. A response scenario amenable to both the owner and the contractor will be established and followed for the first year of service.

3.8 CLEANING AND PROTECTION

A. Prior to final acceptance, the contractor shall vacuum and clean all system components and protect them from damage and deterioration. All blank spaces in equipment cabinets will be covered with blank panels. Top and side panels, and all cabinet doors will be installed. All general areas within and around all equipment rack/cabinets in the facility will be swept, vacuumed, and cleaned up. No cabinets will be left unlocked and all cabinet keys will be turned over to the owner or designated owner’s representative.

END OF SECTION

B. All Analog Clocks on the LAN shall be continuously synchronized to a Time Service connected anywhere on the same network. Time corrections shall be performed instantaneously so that all Analog Clocks display the correct time. If communication is lost with the Time Service, the Analog Clock shall maintain the time independently. Once communication with the Time Service is re-established, the Clock shall automatically resynchronize with the Time Service.

C. The Analog Clock shall connect to a PoE drop at a network switch. Up to two single-face clocks or one dual-face clock shall be supported from a single network port. Dual face models shall also be available for wall or ceiling mounting.

D. The Analog Clock shall incorporate a network port and provide PoE Power and Data for a Network Speaker and associated call stations in classroom locations. Clocks that cannot support a Network Speaker and call stations from a single network drop, requiring 1 Network drop for the analog clock and a 2nd Network drop for the classroom speaker will not be accepted. The speaker shall be installed using CAT-5/6 cable, and shall support network speakers at distances of up to 328 feet (100 m) away from Analog Clock.

E. The speaker stations that shall be used with the Clock include: a paging-only eS8-MA speaker, an eS8-TB-MA Talkback Speaker, an eS8-TB4-MA Talkback Master Speaker with additional satellite speakers, or a conventional 8-ohm speaker connected to an eSBM-TB Speaker Breakout Module. In addition, the eSeries speaker shall support normal and emergency Call Stations and auxiliary devices such as strobe lights, tone initiating devices and door locks.

F. The clock assembly shall incorporate a durable steel case in either 12” or 16“ face size as indicated on the drawings.

2.29 EMERGENCY NOTIFICATION

A. The system shall be capable of providing emergency notifications by email and SMS to mobile devices and designated PC’s. during an emergency utilizing DWConnect LT This feature will notify all relevant staff members so that they are made aware of the emergency event and can respond appropriately. Up to 100 users can be supported directly. When integrated with the facilities email server to effectively distribute notifications to an unlimited number of alert devices.

B. Alert devices may be mobile phones and smart devices. Mobile phones shall receive the notifications as SMS messages while smart devices shall receive email messages.

C. When deployed, the Emergency Notification Feature shall support the Fault Monitoring capabilities of the Master Clock/Message Host. Trouble/Fault notifications from eSeries devices shall be annunciated on the visual console with a flashing Icon. Activation of this icon shall distribute notifications of a fault to appropriate technical support staff.

2.30 VUALERT EMERGENCY ALERT

A. The Emergency Alert Components shall be VuAlert or equal. The VuAlert platform shall consist of Dynamic Displays, Dynamic View Adapters and Integrators as located on the drawings and specifications.

B. The platform shall allow visual displays to be integrated into Telecor's eSeries. These displays shall show the time, weather, information, alarms, messages, and emergency alarms. Multiple visual layouts and color schemes shall be available for use. The time shall be displayed as either an analog or digital clock. Messages and emergency alarms shall include plain text and audio. Messages shall have the ability to be scheduled to appear at certain times and days of the week. Live local weather at the facility shall also be shown on each screen.

C. Messages shall be configurable to appear on specific displays and zones (which shall group together multiple displays).

D. Severe weather notifications issued by the National Oceanic and Atmospheric Administration (NOAA) shall activate weather alerts automatically.

E. Emergency alarm screens shall be activated from the eSeries Visual Console GUI. This shall allow complete integration with an operational control from the facility's Telecor communications system. VuAlert emergency alarms shall activate in conjunction with the delivery of SMS text messages and email notifications.

F. The VuAlert platform shall support an unlimited number of displays. All displays shall have adjustable brightness levels. A scheduled sleep mode feature shall be available for further energy conservation. Should a VuAlert display lose power, it shall automatically resume regular operation upon power and network restoration.

G. Displays shall connect via wired Ethernet or wireless Wi-Fi to the facility LAN which shall have access to the VuAlert cloud-based web portal. This portal shall be used to manage and configure the VuAlert platform and its features. The cloud-based nature of the VuAlert platform shall provide the ability to manage different sites, each with their own sets of displays, through the web portal.

H. The Dynamic Display shall be a Telecor model VA-DD or approved equal as indicated on drawings. It shall consist of a 22" HD screen. The Dynamic Display shall be equipped with both wired and wireless network adapters for connection to the facility LAN.

I. The Dynamic Display shall be wall mounted with the VA-B surface mount bracket in either a landscape or portrait orientation.

J. The Dynamic View Adapter shall be a Telecor model VA-DVA or approved equal as indicated on drawings. It shall allow any third-party display capable of receiving HDMI input to serve as a VuAlert display. This shall include large-format HD resolution displays. The Dynamic View Adapter shall include wired and wireless network adapters to allow the display to connect to the facility LAN.

K. The Integrator shall be a Telecor model VA-I or approved equal as indicated on drawings. It shall provide integration between Telecor's eSeries System and the VuAlert platform.

L. VuAlert messages and emergency alarms shall have the ability to be configured so that they can be activated from Visual Console.

3. EXECUTION

A. Install the system in accordance with the manufactures printed instructions and recommended cable types.

B. Provide point-to-point wiring diagrams showing location of all wire pulls. Mark all cables corresponding to point-to-point wiring diagrams.

C. System Acceptance Test

   a. Have the company field adviser adjust the completed system to desired volume levels of customer.

   b. The system shall operate for at least two weeks with no failures or changes required.

   c. Test every circuit in the system to ensure proper operation.

   d. Test each daily function school will be using making sure staff is knowledgeable in the operation of the system.

D. The Contractor shall provide a one-year warranty of the installed system against defects in material and workmanship. All labor and materials shall be provided at no expense to the Owner during normal hours. The warranty period shall begin on the date of acceptance by the Owner.

E. The Contractor shall, at the Owner's request, make available a service contract offering continuing factory authorized service of this system after the initial warranty period.

F. The system manufacturer shall maintain engineering and service departments capable of rendering advice regarding installation and final adjustment of the system.

Datasheets

Interface Components
Software
Master Stations
Call Stations & Switches
Speakers
Horns
Amplifiers
Master Clock
Messaging Display/Clocks
Digital Clocks
Mass Notification

Interface Components

eCI Control Interface

eMH eSeries Master Clock & Message Host

ePort Management Interface

eSIP SIP Interface

SPS SIP Paging Server

eNode-M Main Unit

General Purpose Input/Output Device

eNode-S-Secondary Unit

General Purpose Input/Output Device

eLOG Logging Interface

telecor™
eSeries

eCI-MA
Control Interface Model A

FEATURES

- Uses eDesktop to interact with the eSeries system from a PC
- Features Just Plug It In!™ Design
- Provides Command Interface Protocol for external device interaction
- Provides a Scripting Engine for writing eSeries Scripts to customize operations
- Capable of executing numerous operations via Scripting
- A single Scripting file containing multiple scripts can be uploaded to a single eCI-MA for PC independent use
- Scripts can be activated automatically or by dial code
- Group Zones to support advance operations such as Swing Rooms
- Unlimited Number of Zones supported for eSeries network
- Provides isolation between computer network and intercom/paging/mass notification network
- Connects to PC via USB
- Connects to network via Ethernet
- Station and system trouble (fault) indicator
- Supports eSeries network fault monitoring
- Requires no IP address, DHCP server, subnet, or mask configuration
- Powered by USB, PoE, or AC adaptor
- Holds eSeries Site Expansion Licenses

Just Plug It In™

DESCRIPTION

The eCI-MA Control Interface Model A is a compact and portable device that adds a number of advanced features and capabilities to the eSeries system. These features include: eDesktop for PC interaction with the eSeries system, providing a Command Interface Protocol for external system interaction, Group Zones, and a Scripting Engine supporting sophisticated activation of multiple sequential eSeries operations.

eDESKTOP

eDesktop is an optional software application that makes use of the new Command Interface Protocol and Scripting features introduced by the eCI-MA to integrate a Windows computer with the eSeries system. eDesktop is particularly ideal as a touch screen graphical user interface solution.

eDesktop is comprised of a number of simple script files that contain Command Interface Protocol instructions configured to trigger a variety of eSeries operations. Shortcuts to these files are collected and organized on the computer desktop (or any other file location). Activating these shortcuts makes it possible to carry out eSeries operations of a wide range of complexity with a simple mouse click on an icon.

Shortcuts can also be customized to prompt a user for keyboard input, such as a textual message that would be distributed alone or as a companion text message for audio alerts. When activated, the user is presented with a window where they can type in their desired textual message. The message is then distributed to the desired locations.

1 The Command Protocol Interface allows external systems to interact with the eSeries system.

eCI-MA CONTROL INTERFACE MODEL A

For a detailed explanation of various capabilities and operations available with eDesktop, see the *eDesktop Datasheet*.

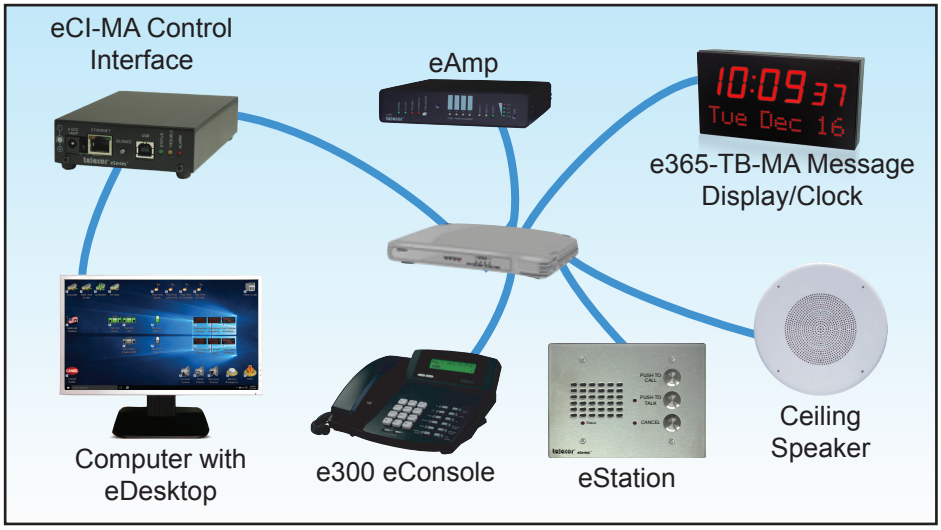
COMMAND INTERFACE PROTOCOL

The eCI-MA provides a Command Interface Protocol that allows the eSeries system to interact with other external systems such as integrated security management or building management systems via devices such as computers, programmable logic controllers, or software based annunciator panels. The Command Interface Protocol is an ASCII protocol that includes both outbound messaging, and support for inbound command via a virtual COM port and a physical USB connection. The protocol definition is publicly available for eCI-MA customers.

The Command Interface Protocol is simple enough for users seeking to further customize eDesktop shortcuts, but also sophisticated enough for system integration programmers to create a robust integrated operating environment, centralizing the communication interface with access control, camera control, or other systems.

This adds further flexibility to the eSeries system by allowing other devices to send real time commands and receive real time status messages regarding the eSeries system and devices. For example, these other devices (integrated with the eCI-MA) can start or end scripts, customize and activate text messages for page zone distribution with or without an accompanying audio announcement, manage public channels, adjust volume by station or zone, and initiate two-way intercom communications with a station.

2 Public channels are system wide audio channels that may be used to broadcast audio programs, such as background music, to eSeries devices. There can be multiple simultaneous channels which can be streamed on demand to different devices.



eSERIES SYSTEM WITH eCI-MA CONTROL INTERFACE

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Rev: 1.0
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ETS-2837
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An eCI-MA can be associated with a linked console device to operate with a touch screen or other software interface. The Command Protocol Interface allows these external devices or software to receive messages from the eCI-MA and its optional subscription feature. The subscription feature monitors up to 512 eSeries devices for all status changes such as call-in operations, audio connections, or faults such as a loss of communication.

Specific examples of Command Interface Protocol use include: starting and stopping distributions of messages, tones, and alerts; remotely activating linked console buttons, e.g., Push to Call, Cancel buttons; answering call-ins; enabling or disabling Do Not Disturb mode or Message Waiting indications at call stations; starting or stopping scripts, and indicating trouble state to third-party devices and systems.

The eCI-MA and the Command Interface Protocol makes it possible to carry out operations remotely even if certain field devices are lacking. For example, if exams or a presentation is taking place in certain areas, all call stations in these areas can be remotely set to Do Not Disturb mode even if the areas are not equipped with eCS-2 Do Not Disturb Call Stations.

SCRIPTING

With the eCI-MA, the eSeries system is available for customers to use or write scripts which allow a number of operations to be carried out in sequence. Scripts can be activated in various ways including: automatically based on the day of week and time of day, using an e300 eConsole or phone, eDesktop, dry contact devices connected to an eAmp, or from other scripts.

When scripts are activated by dialing the script dial number on an e300 eConsole or PBX phone (via eSIP), the name of the script is displayed on the eConsole or phone. Then the user is presented with options to enable or disable the script (depending on the current state of the script). eConsoles and PBX phones that dial the script number will hear voice prompts for enabling or disabling the script.

Scripts are flexible and can have a wide range of complexity. For example, scripts can be simple schedules of time tone programs that include tones, pre-recorded messages, and textual messages displayed on e365-TB-MA Message Display/Clocks reoccurring at specific times and days.

SCHEDULED TIME TONE PROGRAM MESSAGE

Scripts can be configured to be activated upon placing a call-in to a device or any audio or message distribution to a zone. This feature can be used, for example, to activate additional third-party devices such as lights or signage to draw additional attention to the call-in or audio or message distribution. Scripts activated via call-ins deactivate when the call-in is connected and answered. Scripts activated via audio or message distribution to a zone deactivate when the distribution ends.

Scripts can be also used to perform a more advanced series of operation such as a cascading evacuation operation where evacuation audio messages are first distributed to zones closest to the location of an emergency before spreading outwards to other zones according to a time schedule, thus reducing evacuation route congestion throughout the facility.

GROUP ZONES

Group Zones add further flexibility and functionality to the eSeries system by allowing a mix of page zones and devices to be defined as a group zone with a dial number, effectively providing the eSeries system the ability to have an unlimited number of zones. These group zones can then be the target destination for various functions including textual messages, or audio operations (such as pages or program distributions). Group Zones can be utilized by eDesktop, but Group Zones can also be independently used by other eSeries devices or PBX phones (via the eSIP Interface). Group zones can also be given customized names which will appear on e300 eConsole or phone displays when they are dialed.

Group Zones makes it possible for a dial number to lead to different destinations based on time and day; a feature sometimes referred to as Swing Rooms. For example, common audio operations directed to a Group Zone dial number can be configured to go to the usual destination during regular hours but to a different destination outside of regular hours. Group Zones can also be used to automatically reconfigure zone membership during different periods of the day. For example, an All Call page may include outside horns during the daytime while excluding them at night.

Group Zones also allows customized emergency page zones to be created. The eSeries system reserves page zone 0 for emergency pages made to all devices. However, each Group Zone supports designated priorities, such as emergency, so that operations made to them are automatically elevated to override any normal or lower priority operations the devices in that group zone are receiving.

The eCI-MA can be powered by a computer connected via USB cable. Alternatively, the eCI-MA can be independently powered via Power-over-Ethernet or by a 9V 1A AC adaptor. The eCI-MA connects to the eSeries system local area network via Ethernet cable. The eCI-MA will keep the eSeries and computer LAN isolated from one another.

eCI-MA SPECIFICATIONS

Power Source:	USB, PoE or 9 VDC
PoE Power Required:	Class 0, 1.3 W
Current Consumption:	1 amp
Network Interface:	RJ45, 10/100Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Indicators:	Alarm, Ethernet Network Speed, Network Activity
Finish:	Black, Textured, Semi-Gloss Enamel
Dimensions:	1.25" H x 4.04" W x 6.00" D (3.2 cm x 10.3 cm x 15.24 cm)
Weight:	0.900 lbs (0.409 kg)
Environment Requirements:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing
Compliance:	TUV-SUD Listed to UL62368-1 Standard

CAN ICES-3 (A)/NMB-3(A)

PARTIAL LIST OF ASSOCIATED EQUIPMENT

eDSKT-1.1	eDesktop Software

All product information subject to change without notice.

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ETS-2837
Printed in Canada

telecor™
eSeries

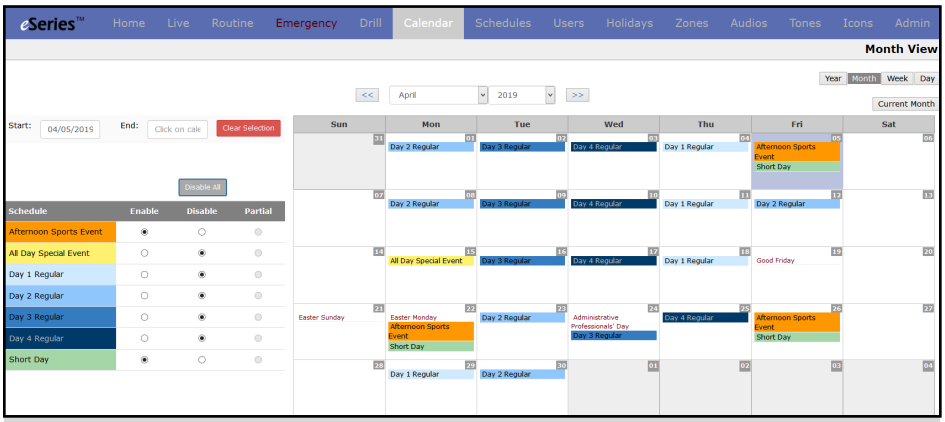
eMH
Master Clock & Message Host

FEATURES

- Provides eSeries Master Clock functionality, including:
  - Unlimited schedules that collect eSeries operations for automatic batch activation at specific dates and times
  - Unlimited scheduled event operations
  - Schedule emergency drills independently of other schedules
  - Calendar-based schedule activations
  - 10 year calendar for long and short range planning
  - Drag and drop calendar functionality
  - Schedule color codes for at-a-glance calendar views of active schedules
  - At-a-glance views of active schedules and upcoming operations
  - Supports unlimited holidays directly on the calendar
- Easy-to-use web-based graphical user interface for eSeries networks
- Activate and configure unlimited eSeries operations, including emergency announcements and drills
- Specific eSeries operations can be made accessible on a user-by-user basis
- eMH users can put frequently used or emergency icons on their personal home page
- Automatic synchronization of emergency announcements and drill operations
- Integration with Visual Console for eSeries allowing the same operations to be controlled by either interface
- Can activate third-party devices and systems connected to eNode relays
- Unlimited user accounts with individualized permissions for access, access from mobile device, and configuration
- Supports user accounts managed by LDAP-based Active Directory service
- User-specific and system-hosted on-demand training videos
- Upload unlimited audio files for operations and pre-announce tones
- Assign icons to operations and schedules for visual identification and selection
- Configurable test zone for testing of eMH operations
- Comprehensive database features for backup and copying eMH configuration
- Maintenance Portal that provides:
  - eStation device management that includes volume control settings
  - Enabling/disabling service mode
  - eSeries network Trouble notification with specific station and problem identification
  - Distribution of Trouble notification emails
- Perform eSeries network device firmware updates
- Cybersecurity features include network lock code support and forced factory password change
- Supports both desktop- and mobile-based browsers with separately configurable mobile user account permissions
- Supports rapid access to emergency buttons, in particular for mobile devices

DESCRIPTION

The eSeries eMH Master Clock & Message Host is a time master device for the eSeries network. It alsoenables configuration and activation of eSeries operations from a web-based graphical user interface (GUI). An unlimited number of operations can be managed for activation by schedules or users.



The eMH Calendar above shows a month with a rotating four-day schedule. Interspersed throughout the month are shortened days with afternoon sports events or all-day special events. The regular scheduled days are easily arranged around the event days. Holidays are also prominently displayed and schedules can be disabled on those days as appropriate (such as when schools are closed).

MASTER CLOCK

As a master clock, the eMH provides a Time Master source for central time keeping and synchronization of all other eSeries devices throughout the eSeries network. The eMH synchronizes with Network Time Protocol (NTP) servers directly or via an NTP-enabled eSIP present on the eSeries network.

The eMH manages an unlimited number of calendar-based schedules, which are collections of operations intended to be performed frequently, periodically, or on specific dates and times. For example, a schedule may be a series of bell tones that consistently indicate class changes. Users can set schedules so that the operations they contain will activate accordingly. All operations can be searched and the results quickly edited, copied to schedules, and reviewed to avoid the creation of identical operations.

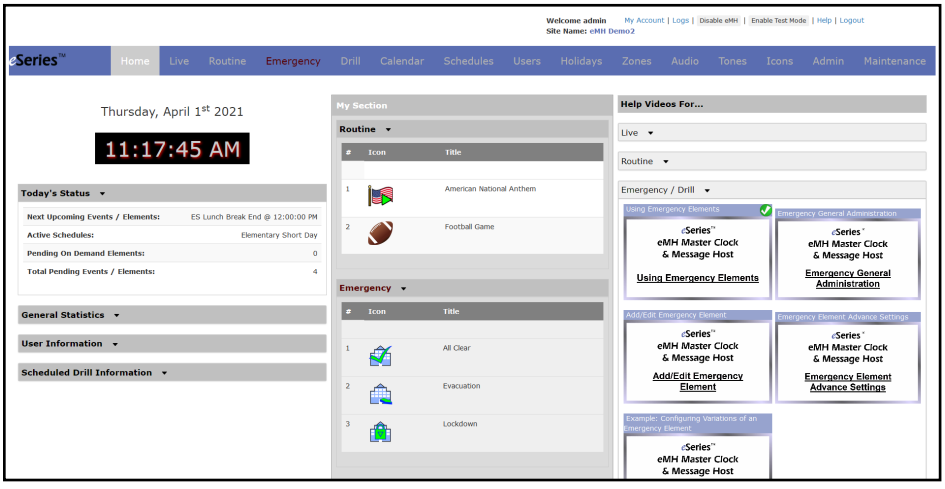
Schedules can be viewed, enabled or disabled in a calendar. The calendar can display schedules on a daily, weekly, monthly or yearly basis. The eMH supports scheduling operations up to 10 years into the future.

Additionally, an unlimited number of holidays can be specified and marked on the calendar. This indicates days where special scheduling considerations should be taken. Alternatively, holidays can be configured to disable all schedules on that day. Holidays can also be set to recurring so that the eMH maintains copies of the holiday going forward for the next 10 years. Each of these copies can be edited in case the holiday does not have a fixed date. Certain fixed-date holidays will be automatically created and made recurring.

MESSAGE HOST

The eMH provides an easy-to-use GUI that simplifies operation configuration and activation.

Operations can include several components, including: pre-announce tones, pre-recorded audio, scrolling textual messages, coded messages, and the activation of third-party devices and systems connected to eNode dry contact relays. If desired, specific details of the components can be customized. Customization includes: the number of times the pre-announce tone plays, the message scroll speed, and the delay before pre-recorded audio repeats. Depending on the operation type, user-activated operations may be distributed immediately or queued for later distribution.



eMH HOME PAGE

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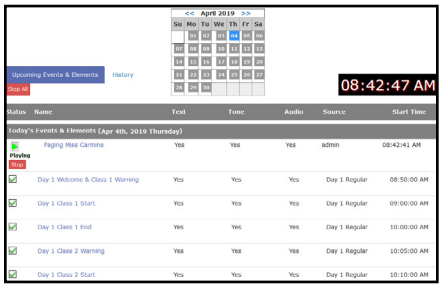
Operation can be made accessible on a user-by-user basis. Additionally, each user can collect frequently used and important operations in a customizable user specific home page for their own convenience.

OPERATION CONFIGURATION AND ACTIVATION

The eMH GUI compartmentalizes different aspects of the eMH and the operations it manages to specific pages.

For at-a-glance assuredness, the Home page provides a quick overview of eMH-managed operations. This includes the next scheduled operation, the schedules that are currently active, and the next scheduled school drill. The eMH includes user specific short tutorial videos that explain various aspects of the GUI and provides built-in on demand training.

The eMH establishes greater confidence for administrators by always showing upcoming events in advance. The Live page shows currently active and upcoming operations. A history of recently performed operations confirms that operations occurred as intended. Also, users can easily initiate on-the-fly operations on the Live page by configuring and activating them on demand.



eMH LIVE PAGE

Routine operations can include an unlimited number of pre-configured common audio distributions. Examples include announcements for special assemblies, bus arrivals, staff meetings, and festive events.

EMERGENCY RESPONSE MANAGEMENT

For emergency situations, the eMH provides the ability to configure an unlimited number of dedicated emergency response operations. A corresponding drill operation will be automatically created for each emergency operation.

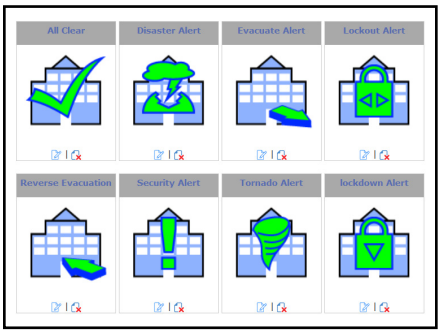
eMH operations can target one or more eSeries zones. For simpler zone selection the eMH supports an unlimited number of Named Zones that easily identify different parts of a school in plain text.

The eMH supports unlimited uploading of audio files (WAV and MP3) and images to support operations. Audio files are used for tones or announcements. Images are used as icons throughout the GUI to represent different operations or schedules. To support integration with the eAM Alarm Manager, the eMH offers eAM related icons which can be individually uploaded to the eMH as desired.

Access to the eMH is user-account controlled. Integration with the Lightweight Directory Access

#	Icon	Time	Title	Days	Dial Numbers	Textual Message	Tone	Audio	Enabled	Schedules	Action
1		08 :50 :00 AM	Day 1 Welcome & Class 1 Warning	Mo,Tu,We,Th,Fr	-	Good morning! Today is Day 1. Class 1 starts in 10 minutes.	Tone 3	Day 1 Morning & Class 1 Warning	☑	Day 1 Regular	
2		09 :00 :00 AM	Day 1 Class 1 Start	Mo,Tu,We,Th,Fr	-	Class 1 Has Started (Day 1)	Bell	Class 1 Start	☑	Day 1 Regular	
3		10 :00 :00 AM	Day 1 Class 1 End	Mo,Tu,We,Th,Fr	-	Class 1 Has Ended (Day 1)	Bell	Class 1 End	☑	Day 1 Regular	
4		10 :05 :00 AM	Day 1 Class 2 Warning	Mo,Tu,We,Th,Fr	-	Class 2 Starts in 5 Min (Day	Tone 5	Class 2 Warning	☑	Day 1 Regular	
5		10 :10 :00 AM	Day 1 Class 2 Start	Mo,Tu,We,Th,Fr	-	Class 2 Has Started (Day1)	Bell	Class 2 Start	☑	Day 1 Regular	
6		11 :10 :00 AM	Day 1 Class 2 End	Mo,Tu,We,Th,Fr	-	Class 2 Has Ended (Day 1)	Bell	Class 2 End	☑	Day 1 Regular	
7		11 :15 :00 AM	Day 1 Class 3 Warning	Mo,Tu,We,Th,Fr	-	Class 3 Starts in 5 Mins (Day	Tone 5	Class 3 Warning	☑	Day 1 Regular	
8		11 :20 :00 AM	Day 1 Class 3 Start	Mo,Tu,We,Th,Fr	-	Class 3 Has Started (Day 1)	Bell	Class 3 Start	☑	Day 1 Regular	
9		12 :20 :00 PM	Day 1 Class 3 End	Mo,Tu,We,Th,Fr	-	Class 3 Has Ended (Day 1)	Bell	Class 3 End	☑	Day 1 Regular	
10		12 :25 :00 PM	Lunch Start	Mo,Tu,We,Th,Fr	-	Lunch Has Started	Tone 8	Lunch Start	☑	Multiple	

The example schedule above shows the first day of a four-day regular schedule rotation. The schedule contains several bell tones to indicate the start and end of classes five-minute warnings before the start of classes. The audio and textual message components of each operation can be customized to indicate the specific day in the rotation. The Lunch Start operation is generic across all days and is in multiple schedules.



eMH EMERGENCY OPERATIONS

Protocol-based Active Directory is also supported to allow users managed by such a service to access the eMH. The eMH supports an unlimited number of users with a high level of individual customization. Users can be given access to only the pages and operations relevant to their intended roles. For each page, users can be granted permissions to activate or configure operations and schedules from a desktop or, for certain users, from mobile devices. For example, an administrator account could have full access to view and make configuration changes on all pages, while an operator account is limited to activating routine or emergency operations and enabling or disabling schedules.

Additionally, user accounts can be configured to only contain a single emergency operation for activation. This allows mobile device users to quickly activate the emergency operation from any location and with minimal risk of error. This can be combined with fingerprint or facial recognition login features of mobile devices to greatly speed up the login process and minimize the number of presses on the device touchscreen.

To help in account creation and management, a configurable default user account serves as a template to determine the initial permissions of new users. For security purposes, Administrators can suspend (and re-enable) user accounts at any time.

Users with administrative privileges have the ability

eMH EMERGENCY RESPONSE
ACCESSED VIA MOBILE SMART DEVICE

to configure the eMH site name, time, time zone, test zone, and manage eMH database backups. To aid installers with initial configuration, the eMH includes a test mode and a database backup feature. Test mode redirects all eMH activated operations to a test zone (that only the installer occupies) to prevent disrupting other people during configuration and testing.

Database backups are automatically created every night and can also be manually created. In addition to backup purposes, the database backups can be used to quickly copy the eMH configuration to other eMH installations. The eMH also supports administrative one-click disabling (and enabling) of all schedules while maintaining support for emergency functions.

The eMH features the ability to perform eSeries network firmware updates without the need for an ePort.

telecor™
eSeries

eMH
Master Clock & Message Host

eSERIES DEVICE MANAGEMENT

The eMH features a Maintenance Portal that lists all eSeries devices on the network. The Portal can be used to make basic configuration changes to these devices. The settings that can be changed include dial number, name, primary call-in destination, zone membership, and volume settings (for intercom, page, public channel, emergency page, and trouble notification). Changes can be made to individual devices or multiple selected devices at the same time (depending on the type of setting being changed).

The Portal also provides trouble notification for faults being experienced by any eSeries device. The notification includes a detailed fault report that can be easily copied for pasting into other documents (e.g., email). A service mode button in the Portal provides users the ability to enable or disable trouble notification while the eSeries network is being serviced.

The Portal can also be configured to use an email server and account to send trouble notification emails to a list of designated addresses. These emails will list the details of all current faults. A convenient link to the eMH web interface is also provided so that the recipient can perform trouble shooting actions such as: viewing up-to-date fault information; enabling service mode to silence further trouble notifications; and making configuration changes to fix certain faults, e.g., correcting duplicate dial numbers.

Mobile device users can access the Maintenance Portal to view current faults and to toggle service mode.

CYBERSECURITY

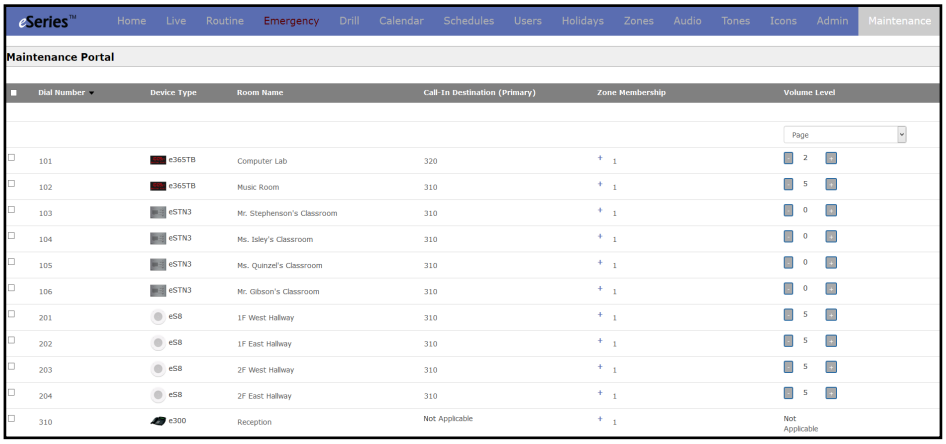
The eMH supports cybersecurity features implemented as part of the eSeries System. This includes the eMH requiring a matching network lock code to be entered to access the eSeries network. Also, the eMH will also force a password change if the factory set password is used to log into the default administrative account.

IMPLEMENTATION

The eMH application is web-based and secured via HTTPS certification. It is preconfigured with a variety of default operations, schedules, audio, and icons for quick customization. Users log into the application from any desktop computer or mobile smart device using a supported web-browser. Supported web browsers include Microsoft Edge, Mozilla Firefox, Google Chrome, and Apple Safari. Users can activate emergency response operations from facility PCs or remote mobile devices.

The eMH is a physical device that comes pre-configured with the eMH software application. The eMH sits on a horizontal flat surface or can be installed in a rack. The eMH supports isolation between the eSeries network and the facility network with dual Ethernet ports.

eMH MASTER CLOCK AND MESSAGE HOST



eMH MAINTENANCE PORTAL

telecor™ eSeries™ Trouble Report

This is a Trouble Report from *Area 51*: ***33*** fault(s) have been detected.

Click *here* (https://area51.telecor.biz/) to go to the Area 51 web interface.

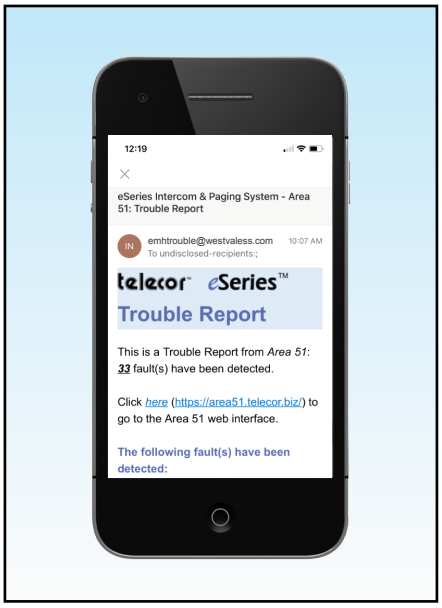
The following fault(s) have been detected:

1) Device **A51-R6-S8-S6B** with dial number **17260** is experiencing fault: **"Device version control file does not match network version control** file"
2) Device **Bob's ePort** with dial number **N/A** is experiencing fault: **"This ePort's firmware is older than the rest of the network. It is recommended to update the older firmware if this ePort is intended to be permanently installed on this network"**
3) Device **eSIP.0 A51** with dial number **N/A** is experiencing fault: **"Software not compatible with the network"**
4) Device **eSTN-1** with dial number **17197** is experiencing fault: **"Device version control file does not match network version control file"**
5) Device **A51-R5-S1-S15** with dial number **17205** is experiencing fault: **"Device version control file does not match network version control file"**
6) Device **A51-R7-S3** with dial number **20975** is experiencing fault: **"Device version control file does not match network version control file"**
7) Device **A51-R6-S8-S12** with dial number **41944** is experiencing fault: **"Device version control file does not match network version control file"**
8) Device **A51-R5-S3-S12F** with dial number **17213** is experiencing fault: **"Device version control file does not match network version control file"**
9) Device **A51-R6-S1** with dial number **10350** is experiencing fault: **"Device version control file does not match network version control file"**
10) Device **A51-eTBU #9** with dial number **17970** is experiencing fault: **"Device version control file does not match network version control file"**
11) Device **A51-R6-S4-S14** with dial number **17646** is experiencing fault: **"Device version control file does not match network version control file"**
12) Device **A51-R5-S3-S4** with dial number **16822** is experiencing fault: **"Device version control file does not match network version control file"**
13) Device **A51-R5-S3-S4B** with dial number **17220** is experiencing fault: **"Device version control file does not match network version control file"**
14) Device **A51-R6-S2** with dial number **10358** is experiencing fault: **"Device version control file does not match network version control file"**
15) Device **A51-R6-S6-S6** with dial number **17654** is experiencing fault: **"Device version control file does not match network version control file"**
16) Device **A51-R6-S3** with dial number **16830** is experiencing fault: **"Device version control file does not match network version control file"**
17) Device **A51-R5-R8-S3** with dial number **42291** is experiencing fault: **"Device version control file does not match network version control file"**
18) Device **A51-R6-S7-S18F** with dial number **17236** is experiencing fault: **"Device version control file does not match network version control file"**
19) Device **A51-R5-R2-S1** with dial number **10247** is experiencing fault: **"Device version control file does not match network version control file"**
20) Device **A51-R5-S3-S14B** with dial number **17224** is experiencing fault: **"Device version control file does not match network version control file"**

- **Other additional faults have been detected, see the attached CSV file for a detailed list of all faults (*33* in total)**

Click *here* (https://area51.telecor.biz/) to go to the Area 51 web interface.

eMH TROUBLE NOTIFICATION EMAIL



eMH TROUBLE NOTIFICATION EMAIL
SENT TO MOBILE SMART DEVICE

SPECIFICATIONS

Power Source:	
AC Voltage:	100-240 VAC, Auto sensing
Line Frequency:	50-60 Hz
Current:	2 A Max
Ports:	2 Ethernet, 2 USB, VGA, HDMI, Line Out
Controls:	Power Switch (Illuminated)
Indicators:	Power LED
Network Interface:	RJ45, 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC, IEEE 802
Dimensions:	17.25" W x 3.5" H x 10" D 43.8 cm x 8.9 cm x 25.4 cm)
Weight:	10 lbs (4.5 kg)
Environment Requirements:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing

Compliance:

ETL LISTED CONFORMS TO ANSI/UL Standard 60950-1 CERTIFIED TO CAN/CSA Standard C22.2 No. 60950-1
Intertek 3059290

CAN ICES-3 (A)/NMB-3(A)

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REV 0.3
ETS-2865
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telecor™
eSeries

ePORT-MC
Management Interface Model C

FEATURES

- Enables management and configuration of eSeries devices from a PC
- Real Time Clock synchronizes eClocks on LAN
- Connects to network over LAN
- Features Just Plug It In!™ design
- Requires no IP address, DHCP server, subnet, or mask configuration
- Powered by PoE, USB, or AC adaptor
- Isolates eSeries network from computer network
- Password-protected interface
- Comes with eSeries Manager Software
- Enables monitoring and troubleshooting of eSeries operation
- Can configure a single device or multiple devices at once
- Allows simultaneous mass-upgrading of device firmware over LAN
- Holds eSeries Site Expansion Licenses

DESCRIPTION

The ePORT-MC is a compact and portable device that enables the management and configuration of eSeries device settings from a PC. It also acts as a Time Server for eClocks.

The Telecor eSeries uses Ethernet technology, Just Plug It In!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Ethernet technology allows the ePORT-MC to be plugged into a network switch to transmit and receive data. The simplicity of Telecor's Just Plug It In!™ design means the ePORT-MC does not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server or conroller equipment is required. Once plugged into a LAN and supplied with power, the ePORT-MC is immediately functional as a Time Server to synchronize any connected eClocks or eConsoles on the LAN.

The ePORT-MC connects via Ethernet to a network switch that is connected to other eSeries devices and to a computer's USB port. It receives power over the USB cable when connected to the PC, or it can be powered independently using Power-over-Ethernet or a 9V, 1A AC adaptor. The ePORT-MC isolates the eSeries LAN from the computer LAN and provides a layer of security. The ePORT-MC is also protected from unauthorized access by a password.

The ePORT-MC includes the eSeries Manager Software Package. This package includes Tel-Log Viewer for monitoring and logging activity from the eSeries LAN, Tera Term for communicating with the ePORT-MC from a command-line interface, and the necessary drivers for communicating with the ePORT-MC from a PC.

Through the included eSeries Manager Software, the ePORT-MC provides the ability to configure eSeries devices, or to download all eSeries device programming simultaneously. Spreadsheet applications (such as Excel®) are used to edit the programming. The ePORT-MC can then upload the programming back to all devices. The ePORT-MC is also able to make simple configuration changes to individual eSeries device settings directly, without requiring downloading and uploading all eSeries device programming. The ePORT-MC provides a single access point to allow simultaneous mass-upgrading of device firmware across the LAN, eliminating the need to open devices to perform firmware upgrades.

The ePORT-MC holds the purchased Site Expansion Licenses. Each site must have sufficient Site Expansion Licenses to cover all connected eSeries devices. All eSeries networks support 100 SELs by default. Additional SEL packs can be installed in an ePORT-MC, eCI-MA or eLOG that resides permanently on the LAN.

eSERIES

Other devices in Telecor's eSeries include the eStations (eSTN-0, 1, 2, & 3), e300 eConsole, eAMP, eClocks, and eS8-MA Ceiling Speaker. The eStations provide two-way voice to Consoles. The eSTN-1 and eSTN-3 can place call-ins to e300 eConsoles or to other eStations. The eSTN-2 or eSTN-3 can act as a simple wall mounted console that can receive call-ins from other eStations. The eS8-MA is intended for ceiling installation when no call-in button or talkback is required. The eSTN-0 is similar but intended for wall mount locations and supports talkback. The e300 eConsole serves as an administrative control center that can send and receive calls, perform paging, and distribute audio programs. The eAMP allows a zone of traditional paging speakers to be added to the eSeries network and supports the distribution of preset tones and digital audio files. It also provides separate microphone and audio inputs that can service the entire eSeries network. The eClock is a cost-effective digital clock solution that is powered and synchronized by the network.

ePORT-MC SPECIFICATIONS

Power Source:	USB, PoE or 9 VDC
PoE Power Required:	Class 0, 1.3 W
Current Consumption:	1 amp
Network Interface:	RJ45, 10/100Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Indicators:	Alarm, Ethernet Network Speed, Network Activity
Free-running Time Accuracy:-	±2 seconds/day
Finish:	Black, Textured, Semi-Gloss Enamel
Dimensions:	1.25" H x 4.04" W x 6.00" D (3.2 cm H x 10.3 cm W x 15.24 cm D)
Weight:	0.900 lbs (0.409 kg)
Environmental Req's:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing
Compliance:	TUV-SUD Listed to UL62368-1 Standard

CAN ICES-3 (A)/NMB-3(A)

eSERIES MANAGER SOFTWARE SPECIFICATIONS

PC Requirements:	Intel Core 2 Duo or equivalent processor Minimum 2 GB RAM Windows 7 Professional, Windows 8.1 Professional or Windows 10 Professional 64-bit Edition Operating Systems Microsoft .NET Framework Version 3.5 w/ Service Pack 1 One available USB port

All product information subject to change without notice.

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Rev: 1.0
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ETS-2817
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telecor™
eSeries

eSIP
SIP Interface

FEATURES

- Transparent operation between PBX phones and eSeries eStations and eConsoles
- Based on Asterisk® software framework, a Linux®-based software framework
- Establishes SIP trunks between the eSeries network and up to five IP-PBX networks
- Two-way voice amplified communications to intercom stations
- Zone, Multi-zone, and All Call paging for both inbound and outbound traffic
- Verbal prompts for easy operation
- Passes enhanced Caller ID information for both inbound and outbound traffic
- Supports eSeries call escalation and eSeries emergency call-in notification
- Automatically plays pre-recorded location audio file to called PSTN party for emergency response
- Provides communication between geographically distinct locations
- Supports 10 simultaneous duplex channels of digital audio communication
- Synchronizes eSeries to Network Time Protocol timeserver via LAN or Internet
- eSeries System supports multiple eSIPs for fail-over and load balancing redundancy

eSIP INTERFACE

DESCRIPTION

The eSIP Interface is designed for use with Telecor's eSeries Intercom System. It integrates IP-PBX systems with eSeries via a Session Initiated Protocol (SIP) trunk, which allows IP-PBX desk telephones to access eSeries intercom and paging operations and enables eSeries eConsoles and eStations to access IP-PBX functions.

The eSIP runs on a Linux® platform to maintain stability and reliability. In case of a power outage, the eSIP will automatically power on and resume operation once power is restored.

The eSIP uses Asterisk® as a key component, and interoperates with IP-PBX systems that can each provide an industry-standard SIP Trunk and are compliant with IETF Request For Comment standard RFC3261. The SIP Trunks provided by the IP-PBX must also be compliant with SIP Forum SIPconnect V1.1 Technical Recommendations. Up to five SIP trunks can be configured per eSIP, each with their own independent dial plans.

The eSIP allows eSeries eConsoles to call IP-PBX extensions by dialing a lineout code followed by the dial number of the desired extension. Similarly, eSeries eStations can be configured to place call-ins to IP-PBX extensions.

The eSIP allows IP-PBX telephones to access eSeries devices by dialing a SIP trunk access code followed by the dial number of the eSeries device to call or eSeries zones to page. The eSIP also enables IP-PBX telephones to answer a call-in ringing at an eSeries eConsole by dialing a pick-up code. IP-PBX telephones can transfer and forward calls to eConsoles, and eConsoles can transfer and forward calls to IP-PBX telephones. Advanced IP-PBX features such as three-way conference calls can also involve eConsoles.

IP-PBX telephones can access eSeries emergency page functions, which can be restricted by an optional access code. The eSIP supports one and two-stage dialing and provides verbal prompts for ease of operation.

If the eSeries System is equipped with an eCI Control Interface, the eSIP allows IP-PBX telephones to page eSeries Group Zones and activate or deactivate eCI scripts.

eSeries dial numbers can be configured and mapped to a PBX dial string without the need for a dial plan prefix so that e300 eConsoles can dial any extension on the IP-PBX or place outside calls to phones on the public switched telephone network (if permitted by PBX Class of Service restrictions).

The eSIP passes caller ID information such as device names and dial numbers between eSeries networks and IP-PBX systems, which will appear on their respective console displays.

The eSIP supports eSeries-based call escalation. If a call-in placed from an eStation is not answered within a set time, it can be copied automatically to a secondary PBX extension or to a phone on the public switched telephone network (via the PBX, so no additional outside lines are required). The ability to set a call destination to an outside phone number allows calls to be automatically routed to an outside monitoring agency if the call goes unanswered at an eConsole.

The eSIP can store an emergency location audio prefix message that can be automatically played before connecting a call to a specific IP-PBX extension. This can add context, such as the building's exact address, to an emergency call from the eSeries network to a dedicated emergency response service.

In addition to expanding operational communication options within a single facility, eSIPs can be used to bridge communication between geographically distinct locations. eSIPs at multiple locations can configure SIP trunks to a common IP-PBX to allow PBX devices to communicate with eSeries devices at respectively equipped locations.

Each eSIP provides 10 simultaneous bidirectional digital audio channels among its five configured trunks. This ensures that multiple intercom conversations and paging operations can be broadcast over the eSeries system from IP-PBX telephones. The eSeries network supports multiple eSIPs to provide fail-over and load balancing redundancy. If all of an eSIP's channels are occupied or the eSIP goes offline, eSeries operations that require an eSIP will use the next available eSIP.

The eSIP is equipped with two Ethernet ports that internally bridge the physically distinct eSeries and IP-PBX networks. This simplifies installation when the IP-PBX and the eSeries devices exist on separate networks or VLANs. The eSIP can be set to dynamic (DHCP) or static IP configuration to meet network requirements.

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Rev: 0.7
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ETS-2829
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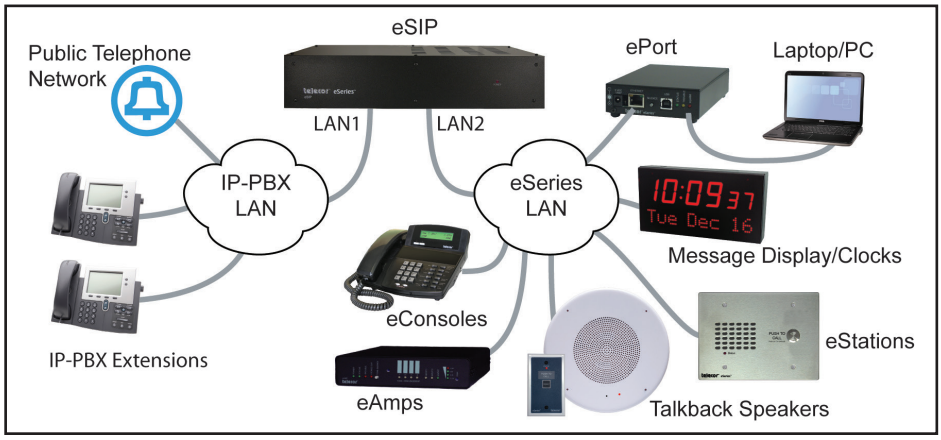
If the eSIP has access an NTP server (on the Internet or facility network), it can synchronize clocks on the eSeries network to the NTP time. If the eSIP loses communication with its assigned NTP timeservers, it will independently maintain the time if there are no higher priority other eSeries timeservers available. NTP and time configuration are handled via ePort commands.

Similarly to other eSeries devices, the eSIP is configured from a PC using an ePort. Additionally, the ePort can be used to download the eSIP programming for editing via a spreadsheet application.

The eSIP may sit on a horizontal surface or be installed into a 19” equipment rack.



Overview of eSeries Intercom Network with eSIP

eSIP SPECIFICATIONS

Trunks:	SIP Trunk, RFC3261, & SIP Forum SIPconnect V1.1 Technical Recommendation
Software Framework:	Asterisk® (Linux®-based)
Capacity:	10 simultaneous duplex digital audio channels
Power Source:	
AC Voltage:	100-240 VAC, Auto sensing
Line Frequency:	50-60 Hz
Current:	2 A Max
Ports:	2 Ethernet, 2 USB, VGA, HDMI, Line Out
Controls:	Power Switch (Illuminated)
Indicators:	Power LED
Network Interface:	RJ45, 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC, IEEE 802
Dimensions:	17.25” W x 3.5” H x 10” D (43.8 cm x 8.9 cm x 25.4 cm)
Weight:	10 lbs (4.5 kg)
Environment Requirements:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing
Compliance:	

Intertek 3059290

ETL LISTED CONFORMS TO ANSI/UL Standard 60950-1 CERTIFIED TO CAN/CSA Standard C22.2 No. 60950-1

CAN ICES-3 (A)/NMB-3(A)

PARTIAL LIST OF ASSOCIATED EQUIPMENT

eAMP	Ethernet 25W Amplifier
e300	eConsole
ePORT	Management Interface

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telecor™
eSeries

SPS
SIP Paging Server

FEATURES

- Enables simultaneous live paging into remote eSeries networks
- Connects to facility's existing IP network
- Communicates with eSIPs in eSeries networks over WAN/Internet
- Low network utilization during operation
- Based on Asterisk® software framework, a Linux®-based software framework
- Web-based configuration

DESCRIPTION

The SPS SIP Paging Server enables live paging announcements to be initiated from District Office telephone extensions to multiple remote facilities across a Wide Area Network (WAN). Paging announcements can be made to individual schools, groups of schools, or to all schools in the district. The SPS connects to the eSeries network in a remote facility through an eSIP.

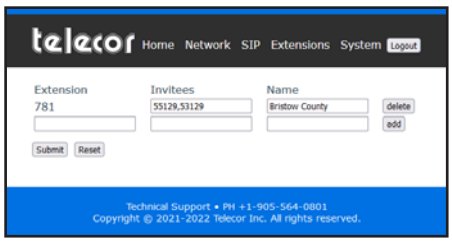
The SPS communicates with eSIPs in separate eSeries networks over a wide area network (WAN) in conjunction with VLAN trunking or inter-VLAN routing.

The network bandwidth required to make pages remains low regardless of the number of recipients. This ensures minimal impact on the IP network during situations limiting network capacity such as cyberattacks or hardware failures.

The SPS runs on a Linux® platform to maintain stability and reliability. In case of a power outage, the SPS will automatically power on and resume operation once power is restored.

The SPS uses Asterisk® as a key component, and interoperates with IP-PBX systems that can provide an industry-standard SIP Trunk and are compliant with IETF Request For Comment standard RFC3261. The SIP Trunks provided by the IP-PBX must also be compliant with SIP Forum SIPconnect V1.1 Technical Recommendations.

The SPS provides a web interface where page destinations of one or more eSeries networks can be assigned to IP-PBX dial extensions.



Configuring Page Recipients

The SPS may be placed on a horizontal surface or installed into a 19" equipment rack.

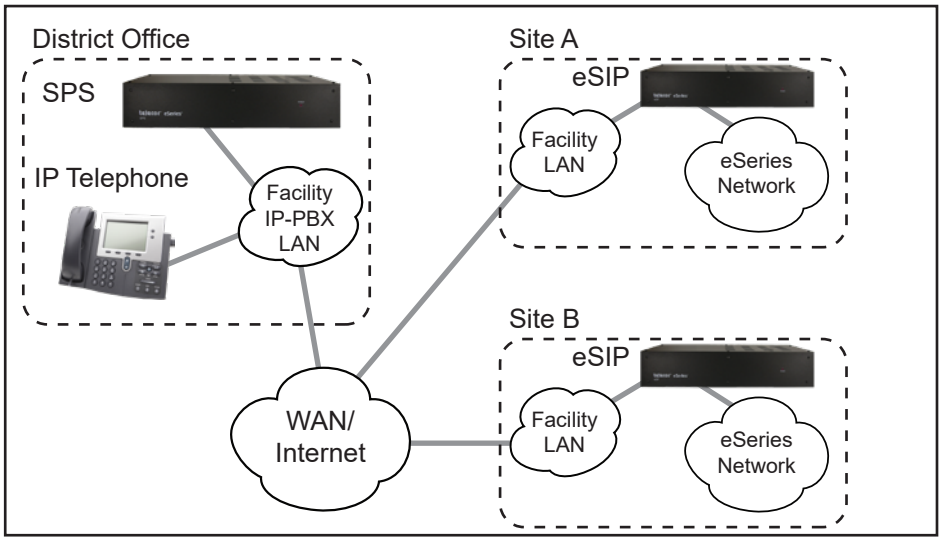
SPS SIP Paging Server

SPS SPECIFICATIONS

Trunks:	SIP Trunk, RFC3261, & SIP Forum SIPconnect V1.1 Technical Recommendation
Software Framework:	Asterisk® (Linux®-based)
Power Source:	
AC Voltage:	100-240 VAC, Auto sensing
Line Frequency:	50-60 Hz
Current:	2 A Max
Ports:	2 Ethernet, 2 USB, VGA, HDMI, Line Out
Controls:	Power Switch
Indicators:	Power LED
Network Interface:	RJ45, 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC, IEEE 802
Dimensions:	17.25" W x 3.5" H x 10" D (43.8 cm x 8.9 cm x 25.4 cm)
Weight:	10 lbs (4.5 kg)
Environment Requirements:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing

PARTIAL LIST OF ASSOCIATED EQUIPMENT

eSIP	SIP Interface



Overview of SPS Network

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telecor™
eSeries

eNODE-(M)(S)
General Purpose Input-Output Device

FEATURES

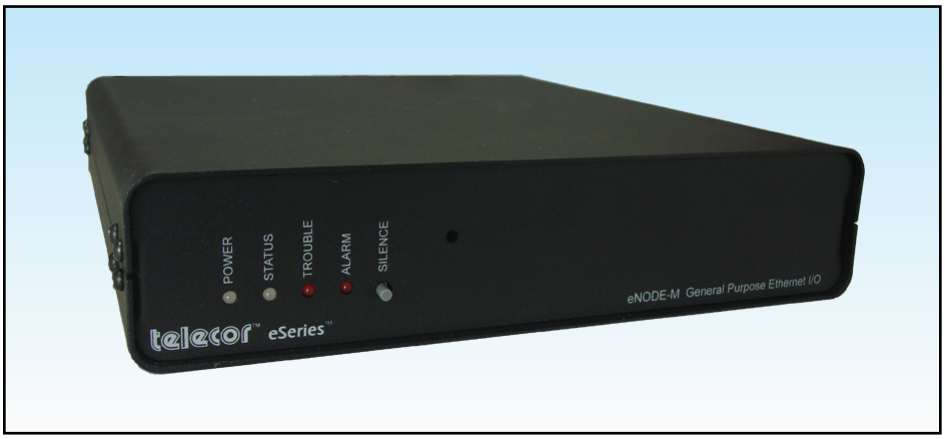
- PoE powered General Purpose Input-Output device
- Provides four monitored inputs and four relay outputs
- Expandable to 16 inputs & output on a single PoE network drop
- Inputs designed to be connected to third-party devices/systems
- Inputs can differentiate between sustained and momentary actuations
- Inputs can activate various eSeries operations, including: scripts (which can control tones and announcements), relay outputs, and Alarms
- Outputs can be activated by:
  - Paging or intercom call (placing and receiving)
  - eCI Scripts
  - Alarms
  - Trouble
  - Service mode
  - Manual dialing activation/deactivation (user is guided by voice prompts)
  - eMH relay activation at scheduled times
- Outputs can be activated from consoles or phones via dial codes
- Outputs can be configured for patterns (e.g., flashing emergency lights)
- Outputs support multiple Analog Clock Correction types
- Includes Alarm and Trouble LEDs
- Inputs are galvanically isolated to protect from field wiring faults
- Each input is monitored for shorts, opens, and ground faults, activating appropriate system fault and trouble notification

DESCRIPTION

The eSeries eNode is a general-purpose input-output device for use in eSeries networks. It allows third-party devices and systems of various types to interface with the eSeries network through contact closures. Third-party devices and systems that can be integrated include:

- Alert Lights
- Sirens
- Sensors
- Lockdown/Panic Switches
- Gas Detection Systems
- Access Control Systems

Operating in tandem with other eSeries management devices such as the eAMP Amplifier, eCI Control Interface, eAM Alarm Manager, and eMH Master Clock and Message Host, input and output operations can be fully integrated with all eSeries system capabilities. For example, the eNode allows for the integration of: a wide variety of ancillary notification devices such as lights and sirens to react to certain operations, lockdown/panic switches to activate Alarms, and door lock control systems to lock or unlock doors based on different types of eSeries alarms.



eNODE-M MAIN UNIT

The eNode provides four inputs, four outputs, and the ability to further expand these. A Main eNode unit can connect with up to three Secondary eNodes units via CAT 5/6 cable in a daisy chain. This allows for a total allocation of 16 inputs and 16 outputs on a single PoE network connection without the need for external power sources.

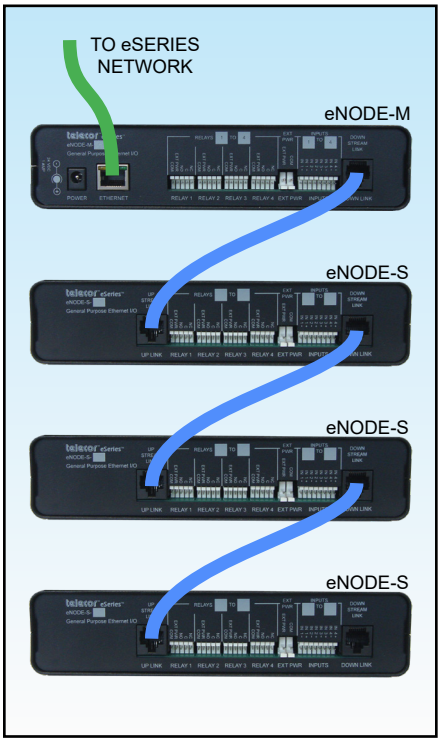
The eNode inputs are intended to allow third party devices and systems to activate any eSeries operations, including: eCI scripts (via their dial numbers), relay outputs, and Alarms. Each input is highly configurable and can differentiate between being connected to a sustained or momentary contact closure. Inputs can be configured to respond differently to a single or multiple momentary closures from the same actuator.

Outputs are intended to activate third-party devices or systems and these may be configured to be activated according to a wide variety of eSeries operations including:

- Paging audio or intercom calls being placed from or received by a device or zone of devices
- eCI scripts
- eAM Alarms specific to type and area
- Events in eMH schedules
- Manual dialing of the output dial number
- Analog Clock Correction
- Trouble
- Service mode enabled on the network

The eNode outputs support a tracking feature where they will automatically activate if the eNode detects the activation of certain pre-recorded audio, live paging audio, calls and call-ins, audio or calls of normal or emergency priority, eCI scripts, and Alarms. Outputs can also be activated in the event that a fault is detected on the eSeries network or if the eSeries network enters service mode.

The eNode outputs have configurable dial numbers which can be manually dialed from a console or a phone. The caller will be guided by voice and display prompts to enable or disable the function associated with that output.



eNODE-M MAIN UNIT WITH
THREE eNODE-S SECONDARY UNITS

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telecor™
eSeries

eNODE-(M)(S)
General Purpose Input-Output Device

The eNode can be integrated with an eMH so that outputs are activated according to scheduled events. Applications include activation of mechanical bells or external time tone signaling during class changes. Additionally, the outputs can be programmed to provide correction of a variety of synchronous movement analog clocks.

Outputs can be configured so that their active states can be timed and follow specific patterns. For example, if connected to an emergency indicator light, an output can be configured to rapidly flash on and off. In other cases, such as that of a warning siren, the output can be configured to only be active for a certain amount of time before it automatically turns off.

The eNode features an Alarm LED and Trouble LED on its front panel which will illuminate to indicate when an Alarm is active or an eSeries component is experiencing a fault. Trouble notifications can also optionally activate an alert tone on the eNode.

All eNode inputs and outputs are monitored and are capable of detecting opens, shorts, and ground faults. If any such issues are detected, the eNode will raise a fault on the eSeries network and indicate Trouble appropriately. The inputs and outputs are galvanically isolated and rated for 1000 VDC and 500 VAC.

The Main eNode unit may receive power from a Type 1 (Class 0) PoE Ethernet connection or a separate 24V supply. The Secondary eNode unit receives PoE power from its connection to the Main eNode or other Secondary units. The eNode can be mounted in a standard 19" equipment rack using an optional rack-mount kit.

SPECIFICATIONS

eNODE-M MAIN UNIT

Power Source:	24 VDC or PoE Type I (Class 0)
Current Consumption:	3W
Network Interface:	RJ45, 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Operating Temp:	50-104°F/10-40°C
Indicators:	
Front Panel:	Power, Status, Trouble, Alarm
Rear Panel:	Network Speed, Network Activity
Controls:	4 I/O Contacts 4 Inputs
Input & Output Isolation Rating:	1000VDC, 500 VAC
Terminations:	Plug-In Connectors
Finish:	Black, Textured, Semi-Gloss Enamel
Dimensions:	1.75" H x 7.85" W x 8.31" D (4.4 cm H x 20 cm W x 21.1 cm D)
Weight:	3.0 lbs (1.36 kg)
Environment Req's:	Clean, dry, and temperature-controlled. 50-104°F/10-40°C, 0-90% relative humidity, non-condensing
Approvals:	FCC, CE, ICES-003

eNODE-S SECONDARY UNIT

Power Source:	PoE Type I (Class 0)
Current Consumption:	1W
Network Interface:	None
Main/Secondary Interface:	2x RJ45 (24 AWG CAT5 cable or higher)
Operating Temp:	50-104°F/10-40°C
Indicators:	
Front Panel:	Power, Status
Rear Panel:	Network Speed, Network Activity
Controls:	4 I/O Contacts 4 Inputs
Input & Output Isolation Rating:	1000VDC, 500 VAC
Terminations:	Plug-In Connectors
Finish:	Black, Textured, Semi-Gloss Enamel
Dimensions:	1.75" H x 7.85" W x 8.31" D (4.4 cm H x 20 cm W x 21.1 cm D)
Weight:	3.0 lbs (1.36 kg)
Environment Req's:	Clean, dry, and temperature-controlled. 50-104°F/10-40°C, 0-90% relative humidity, non-condensing
Approvals:	FCC, CE, ICES-003

PARTIAL LIST OF RELATED PRODUCTS

eAM	Alarm Manager
eMH	Master Clock & Message Host
eAMP	eAmplifier
eCI	Control Interface
ePORT	Management Interface
eAMP-RMK	Rack Mount Kit

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telecor™
eSeries

eLOG-MA
Logging Interface

FEATURES

- Logs and records eSeries System activity
- Real Time Clock synchronizes eClocks on LAN
- Station and system trouble (fault) indicator
- Supports eSeries network fault monitoring
- Provides isolation between computer network and intercom/paging/mass notification network
- Features Just Plug It In!™ Design
- Connects to PC via USB
- Connects to network via Ethernet
- Requires no IP address, DHCP server, subnet, or mask configuration
- Powered by USB or AC adaptor
- Holds eSeries Site Expansion Licenses

Just Plug It In!™

eLOG-MA LOGGING INTERFACE

DESCRIPTION

The eLOG-MA is a compact and portable device intended for logging and monitoring of the eSeries System from a computer. It can also act as a time master to provide time synchronization for all eSeries devices.

Logging of the eSeries System is done via the Tel-Log Viewer application which is part of the eSeries Manager Software Package. Logging of eSeries System activity is especially useful for technical troubleshooting purposes. The Tel-Log Viewer can be used to search through logs and export logs into plain text or comma-separated value files.

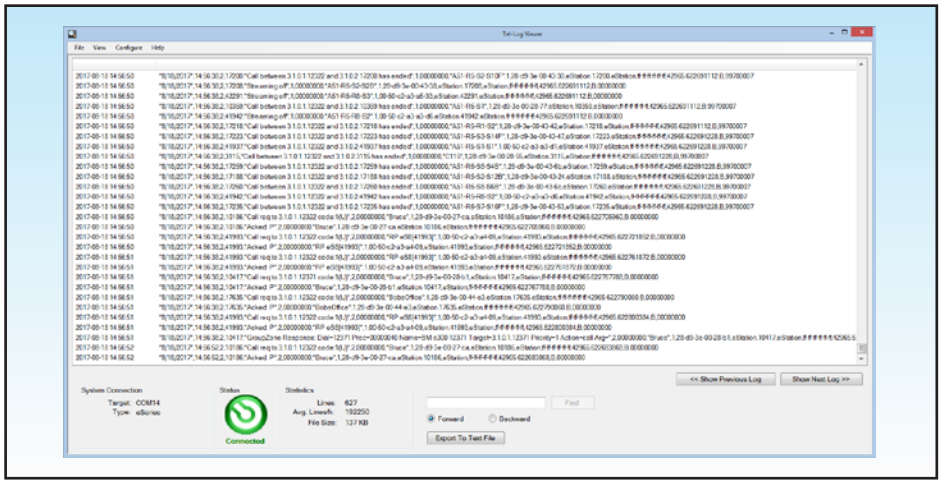
In the event of a power outage or any other situation that causes the eLOG-MA to reboot, it will automatically resume logging upon restarting.

The eLOG-MA is equipped with a Trouble LED which will illuminate to notify of trouble when the eSeries System detects a fault. The Trouble LED is also accompanied by a buzzer.

The Telecor eSeries System uses Ethernet technology, Just Plug It in!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Ethernet technology allows the eLOG-MA to be plugged into a network switch to log eSeries System activity. The simplicity of Telecor's Just Plug It In!™ design means the eLOG-MA does not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server, or controller equipment is required. Once plugged into a LAN and supplied with power, the eLOG-MA is immediately functional as a time master to synchronize all eSeries devices.

The eLOG-MA connects via Ethernet to a network that is connected to other eSeries devices. It is also connected to a computer via USB. It is powered via the computer USB connection or independently using Power-over-Ethernet or a 9V 1A AC adaptor. The eLOG-MA isolates the eSeries LAN from the computer LAN and provides a layer of security. The eLOG-MA is also protected from unauthorized access by a password.

The eLOG-MA can host purchased Site Expansion Licenses. Each site must have a sufficient Site Expansion License to cover all connected eSeries devices. All eSeries networks support 100 SELs by default. Additional SEL packs can be installed in an eLOG-MA that resides permanently on the LAN.



TEL-LOG VIEWER

eLOG-MA SPECIFICATIONS

Power Source:	USB, PoE or 9 VDC
PoE Power Required:	Class 0, 1.3 W
Current Consumption:	1 amp
Network Interface:	RJ45, 10/100Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Indicators:	Alarm, Ethernet Network Speed, Network Activity
Finish:	Black, Textured, Semi-Gloss Enamel
Dimensions:	1.25" H x 3.75" W x 5.75" D (3.2 cm H x 9.5 cm W x 14.6 cm D)
Weight:	0.855 lbs (0.388 kg)
Environment Requirements:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing
Compliance:	TUV-SUD Listed to UL62368-1 Standard, CE Compliances, FCC Part 15

CAN ICES-3 (A)/NMB-3(A)

eSERIES MANAGER SOFTWARE SPECIFICATIONS

PC Requirements:	Intel Core 2 Duo or equivalent processor Minimum 2 GB RAM Windows 10 32 or 64-bit Edition or Windows 11 Pro Operating Systems Microsoft .NET Framework Version 3.5 w/ Service Pack 1 One available USB port

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eDSKT-1.1 eDesktop Software

eVC V1.3 Visual Console for eSeries

eMH eSeries Master Clock & Message Host

eCall Virtual Call Station

SW-ETS eSeries Time Server Software

eAM Alarm Manager

eVCAM Visual Console Alarm Manager

FEATURES

- Allows Windows computer users to interact with the eSeries system and initiate eSeries operations
- Uses Microsoft Windows as a graphical user interface
- Assigns eSeries operations to desktop shortcuts
- On-the-fly user input for custom clock message distributions
- Can make use of Scripting and Group Zone features for simple control of sophisticated multistep operations
- On desktop Panic Button with keyboard shortcut
- Call directory to quickly and easily place calls
- Automatically logs interaction with eSeries system
- Integrates with Telecor's DWConnect for automatically generated SMS messages and/or emails
- Confirmation prompt for operations
- Companion to the eCI-MA Control Interface

DESCRIPTION

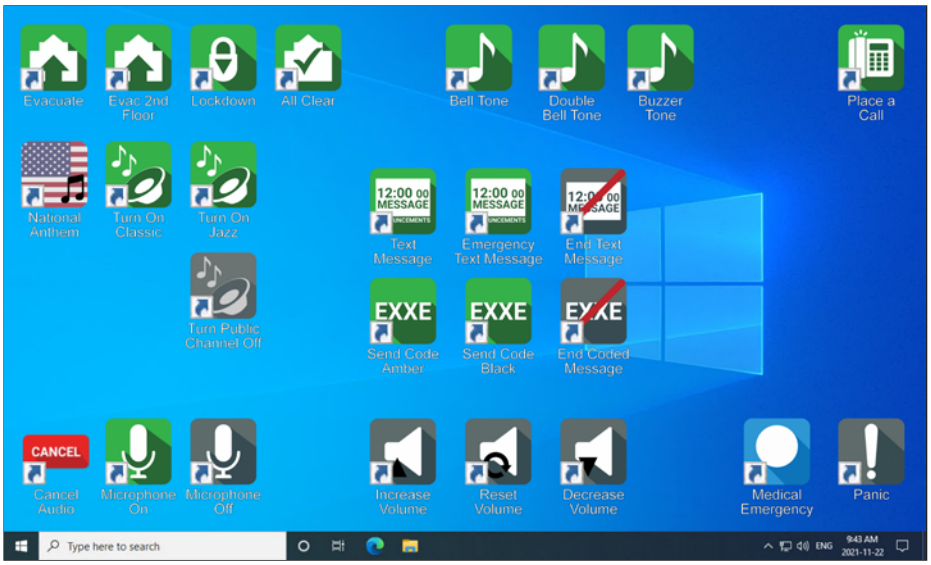
eDesktop is a Windows-based software application that makes use of the Command Protocol Interface allowing external systems to interact with an eSeries system. Combined with the Scripting and Group Zones features, eDesktop can generate a preprogrammed series of operations from a single action. These features are used to interact with the eSeries system via a graphical user interface and the Microsoft Windows desktop. An eCI-MA Control Interface[1] is required to connect the computer running eDesktop to the eSeries network.

A number of default scripts are used to generate customized shortcuts according to the needs of a facility. These shortcuts are then placed directly on the Windows desktop or another desired file folder or network location. Shortcuts can activate virtually any eSeries function by simply clicking on the sh ortcut icon. These include activating: alerts, audio distributions, coded and plain text messages, intercom operations, and more.

eDesktop is capable of performing a range of operations that mirror the communication feature set of the eSeries system. It is possible to use the application to carry out operations that range from simple audio distributions to very sophisticated operations that involve Group Zones and Scripts.

Advanced operations that can be initiated by eDesktop shortcuts include Emergency announcements such as Evacuate, Lockdown, Lockout, and All Clear.

EMERGENCY ANNOUNCEMENT SHORTCUTS



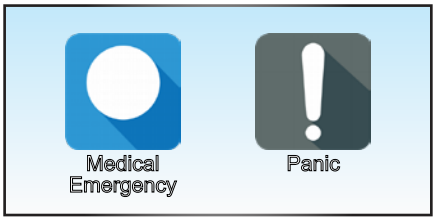
eDESKTOP

These operations can include preset textual messages that are sent to any zone(s) of e365-TB-MA Message Display/Calendar Clocks and/or e300-MA eConsoles (or even specific displays). Simultaneously, coded messages can also be independently sent to provide additional context for staff, informing them about the nature of the emergency. In the example below, an evacuation announcement is audibly and textually transmitted to all speakers and displays for the general public while the coded message "00 99 Cd" is also displayed at the same time to indicate the specific nature of the threat to the staff.

CODED AND SCROLLING TEXTUAL MESSAGE

Combined with the Scripting feature, more sophisticated events can be initiated using eDesktop shortcuts. For example, to prevent egress pathways from being congested during an evacuation, a staggered evacuation of a multi-story facility can first send evacuation announcements to the ground floor, the floor where the emergency is occurring, and to the floors immediately above and below. After a certain amount of time has passed, another scripted evacuation announcement can be automatically sent to the next set of floors and so on, until all floors have been notified.

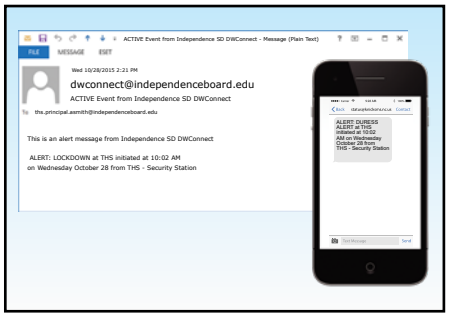
The use of shortcuts on the computer makes eDesktop ideal for implementing functions such as Soft Call and Panic buttons. Soft Call buttons can be created to operate as a call button on the desktop with a normal or emergency call priority. They can also be combined with other preset or on-the-fly custom text messages. Panic buttons allow a user to unobtrusively activate an audio path from the panic button location to another eSeries device at a security location. This allows security personnel to listen to an occurring situation and provide the appropriate response. Soft Call and Panic buttons can be augmented to send silent textual messages to any or all displays in the facility, play an emergency tone or sound an audible message at any location.



SOFT KEY AND PANIC BUTTON ICONS

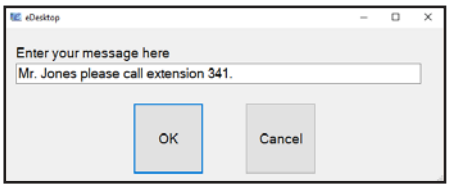
1 See the *eCI-MA Control Interface Model A Datasheet* for more information.

eDesktop can also use Telecor's DWConnect to activate SMS text messages and email distributions in conjunction with any eDesktop script. For example, activation of the Panic Button could also send SMS notifications to a crisis team, advance warning to building occupants to heighten the level of awareness, or initiate simple precautionary measures such as locking one's office door.



EMAIL AND SMS TEXT MESSAGE NOTIFICATION

Shortcuts can also be customized to prompt the operator for an on-the-fly textual message that would be distributed independently or as a companion text message for audible alerts. When activated, the user is presented with a window where they can type in the desired message.



ON-THE-FLY CUSTOM MESSAGE PROMPT

Once the message is entered, clicking on the "OK" button distributes the message to the desired e365-TB-MA Message Display/Clocks and e300-MA eConsole displays.

ON-THE-FLY CUSTOM MESSAGE

Shortcuts automatically trigger a pop-up confirmation window that a user must acknowledge to prevent unintended activation. For example, a shortcut that distributes an emergency alert would prompt the user to confirm that they wish to perform the emergency alert, allowing users to verify that the alert was intended and that the correct alert was chosen before being distributed.

POP-UP CONFIRMATION WINDOW

Users can use shortcuts to tune devices to public channels. Public channels are system wide audio channels that may be used to broadcast audio programs, such as background music, to eSeries devices. There can be multiple simultaneous channels which can be streamed on demand to different devices. For example, a user can click on an eDesktop shortcut to broadcast or turn off background music from an eAmplifier to all hallway speakers.

eDesktop can also be used as an alternative method to enable or disable features throughout some or all zones of the eSeries system. For example, a shortcut can enable or disable Do Not Disturb (DND) mode for a group of devices such as speakers or intercom stations. This would be ideal in a school or university where examination rooms need to be put into DND mode, blocking routine announcements while still allowing emergency broadcasts.

Shortcuts can also be used to adjust the volume of other eSeries devices. Volume adjustments can be made to individual devices, devices in a zone, or all devices of the eSeries network. Different volume levels can be set to specific functions: intercom, paging, emergency paging, and public channel operations.

For record keeping and troubleshooting purposes, eDesktop logs its interactions with the eSeries System, keeping a record of which shortcuts are activated and when.

eDESKTOP SOFTWARE SPECIFICATIONS

PC Requirements:	Intel Core 2 Duo or equivalent processor Minimum 2 GB RAM Windows 10 Professional Operating System, 32 or 64-bit Editions Microsoft .NET Framework Version 4.5.1 100 MB free disk space for optimal performance One available USB Port

PARTIAL LIST OF ASSOCIATED EQUIPMENT

eCI-MA	Control Interface Model A

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telecor™
eSeries

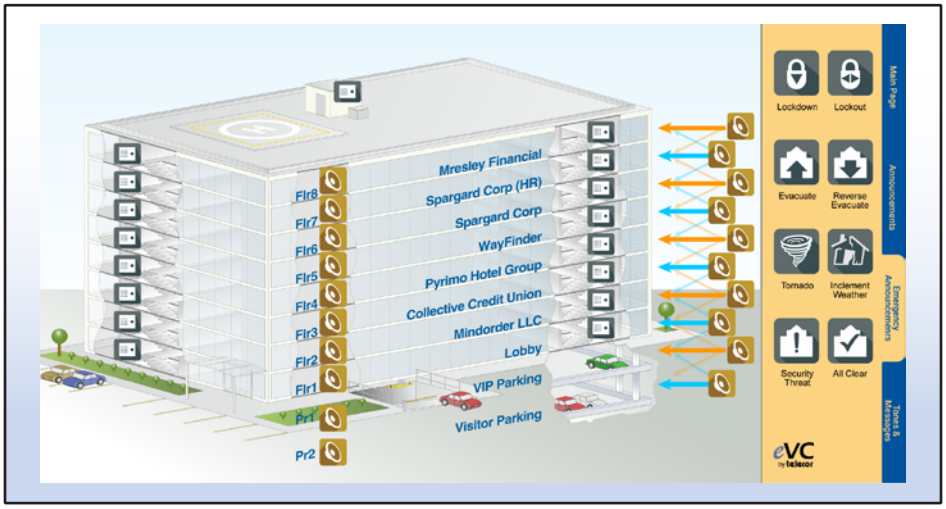
eVC V1.3
eSeries Visual Console

FEATURES

- Easy to use Graphical User Interface (GUI):
  - Operation activation via customizable elements
  - Customizable pages to organize similar operations together
  - Built-in Element Library for adding elements to operating page
  - Operation activation to pre-programmed destination or to dynamically created group zones
  - Simple click activation
- Simplifies routine call processing and operation activation:
  - Calls to rooms (including eTBU-MI room stations)
  - Message waiting and Do Not Disturb mode activation at rooms
  - Paging to zones
  - Coded and scrolling plain textual messages to e300 eConsoles and e365-TB Message Display/Calendar Clocks
  - Audio distributions
  - Script activation
  - Public channel broadcasting
- Dedicated emergency announcements page and elements:
  - Emergency announcements combine audio recordings and scrolling plain textual messages
  - Emergency announcements include: Tornado, Severe Weather Alert, Evacuation, Reverse Evacuation, Lockdown, Lockout, Security Threat
  - Drills variations of page and elements also available
  - Can be activated via dry contact, InformaCast, or eConsole/IP-PBX dial access code
  - Operable even if computer running eVC is disabled
- Distribution of customizable audio recordings:
  - Multiple click-activated and customizable audio recordings
  - Audio files hosted on eSeries Visual Console computer
  - National anthem
- Other features:
  - On screen trouble notification of devices
  - Interface with third-party applications
  - MP3/WAV file support
  - Customizable pre-announce tones
  - Integration with DWConnect
  - Supports and may be installed on up to four client workstations
  - .NET based client-server network

DESCRIPTION

eSeries Visual Console (eVC V1.3) is a Windows-based application that provides a Graphical User Interface (GUI) for the eSeries System. The easy-to-use GUI simplifies a number of routine operations such as: call processing from stations, paging, audio distribution, activating scripts, and emergency operations by organizing thematically similar graphical element icons onto dedicated pages. Emergency communications can be quickly activated through intuitive on-screen icons, ensuring unerring operation.



eSERIES VISUAL CONSOLE WITH 3D BUILDING PLAN

eVC is used in conjunction with a Linked Device (which may be a Two/Three Button eStation or an e300 eConsole). While all operations are conducted from the computer screen, the Linked Device provides the means for originating voice communications to selected locations. eVC can also be deployed in locations independent of a Linked Device to activate audio programs to selected locations of a facility, initiate emergency notification signaling, or to activate scripts.

EASY TO USE GRAPHICAL USER INTERFACE (GUI)

eVC can be used off-the-shelf with a number of standard page templates, each of which are dedicated to certain eSeries operations. These pages provide representation of intercom stations, eConsoles, SIP phones, and paging zones in an easy to use and organized configuration.

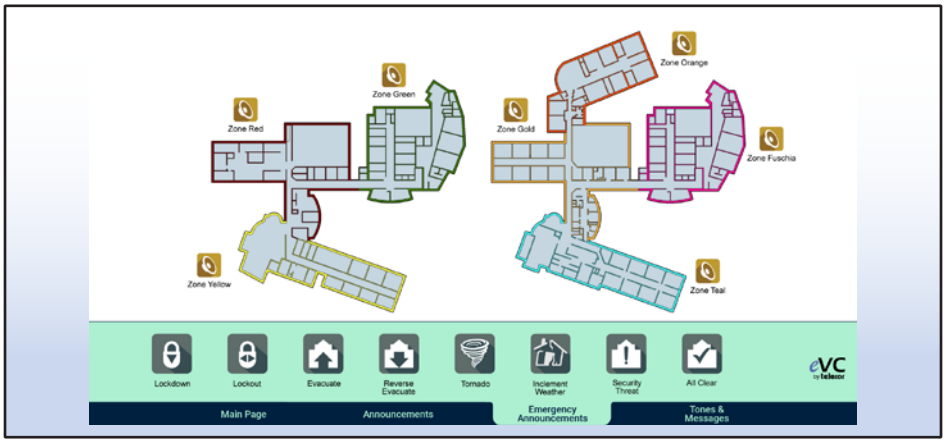
Alternatively, the standard page templates can be customized using bitmap images of the building floor plan as the background. Further customization is achieved by placing elements from the Element Library representing intercom stations, other eSeries devices, SIP phones, and paging zones onto the GUI according to the floor plan background.

Large overviews of the facility can be created with the ability to maneuver into a selected view using the magnify element. This elements allow users to quickly zoom into an area to identify activity such as incoming calls from a specific area.

eVC offers two ways to activate operations. Left-clicking on an operation element will activate that operation with a pre-programmed destination. The destination can be a room, a group of rooms, a zone, a group of zones, a group zone, or the entire facility.

eVC also provides the ability to add one or more rooms or zones into a dynamic zone. This dynamic zone can be the target destination for most operations. Right-clicking on room or zone elements will select and add the corresponding room(s) or zone(s) to the dynamic zone. The next operation activated by left-clicking an operation element will then be sent to the dynamic zone.

eVC has a simplified click activation method. After an operation is activated by clicking on its corresponding element, a second click on the same element will end the operation.



eSERIES VISUAL CONSOLE WITH 2D FLOOR PLAN

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SIMPLIFIED OPERATIONS

eVC allow users to operate: calls to intercom stations in individual rooms, pages to zones, the distribution of tones, the activation of scripts, coded messages, scrolling plain textual messages, and audio distributions.

ROOM INTERCOM COMMUNICATION
A call to a classroom is accomplished by clicking the appropriate room element on the page with the mouse and speaking into the Linked Device. The room element will change color to confirm the placement of the call.

Incoming calls from room locations illuminate an element on the page, pinpointing the origin of the call if the floor plan is incorporated into the GUI. Emergency call-ins are indicated by a unique icon. Calls are answered by clicking on the flashing element or answering via the Linked Device which immediately establishes two-way voice communication with the room. Multiple calls are automatically queued by priority and then chronologically. Calls can also be placed on hold or forwarded so another call can be attended to.

Message waiting notifications can also be activated at specific stations by activating the message waiting element associated with the room. Similarly, Do Not Disturb mode can also be activated at a station that supports the feature even if the location is not equipped with an eCS-2 Do Not Disturb Call Station.

PAGING
A floor plan clearly identifies the various paging zones. Live pages can be initiated to a single zone with a left-click. Paging zones can consist of groups of room stations, paging speakers, or horn loudspeakers located throughout a facility. A dynamic zone of multiple page zones can be created using the dynamic selection method. A page can then be sent to this dynamic zone by activating the Page element.

CODED AND SCROLLING PLAIN TEXTUAL MESSAGES
eVC is able to distribute coded and scrolling plain textual messages to e365-TB Message Display/Calendar Clocks and e300 eConsole displays. Coded messages appear on all displays in an ## ## Cd format (e.g., “00 33 Cd”). Coded messages can be used to inconspicuously inform staff members of important information. Coded and scrolling plain textual messages can be distributed together or separately.

CODED AND SCROLLING TEXTUAL MESSAGE

AUDIO DISTRIBUTION
The broadcasting of audio distributions can be initiated by eVC from external audio devices, microphones, or user-provided audio files. The program distributions are represented on the operation page as elements which are pre-programmed with the desired source and destination. The destination may be an individual room, a group of rooms, a single zone, multiple zones, or a group zone. For example, background music intended for use during a specific event in selected areas of a facility can be saved as an element and activated with a click. Alternatively, the dynamic zone (right-click selecting method) can be used as the destination. Numerous routine operations can be saved as audio distributions for quick activation.

SCRIPT ACTIVATION
eVC is capable of activating eSeries scripts (which are configured and managed via the eCI Control Interface). eSeries scripts can be used to automate and chain together multiple eSeries operations. A Script element included as part of the Element Library can be used to represent individual scripts. The Script element will visually change to indicate if a script is active.


SCRIPT ELEMENT (IDLE AND END STATES)

PUBLIC CHANNEL
Public channels available in the eSeries System can activate audio streaming to devices within the dynamic zone using a Public Channel element. A corresponding End Public Channel element will end the broadcast to selected devices.

DEDICATED EMERGENCY ANNOUNCEMENTS PAGE AND ELEMENTS

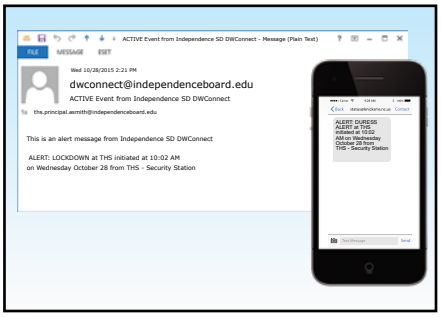
eVC provides an efficient and reliable method of notifying the facility occupants of emergency events. An Emergency Announcements page is dedicated to managing emergency operations with specific emergency elements. The activation of an emergency element will distribute a combination of an audio file as well as coded and scrolling textual messages. These emergency elements include: Lockdown, Lockout, Evacuate, Reverse Evacuate, Inclement Weather, Tornado, Security Threat, and All Clear.

Emergency Announcement operations can be enhanced with alternative activation methods that include: dry contact devices (such as push buttons) connected to the eAmp; dial access codes dialed from an e300 eConsole or PBX device; and InformaCast operations. Should eVC become unavailable, these alternative activation methods will still be operable.

Additionally, an Emergency Drills page provides drill versions of the above emergency operations.

DWCONNECT NOTIFICATIONS

When eVC is integrated with DWConnect, activation of an emergency notification will also register on the DWConnect system and result in the distribution of SMS messages and/or emails to the appropriate district staff members.



EMAIL AND SMS TEXT MESSAGE NOTIFICATION

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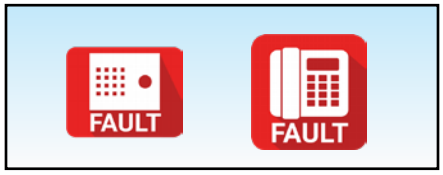
CUSTOMIZABLE RECORDED MESSAGES

eVC supports the creation of multiple audio recording distributions that play MP3 or WAV audio files when the associated element is clicked. Individual audio recording elements can be created to enable the user to play specific audio files in pre-programmed or dynamic zone (right-click) selected areas of the facility. These audio recordings can be used to play custom audio material such as music, tones, and announcements. For example, individual audio recordings can be created to announce the arrival of buses and inform students and staff members which buses are ready for boarding. Audio recordings distributed by eVC can be hosted on the computer running eVC or on eSeries System eAmps.

NATIONAL ANTHEM
The National Anthem element distributes a national anthem sound file. eVC includes American and Canadian versions of the National Anthem element. Any National Anthem element can be repurposed to play other audio such as the Pledge of Allegiance or a school song.

OTHER FEATURES

ON SCREEN TROUBLE NOTIFICATION
On screen trouble notification is provided by eVC via the visual appearance of elements. If a device associated with an element experiences a fault, the element will visually indicate this by changing its appearance, e.g., an element for a disconnected call station will indicate that the element is inoperable. Operational elements will also change their appearance if a device fault results in a partial limitation of the operation. For example, if the eAmp that an audio and text distributing operation depends on experiences a fault, the element will indicate that the audio portion of the operation is disabled but that distributing the text is still possible.



DEVICE ELEMENTS INDICATING TROUBLE

INTERFACE WITH THIRD-PARTY APPLICATIONS
Third-party applications can interface with eVC to provide additional features and capabilities. For example, the Security Camera element can be used to call upon the web application of an IP-based camera device and pass on specific parameters. This can be used to display a live feed from a specific camera on the computer screen.

MP3 AND WAV AUDIO FILE SUPPORT
eVC provides the ability to use MP3 and WAV audio files stored on the computer running eVC for any element that uses audio recordings. This allows a facility to tailor announcements and audio distributions to meet specific applications.

PRE-ANNOUNCE TONES
Additionally, audio files can be used as pre-announce tones. This allows for the use of unique and custom sounds to be played before an audio distribution. For example, an internationally recognized emergency tone can be set to play prior to a pre-recorded verbal emergency announcement.

INTEGRATION WITH DISTRICT WIDE PAGING AND DWCONNECT
eVC can be integrated with DWConnect. If an emergency notification is activated by eVC, DWConnect can send out notifications to the appropriate staff members via SMS or email to mobile/smart devices. DWConnect also monitors eVC. If DWConnect detects that eVC is not running, an automatic notification can be sent to the appropriate technical staff.

IMPLEMENTATION
The eVC application uses a client-server implementation model based on Microsoft .NET technology. The server module consists of an eTCS eSeries Server which hosts the Tel-Media Server software which manages the audio feed to the eSeries System. The client portion resides on the user computer and consists of the eVC application itself. TCP/IP is used to communicate between the client and the server over the facility LAN/WAN. Client workstations are non-dedicated computers that can co-host other facility supported software in addition to eVC. The eVC application supports and may be installed on up to four client workstations.

eTCS eSERIES SERVER

The eTCS eSeries Server is connected to the eSeries System via audio and network connections. The audio connection is made to a dedicated eAmp Amplifier and is used to feed audio from the eVC application to the eSeries System. The network connection is made to an eSeries System network switch.

Each client computer must also establish a data connection to the eSeries System via an eCI Control Interface. The eCI interprets eVC activity and passes it on to the eSeries System using the eCI Command Interface Protocol.

In addition to the Microsoft .NET technology, Telecor uses its own network monitoring watchdog technology to automatically monitor digital communications channels throughout the .NET infrastructure. If a loss of communication occurs, the Telecor watchdog technology will take all possible steps to automatically restore any failed .NET components and restore network communications.

eVC is available as part of the eVC V1.3 BASIC package. This package includes: the eVC V1.3 software and license; an eTCS eSeries Server; an eCI Control Interface; and an eAmp dedicated for eVC operations.

eSERIES VISUAL CONSOLE SPECIFICATIONS

Client Computer Requirements:

CPU:	Minimum: Intel Core i3-2105 @ 3.10 GHz or equivalent Recommended: Intel Core i5-4440 @ 3.10 GHz
RAM:	Minimum: 4 GB Recommended: 8 GB
Hard drive:	SATA2 hard drive, 500 MB of free hard drive space for optimal desktop performance
Port:	USB
Display:	1920 by 1080 resolution

Supported Operating Systems:
- Windows 10 32 or 64 bit Edition

PARTIAL LIST OF RELATED PRODUCTS

eCI Control Interface
eAmp Amplifier
eTCS eSeries Server
DWConnect
DWConnect eMessenger
DWConnect LT

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telecor™
eSeries

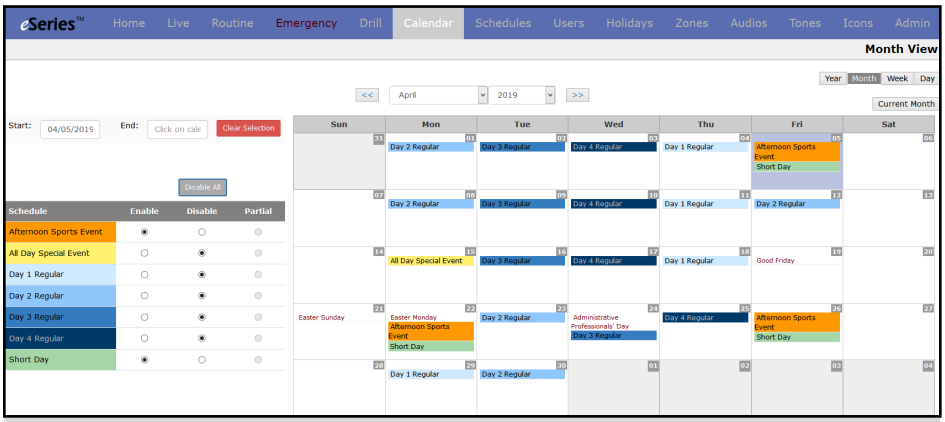
eMH
Master Clock & Message Host

FEATURES

- Provides eSeries Master Clock functionality, including:
  - Unlimited schedules that collect eSeries operations for automatic batch activation at specific dates and times
  - Unlimited scheduled event operations
  - Schedule emergency drills independently of other schedules
  - Calendar-based schedule activations
  - 10 year calendar for long and short range planning
  - Drag and drop calendar functionality
  - Schedule color codes for at-a-glance calendar views of active schedules
  - At-a-glance views of active schedules and upcoming operations
  - Supports unlimited holidays directly on the calendar
- Easy-to-use web-based graphical user interface for eSeries networks
- Activate and configure unlimited eSeries operations, including emergency announcements and drills
- Specific eSeries operations can be made accessible on a user-by-user basis
- eMH users can put frequently used or emergency icons on their personal home page
- Automatic synchronization of emergency announcements and drill operations
- Integration with Visual Console for eSeries allowing the same operations to be controlled by either interface
- Can activate third-party devices and systems connected to eNode relays
- Unlimited user accounts with individualized permissions for access, access from mobile device, and configuration
- Supports user accounts managed by LDAP-based Active Directory service
- User-specific and system-hosted on-demand training videos
- Upload unlimited audio files for operations and pre-announce tones
- Assign icons to operations and schedules for visual identification and selection
- Configurable test zone for testing of eMH operations
- Comprehensive database features for backup and copying eMH configuration
- Maintenance Portal that provides:
  - eStation device management that includes volume control settings
  - Enabling/disabling service mode
  - eSeries network Trouble notification with specific station and problem identification
  - Distribution of Trouble notification emails
- Perform eSeries network device firmware updates
- Cybersecurity features include network lock code support and forced factory password change
- Supports both desktop- and mobile-based browsers with separately configurable mobile user account permissions
- Supports rapid access to emergency buttons, in particular for mobile devices

DESCRIPTION

The eSeries eMH Master Clock & Message Host is a time master device for the eSeries network. It alsoenables configuration and activation of eSeries operations from a web-based graphical user interface (GUI). An unlimited number of operations can be managed for activation by schedules or users.



The eMH Calendar above shows a month with a rotating four-day schedule. Interspersed throughout the month are shortened days with afternoon sports events or all-day special events. The regular scheduled days are easily arranged around the event days. Holidays are also prominently displayed and schedules can be disabled on those days as appropriate (such as when schools are closed).

MASTER CLOCK

As a master clock, the eMH provides a Time Master source for central time keeping and synchronization of all other eSeries devices throughout the eSeries network. The eMH synchronizes with Network Time Protocol (NTP) servers directly or via an NTP-enabled eSIP present on the eSeries network.

The eMH manages an unlimited number of calendar-based schedules, which are collections of operations intended to be performed frequently, periodically, or on specific dates and times. For example, a schedule may be a series of bell tones that consistently indicate class changes. Users can set schedules so that the operations they contain will activate accordingly. All operations can be searched and the results quickly edited, copied to schedules, and reviewed to avoid the creation of identical operations.

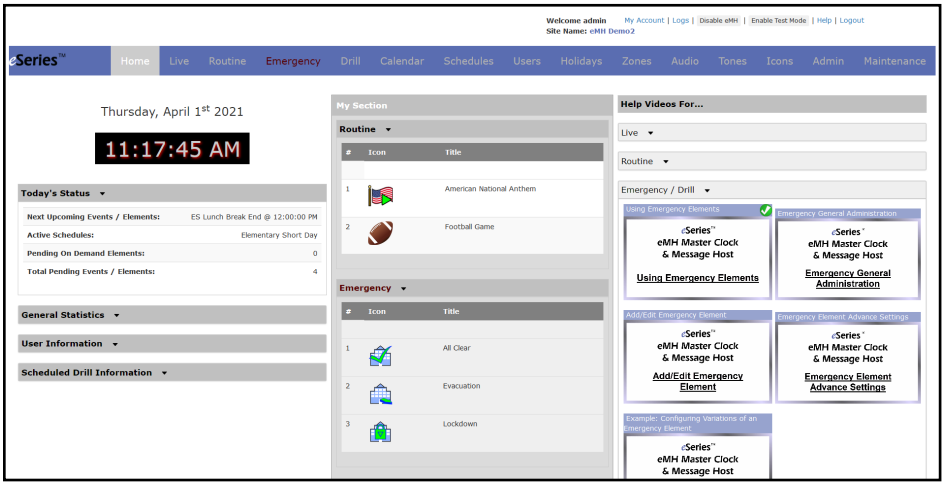
Schedules can be viewed, enabled or disabled in a calendar. The calendar can display schedules on a daily, weekly, monthly or yearly basis. The eMH supports scheduling operations up to 10 years into the future.

Additionally, an unlimited number of holidays can be specified and marked on the calendar. This indicates days where special scheduling considerations should be taken. Alternatively, holidays can be configured to disable all schedules on that day. Holidays can also be set to recurring so that the eMH maintains copies of the holiday going forward for the next 10 years. Each of these copies can be edited in case the holiday does not have a fixed date. Certain fixed-date holidays will be automatically created and made recurring.

MESSAGE HOST

The eMH provides an easy-to-use GUI that simplifies operation configuration and activation.

Operations can include several components, including: pre-announce tones, pre-recorded audio, scrolling textual messages, coded messages, and the activation of third-party devices and systems connected to eNode dry contact relays. If desired, specific details of the components can be customized. Customization includes: the number of times the pre-announce tone plays, the message scroll speed, and the delay before pre-recorded audio repeats. Depending on the operation type, user-activated operations may be distributed immediately or queued for later distribution.



eMH HOME PAGE

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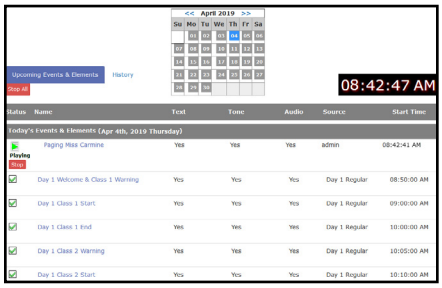
Operation can be made accessible on a user-by-user basis. Additionally, each user can collect frequently used and important operations in a customizable user specific home page for their own convenience.

OPERATION CONFIGURATION AND ACTIVATION

The eMH GUI compartmentalizes different aspects of the eMH and the operations it manages to specific pages.

For at-a-glance assuredness, the Home page provides a quick overview of eMH-managed operations. This includes the next scheduled operation, the schedules that are currently active, and the next scheduled school drill. The eMH includes user specific short tutorial videos that explain various aspects of the GUI and provides built-in on demand training.

The eMH establishes greater confidence for administrators by always showing upcoming events in advance. The Live page shows currently active and upcoming operations. A history of recently performed operations confirms that operations occurred as intended. Also, users can easily initiate on-the-fly operations on the Live page by configuring and activating them on demand.



eMH LIVE PAGE

Routine operations can include an unlimited number of pre-configured common audio distributions. Examples include announcements for special assemblies, bus arrivals, staff meetings, and festive events.

EMERGENCY RESPONSE MANAGEMENT

For emergency situations, the eMH provides the ability to configure an unlimited number of dedicated emergency response operations. A corresponding drill operation will be automatically created for each emergency operation.

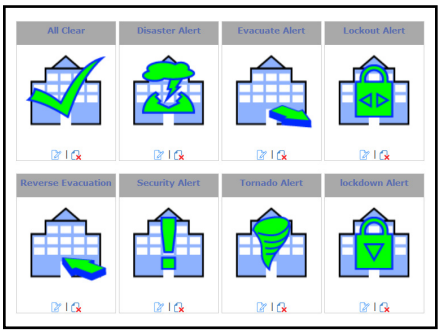
eMH operations can target one or more eSeries zones. For simpler zone selection the eMH supports an unlimited number of Named Zones that easily identify different parts of a school in plain text.

The eMH supports unlimited uploading of audio files (WAV and MP3) and images to support operations. Audio files are used for tones or announcements. Images are used as icons throughout the GUI to represent different operations or schedules. To support integration with the eAM Alarm Manager, the eMH offers eAM related icons which can be individually uploaded to the eMH as desired.

Access to the eMH is user-account controlled. Integration with the Lightweight Directory Access

#	Icon	Time	Title	Days	Dial Numbers	Textual Message	Tone	Audio	Enabled	Schedules	Action
1		08 :50 :00 AM	Day 1 Welcome & Class 1 Warning	Mo,Tu,We,Th,Fr	-	Good morning! Today is Day 1. Class 1 starts in 10 minutes.	Tone 3	Day 1 Morning & Class 1 Warning	☑	Day 1 Regular	
2		09 :00 :00 AM	Day 1 Class 1 Start	Mo,Tu,We,Th,Fr	-	Class 1 Has Started (Day 1)	Bell	Class 1 Start	☑	Day 1 Regular	
3		10 :00 :00 AM	Day 1 Class 1 End	Mo,Tu,We,Th,Fr	-	Class 1 Has Ended (Day 1)	Bell	Class 1 End	☑	Day 1 Regular	
4		10 :05 :00 AM	Day 1 Class 2 Warning	Mo,Tu,We,Th,Fr	-	Class 2 Starts in 5 Min (Day	Tone 5	Class 2 Warning	☑	Day 1 Regular	
5		10 :10 :00 AM	Day 1 Class 2 Start	Mo,Tu,We,Th,Fr	-	Class 2 Has Started (Day1)	Bell	Class 2 Start	☑	Day 1 Regular	
6		11 :10 :00 AM	Day 1 Class 2 End	Mo,Tu,We,Th,Fr	-	Class 2 Has Ended (Day 1)	Bell	Class 2 End	☑	Day 1 Regular	
7		11 :15 :00 AM	Day 1 Class 3 Warning	Mo,Tu,We,Th,Fr	-	Class 3 Starts in 5 Mins (Day	Tone 5	Class 3 Warning	☑	Day 1 Regular	
8		11 :20 :00 AM	Day 1 Class 3 Start	Mo,Tu,We,Th,Fr	-	Class 3 Has Started (Day 1)	Bell	Class 3 Start	☑	Day 1 Regular	
9		12 :20 :00 PM	Day 1 Class 3 End	Mo,Tu,We,Th,Fr	-	Class 3 Has Ended (Day 1)	Bell	Class 3 End	☑	Day 1 Regular	
10		12 :25 :00 PM	Lunch Start	Mo,Tu,We,Th,Fr	-	Lunch Has Started	Tone 8	Lunch Start	☑	Multiple	

The example schedule above shows the first day of a four-day regular schedule rotation. The schedule contains several bell tones to indicate the start and end of classes five-minute warnings before the start of classes. The audio and textual message components of each operation can be customized to indicate the specific day in the rotation. The Lunch Start operation is generic across all days and is in multiple schedules.



eMH EMERGENCY OPERATIONS

Protocol-based Active Directory is also supported to allow users managed by such a service to access the eMH. The eMH supports an unlimited number of users with a high level of individual customization. Users can be given access to only the pages and operations relevant to their intended roles. For each page, users can be granted permissions to activate or configure operations and schedules from a desktop or, for certain users, from mobile devices. For example, an administrator account could have full access to view and make configuration changes on all pages, while an operator account is limited to activating routine or emergency operations and enabling or disabling schedules.

Additionally, user accounts can be configured to only contain a single emergency operation for activation. This allows mobile device users to quickly activate the emergency operation from any location and with minimal risk of error. This can be combined with fingerprint or facial recognition login features of mobile devices to greatly speed up the login process and minimize the number of presses on the device touchscreen.

To help in account creation and management, a configurable default user account serves as a template to determine the initial permissions of new users. For security purposes, Administrators can suspend (and re-enable) user accounts at any time.

Users with administrative privileges have the ability

eMH EMERGENCY RESPONSE
ACCESSED VIA MOBILE SMART DEVICE

to configure the eMH site name, time, time zone, test zone, and manage eMH database backups. To aid installers with initial configuration, the eMH includes a test mode and a database backup feature. Test mode redirects all eMH activated operations to a test zone (that only the installer occupies) to prevent disrupting other people during configuration and testing.

Database backups are automatically created every night and can also be manually created. In addition to backup purposes, the database backups can be used to quickly copy the eMH configuration to other eMH installations. The eMH also supports administrative one-click disabling (and enabling) of all schedules while maintaining support for emergency functions.

The eMH features the ability to perform eSeries network firmware updates without the need for an ePort.

telecor™
eSeries

eMH
Master Clock & Message Host

eSERIES DEVICE MANAGEMENT

The eMH features a Maintenance Portal that lists all eSeries devices on the network. The Portal can be used to make basic configuration changes to these devices. The settings that can be changed include dial number, name, primary call-in destination, zone membership, and volume settings (for intercom, page, public channel, emergency page, and trouble notification). Changes can be made to individual devices or multiple selected devices at the same time (depending on the type of setting being changed).

The Portal also provides trouble notification for faults being experienced by any eSeries device. The notification includes a detailed fault report that can be easily copied for pasting into other documents (e.g., email). A service mode button in the Portal provides users the ability to enable or disable trouble notification while the eSeries network is being serviced.

The Portal can also be configured to use an email server and account to send trouble notification emails to a list of designated addresses. These emails will list the details of all current faults. A convenient link to the eMH web interface is also provided so that the recipient can perform trouble shooting actions such as: viewing up-to-date fault information; enabling service mode to silence further trouble notifications; and making configuration changes to fix certain faults, e.g., correcting duplicate dial numbers.

Mobile device users can access the Maintenance Portal to view current faults and to toggle service mode.

CYBERSECURITY

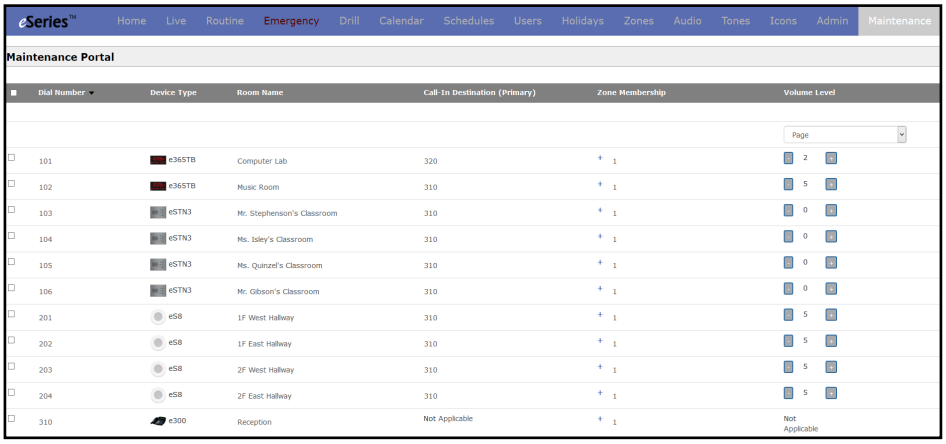
The eMH supports cybersecurity features implemented as part of the eSeries System. This includes the eMH requiring a matching network lock code to be entered to access the eSeries network. Also, the eMH will also force a password change if the factory set password is used to log into the default administrative account.

IMPLEMENTATION

The eMH application is web-based and secured via HTTPS certification. It is preconfigured with a variety of default operations, schedules, audio, and icons for quick customization. Users log into the application from any desktop computer or mobile smart device using a supported web-browser. Supported web browsers include Microsoft Edge, Mozilla Firefox, Google Chrome, and Apple Safari. Users can activate emergency response operations from facility PCs or remote mobile devices.

The eMH is a physical device that comes pre-configured with the eMH software application. The eMH sits on a horizontal flat surface or can be installed in a rack. The eMH supports isolation between the eSeries network and the facility network with dual Ethernet ports.

eMH MASTER CLOCK AND MESSAGE HOST



eMH MAINTENANCE PORTAL

telecor™ eSeries™ Trouble Report

This is a Trouble Report from *Area 51*: ***33*** fault(s) have been detected.

Click *here* (https://area51.telecor.biz/) to go to the Area 51 web interface.

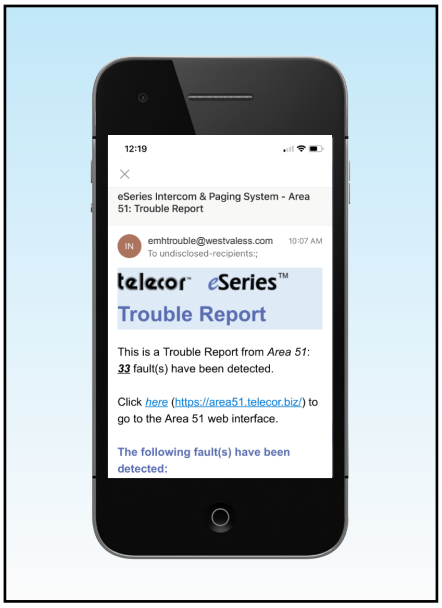
The following fault(s) have been detected:

1) Device **A51-R6-S8-S6B** with dial number **17260** is experiencing fault: **"Device version control file does not match network version control** file"
2) Device **Bob's ePort** with dial number **N/A** is experiencing fault: **"This ePort's firmware is older than the rest of the network. It is recommended to update the older firmware if this ePort is intended to be permanently installed on this network"**
3) Device **eSIP.0 A51** with dial number **N/A** is experiencing fault: **"Software not compatible with the network"**
4) Device **eSTN-1** with dial number **17197** is experiencing fault: **"Device version control file does not match network version control file"**
5) Device **A51-R5-S1-S15** with dial number **17205** is experiencing fault: **"Device version control file does not match network version control file"**
6) Device **A51-R7-S3** with dial number **20975** is experiencing fault: **"Device version control file does not match network version control file"**
7) Device **A51-R6-S8-S12** with dial number **41944** is experiencing fault: **"Device version control file does not match network version control file"**
8) Device **A51-R5-S3-S12F** with dial number **17213** is experiencing fault: **"Device version control file does not match network version control file"**
9) Device **A51-R6-S1** with dial number **10350** is experiencing fault: **"Device version control file does not match network version control file"**
10) Device **A51-eTBU #9** with dial number **17970** is experiencing fault: **"Device version control file does not match network version control file"**
11) Device **A51-R6-S4-S14** with dial number **17646** is experiencing fault: **"Device version control file does not match network version control file"**
12) Device **A51-R5-S3-S4** with dial number **16822** is experiencing fault: **"Device version control file does not match network version control file"**
13) Device **A51-R5-S3-S4B** with dial number **17220** is experiencing fault: **"Device version control file does not match network version control file"**
14) Device **A51-R6-S2** with dial number **10358** is experiencing fault: **"Device version control file does not match network version control file"**
15) Device **A51-R6-S6-S6** with dial number **17654** is experiencing fault: **"Device version control file does not match network version control file"**
16) Device **A51-R6-S3** with dial number **16830** is experiencing fault: **"Device version control file does not match network version control file"**
17) Device **A51-R5-R8-S3** with dial number **42291** is experiencing fault: **"Device version control file does not match network version control file"**
18) Device **A51-R6-S7-S18F** with dial number **17236** is experiencing fault: **"Device version control file does not match network version control file"**
19) Device **A51-R5-R2-S1** with dial number **10247** is experiencing fault: **"Device version control file does not match network version control file"**
20) Device **A51-R5-S3-S14B** with dial number **17224** is experiencing fault: **"Device version control file does not match network version control file"**

- **Other additional faults have been detected, see the attached CSV file for a detailed list of all faults (*33* in total)**

Click *here* (https://area51.telecor.biz/) to go to the Area 51 web interface.

eMH TROUBLE NOTIFICATION EMAIL



eMH TROUBLE NOTIFICATION EMAIL
SENT TO MOBILE SMART DEVICE

SPECIFICATIONS

Power Source:	
AC Voltage:	100-240 VAC, Auto sensing
Line Frequency:	50-60 Hz
Current:	2 A Max
Ports:	2 Ethernet, 2 USB, VGA, HDMI, Line Out
Controls:	Power Switch (Illuminated)
Indicators:	Power LED
Network Interface:	RJ45, 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC, IEEE 802
Dimensions:	17.25" W x 3.5" H x 10" D 43.8 cm x 8.9 cm x 25.4 cm)
Weight:	10 lbs (4.5 kg)
Environment Requirements:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing

Compliance:

ETL LISTED CONFORMS TO ANSI/UL Standard 60950-1 CERTIFIED TO CAN/CSA Standard C22.2 No. 60950-1
Intertek 3059290

CAN ICES-3 (A)/NMB-3(A)

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telecor™
eSeries

eCall V1.3
Virtual Call Station

FEATURES

- eCS series call station software for Windows computers
- Compatible with eSeries V1.2.9, V1.3.4, and later systems
- Interactive and animated graphical user interface (GUI)
- Displays room number
- Mix features of different eCS series call stations onto a single interface
- Minimizes to and resides in notification area
- Supplements or replaces physical eCS stations
- Provides an additional separate emergency call-in location
- Supports all eCS series call station operational features, including:
  - Intercom call-in
  - Emergency call-in
  - Alarm Acknowledgement
  - Medical and Security Alerts
  - Privacy mode
  - Do Not Disturb mode
  - Public Channel selection
  - Smart Volume Control
- Supports multiple call-in destinations and a separate emergency call-in destination
- Consistent with ANSI/NEMA SB 40-2008 Communications Systems for Life Safety in Schools
- Compatible with Visual Console for eSeries, DWConnect, and DWConnect LT
- Works in conjunction with:
  - e365-TB Message Display/Calendar Clock
  - e2443 Message Display/Calendar Clock/Speaker Assembly
  - eSBM-TB Speaker Breakout Module
  - eS8-TB(4) Talkback (Master) Speaker
- Add-on for eMH Master Clock and Message Host

DESCRIPTION

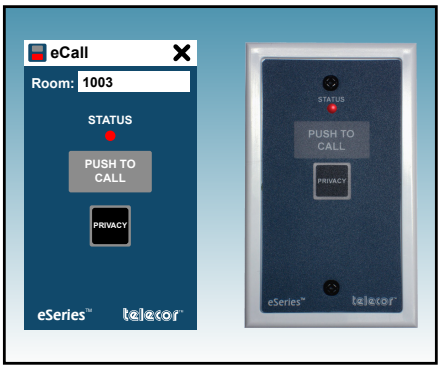
eCall is an application that provides a virtual representation of an eCS series call station on a Windows-based computer. Designed to mimic the look and behavior of physical eCS series call stations, eCall features interactive and animated virtual buttons which react to user inputs such as mouse clicks or finger presses on touch screen devices.

eCall include the Status LED to support related features. This includes Call Assurance where the Status LED blinks to indicate when a call is connected and notification of station related trouble via Status LED blinks when the station is idle.

eCall can be virtual representations of existing eCS series call station models to offer the same features as the physical versions. For example, eCall can be customized to have Push to Call with a Do Not Disturb button as found on an eCS-2 Do Not Disturb Call Station or a Privacy button as found on an eCS-1 Privacy Station.

eCALL ON WINDOWS DESKTOP

Additionally, unlike physical stations, eCall can be customized to combine various buttons and their associate features from different eCS series call station models. For example, eCall may be configured to simultaneously show Privacy and DND buttons even if no physical station with Privacy or DND buttons are available in the room.



VIRTUAL eCALL STATION CONFIGURED AS AN eCS-1 COMPARED TO PHYSICAL eCS-1 STATION

eCall can be configured with Smart Volume buttons that directly adjust the volume in a room. Smart Volume applies to the currently active audio operation type without affecting other audio volumes. For example, lowering the volume of pages that are too loud will not affect the volume of intercom audio, emergency announcement levels, etc.

eCall can feature many other buttons. The Push to Call button places a normal priority call-in. The Emergency button places an emergency priority call-in. The Privacy button places the station device in Privacy mode and provides a Privacy mode indicator. The Do Not Disturb button places the station device in Do Not Disturb Mode and provides a DND mode indicator. The Public Channel select button is used to select Public Channel background audio.

eCall can also be configured with eAM Alarm Manager feature related buttons. This includes the Alarm Acknowledgement button which is used to signal completion of emergency response instructions. The Medical and Security Alert buttons activate a combined emergency priority operation that includes a call-in, audio announcement, and scrolling plain textual message.

Button customization allows eCall to be equipped with one, some, or all of the features related to these buttons without actually requiring the physical call station that usually provides these features.

eCall resides in the notification area as a small icon when not in use. Clicking on the icon will display eCall for use.

eCall can be configured with a portable setting for situations where it is running on portable devices moved between locations with differing room numbers. With this setting, the user will be prompted in certain situations to enter the room number of their current location when they click the icon.

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telecor™
eSeries

eCall V1.3
Virtual Call Station

eCall also work with e300 eConsole related operations regarding Privacy mode, Do Not Disturb Mode, and Message Waiting. An eConsole operator attempting to call eCall in Privacy or Do Not Disturb mode will be prompted with options to connect the call anyway or activate a Message Waiting indication. If a Message Waiting indication is activated, the next call-in placed by eCall will be directed to the eConsole that activated the Message Waiting indication.

eCall is consistent with ANSI/NEMA SB 40-2008 Communication Systems for Life Safety in Schools standard as they provide: additional locations from which call-ins can be placed, separate normal and emergency call-in buttons, and Call Assurance.

eCall is compatible with Visual Console for eSeries, DWConnect, and DWConnect LT. An eSeries network equipped with the appropriate DWConnect-related products will recognize emergency call-ins placed from eCalls and trigger DWConnect notifications to mobile phones and smart devices.

IMPLEMENTATION

eCall uses a client-server implementation model.

The server portion of eCall (part number eCALL-S Virtual Call Station eMH Add-On Software) is installed onto an eMH Master Clock & Message Host and manages the network connection between eCall and the eSeries network.

The client portion of eCall (part number eCALL-C Virtual Call Station Client Software) is installed on computers throughout the facility and connected to the facility network. eCall is intended to be installed onto non-dedicated computers in the same rooms as eSeries station devices.

TCP/IP is used to communicate between the clients and the server over the facility LAN/WAN.

The eMH is connected to the eSeries System via a network connection. The eMH is also separately connected to the facility network to support isolation between the eSeries network and facility networks.

SPECIFICATIONS

SUPPORTED OPERATING SYSTEMS:

- Windows 10 (32 or 64 bit Edition)

COMPUTER SYSTEM SPECIFICATIONS:

- Same as computer operating system

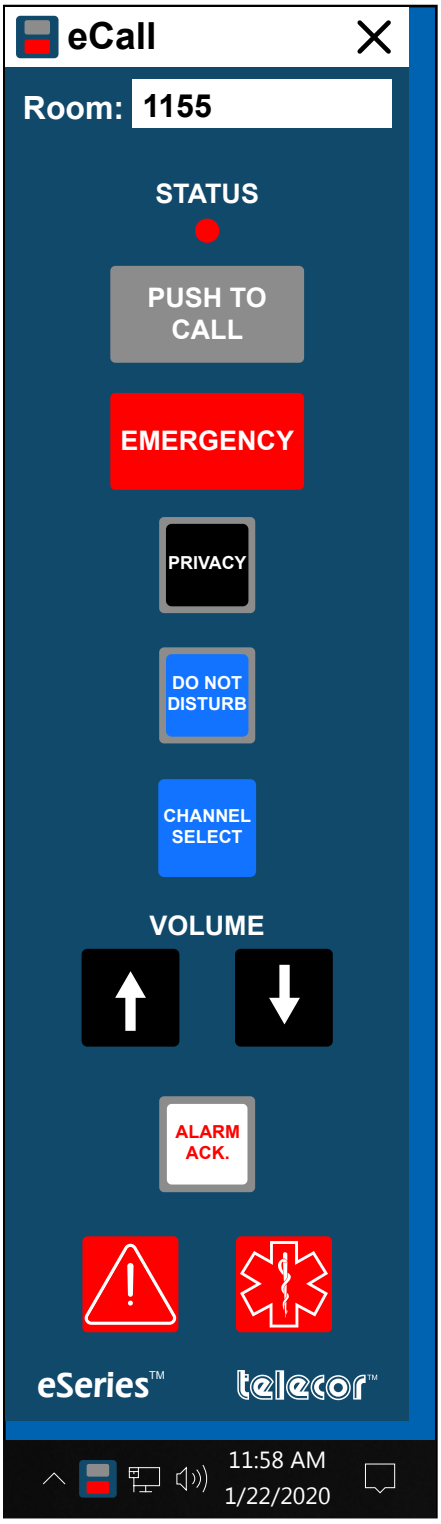
eSERIES SYSTEM SPECIFICATIONS:

- eSeries Firmware Version 1.3 (backwards compatible with V1.2.9, some features unsupported)

PARTIAL LIST OF RELATED PRODUCTS

eCALL-S	Virtual Call Station eMH Add-On Software
eCALL-C	Virtual Call Station Client Software
eMH	Master Clock & Message Host
eAM	Alarm Manager
eCS-1(v)	Call Station with Privacy (& Smart Volume Controls)
eCS-2(v)	Call Station with Do Not Disturb (& Smart Volume Controls)
eCS-3	Emergency Call Statio
eCS-4	Volume Control and Public Channel Select Call Station
eCS-5	Volume Control and Public Channel Select Station
eCS-6(v)	Call Station (& Smart Volume Controls)
eCS-9	Alarm Acknowledge Call Station
eCS-10	Alarm Acknowledge and Alert Call Station
eS8-TB(4)	Talkback (Master) Speaker
eSBM-TB	Speaker Breakout Module
e365-TB	Message Display/Calendar Clock
e2443	Message Display/Calendar Clock/Speaker Assembly
eVC	Visual Console for eSeries
DWConnect	DWConnect
DWConnect LT	DWConnet LT

Note: Not all eCall/eAM features are supported by all eSeries station devices. Some restrictions apply to eSTN and eTBU based stations.



eCALL CONFIGURED WITH ALL POSSIBLE BUTTONS

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telecor™

eSeries Time Keeping System

SW-ETS

Telecor Ethernet Time Server Software

FEATURES

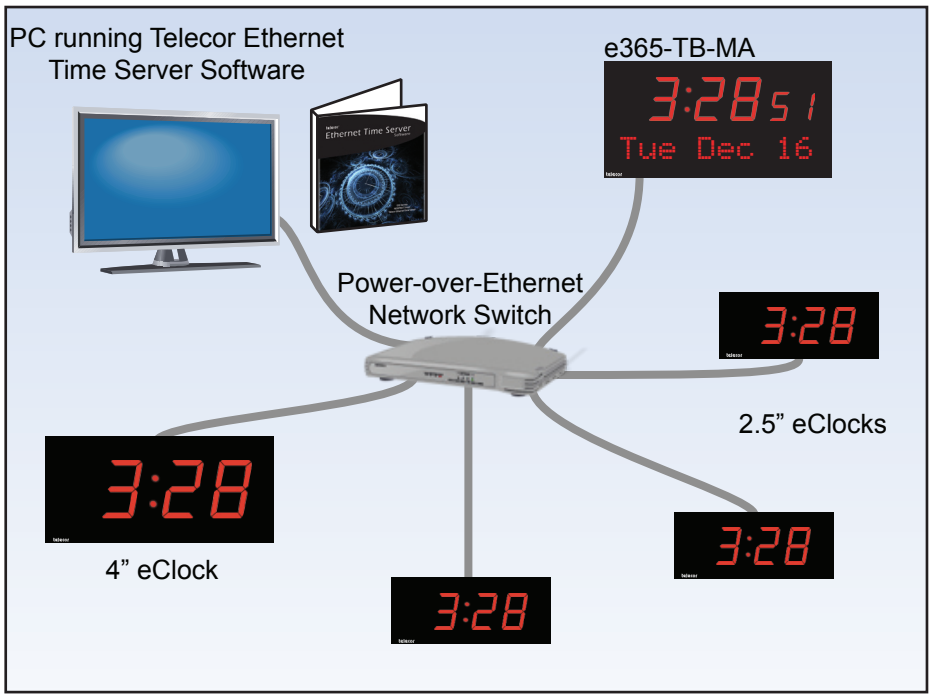
- Runs on Virtually any PC Connected to the same LAN as the Telecor eClocks
- Manages eSeries eClock Network
- Continually Synchronizes eClocks to PC Operating System Time
- Enables eClock Just Plug it In!™ Design
- Unintrusive and Runs in the Background

DESCRIPTION

The Telecor Ethernet Time Server Software is installed onto a computer connected to a local area network. With the software installed, that computer then acts as a Time Server to enable the use and management of eSeries eClocks on the LAN. The software allows all eClocks plugged into the LAN to operate according to Telecor's Just Plug It In™ design. This means that no IP address, DHCP server, subnet, or mask settings or configuration changes are required for the eClocks to operate once plugged in.

In addition, the Ethernet Time Server Software also distributes clock data and maintains time synchronization with all eClocks on the network. Once the eClocks have automatically registered with the Telecor Ethernet Time Server, time corrections occur instantly to ensure all eClocks are synchronized with the Time Server's operating system. If an eClock loses communication with the Time Server, the eClock maintains its own time while the software will monitor the network in anticipation of the eClock reestablishing its connection. Once the eClock reconnects to the network, the Time Server will automatically update and re-synchronize the eClock.

The Telecor Ethernet Time Server Software is an unintrusive program that runs in the background. If a user needs to interact with the Time Server in any way, they can do so by clicking on a small notification area icon to access the Time Server settings.



eCLOCK NETWORK

TELECOR ETHERNET TIME SERVER SOFTWARE REQUIREMENTS

System Requirements:
- Intel Core 2 Duo or equivalent processor
- Minimum 2 GB RAM
- 100 MB free disk space for optimal performance

Operating System Requirements:
- Windows 8.1 or Windows 10 Professional 64-bit editions
- Microsoft .NET Framework V4.0

PARTIAL LIST OF ASSOCIATED EQUIPMENT

eCLK-2.5"	2.5" Ethernet Digital Clock
eCLK-4"	4" Ethernet Digital Clock
e365-TB-MA	Calendar Clock
SW-ETS	Telecor Ethernet Time Server

All product information subject to change without notice.

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telecor™
eSeries

eAM
Alarm Manager

FEATURES[1]

- Adds command center and alarm-focused emergency management capabilities to an eSeries Network
- Alarms suspend normal eSeries intercom and paging operations to prioritize emergency management operations
- Alarms can include pre-recorded audio, scrolling plain textual messages, and more
- 15 customizable alarms types available such as Lockdown, Lockout/Secure and Hold, Evacuate, Tornado, and Tsunami
- Alarm Management Console for command centers to manage alarmed areas
- Alarm Consoles are transferable to react to physical dangers
- All Station call-ins automatically re-routed to Alarm Management Console
- Alarm Acknowledgement capabilities signals room occupancy and response completion
- Covert Listen to monitor room audio without notifying occupants
- Alarm-specific eLD1 Strobe Light patterns
- Support for Medical and Security Alerts which generate priority call-ins to emergency management consoles
- Alerts include automatic audio and textual announcements to targeted zones
- Alert announcements include verbalization of originating room number
- Alerts activated via eCS-10 Alarm Acknowledge and Alert Call Station or eCall Desktop Software
- Hosts all related audio files
- Monitors eSeries network for faults
- Supports eNode integration
- Consistent with:
  - NFPA 72 National Fire Alarm and Signaling Code
  - ANSI/NEMA SB 40 Communications Systems for Life Safety in Schools
  - IFC 2018 International Fire Code on Lockdown Plans

Just Plug It In™

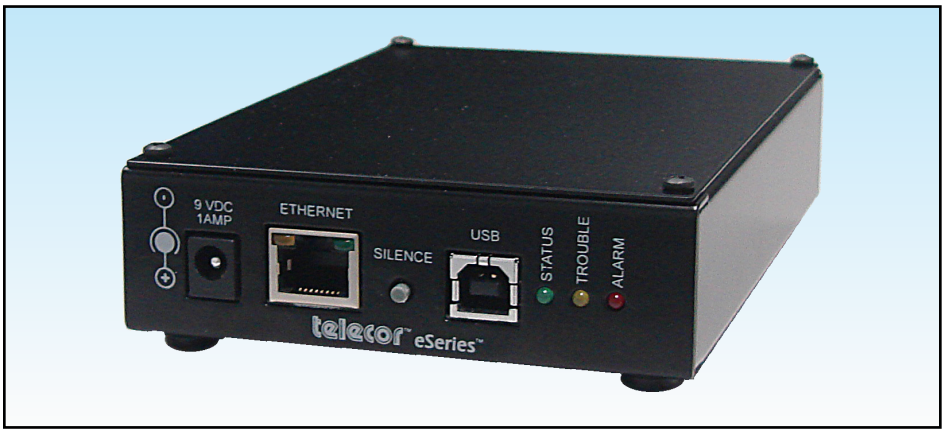
HD Audio™

DESCRIPTION

The eAM Alarm Manager adds advanced customizable alarm and emergency management features/-capabilities to the eSeries System.

During an alarm, all non-emergency eSeries operations in the targeted alarmed area(s) are restricted and a designated e300 eConsole provides alarm management in the command center. Alarms are customizable and are intended to be created as responses to emergency situations such as Lockdown, Lockout/Secure and Hold, Evacuate, Reverse Evacuate, Tornado, and Tsunami.

The Alarm Management Console has full control in its specified alarmed area during an alarm. The console is intended to serve in a command center for emergency responders. For its designated alarmed area, only the Alarm Management Console is capable of changing the type of alarm, silencing the alarm audo, live paging in the alarmed area, covertly listening to stations, and clearing the alarm. Additional consoles or telephones may also be authorized by users with unique credentials to access these functions.



eAM ALARM MANAGER

Call-ins placed from stations in an alarmed area are automatically routed to the Alarm Management Console instead of going to their regular call-in destinations. Additionally, these stations can send Alarm Acknowledgements so the system can track rooms with occupants that have successfully responded to the alarm, and those that have not. eSeries stations outside the alarmed area behave normally but will be blocked from interacting with stations within alarmed areas; ideal for campus environments where not all buildings may be experiencing the same emergency.

Compared to other alarm systems that provide a single common general purpose alarm, the eAM supports multiple alarm types that can be suited for specific situations, e.g., Lockdown, Evacuation, Severe Weather. Alarms are distributed to alarm areas which may be customized combinations of one or more eSeries zones, Console Groups, and individual stations. The eAM supports up to 127 alarm areas; ideal for high-rise buildings where each floor can be alarmed independently as needed.

ALARMS

The eAM supports up to 15 types of alarms which automatically distribute situationally tailored pre-recorded audio broadcasts. These can be further customized with tones, coded messages, scrolling plain textual messages, count up/down timers, and activation patterns of relays on stations.

Alarms can be initially activated by dedicated dial codes from e300 eConsoles or IP phones (integrated via an eSIP Interface), contact closures (i.e., push buttons), Visual Console, eDesktop, InformaCast™, and via the eMH Master Clock and Message Host web browser interface. These methods activate a specific alarm in pre-configured areas. Alternatively, the interactive dial code method verbally and textually prompts the user to select the alarm type and alarm area as circumstances dictate.

When an alarm is cleared by the Alarm Management Console, an All Clear Alert can be automatically distributed to the alarmed area followed by the eSeries network returning to a normal state.

A drill option is available which distributes an alarm with optional drill-themed pre-announce audio and scrolling plain textual messages. Drills are prevented or automatically ended by any active alarm.

eLD1 Strobe Lights associated with room stations or zones affected by an alarm can illuminate a light pattern specific to the alarm.

ADVISORIES

The eAM also supports advisories which are intended for use in situations that require facility occupants to raise their level of awareness and perform emergency response plans but do not require a complete halt and interruption of normal eSeries System operations, e.g., a Secure and Teach situation. An advisory will distribute customizable audio broadcasts but will not impose covert listen in any intercom calls and will not restrict eSeries operations such as placing/receiving call-ins, pages, and routine bell schedule events when the advisory audio broadcasts are not immediately active.

ALARM MANAGEMENT CONSOLES

To be consistent with NFPA72 National Fire Alarm and Signaling Code emergency communications system requirements, operations activated by an Alarm Management Console have the highest priority and cannot be overridden by any other operations. Only subsequent operations from the Alarm Management Console can override previous alarm operations. This eliminates the risk of different operators issuing conflicting instructions.

Alarm Management Consoles can perform live pages which automatically suspend the pre-recorded audio portion of an alarm until the page ends. Live pages can be initiated on a zone basis within an alarmed area. Alarms may be configured so that they are automatically silenced if the alarmed area receives a page from its Alarm Management Console.

An alarm area may be configured with a hierarchy of multiple potential Alarm Management Consoles but only one serves as the acting Alarm Management Console at a time for a specific alarm area.

[1] Not all eAM features are available for all eSeries station device types. For details, see the *eSeries eAM V1.3 Alarm Manager Manual*.

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In case of situations where the location of the Alarm Console is under threat, the Alarm Console status can be forwarded to or captured from another console.

If the Alarm Management Console goes offline for any reason, a new Alarm Management Console will be selected from the remaining potential Alarm Management Consoles.

Other e300 eConsoles, facility IP phones, and outside telephones with access to the eSeries network via an eSIP Interface can also interact with an alarmed area by providing a security code to gain authority.

VISUAL CONSOLE FOR eSERIES ALARM MANAGER (eVCAM)

eVCAM is an addition to Visual Console for eSeries that allows Visual Console users to start and clear alarms. It features uniquely shaped and colored icons for controlling alarms of the following themes: Lockdown, Lockout, Evacuate, Reverse Evacuate, Carbon Monoxide Detection, Fire, Inclement Weather, Tornado, General Emergency, and All Clear. With eVCAM, the activation of alarm-related icons will trigger the distribution of SMS and email messages through DWConnect integration. eVCAM will have Alarm Management Console authority (e.g., able to clear and override alarms) if it is paired with an Alarm Management Console.

VISUAL CONSOLE FOR eSERIES
ALARM MANAGER ICONS

COVERT LISTEN

Alarm Management Consoles are capable of covertly listening to stations within their designated alarmed area(s) whether the call is initiated by the Console or the station. Covert listen is intended to be used by emergency responders to listen to a specific location during an emergency (e.g., a hostage situation). Therefore, Covert Listen calls do not provide any indication that they have connected to the station. The Covert Listen call does not: sound a pre-announce or supervisory tone, affect the station Status LED, or interrupt any currently playing audio being received at the station. Covert listen can be enabled or disabled depending on alarm type.

SUPPORT FOR ALARM ACKNOWLEDGEMENT

Alarms may include an Alarm Acknowledgement procedure which occurs after the alarm announcement has been distributed. This feature allows room occupants to signal the completion of alarm related emergency responses.

During the Alarm Acknowledgement procedure, station locations will receive alarm type specific instructions to be carried out along with a reminder to acknowledge that the instructions have been performed. Acknowledgements can be sent from eCS-9 stations with a dedicated and illuminated Alarm Acknowledgement touchpoint which will flash rapidly until the alarm is acknowledged. Alternatively, the acknowledgement can be sent by pressing the Push to Call touchpoints of eCS-1/2/6 call stations.

Stations that do not signal acknowledgement after a designated amount of time will automatically place a call-in to the Alarm Management Console. This allows an operator to efficiently check each of these rooms using Covert Listen. Alarms can be configured so that these call-ins are cleared by the call originating station instead of the Alarm Console, thus giving control of the call to the room occupants. Additionally, the ringback tone of these call-ins can be configured to be mute at the station location to avoid drawing the attention of any possible nearby threats.

ALERTS

The eAM supports Medical and Security Alert call-in generation via the eCS-10 Alarm Acknowledge and Alert Call Station. In addition to the previously described Alarm Acknowledgement touchpoint, the eCS-10 includes dedicated touchpoints to activate Medical and Security Alerts.

Alerts are designed to call attention to localized emergency situations within a facility by combining a call-in, an audio announcement, and scrolling plain textual message into a single emergency priority operation.

The generated call-ins can target specific emergency management consoles rather than regular consoles or phones used to handle regular routing matters.

The audio announcement and textual message can include automatically generated verbal and textual identification of the originating room so that local staff can immediately respond. The audio and textual notification can target one or more zones and each Alert can have different targets. For example, a Medical Alert may play the verbal announcement everywhere while the Security Alert may only target staff areas to avoid widely announcing the security threat.

IMPLEMENTATION

The eAM and its features are configured via a configuration file that can be downloaded from and uploaded to the eAM using an ePort. This file contains templates that installers can copy and adjust to make desired configuration changes. Audio files used as part of alarms are also uploaded to and hosted on the eAM.

The eAM supports the eNode General Input Output device. This allows third-party devices connected to the eNode to activate or be activated by alarm operations.

To maintain the integrity of the emergency management features, the eAM and all Alarm Management Consoles are monitored for trouble.

For increased cybersecurity, the factory set dial number of the eAM is algorithmically determined.

The eAM can be powered by USB, independently via PoE, or a 9V 1A AC to DC adaptor. The eAM connects to the eSeries local area network via Ethernet cable.

SPECIFICATIONS

Power Source:	USB, PoE, or 9 VDC
Poe Power Required:	Class 0, 1.3 W
Current Consumption:	1 amp
Network Interface:	RJ45, 10/100Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Indicators:	Alarm, Status, Trouble, Ethernet Network Speed, Network Activity
Finish:	Black, Textured, Semi-Gloss Enamel
Dimensions:	1.25" H x 4.04" W x 6.00" D (3.2 cm H x 10.3 cm W x 15.24 cm D)
Weight:	0.900 lbs (0.409 kg)
Operating Environments:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing
Compliance:	UL/IEC/CAN/CSA-C22.2 No. 62368-1 EN 55032/CISPR 32 & EN 55024/CISPR 24 FCC Part 15 Subpart B ICES-003

CAN ICES-3 (A)/NMB-3(A)

PARTIAL LIST OF RELATED PRODUCTS

eCS-9	Alarm Acknowledge Station
eCS-10	Alarm Acknowledge and Alert Station
eSIP	SIP Interface
e300	eConsole
eLD1	Strobe Light
NC1-LD3	Status Indicator
eNODE	General Input Output Device
eSeries	V1.3.4+ Firmware required

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eSeries

eVCAM
eSeries Visual Console Alarm Manager

FEATURES

- Add-on for eSeries Visual Console
- Provides support for eAM Alarm Manager features
- Can integrate with Alarm Console
- Activate and clear Alarms (and Drills)
- Indicates status of Alarm Acknowledgements from room locations
- Indicates incoming Medical/Security Alert call-ins
- Integrates with Visual District Wide Lockdown and DWConnect

DESCRIPTION

eSeries Visual Console Alarm Manager V1.3 (eVCAM) is an add-on application for eSeries Visual Console V1.3. The add-on allows eSeries Visual Console to work with the features provided by the eAM Alarm Manager. This includes activating, clearing, and providing status indication of Alarms. eVCAM can also indicate the Alarm Acknowledgement Procedure (AAP) status of individual room locations. Room locations that have placed Medical or Security Alerts will also be identified.

eVCAM also integrates with Visual District Wide Lockdown (VDWL) to allow eVCAM to relay information about alarm states in the school facility to the centralized district office. VDWL can also be configured to activate alarms within the school facility.

DWConnect integration allows for activation of alarm-related operations via eVCAM to trigger message distributions to staff mobile phones, smart devices, and computers.

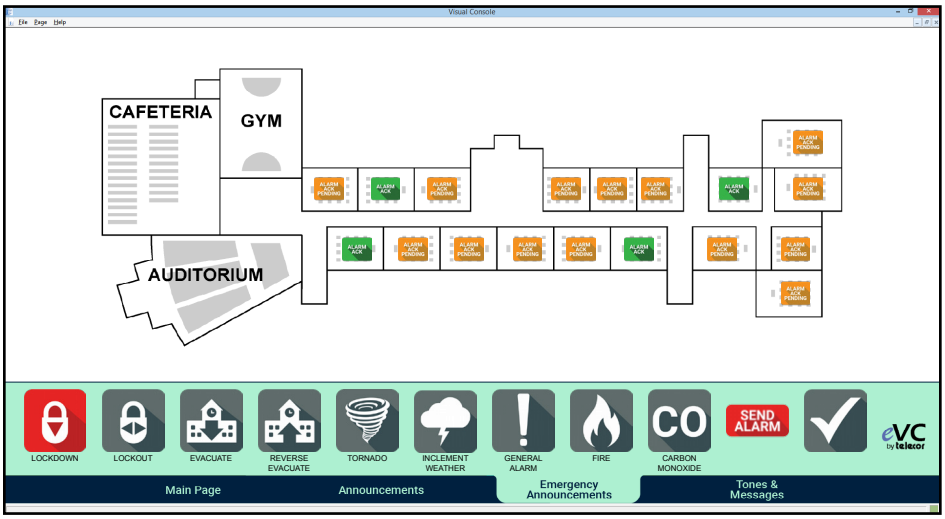
ALARM MANAGEMENT GRAPHICAL USER INTERFACE (GUI)

eVCAM includes icons to enable GUI management of alarms in the school facility. Icons for the following alarm types are provided:

- Lockdown
- Lockout
- Evacuation
- Reverse Evacuation
- Severe Weather
- Tornado
- Fire
- CO Detection
- General Emergency
- All Clear Alert

These icons will visually change to indicate when the corresponding alarm is active. Clicking on these icons will activate the corresponding alarm.

These icons are intended to be used in conjunction with the factory set alarm types included with the eAM. If the eAM has been modified with customized alarm types, these icons can also be customized to match their corresponding alarm types.



eVCAM GRAPHICAL USER INTERFACE

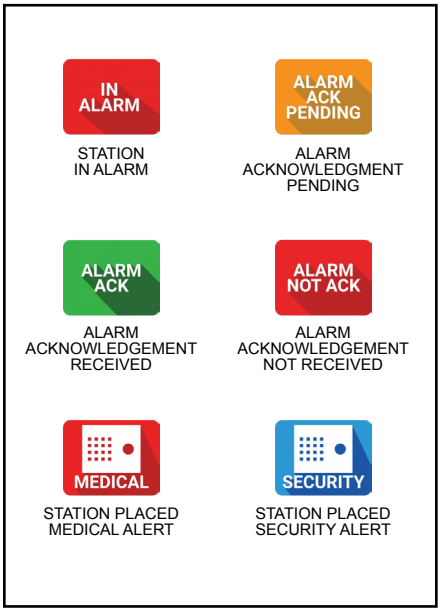
ALARM ACKNOWLEDGEMENT INDICATIONS

Alarms can include Alarm Acknowledgement Procedures which requires room occupants to press an acknowledge button on a call station to indicate that they have completed the emergency response actions required by certain alarms. eVCAM includes special room element icons to visually identify rooms that have or have not acknowledged the alarm.

If a room location does not acknowledge an alarm after a certain amount of time, a call-in will automatically be placed to the Alarm Console. This automatic call-in will also be indicated by a special room element icon.

MEDICAL AND SECURITY ALERT INDICATIONS

Medical and Security Alerts combine a call-in, audio announcement, and scrolling plain textual message into a single emergency priority operation. They are activated from call stations within room locations and are intended to quickly draw attention to an emergency situation. eVCAM includes special room element icons that visually identify rooms that have placed a Medical or Security Alert.



eVCAM ICONS

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eSeries

eVCAM
eSeries Visual Console Alarm Manager

IMPLEMENTATION

eVCAM is installed on a Windows computer at the school facility which already has eSeries Visual Console (eVC) on it. This computer can be non-dedicated so it can run other facility supported software. eVCAM and eVC must be paired with a linked device. If the linked device is a designated Alarm Console, eVCAM will have the same authority as the Alarm Console. A school facility may have four eVCAM installations (matching the number of the eVC installations).

eVCAM and eVC uses a client-server implementation model based on Microsoft .NET technology. The server module consists of an eTCS eSeries Server which hosts the Tel-Media Server software which manages the audio feed to the eSeries System. The client portion resides on the user computer and consists of the eVCAM and eVC applications. TCP/IP is used to communicate between the client and server over the facility LAN/WAN.

In addition to the Microsoft .NET technology, Telecor uses its own network monitoring watchdog technology to automatically monitor digital communications channels throughout the .NET infrastructure. If a loss of communication occurs, the Telecor watchdog technology will take all possible steps to automatically restore any failed .NET components and restore network communications.

If integrated with Visual District Wide Lockdown (VDWL) and DWConnect, eVCAM connects with their respective servers at the district office via LAN/WAN/Internet.

COMPUTER SPECIFICATION REQUIREMENTS

CPU:
- Minimum: Intel Core i3-2105 @ 3.10 GHz or equivalent
- Recommended: Intel Core i5-4440 @ 3.10 GHz or equivalent

RAM:
- Minimum: 4 GB
- Recommended: 8 GB

Hard drive: SATA2 hard drive,
500 MB of free hard drive space for optimal desktop performance

Port: 1 USB

Display: 1920 by 1080

Supported Operating Systems:
- Windows 10 32 or 64-bit Edition

All Windows editions are supported (e.g., Home, Professional, etc.)

Microsoft .NET Framework Version 4.5.1 required

PARTIAL LIST OF RELATED PRODUCTS

eAM	Alarm Manager
eVC V1.3	Visual Console for eSeries V1.3
VDWL	Visual District Wide Lockdown
DWC	DWConnect

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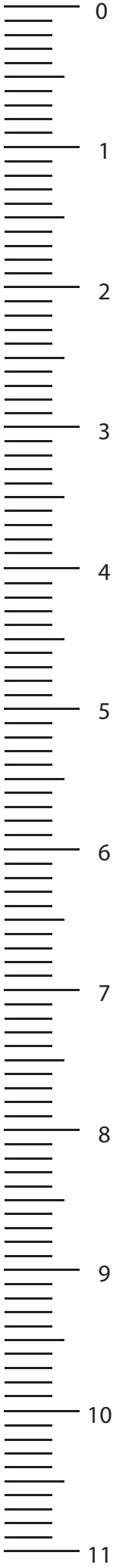

Master Stations

e300-MA Console

telecor™
eSeries

e300-MA
eConsole

FEATURES

- Place or receive calls to any other eStation or eConsole on LAN
- Control keys with Status LEDs
- Power-over-Ethernet (PoE) Driven
- Features Just Plug It In!™ design
- Requires no IP address, DHCP server, subnet, or mask configuration
- No head end, central server or controller equipment required
- Advanced features configurable using ePORT
- Firmware upgradable over LAN
- 2 line x 20 character LCD display
- Automatic enabling of VOX with handset use
- Speakerphone Push-to-Talk button operation
- Call forward and transfer features
- Crystal clear HD Audio™ speech quality
- Non-blocking audio between stations and consoles via LAN
- Extremely low latency
- Extremely fast all station audio connect times
- Easily activate pages, program distribution, alerts or tones
- Easily tune other devices to monitor Public Channels
- Digital volume control for both handset and speaker
- Connections to a desktop microphone for quick access to paging
- Displays companion text and coded messages for alerts
- Support for Privacy, Do Not Disturb and Message Waiting features
- Verbal prompts to assist operators
- Monitors call stations for network integrity
- Console Groups allow call-ins to ring at multiple devices
- Call-in Pick Up Codes enable answering call-ins placed to other eConsoles
- Compatible with Visual Console for eSeries

Just Plug It In™ HD Audio™ POE

DESCRIPTION

Telecor e300-MA eConsoles are desktop master stations used to establish communication with any other eSeries console, ceiling speaker, or wall intercom station in a facility. It is a telephone-style console consisting of a handset, speaker/microphone, backlit LCD display, numeric keypad, and control keys with status LEDs.

The Telecor eSeries uses Power-over-Ethernet technology, Just Plug It In!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Power-over-Ethernet technology allows the eConsole to be plugged into a PoE network switch to supply both power and data. The simplicity of Telecor's Just Plug It In!™ design means the eConsole does not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server or controller equipment is required. Once plugged into the LAN, the eConsole can immediately place or receive calls from eStations, as well as page all devices, including eAMPs, in the network.

Although the eConsole is immediately functional once plugged in, it can be further configured to suit the building application. A Telecor ePORT, a device that connects to the PoE network switch via Ethernet and to a computer via USB, is used to configure eConsoles, or to download all eConsole programming simultaneously. Spreadsheet applications (such as Excel®) are used to edit the programming. The ePORT can then upload the programming back to all the eConsoles. The ePORT is also able to make simple configuration changes to individual eConsole settings directly, without requiring downloading and uploading all eConsole programming. The ePORT also enables simultaneous mass-upgrading of device firmware across the LAN.

LCD DISPLAY
The e300-MA provides a 2-line by 20-character LCD display that can be tilted for optimum viewing. When the e300-MA is idle, the display shows the console name, dial number, time and date (time and date requires a Time Server such as an ePORT, eSIP or Telecor Ethernet Time Server software).

CALL PROCESSING FEATURES
Call-ins from intercom stations or other consoles are displayed in the order they are received. The console displays the originating station dial number and name. The operator can also scroll through the list of calls and select one to answer.

The e300-MA allows the operator to establish two-way voice communications with an eStation, eConsole, or IP-PBX phone (via eSIP) using the handset or speakerphone. Assisted dialing automatically displays the destination station name when its dial number is entered (for verification) before the connection is made. Also, calls from the eConsole to an eSIP will receive a verbal prompt for the PBX extension.

VOX functioning is automatically enabled when using the handset. When using the speakerphone, the Push-to-Talk button toggles between talk and listen modes. The e300-MA also allows call-ins to be forwarded, or for calls to be placed on Hold or transferred.

Speech is transmitted through the console in crystal-clear HD Audio. Audio is transmitted in the frequency range from 50 Hz to 7 kHz while using only 128 kbps of bandwidth during a call. Audio between stations and consoles is non-blocking, allowing a virtually unlimited number of audio channels across the LAN and reducing or eliminating busy signals.

Telecor's eSeries technology provides extremely low-latency audio, for exceptional performance during paging and live audio playback. It also provides extremely fast all station audio connect times when performing all-call pages throughout the network.

PUBLIC ADDRESS FEATURES
Paging: From any console, a page can be broadcasted to all facility speakers or to select areas, such as a zone or a selection of eSeries devices.

Suspend Page: The eConsole operator can suspend listening to an ongoing received page or audio program to perform another operation. After the operation is finished, the page or program will automatically resume if it is still active.

Program Distribution: With an eAMP connected to the network and an audio source (such as from a microphone, radio, CD/tape player or PC output) an audio program can be activated from any eConsole. Like pages, audio programs can be sent to all speakers in a facility or to select areas/eSeries devices.

Tone/Alert Distribution: With the eAMP connected to the network, the eConsole can be used to play a tone or pre-recorded alert from the eAMP to signal an event. The eConsole will play a preview of the tone or alert to help users select the correct one.

Public Channel Monitoring: The eConsole can be used to tune other devices to a Public Channel—an audio source that is connected to an eAMP and plays continuously across the eSeries network.

e300-MA WITH MCC-PM-MA PAGING MICROPHONE

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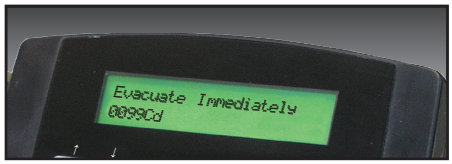
DIGITAL VOLUME CONTROL
Common digital volume controls allow for the separate adjustment of the speaker, handset and paging microphone volumes.

DESKTOP MICROPHONE SUPPORT
The eConsole provides an RJ-45 port for connecting the MCC-PM-MA Deskop Microphone. The microphone provides additional buttons, indicators, and circuitry to control intercom and paging audio functions on the e300-MA eConsole.



ALERT TEXT AND CODED MESSAGE

ENHANCED MESSAGING SUPPORT
If the eConsole receives an alert that includes a companion text or coded message, the companion text and/or coded message will appear on the eConsole's screen if the eConsole is part of the receiving zone.

eCS CALL STATIONS

MESSAGE WAITING SUPPORT
An e300-MA operator placing a call to a room that is empty, in Privacy, or in Do Not Disturb (DND) mode will receive visual indication of the Privacy or DND status and verbal prompts to proceed. The operator then has the option to cancel the call, connect regardless of Privacy or DND, or activate a Message Waiting indicator. If the Message Waiting option is chosen, when someone activates the room station's Push to Call touchpoint, it will automatically place a call-in to the eConsole that activated the indicator.

CALL STATION SUPERVISION
The e300-MA automatically supervises any call stations that it is configured to receive call-ins from for console, network, and call station connectivity. If the connection between call station and targeted eConsole is lost, the eConsole will report the station as absent and display the fault with the station's dial number. The e300-MA operator can silence fault notifications at the eConsole for 24 hours.

CONSOLE GROUP SUPPORT
Through programming, e300-MA eConsoles and 2 and 3 button eStations can be assigned to Console Groups. Devices in a Console Group will ring simultaneously when a call-in is placed to the group.

CALL-IN PICK UP CODE SUPPORT
Call-in pick up codes enable users to answer a ringing call-in at an eConsole by dialing a pick up code from another eConsole location. Pick up codes can be assigned to multiple eConsoles so that a single pick up code can be used to answer call-ins from a group of eConsoles.

e300-MA SPECIFICATIONS

Power Source:	24 VDC or Power-over-Ethernet IEEE 802.3af compliant
PoE Power Required:	Class 0, 6.0 W 8.6 W (with Desktop Microphone)
Network Interface:	RJ-45 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Audio Format:	G.711.1 (wideband), bandwidth of 50 Hz - 7 kHz @ 128 kbits/s
Audio Latency:	Typical 0.1 s
Connect Times:	
Paging:	0.01 s typical for 500 stations
Intercom Call:	0.1 s typical
Display:	2-line by 20-character Alphanumeric LCD, c/w Backlighting, Adjustable Display, and Contrast Control
Controls:	Numeric Keypad, 12 Control Keys with Status LEDs, 2 display feature buttons, Volume Control Keys
Terminations:	RJ-45 LAN Connection RJ-45 Jack to Desktop Microphone RJ-11 Handset Jack
Cabling:	
To LAN:	CAT-5e (24 AWG)
To MCC-PM-MA:	CAT-5 (24 AWG)
Housing:	High-impact flame-retardant plastic housing
Finish:	Black-textured
Dimensions:	8" D x 9" W x 4" H (incl. ahandset) (20.3 cm x 22.9 x 10.7 cm)
Weight:	2 lbs 8 oz (1.14 kg)
Environment Req's:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing
Compliance:	TUV-SUD Listed to UL62368-1 Standard

CAN ICES-3 (A)/NMB-3(A)

PARTIAL LIST OF ASSOCIATED EQUIPMENT

e2443-MA	Message Display/Calendar Clock/Speaker
e365-TB-MA	Message Display/Calendar Clock
eAMP-MA	Ethernet 25W Amplifier
eCI-MA	Control Interface
eLOG	Logging Interface
ePORT-MC	Management Interface
eS8-MA	Ethernet 8" Ceiling Speaker
eS8-TB-MA	Talkback Speaker
eS8-TB4-MA	Talkback Master Speaker
eSTN-0, eSTN-1, eSTN-2, eSTN-3	eStations
MCC-PM-MA	Desktop Microphone
SW-ETS	Ethernet Time Server Software
BA24025	24V, 2.5A AC Adapter

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MCC-PM-MA Desktop Microphone (Optional e300-MA Enhancement)

MCC-PM-MA

FEATURES

- Connects to eConsole using standard CAT-5 or higher cable
- Built-in speaker for intercom communications
- Electret gooseneck microphone with unidirectional polar pattern
- Microphone ring LED illuminates when microphone is “live”
- Buttons for volume control, push-to-talk, call cancel, headset, call forward, and page
- LED confirmation of buttons
- Built-in headset jack
- Footswitch input for Push-to-Talk control
- Rugged construction
- Extremely low latency
- Extremely fast all station audio connect times

DESCRIPTION

The MCC-PM-MA Desktop Microphone adds additional flexibility to the eSeries network when used in conjunction with the e300-MA eConsole.

It provides additional buttons, indicators, and circuitry to control the eConsole’s intercom and paging audio functions and provides rugged two-way voice communication to eStations using a high-quality gooseneck microphone/loudspeaker.

The Desktop Microphone has an RJ45 jack to plug in a standard straight-through CAT-5 or higher cable. The other end of the cable plugs into the e300-MA, which can be located up to 1000’ away from the Microphone.

The Desktop Microphone has an electret microphone and speaker; pushbuttons for listen audio volume control, Push To Talk, Call Cancel, forwarding console call-ins to another pre-programmed console, paging a pre-designated zone, and activating a headset speaker/microphone; LED indicator lamps for microphone, PTT, Cancel, Headset, and Forward; and jacks to support a headset and footswitch.

The electret microphone has a unidirectional polar pattern that reduces undesirable off-axis pick-up and provides outstanding gain before feedback. The microphone is mounted on a semi-rigid gooseneck arm that allows the user to position the microphone comfortably. A ring LED around the microphone illuminates when the microphone is live.

The listen audio volume control pushbuttons allow users to digitally adjust the speaker volume. The PTT button controls the direction of communication between the microphone and remote eStations. The Cancel button terminates an active call. The PTT and Cancel LEDs illuminate when their respective functions are available.

The Forward pushbutton toggles between forwarding call-ins to another eConsole and receiving call-ins at the eConsole/Microphone location. The destination of the call-ins when call-ins are forwarded, is set at the eConsole and can be configured using the ePORT. The Forward LED illuminates when call-ins are forwarded.

The page pushbutton allows the user to page a preset zone. This zone is set at the connected eConsole and can be configured using the ePORT. The console supports hands-free paging or, by pressing and releasing the PTT button, the console microphone can be muted. When muted, pressing the PTT button continues the page.

The headset pushbutton toggles between directing audio to the speaker and to a headset speaker/microphone plugged into the 2.5 mm jack at the rear of the Desktop Microphone. The Desktop Microphone supports typical wired mobile phone speaker/microphone headsets. When audio is directed to the headset, the Headset LED illuminates.

A 1/4" phono jack is provided on the rear of the Desktop Microphone for connecting a footswitch. The footswitch can be used in place of the PTT button.

The Desktop Microphone is ruggedly constructed of a formed 1/8" aluminum upper shell mounted on a 16 Ga. CRS base. The unit is finished in a durable black matte surface with a semi-gloss texture. Rubber feet on the bottom provide stability and traction on smooth surfaces.

Telecor’s eSeries technology provides extremely low-latency audio, for exceptional performance during paging and live audio playback. It also provides extremely fast all station audio connect times when performing all-call pages throughout the network.

MCC-PM-MA SPECIFICATIONS

Frequency Response:	100 Hz to 15 kHz +/- 1dB
Signal-to-Noise Ratio:	Better than 70dB Microphone
Transducer type:	Electret
Polar Pattern:	Cardioid
Sensitivity:	-63 dBv/Pa
Loudspeaker	
Power Handling:	1.5 W
Max SPL:	95 dB @ 1 ft. (1.5 W input)
Supply Voltage:	24 VDC
Current Consumption:	30 mA
Audio Latency:	Typical 0.1 s
Connect Times:	
Paging:	0.01 s typical for 500 stations
Intercom Call:	0.1 s typical
Controls:	PTT & Cancel, Digital Volume Control, Forward Console Call-ins, Headset and Page buttons
Indicators:	LEDs for PTT, Cancel, Forward Console Call-ins, Headset, Microphone Ring.
Connectors:	2.5 mm and 1/4” Stereo Jacks, RJ45.
Cable Requirements:	CAT-5 or Higher
Max Cable Length:	1000 ft
Dimensions:	2.5” H x 4.25” W x 6.5” D
Microphone Length:	12” from mounting surface
Weight:	2 lbs.
Finish:	Black Matte Surface with Semi-gloss Texture
Environment Req’s:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing
Compliance:	TUV-SUD Listed to UL62368-1 Standard

CAN ICES-3 (A)/NMB-3(A)

MCC-PM-MA PARTIAL LIST OF ASSOCIATED EQUIPMENT

e300-MA	eConsole

All product information subject to change without notice.

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Call Stations & Switches

eSTN-0 Zero Button Intercom Station

eSTN-1 One Button Intercom Station

eSTN-2 Two Button Intercom Station

eSTN-3 Three Button Intercom Station

3-BBS 3 Gang Surface Enclosure

eCS-1 Push to Call w/ Privacy Station

eCS-1V Push to Call w/ Privacy & Volume Control Station

eCS-2 Push to Call w/ Do Not Disturb Station

eCS-2V Push to Call w/ Do Not Disturb & Volume Control Station

eCS-3 Emergency Call Station

eCS-4 Volume Control & Public Channel Select & Push to Call Station

eCS-5 Volume Control & Public Channel Station

eCS-6 Push to Call Station

eCS-6V Push to Call w/ Volume Control Station

eCS-9 Alarm Acknowledge Station

eCS-10 Alarm Acknowledge and Alert Call Station

eCS-11 Push to Call w/ Emergency Station

eCall Virtual Call Station

telecor™
eSeries

eSTN-0, eSTN-1, eSTN-2, and eSTN-3
eStations

FEATURES

- Zero, one, two and three button models
- Place or receive calls to eConsoles or other eStations over LAN
- Power-over-Ethernet (PoE) Driven
- Features Just Plug It In!™ design
- No head end, central server or controller equipment required
- Requires no IP address, DHCP server, subnet, or mask configuration
- Firmware upgradable over LAN
- Dry contact output (eSTN-0, eSTN-1, and eSTN-3 only)
- Advanced features configurable using ePORT-MC
- Extremely low-latency
- Extremely fast all station audio connect times
- Rugged 11 gauge stainless steel faceplate
- Tamper-proof user buttons
- Vandal-proof speaker assembly
- Crystal clear HD Audio™ speech quality
- Non-blocking audio between stations and consoles via LAN
- Station status and call indicator LED

Just Plug It In™

HD Audio™

DESCRIPTION

Telecor eStations are network-based wall intercom stations used to establish communication between specific areas of a facility. The eStations are available in zero, one, two, and three-button models.

The Telecor eSeries uses Power-over-Ethernet technology, Just Plug It In!TM design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Power-over- Ethernet technology allows the eStations to be plugged into a PoE network switch to supply both power and data. The simplicity of Telecor's Just Plug It In!TM design means eStations do not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server or controller equipment is required. Once plugged into the LAN, the eStations can place calls to all eConsoles, or to all Two and Three Button eStations if there are no eConsoles present.

Speech is transmitted through the eStations in crystal-clear HD Audio. Audio is transmitted in the frequency range from 50 Hz to 7 kHz while using only 128 kbps of bandwidth during a call. Audio between stations and consoles is non-blocking, allowing a virtually unlimited number of audio channels across the LAN and reducing or eliminating busy signals.

Telecor's eStations can further be configured to suit the building application. eStations equipped with a Push to Call button can have their call-in destinations configured. Some eStations also have the unique ability to be configured to receive call-ins; acting like a Master Console. Also, certain eStations models also have a dry contact output, allowing the network of eStations to be customized to suit many applications. For example, eStations can be used in a door-to-door intercom application where there are eStations located on both sides of a door. Voice communication can be established between the eStations and, furthermore,

the eStation with the dry contact output can be utilized to open the door.

The volume of the eStations can be adjusted individually, by zone, or across the entire eSeries network via the ePORT-MC Management Interface or eCI-MA Control Interface. Volume levels can be set for specific functions: intercom, paging, emergency paging, and Public Channel operations.

Additionally, eStations also have a call-in roll-over feature. If a call-in to the primary call destination is not answered after a preset amount of time, the call will automatically be copied to a secondary call destination. If both the primary and secondary call destinations are unavailable, the call is redirected to a back-up eStation or eConsole.

The eStations support a supervisory tone feature. This is intended to ensure room occupants are aware when the station is in a two-way intercom call. This is done by having the speaker sound a pre-announce tone whenever an intercom call is connected. Furthermore, a tone will sound at specified intervals for the duration of the connected call.

A Telecor ePORT-MC, a device that connects to the PoE network switch via Ethernet and to a computer via USB, is used to configure eStations, or to download all eStation programming simultaneously. Spreadsheet applications (such as Excel®) are used to edit the programming. The ePORT-MC can then upload the programming back to all the eStations. The ePORT-MC is also able to make simple configuration changes to individual eStation settings directly without requiring downloading and uploading all eStation programming. The ePORT-MC also enables simultaneous mass-upgrading of device firmware across the LAN.

Telecor's eSeries technology provides extremely low-latency audio, for exceptional performance during paging and live audio playback. It also provides extremely fast all station audio connect times when performing all-call pages throughout the network.

The wall mounted eStations are constructed with rugged 11 gauge stainless steel faceplates to withstand physical damage and everyday wear and tear. The buttons are tamper-proof and the overall assembly is designed to be vandal-proof. A G3 weather-seal gasket is available as an additional option to weatherproof the eStations.

ZERO BUTTON eSTATION (eSTN-0)
Zero Button eStations are designed to be used in applications where they only need to be able to receive calls or pages. When a Zero Button eStation receives a call, two-way communication is established automatically. These eStations have a station status LED indicator. They can be configured as a member of a single or multiple paging zones. Zero button eStations also provide a dry contact output point.

ONE BUTTON eSTATION (eSTN-1)
One Button eStations can receive and initiate calls. The Push to Call button can be used to call another eStation or an Administrative Console (depending on programming). These eStations have a station status LED indicator. They can be configured as a member of a single or multiple paging zones. One buttton eStations also provide a dry contact output point.

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eStation Model	Part Number	Receive Calls and Pages	Make Calls	Place Call-Ins	Receive Call-Ins	Make Pages	Relay Contact Output	Can Activate Relay Contact
Zero Button	eSTN-0	Yes	No	No	No	No	Yes	No
One Button	eSTN-1	Yes	Yes	Yes	No	No	Yes	No
Two Button	eSTN-2	Yes	No	No	Yes	Yes	No	Yes
Three Button	eSTN-3	Yes	Yes	Yes	Yes	Yes	Yes	Yes

TWO BUTTON eSTATION (eSTN-2)
Two Button eStations feature a Push to Talk and a Cancel button. These eStations are able to receive calls and can be configured to initiate pages. The Push to Talk button is used to answer and control the talk/listen function while the Cancel button is used to end the call or zone page. When idle, a zone page to a pre-configured zone can be initiated by pressing and holding the Push to Talk button. Two Button eStations have a station status LED indicator as well as additional status LED indicators for the Push to Talk and Cancel buttons. They can be configured as a member of a single or multiple paging zones.

THREE BUTTON eSTATION (eSTN-3)
Three Button eStations feature a Push to Call, a Push to Talk, and a Cancel button. These eStations are able to answer calls using the Push to Talk button which also controls the talk/listen function. Three Button eStations can also initiate zone pages to a pre-configured zone by pressing and holding the Push to Talk button. The Push to Call button is used to call another eStation or an Administrative Console (depending on programming). The Cancel button is used to end the call or zone page. Three Button eStations have a station status LED indicator as well as additional status LED indicators for the Push to Talk and Cancel buttons. They can be configured as members of single or multiple paging zones. Three button eStations also provide a dry contact output point.

eSERIES
Other devices in Telecor's eSeries include the, e300-MA eConsole, eAMP-MA, eClocks, and eS8 Ceiling Speaker. The eS8 provides one-way broadcast voice from Consoles and is intended for ceiling installation with no call-in buttons. The eConsole serves as an administrative control center that can send and receive calls, perform paging, and distribute audio programs. The eAMP-MA allows a zone of traditional paging speakers to be added to the eSeries network and supports the distribution of preset tones and digital audio files. It also provides separate microphone and audio inputs that can service the entire eSeries network. The eClock is a cost-effective digital clock solution that is powered and synchronized by the network.

eSTATION SPECIFICATIONS

Power Source:	Power-over-Ethernet, IEEE 802.3af compliant
PoE Power Required:	Class 3, 5.0 W
Network Interface:	RJ45 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Audio Format:	G.711.1 (wideband), bandwidth of 50 Hz -7 kHz @ 128 kbits/s (µLaw, 16kHz sampling rate)
Audio Latency:	Typical 0.1 s
Connect Times:	
Paging:	0.01 s typical for 500 stations
Intercom Call:	0.1 s typical for 500 stations
Operating Temp:	-10-50ºC (14-122ºF)
Front Panel LED Indicators:	
Zero, One Button eStations:	Status
Two, Three Button eStations:	Status, Push to Talk, Cancel
Internal LED Indicators:	Network Connection Status, Activity Status
Audio Output:	0.5 W
SPL:	92dB @ 1m
Speaker:	2-1/2, dynamic, mylar cone speaker
Button:	momentary contact
Relay Output:	SPDT
Contact Rating:	1A @ 30VDC or 0.3A @ 125VAC
Terminations:	RJ-45 network connector,
Wiring Requirements:	CAT-5 or higher
Size:	6 3/8" W x 4 5/8" H x 2.5" D (162 mm x 117 mm x 63 mm)
Weight:	1.1 lbs (0.495 kg)
Backbox Required:	MBR series, 3 gang, 2.75" (70 mm) depth
IP (Ingress/International Protection) Rating:	54
Operating Environment:	-4 to 104°F/-20 to 40°C, 0-90% relative humidity, non-condensing
Approvals:	FCC, CE

PARTIAL LIST OF ASSOCIATED EQUIPMENT

ePORT-MC	Management Interface
e300-MA	eConsole
eAMP-MA	Ethernet 25W Amplifier
eS8	Ethernet 8" Ceiling Speaker
eLOG	Logging Interface
Telecor 3-BBS	Surface Mount Backbox
eCLK-2.5"	2.5" Ethernet Digital Clock
eCLK-4"	4" Ethernet Digital Clock
SW-ETS	Ethernet Time Server Software

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telecor™
eSeries

eCS-1(V), eCS-2(V), eCS-3, eCS-6(V), eCS-11
eSeries Call Stations

eCS-1,eCS-2, eCS-3, eCS-6, eCS-11 Call Stations

FEATURES

- Call assurance LED indication
- Privacy/Do Not Disturb/Message Waiting LED indication
- Emergency Call button (eCS-3, eCS-11)
- Smart volume controls (eCS-1V, eCS-2V, eCS-6V)
- Call line supervision
- Backlit Privacy/DND buttons
- CAT5/6 RJ-45 termination
- Mounts on 1-gang electrical box
- Water-resistant faceplate
- Consistent with NEMA SB 40-2008 Communications Systems for Life Safety in Schools
- Compatible with Visual Console for eSeries Software

Just Plug It In™
HD Audio™

DESCRIPTION

The eCS-1, eCS-2, eCS-3, eCS-6, and eCS-11 Call Stations are used to initiate call-ins from remote locations to eSeries eConsoles. These stations are specifically designed to operate with eSeries speaker eStations such as the eS8-TB(-MA) or eS8-TB4(-MA) Talkback Speakers, eSBM-TB Speaker Breakout Module or the e365-TB(-MA) Message Display/Clock with e365-SPK Companion Speaker.

The eCS-1, eCS-2, eCS-6, and eCS-11 Call Stations utilize a momentary contact touchpoint to initiate a "Normal" priority level call from a remote location. The eCS-3 and eCS-11 utilize a touchpoint that will initiate an "Emergency" priority level call. All stations have a Call Assurance LED that provides call confirmation. When a call-in is placed, the LED flashes, confirming call placement. The LED continues to flash until the call is answered.

Versions of the eCS-1, eCS-2, and eCS-6 are also available with smart volume controls. The eCS-1V, eCS-2V and eCS-6V include volume up and volume down momentary contact touchpoints. These controls adjust the level of the audio currently being distributed over the speaker. Separate user-set volume levels are maintained for intercom calls, normal priority pages, emergency priority pages, Public Channel audio, and fault tones. When there is no audio playing, the volume controls are disabled. Room volume can also be adjusted remotely, such as using the eSeries Message Host (eMH) Maintenance Portal via a web browser, or eCall via a PC.

Volume Control Call Stations

The eCS-1 Call Station is equipped with a "PRIVACY" touchpoint that, when pressed, places the room into privacy mode, preventing monitoring of audio activity in the classroom. When in privacy mode, the backlit "Privacy" button on the station illuminates, indicating privacy status. When a call-in is initiated from the room, the privacy status is suspended for the duration of the call and automatically re-enabled afterwards. If a Console calls a room that is in Privacy, the console operator will be alerted and given the option to cancel the call, leave a message waiting indication or to connect regardless. If they connect, the room occupants will be able to hear the operator, but the operator will not be able to hear the room until an occupant turns off the Privacy feature.

The eCS-2 is equipped with a DO NOT DISTURB (DND) touchpoint that, when pressed, places the room into DND mode. When DND is enabled, the backlit LED on the station illuminates, indicating that the station is in a DND state, and scheduled events, zone pages and normal priority audio programs will not sound in the room. However, emergency pages, and announcements will continue to be broadcast into the room. When a call-in is initiated from the room, the DND status is suspended for the duration of the call, and automatically re-enabled afterwards. If a call is placed to a room that is in DND, the console operator will be alerted and given the option to cancel the call, leave a message waiting indication, or to force the connection regardless of DND. If they connect, the intercom call to the room will proceed normally; this allows an immediate option to reach the room occupants in the event of an emergency.

Telecor eCS stations can provide "message waiting" indications to room occupants. If no one is present in a room to respond to a call, or the room is in Privacy or Do Not Disturb mode, the console operator will have the option to leave a Message Waiting (MW) indication. If the MW option is chosen, the LED indicator on the room call stations will begin to pulse. When a call-in is initiated from the room, the MW indication will deactivate, and the call-in will be routed to the console that left the MW indication.

The eCS-1, eCS-2, and eCS-6 Call Stations can also provide "Emergency" priority level call-ins by pressing the PUSH TO CALL touchpoint three times or pressing and holding the touchpoint for three seconds.

The eCS-3 and eCS-11 Call Stations utilize a dedicated contact touchpoint to initiate an "Emergency" priority level call-in from a remote location. A Call Assurance LED provides call-in confirmation. When a call-in is placed, the LED flashes, confirming call-in placement. The LED continues to flash until the call-in is answered by the console operator. Consistent with the NEMA SB 40-2008 Communications Systems for Life Safety in Schools standard, the eCS-3 and eCS-11 allow the establishment of multiple call-in locations per room and a separate emergency call-in on a single Cat-5/6 cable.

Call Stations are fully supervised and monitored for connectivity by the connected speaker station (Talkback Speaker or Message Display/Clock). If a wiring fault (such as open circuit, short circuit, or short to ground) is detected between a Call Station and the host, the host will audibly and visually indicate the fault. In addition, the Status LED on the station will pulse to indicate a trouble condition. eSeries devices that monitor the network for faults (for example: eConsoles, eAmplifiers, ePorts, and Visual Console for eSeries) will also report the fault. Detailed information as to the type of fault and affected device can be viewed from the eMH Maintenance Portal.

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The status LED on the Call Stations also indicates the state of station readiness. A solid status LED indicates the station is connected to a network and is ready. It also allows the call station to be found in the dark. A fast flashing status LED indicates an active audio connection, a slow flashing status LED indicates a network problem, and a status LED that is off indicates that the station is unpowered and inoperable.

The call station surface consists of a laminated mylar membrane that is water resistant and allows for easy cleaning. Designed for flush wall mounting, it is installed onto a standard one-gang backbox with 3-9/32" mounting centers. All connections to field wiring are accomplished with RJ-45 connectors.

CALL STATION SPECIFICATIONS

eCS-1 CALL STATION WITH PRIVACY

Controls:	PUSH TO CALL, PRIVACY touchpoints
Action:	Momentary Action
Indicators:	STATUS LED (call placed/message waiting) PRIVACY button back light (Privacy status)
Terminations:	2 RJ45 connectors
Size:	4.5" H x 2.75" W x 1.25" D (11.4cm x 6.9cm x 3.2cm)
Finish:	Mylar Membrane
Mounting Centers:	3-9/32"
Back Box Required:	1-gang 2-1/2" min. depth
Environment Req's:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing

eCS-1V VOLUME CONTROL CALL STATION WITH PRIVACY

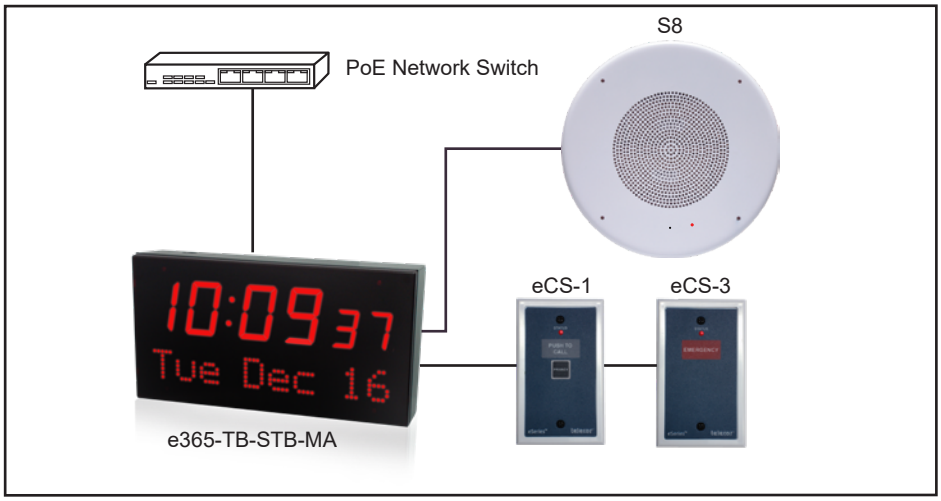
Controls:	PUSH TO CALL, PRIVACY, VOLUME UP, VOLUME DOWN touchpoints
Action:	Momentary Action
Indicators:	STATUS LED (call placed/message waiting) PRIVACY button back light (Privacy status)
Terminations:	2 RJ45 connectors
Size:	4.5" H x 2.75" W x 1.25" D (11.4cm x 6.9cm x 3.2cm)
Finish:	Mylar Membrane
Mounting Centers:	3-9/32"
Back Box Required:	1-gang 2-1/2" min. depth
Environment Req's:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing

eCS-2 CALL STATION WITH DND

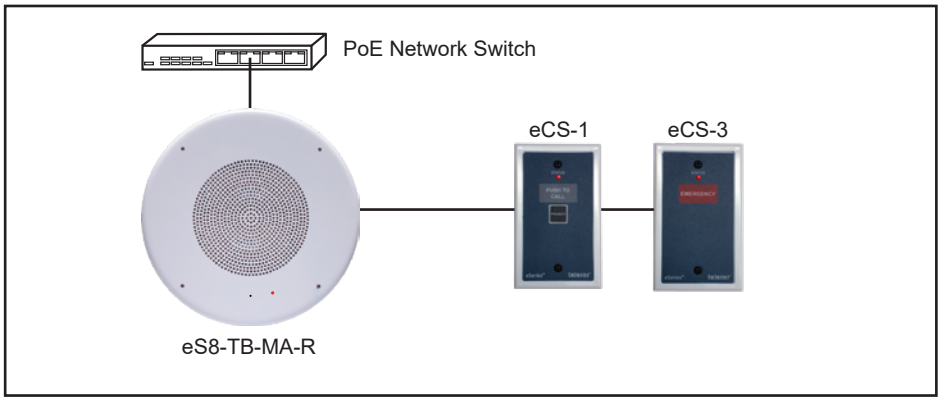
Controls:	PUSH TO CALL, DO NOT DISTURB touchpoints
Action:	Momentary Action
Indicators:	STATUS LED (call placed/message waiting) DO NOT DISTURB button back light (Do Not Disturb status)
Terminations:	2 RJ45 connectors
Size:	4.5" H x 2.75" W x 1.25" D (11.4cm x 6.9cm x 3.2cm)
Finish:	Mylar Membrane
Mounting Centers:	3-9/32"
Back Box Required:	1-gang 2-1/2" min. depth
Environment Req's:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing

eCS-2V VOLUME CONTROL CALL STATION WITH DND

Controls:	PUSH TO CALL, DO NOT DISTURB, VOLUME UP, VOLUME DOWN touchpoints
Action:	Momentary Action
Indicators:	STATUS LED (call placed/message waiting) DO NOT DISTURB button back light (Do Not Disturb status)
Terminations:	2 RJ45 connectors
Size:	4.5" H x 2.75" W x 1.25" D (11.4cm x 6.9cm x 3.2cm)
Finish:	Mylar Membrane
Mounting Centers:	3-9/32"
Back Box Required:	1-gang 2-1/2" min. depth
Environment Req's:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing



Example of e365-TB-MA Message Display/Clock and Call Station Configuration



Example of eS8-TB-MA-R Room Speaker and Call Station Configuration

eCS-3 EMERGENCY CALL STATION

Controls:	EMERGENCY Call touchpoint
Action:	Momentary Action
Indicators:	STATUS LED (call placed/message waiting)
Terminations:	RJ45 connector
Size:	4.5" H x 2.75" W x 1.25" D (11.4cm x 6.9cm x 3.2cm)
Finish:	Mylar Membrane
Mounting Centers:	3-9/32"
Back Box Required:	1-gang 2-1/2" min. depth
Environment Req's:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing

eCS-6 CALL STATION

Controls:	PUSH TO CALL touchpoint
Action:	Momentary Action
Indicators:	STATUS LED (call placed/message waiting)
Terminations:	2 RJ45 connectors
Size:	4.5" H x 2.75" W x 1.25" D (11.4cm x 6.9cm x 3.2cm)
Finish:	Mylar Membrane
Mounting Centers:	3-9/32"
Back Box Required.:	1-gang 2-1/2" min. depth
Environment Req's:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing

eCS-6V VOLUME CONTROL CALL STATION

Controls:	PUSH TO CALL, VOLUME UP, VOLUME DOWN touchpoints
Action:	Momentary Action
Indicators:	STATUS LED (call placed/message waiting)
Terminations:	2 RJ45 connectors
Size:	4.5" H x 2.75" W x 1.25" D (11.4cm x 6.9cm x 3.2cm)
Finish:	Mylar Membrane
Mounting Centers:	3-9/32"
Back Box Required.:	1-gang 2-1/2" min. depth
Environment Req's:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing

eCS-11 NORMAL AND EMERGENCY CALL STATION

Controls:	PUSH TO CALL, EMERGENCY Call touchpoints
Action:	Momentary Action
Indicators:	STATUS LED (call placed/message waiting)
Terminations:	RJ45 connector-
Size:	4.5" H x 2.75" W x 1.25" D (11.4cm x 6.9cm x 3.2cm)
Finish:	Mylar Membrane
Mounting Centers:	3-9/32"
Back Box Required.:	1-gang 2-1/2" min. depth
Environment Req's:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing

PARTIAL LIST OF ASSOCIATED EQUIPMENT

e2444	Message DIsplay/Calendar Clock/Speaker
e2444-LD	Message DIsplay/Calendar Clock/Speaker/Strobe
e300-MA	eConsole
e365-TB-MA	Message Display/Calendar Clock
eCI-MA	Control Interface
eLOG-MA	Logging Interface
ePORT-MC	Management Interface
S8	Speaker
eSBM-TB	Speaker Breakout Module
eVC	Visual Console for eSeries
eMH	eSeries Message Host and Master Clock

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telecor™
eSeries

eCS-4, eCS-5
Volume Control and Public Channel Select Stations

FEATURES

- Adjust emergency page, normal page, intercom and Public Channel volume individually
- Push to Call Button (eCS-4)
- Enables Public Channel selection
- Call assurance STATUS LED indication
- Call line supervision
- CAT5e/6 RJ-45 termination
- Mounts on 1-gang electrical box
- Water-resistant faceplate

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HD Audio™

eCS-4

eCS-5

DESCRIPTION

The eCS-4 and eCS-5 Volume Control and Public Channel Select Stations are used to adjust audio volume levels in a room. These stations are specifically designed to operate with a host device such as the eS8-TB Talkback Speaker, e2443 Message Display/Calendar Clock/Speaker, or e365-TB Message Display/Clock.

The eCS-4 and eCS-5 stations include volume up and volume down momentary contact touchpoints. These controls adjust the level of the audio program currently being distributed over the speaker. Separate user-set volume levels are maintained for normal priority pages, emergency priority pages, intercom calls, and Public Channels.

The eCS-4 and eCS-5 stations are equipped with a channel select touchpoint to tune the speaker to a Public Channel--an audio source that is connected to an eAMP and plays continuously across the eSeries network.

The eCS-4 station also includes a touchpoint to initiate a “Normal” priority level call-in from a remote location. The station has a STATUS LED that provides call-in confirmation. When a call-in is placed, the LED flashes, confirming call-in placement. The LED continues to flash until the call-in is answered by the console operator. The eCS-5 station is designed to supplement other eCS call stations capable of placing call-ins.

All Telecor eCS stations can provide “message waiting” indications to staff members. If no one is present in a room to respond to a call, or the room is in Privacy or Do Not Disturb mode, the console operator will have the option to leave a Message Waiting (MW) indication. If the MW option is chosen, the STATUS LED indicator on the room call stations will begin to pulse. When a call-in is initiated from the room, the MW indication will be automatically deactivated, and the call-in will be automatically routed to the console that left the MW indication.

The eCS-4 Call Stations can also provide “Emergency” priority level call-ins by pressing the call touchpoint three times or pressing and holding the touchpoint for three seconds.

Call Stations are fully supervised and monitored for connectivity by the host device (Talkback Speaker, Message Display/Calendar Clock/Speaker or Message Display/Calendar Clock). If a wiring fault is detected between a Call Station and the host, the host will audibly and visually indicate the error. In addition, the Status LED on the station will pulse to indicate a trouble condition. The ePort, eLog, eCI, and eAmplifiers can also generate an alarm tone. The eCS-4 Call Station’s call-in destination is also monitored. If the device that is configured to receive the station’s call-in loses network connectivity, the host will automatically search for an alternate destination. If no other suitable call-in destinations exist, the host will audibly and visually indicate an error.

In the event of an open circuit, short circuit or short to ground, the Telecor System detects the fault and provides notifications automatically with a tone and fault LED indication on designated eAmplifiers, ePorts, eLogs or eCIs.

The STATUS LED on the Call Stations also indicates the state of station readiness. A solid STATUS LED indicates the station is connected to a network and is ready. It also allows the call station to be found in the dark. A fast flashing STATUS LED indicates an active audio connection, a slow flashing STATUS LED indicates a network problem, and a STATUS LED that is off indicates that the station is unpowered and is inoperable.

The call station surface consists of a laminated mylar membrane that is water resistant and allows for easy cleaning. Designed for flush wall mounting, it is installed onto a standard one-gang backbox with 3-9/32" mounting centers. All connections to field wiring are accomplished with RJ-45 connectors.

CALL STATION SPECIFICATIONS

eCS-4 VOLUME CONTROL AND PUBLIC CHANNEL SELECT CALL STATION

Controls:	PUSH TO CALL touchpoint CHANNEL SELECT touchpoint VOLUME UP touchpoint VOLUME DOWN touchpoint
Action:	Momentary Action
Indicators:	STATUS LED (call-in placed/message waiting/station status)
Terminations:	2 RJ45 connectors
Size:	4.5" H x 2.75" W x 1.25" D (11.4cm x 6.9cm x 3.2cm)
Finish:	Mylar Membrane
Mounting Centers:	3-9/32 “
Back Box Req.:	1-gang 2-1/2" min. depth
Environmental Req’s:	50-77ºF/10-25ºC, 5-90% relative humidity, non-condensing

eCS-5 VOLUME CONTROL AND PUBLIC CHANNEL SELECT STATION

Controls:	CHANNEL SELECT touchpoint VOLUME UP touchpoint VOLUME DOWN touchpoint
Action:	Momentary Action
Indicators:	STATUS LED (message waiting/station status)
Terminations:	2 RJ45 connectors
Size:	4.5" H x 2.75" W x 1.25" D (11.4cm x 6.9cm x 3.2cm)
Finish:	Mylar Membrane
Mounting Centers:	3-9/32 “
Back Box Req.:	1-gang 2-1/2" min. depth
Environmental Req’s:	50-77ºF/10-25ºC, 5-90% relative humidity, non-condensing

PARTIAL LIST OF ASSOCIATED EQUIPMENT

e2444	Message Display/Calendar Clock/Speaker
e2444-LD	Message Display/Calendar Clock/Speaker/Strobe
e300-MA	eConsole
eAMP-MA	25 Watt Amplifier
eCI-MA	Control Interface
eLOG-MA	Logging Interface
ePORT-MC	Management Interface
S8	Speaker

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telecor™
eSeries

eCS-9, eCS-10
Alarm Acknowledge and Alert Call Stations

FEATURES

- Supports eAM Alarm Acknowledgement feature
- Backlit Alarm Acknowledge touchpoint
- Medical Alert and Security Alert call-in touchpoints (eCS-10)
- Alerts combine call-in, audio announcement, and scrolling plain textual message into a single emergency operation
- Alert audio announcement and scrolling plain textual message can include verbal and textual identification of room that placed the Alert
- Place emergency call-ins
- Call Assurance LED indication
- Call line supervision
- CAT5/6 RJ-45 termination
- Mounts on 1-gang electrical box
- Water-resistant faceplate
- Consistent with NEMA SB 40-2009 Communications Systems for Life Safety in Schools
- Compatible with Visual Console for eSeries Software

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HD Audio™

DESCRIPTION

The eCS-9 and eCS-10 Alarm Acknowledge and Alert Call Stations are multi-function room devices. They have the ability to generate an emergency priority level call-in, perform Alarm Acknowledge operations, and initiate Medical and Security Alerts.

These call stations are designed to operate with the eSeries eAM Alarm Manager and hosting eSeries room devices such as the eSeries eS8-TB(4) Talkback (Master) Speakers and e365-TB Message Display/Calendar Clock.

EMERGENCY CALL-IN

The eCS-9 and eCS-10 stations use a momentary contact touchpoint to initiate an Emergency priority level call-in. A Call Assurance LED provides call confirmation. When a call-in is placed, the LED flashes confirming call-in placement. The LED continues to flash until the call is answered by the console operator.

ALARM ACKNOWLEDGEMENT

Locations for "Shelter in Place" such as classrooms, offices, and areas of refuge are equipped with eCS-9/10 call stations. During an alarm condition such as a Lockdown, these call stations provide the ability to notify the Alarm Management Console of the completion of alarm related emergency responses by the occupants at that location.

eCS-9

During an alarm, specific verbal instructions are broadcast to each location instructing the occupants to carry out the appropriate emergency response and then to press the flashing Alarm Acknowledge touchpoint. This signals the command center that the emergency response has been performed.

In case of an Evacuate Alarm, specific verbal instructions are broadcasted to each room instructing the room occupants to evacuate the building. The last occupant is required to press the flashing Alarm Acknowledge touchpoint to signal the command center that the room is empty.

If the Alarm Acknowledge touchpoint is not pressed after a set amount of time, the station will automatically place a call-in to the Alarm Management Console. The Alarm Management Console operator can use the Covert Listen capability to determine why people in unacknowledged rooms have not complete the emergency response procedure.

During an Alarm, the Alarm Acknowledge touchpoint can illuminate according to a preconfigured pattern. The touchpoint will be extinguished once pressed. If a subsequent alarm condition is initiated, the process restarts from the beginning.

If an Alarm is not active and the station is idle, pressing the Alarm Acknowledge touchpoint places a normal priority call-in.

ALERTS

The eCS-10 also features Medical and Security Alert touchpoints. These touchpoints can be activated in the event of a medical emergency or a security threat, notifying appropriate administrative staff who can then decide if the situation warrants activating an Alarm such as a Lockdown.

eCS-10

Alerts combine a call-in, audio announcement, and scrolling plain textual message into a single emergency priority operation. Verbal and textual identification of the room location that activated the Alert can be automatically included in the audio announcement and scrolling plain textual message.

The call-ins can be configured to be placed to a destination that is not the regular normal or emergency call-in destination of the station device. The audio announcement and scrolling plain textual message are distributed to a preconfigured zone.

Alerts can heighten the awareness of facility staff before an emergency can be officially declared and an Alarm activated. The combination of operation types also provides an opportunity for earlier intervention, e.g., staff made aware of a medical emergency via the Alert audio announcement could respond to it before the console operator answers the Alert call-in.

In the event that an Alarm (e.g., Lockdown) is already active, the Alert call-in is automatically routed to the Alarm Management Console. The audio announcement and scrolling plain textual message are not distributed to avoid conflicts with any distributions that are part of the Alarm.

Audio files used for Alerts are uploaded to and hosted on the eAM Alarm Manager.

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telecor™
eSeries

eCS-9, eCS-10
Alarm Acknowledge and Alert Call Stations

OTHER FEATURES

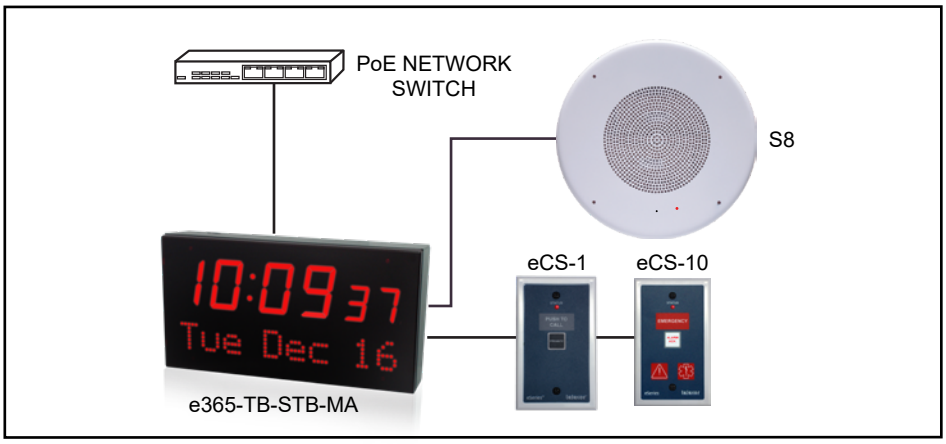
Consistent with NEMA SB 40-2008 Communications Systems for Life Safety in Schools standard, the eCS-9/10 provides standard emergency call-in capability as a second call-in station location per room on a single CAT5/6 cable.

The eCS-9/10 also supports the eSeries Message Waiting (MW) feature. If no one is present at the station location to respond to a call or if the station is in Privacy or Do Not Disturb mode, the calling console operator can leave a MW indication which causes the Status LED to pulse. The next normal priority call-in placed from the station will be routed to the console that left the MW indication.

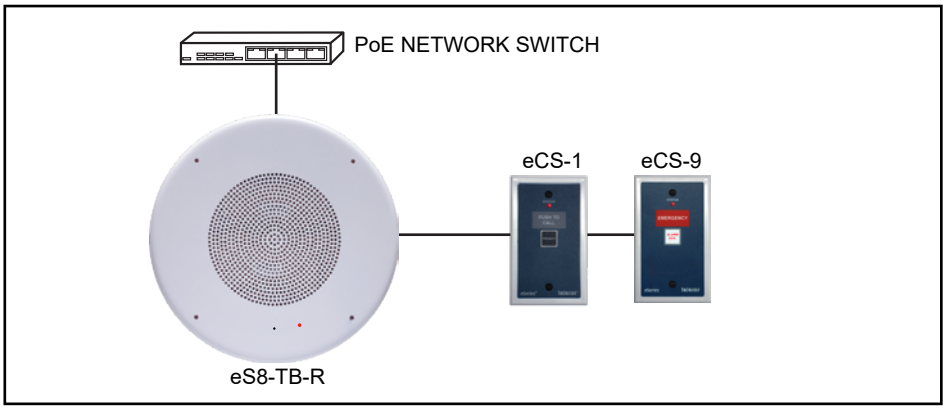
The eCS-9/10 are fully supervised and monitored for connectivity by the station device. If a wiring fault is detected between an eCS-9/10 and the station device, the station device will notify of trouble via a verbal message and pulsating Status LED. In addition, trouble tones will sound at ePorts, eLogs, eCIs, eAMs, and eAmplifiers. The eCS-9/10 call-in destination is also monitored and if it unreachable, the station device will automatically search for an alternate destination. If no suitable call-in destination exists, the station device will notify of the fault. Visual Console for eSeries can also indicate trouble and if the room is experiencing a fault.

The Status LED also allows the station to be found in the dark. A solid Status LED indicates the stations is connected to the network and idle. A fast flashing status indicates an active audio connection. A slow flashing Status LED indicates some type of station fault. The Status LED is off if the station is unpowered and inoperable.

The call stations surface consists of water resistant laminated mylar membrane that is easy to clean. Designed for flush wall mounting, they are installed onto a standard one-gang backbox with 3-9/32" mounting centers. All field wiring is connected via RJ-45 connectors.



EXAMPLE OF e365-TB-STB-MA MESSAGE DISPLAY/CALENDAR CLOCK WITH eCS-10



EXAMPLE OF eS8-TB-R ROOM SPEAKER WITH eCS-9

SPECIFICATIONS

eCS-9 ALARM ACKNOWLEDGE CALL STATION

Controls:	EMERGENCY Call touchpoint ALARM ACK touchpoint
Action:	Momentary Action
Indicators:	STATUS LED (call placed/ message waiting/ station status) ALARM ACK touchpoint back light (Alarm Acknowledgement status)
Terminations:	1 RJ-45 connectors
Size:	4.5" H x 2.75 W x 1.25" D (11.4 cm x 6.9 cm x 3.2 cm)
Finish:	Mylar Membrane
Mounting Centers:	3-9/32"
Back Box Required:	1-gang 2-1/2" min .depth
Operating Environment:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing

eCS-10 ALARM ACKNOWLEDGE AND ALERT CALL STATION

Controls:	EMERGENCY Call touchpoint ALARM ACK touchpoint ALERT touchpoint MEDICAL ALERT touchpoint
Action:	Momentary Action
Indicators:	STATUS LED (call placed/ message waiting/ station status) ALARM ACK touchpoint back light (Alarm Acknowledgement status)
Terminations:	1 RJ-45 connectors
Size:	4.5" H x 2.75 W x 1.25" D (11.4 cm x 6.9 cm x 3.2 cm)
Finish:	Mylar Membrane
Mounting Centers:	3-9/32"
Back Box Required:	1-gang 2-1/2" min .depth
Operating Environment:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing

PARTIAL LIST OF ASSOCIATED EQUIPMENT

eAM	Alarm Manager
e300-MA	eConsole
e2444	Message Display/Calendar Clock/Speaker
e2444-LD	Message Display/Calendar Clock/Speaker/Strobe
e365-TB-MA	Message Display/Calendar Clock
S8	Speaker
eSBM-TB	Speaker Breakout Module
eCI-MA	Control Interface
eLOG-MA	Logging Interface
ePORT-MC	Management Interface

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telecor™
eSeries

eCall V1.3
Virtual Call Station

FEATURES

- eCS series call station software for Windows computers
- Compatible with eSeries V1.2.9, V1.3.4, and later systems
- Interactive and animated graphical user interface (GUI)
- Displays room number
- Mix features of different eCS series call stations onto a single interface
- Minimizes to and resides in notification area
- Supplements or replaces physical eCS stations
- Provides an additional separate emergency call-in location
- Supports all eCS series call station operational features, including:
  - Intercom call-in
  - Emergency call-in
  - Alarm Acknowledgement
  - Medical and Security Alerts
  - Privacy mode
  - Do Not Disturb mode
  - Public Channel selection
  - Smart Volume Control
- Supports multiple call-in destinations and a separate emergency call-in destination
- Consistent with ANSI/NEMA SB 40-2008 Communications Systems for Life Safety in Schools
- Compatible with Visual Console for eSeries, DWConnect, and DWConnect LT
- Works in conjunction with:
  - e365-TB Message Display/Calendar Clock
  - e2443 Message Display/Calendar Clock/Speaker Assembly
  - eSBM-TB Speaker Breakout Module
  - eS8-TB(4) Talkback (Master) Speaker
- Add-on for eMH Master Clock and Message Host

DESCRIPTION

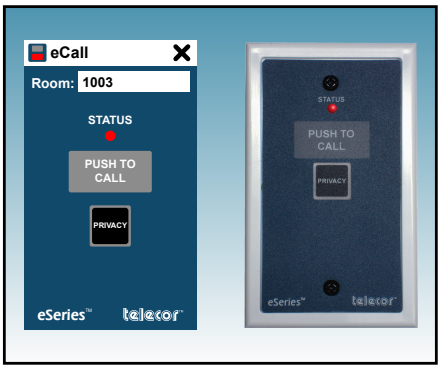
eCall is an application that provides a virtual representation of an eCS series call station on a Windows-based computer. Designed to mimic the look and behavior of physical eCS series call stations, eCall features interactive and animated virtual buttons which react to user inputs such as mouse clicks or finger presses on touch screen devices.

eCall include the Status LED to support related features. This includes Call Assurance where the Status LED blinks to indicate when a call is connected and notification of station related trouble via Status LED blinks when the station is idle.

eCall can be virtual representations of existing eCS series call station models to offer the same features as the physical versions. For example, eCall can be customized to have Push to Call with a Do Not Disturb button as found on an eCS-2 Do Not Disturb Call Station or a Privacy button as found on an eCS-1 Privacy Station.

eCALL ON WINDOWS DESKTOP

Additionally, unlike physical stations, eCall can be customized to combine various buttons and their associate features from different eCS series call station models. For example, eCall may be configured to simultaneously show Privacy and DND buttons even if no physical station with Privacy or DND buttons are available in the room.



VIRTUAL eCALL STATION CONFIGURED AS AN eCS-1 COMPARED TO PHYSICAL eCS-1 STATION

eCall can be configured with Smart Volume buttons that directly adjust the volume in a room. Smart Volume applies to the currently active audio operation type without affecting other audio volumes. For example, lowering the volume of pages that are too loud will not affect the volume of intercom audio, emergency announcement levels, etc.

eCall can feature many other buttons. The Push to Call button places a normal priority call-in. The Emergency button places an emergency priority call-in. The Privacy button places the station device in Privacy mode and provides a Privacy mode indicator. The Do Not Disturb button places the station device in Do Not Disturb Mode and provides a DND mode indicator. The Public Channel select button is used to select Public Channel background audio.

eCall can also be configured with eAM Alarm Manager feature related buttons. This includes the Alarm Acknowledgement button which is used to signal completion of emergency response instructions. The Medical and Security Alert buttons activate a combined emergency priority operation that includes a call-in, audio announcement, and scrolling plain textual message.

Button customization allows eCall to be equipped with one, some, or all of the features related to these buttons without actually requiring the physical call station that usually provides these features.

eCall resides in the notification area as a small icon when not in use. Clicking on the icon will display eCall for use.

eCall can be configured with a portable setting for situations where it is running on portable devices moved between locations with differing room numbers. With this setting, the user will be prompted in certain situations to enter the room number of their current location when they click the icon.

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eSeries

eCall V1.3
Virtual Call Station

eCall also work with e300 eConsole related operations regarding Privacy mode, Do Not Disturb Mode, and Message Waiting. An eConsole operator attempting to call eCall in Privacy or Do Not Disturb mode will be prompted with options to connect the call anyway or activate a Message Waiting indication. If a Message Waiting indication is activated, the next call-in placed by eCall will be directed to the eConsole that activated the Message Waiting indication.

eCall is consistent with ANSI/NEMA SB 40-2008 Communication Systems for Life Safety in Schools standard as they provide: additional locations from which call-ins can be placed, separate normal and emergency call-in buttons, and Call Assurance.

eCall is compatible with Visual Console for eSeries, DWConnect, and DWConnect LT. An eSeries network equipped with the appropriate DWConnect-related products will recognize emergency call-ins placed from eCalls and trigger DWConnect notifications to mobile phones and smart devices.

IMPLEMENTATION

eCall uses a client-server implementation model.

The server portion of eCall (part number eCALL-S Virtual Call Station eMH Add-On Software) is installed onto an eMH Master Clock & Message Host and manages the network connection between eCall and the eSeries network.

The client portion of eCall (part number eCALL-C Virtual Call Station Client Software) is installed on computers throughout the facility and connected to the facility network. eCall is intended to be installed onto non-dedicated computers in the same rooms as eSeries station devices.

TCP/IP is used to communicate between the clients and the server over the facility LAN/WAN.

The eMH is connected to the eSeries System via a network connection. The eMH is also separately connected to the facility network to support isolation between the eSeries network and facility networks.

SPECIFICATIONS

SUPPORTED OPERATING SYSTEMS:

- Windows 10 (32 or 64 bit Edition)

COMPUTER SYSTEM SPECIFICATIONS:

- Same as computer operating system

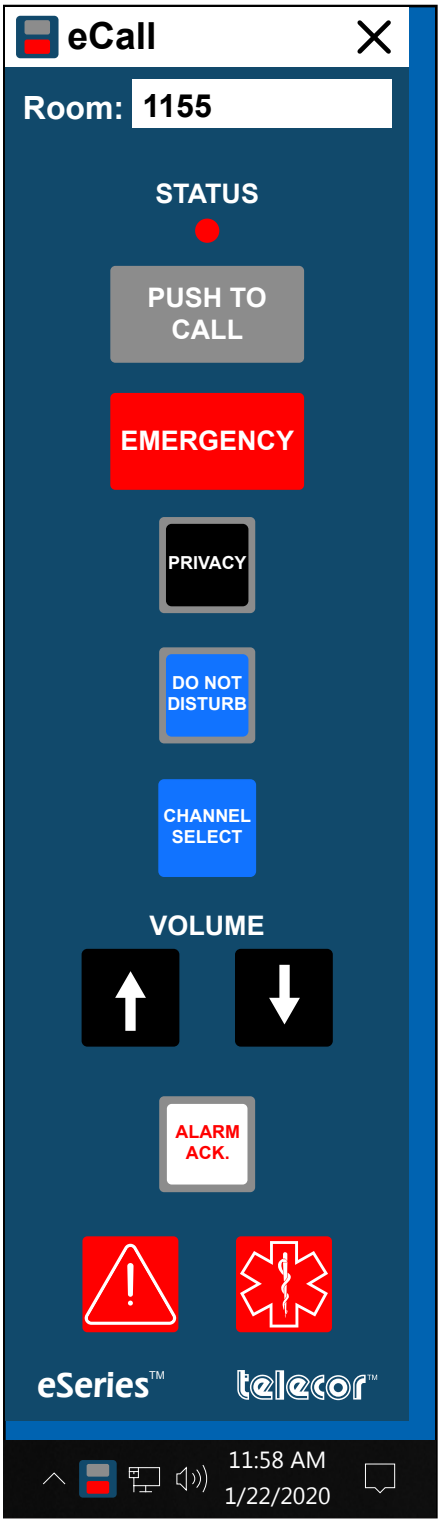
eSERIES SYSTEM SPECIFICATIONS:

- eSeries Firmware Version 1.3 (backwards compatible with V1.2.9, some features unsupported)

PARTIAL LIST OF RELATED PRODUCTS

eCALL-S	Virtual Call Station eMH Add-On Software
eCALL-C	Virtual Call Station Client Software
eMH	Master Clock & Message Host
eAM	Alarm Manager
eCS-1(v)	Call Station with Privacy (& Smart Volume Controls)
eCS-2(v)	Call Station with Do Not Disturb (& Smart Volume Controls)
eCS-3	Emergency Call Statio
eCS-4	Volume Control and Public Channel Select Call Station
eCS-5	Volume Control and Public Channel Select Station
eCS-6(v)	Call Station (& Smart Volume Controls)
eCS-9	Alarm Acknowledge Call Station
eCS-10	Alarm Acknowledge and Alert Call Station
eS8-TB(4)	Talkback (Master) Speaker
eSBM-TB	Speaker Breakout Module
e365-TB	Message Display/Calendar Clock
e2443	Message Display/Calendar Clock/Speaker Assembly
eVC	Visual Console for eSeries
DWConnect	DWConnect
DWConnect LT	DWConnet LT

Note: Not all eCall/eAM features are supported by all eSeries station devices. Some restrictions apply to eSTN and eTBU based stations.



eCALL CONFIGURED WITH ALL POSSIBLE BUTTONS

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Speakers, Baffles, Enclosures

eS8-TB-MA-R Round Talkback Master Speaker

eS8-TB-MA-SQ Square Talkback Master Speaker

eS8-MA-R Round Ethernet 8" Ceiling Speaker

eS8-MA-SQ Square Ethernet 8" Ceiling Speaker

eS8-TB4-MA-R Round Talkback Master Speaker

eS8-TB4-MA-SQ Sqaure Talkback Master Speaker

eSBM-TB Speaker Breakout Module

STB-5 1X2 Lay-In Tile Speaker Assembly

STB-10 Speaker/xfmr/Baffle Assembly

H7 Enclosure

T7 Support Bridge

eSTB-12 Speaker/Baffle/Assembly

S8 8" Loudspeaker

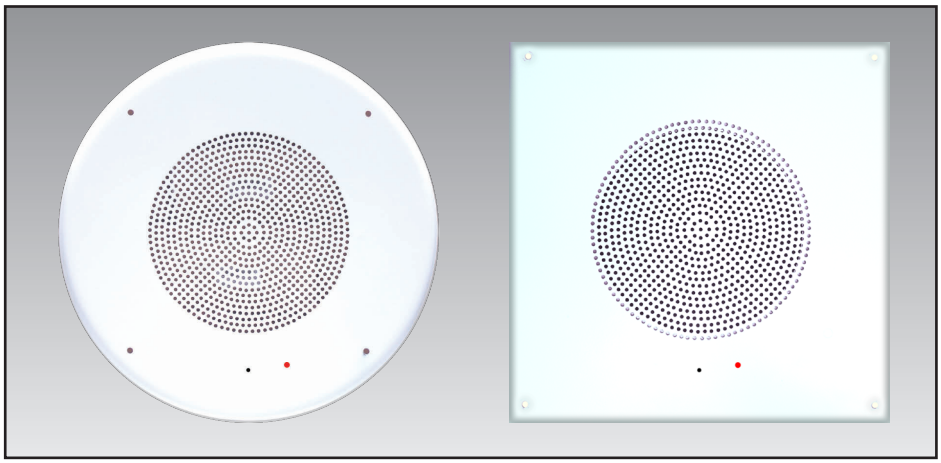
telecor™
eSeries

eS8-TB-MA-(R)(SQ)
Talkback Speaker Model A

FEATURES

- Round or square 8” Loudspeaker
- Provides two-way talkback communications
- Fully supervised and monitored for network connectivity
- Powered by Power-over-Ethernet (PoE)
- Features Just Plug It In!™ design
- True digital network endpoint solution
- Crystal clear HD Audio™ speech quality
- Requires no IP address, DHCP server, subnet, or mask configuration
- No head end, central server or controller equipment required
- Non-blocking audio between speaker and consoles via LAN
- Function based and digitally controlled volume
- Conditioned microphone with built-in compression and noise gate
- Extremely low latency
- Extremely fast all station audio connect times
- Integrates with eCS Call Stations; supports Privacy or Do Not Disturb Mode, and separate Emergency Call Station
- Station status LED
- Audible and visual call-in assurance
- Supports auxiliary functions (door release, siren, strobe)
- Advanced features configurable using ePORT
- Firmware upgradable over LAN

Just Plug It In™ HD Audio™ POE



eS8-TB-MA-R and eS8-TB-MA-SQ

DESCRIPTION

The eS8-TB-MA Talkback Speaker Model A is a network-based 8” speaker station that provides two-way intercom communications and receives paging announcements. The eS8-TB-MA is available in two models: with a round baffle (eS8-TB-MA-R) or with a square baffle (eS8-TB-MA-SQ).

The eS8-TB-MA uses Power-over-Ethernet technology, Just Plug It In!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Power-over-Ethernet technology allows the eS8-TB-MA to be plugged into a PoE network switch to supply both power and data. The simplicity of Telecor's Just Plug It In!™ design means the eS8-TB-MA does not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server or controller equipment is required to operate the network. Once plugged into the LAN, the eS8-TB-MA is immediately functional. It can establish two-way voice from eConsoles as well as receive pages and audio source distributions from devices in the network.

Speech is transmitted through the speaker in crystal-clear HD Audio. Audio is transmitted in the frequency range from 50 Hz to 7 kHz while using a 150 kbps of bandwidth during a call (128 kbps audio stream and overhead resulting in 150 kbps per audio channel). The maximum audio output level is 95 dB at 3.3 feet (1 m). Audio between stations and consoles is non-blocking, allowing a virtually unlimited number of audio channels across the LAN and reducing or eliminating busy signals. The microphone includes a conditioned preamp with built-in compression and noise gate for excellent vocal clarity and noise reduction.

The volume of the eS8-TB-MA can be adjusted individually, by zone, or across the entire eSeries network via the ePort Management Interface or eCI Control Interface. Volume controls incorporated into certain eCS station models also allow a user to adjust the volume of a local eS8-TB-MA. Volume levels can be set for specific functions: intercom, paging, emergency paging, and Public Channel operations.

Telecor’s eSeries technology provides extremely low-latency audio for exceptional performance during paging and live audio playback. It also provides extremely fast all station audio connect times when performing all-call pages throughout the network.

The eS8-TB-MA is fully supervised and monitored for network connectivity, call destination, and call station connectivity, which is consistent with the NEMA SB-40 standard for communication systems. If the eS8-TB-MA's network connection is lost, targeted e300 eConsoles will report that station as absent and display its dial number. When the eS8-TB-MA is used with call stations, the call-in destinations are monitored. If the device at a call-in destination loses network connectivity, the eS8-TB-MA will automatically search for an alternate destination. If no other suitable call-in destinations exist, the call station will audibly and visually indicate an error. If a wiring fault is detected between a Call Station and the eS8-TB-MA, the eS8-TB-MA will audibly and visually indicate the error. The ePort logs the location, time, date and type of fault. The ePort, eLog, eCI and eAmplifiers can also generate an alarm tone.

Call-in capabilities can be provided with addition of any of Telecor’s eSeries Call Stations. The eCS-6 and eCS-3 are used to initiate Normal and Emergency calls respectively. Also available are advanced stations that provide additional features: the eCS-1 (Privacy and Normal Call), eCS-2 (Do Not Disturb and Normal Call), and eCS-4 (Volume Control, Public Channel Select and Normal Call).

eCS CALL STATIONS

The eS8-TB-MA features a status LED that flashes in different patterns to indicate normal operation, call-in assurance, message waiting, a call or paging audio in progress, or to indicate an error.

The eS8-TB-MA supports a supervisory tone feature. This is intended to ensure room occupants are aware when the station is in a two-way intercom call. This is done by having the speaker sound a pre-announce tone whenever an intercom call is connected. Furthermore, a tone will sound at specified intervals for the duration of the connected call.

The eS8-TB-MA is equipped with three relays. One relay can be activated remotely from an eConsole to support an auxiliary function (e.g. door control). The other two relays are used for emergency notifications, such as a strobe or combination strobe and siren. The strobe and siren relays are automatically activated on an emergency call-in or when receiving an audible or textual emergency message, but the siren is silenced once the speaker is active.

The eS8-TB-MA can further be configured using an ePORT to suit the building application. It can be programmed as a member of a single paging zone or multiple paging zones.

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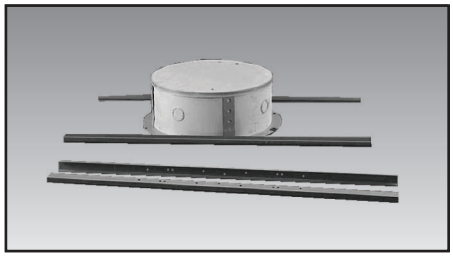
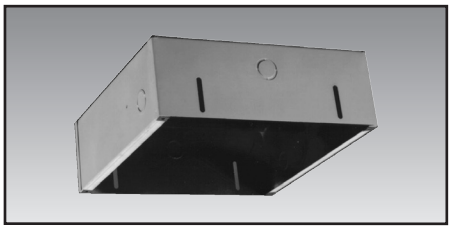
The eS8-TB-MA baffle is constructed of 22 gauge cold-rolled steel and is finished in a mar-resistant, white, semi-gloss, epoxy coating. The edges are beveled to provide an attractive trim appearance.

The eS8-TB-MA-R is suitable for ceiling mounting using an H10 round recessed enclosure. This enclosure is cold-rolled, welded steel, and is covered with a rust-preventative satin finish. Four combination ½" and ¾" knockouts are contained in the enclosure to allow conduit fittings. The H10 enclosure can be installed with a CC1 formed channel support to better secure the enclosure to the T-bar structures of suspended ceilings. Using a CC1 ensures that the weight of the speaker assembly is not concentrated on the ceiling tiles alone. Each enclosure requires a pair of CC1 channel supports. The channel supports are constructed of 22 gauge cold-rolled steel, and treated in a rust-preventative, satin finish. Each channel support has mounting holes for fastening the enclosure to it.



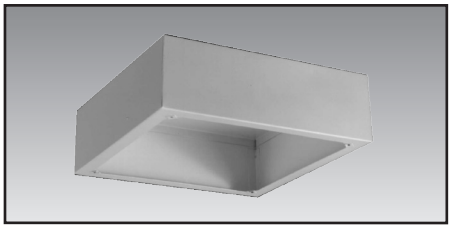
H10 ROUND RECESSED ENCLOSURE
AND CC1 CHANNEL SUPPORTS

The eS8-TB-MA-SQ can be mounted using an H20 square recessed enclosure. This enclosure is a welded assembly, constructed of 22 gauge cold-rolled steel, and treated in a rust-preventative satin finish. Four combination ½" and ¾" knockouts are contained in the enclosure to allow conduit fittings.



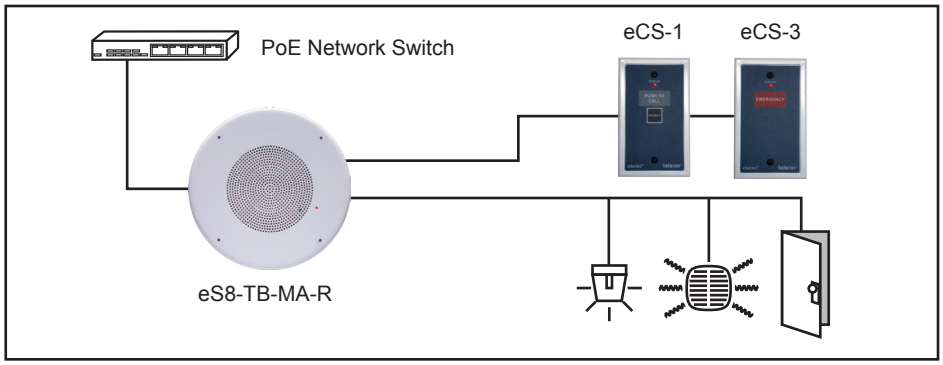
H20 SQUARE RECESSED ENCLOSURE

Alternatively, the eS8-TB-MA-SQ can be wall or ceiling surface mounted using an SH20-SB square surface enclosure. This enclosure is a welded assembly constructed of 18 gauge cold-rolled steel and finished in a mar-resistant white semi-gloss epoxy coating.



SH20-SB SQUARE SURFACE ENCLOSURE

The interior of all enclosures are coated to prevent mechanical and acoustical resonances. They are also provided with four “J” clips in the mounting flange for screw mounting of the baffle.



Example of eS8-TB-MA Room Speaker and Call Station Configuration

eS8-TB-MA SPECIFICATIONS

Power Source:	Power-over-Ethernet IEE 802.3af compliant
PoE Power Required:	Class 0, 5.5 W
Network Interface:	RJ45 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Audio Format:	G.711.1 (wideband), Bandwidth of 50 Hz - 7 kHz @ 128 kbits/s (µLaw, 16 kHz sampling rate)
Audio Latency:	Typical 0.1 s
Connect Times:	
Paging:	0.01 s typical for 500 stations
Loudspeaker:	
Speaker Diameter:	8" (203 mm)
Power Rating:	10 watts
Frequency Range:	30 Hz to 15 kHz
Axial Sensitivity:	96 dB at 3 ft (0.91 m) (1 watt input)
Voice Coil:	¾" (19.1 mm) diameter
Depth:	2.75" (70 mm)
SPL:	95 dB at 3.3 ft (1 m)
Microphone:	
Type:	Omni Directional
Sensitivity:	-42 db (+/- 3dB)
Frequency:	20 Hz - 20 kHz
S/N Ratio:	60 dBA
Indicators:	
Front Panel:	Status
Internal:	Network Connection Status, Activity Status
Relays:	3 Switched Power from Auxiliary Power Input, Strobe, Siren
Contact Format:	DPDT
Contact Rating:	1 A @ 30 VDC or 0.3 A @ 125 VAC
Termination:	0.100 IDC
Switching Capacity:	1 A
Station Terminations:	RJ45 network connector
Wiring Requirements:	CAT5 or higher
Environment Req’s:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing
Baffle:	Round or square, one-step contour
Finish:	White, semi-gloss epoxy
Material:	22 gauge, cold-rolled steel
Size:	12.75" (32.5 cm) diameter, 3.75" (9.5 cm) deep
Weight:	1.5lbs (0.7kg)
Compliance:	TUV-SUD Listed to UL62368-1 Standard

CAN ICES-3 (A)/NMB-3(A)

H10 SPECIFICATIONS

Type:	Circular, recessed enclosure
Finish:	Rust-preventative, grey, satin coating
Material:	22 gauge, cold-rolled steel
Size:	12” (30.5 cm) diameter flange, 10” (25.4 cm) body, 4" (10.2cm) deep
Weight:	2.5lbs (1.3 kg)

CC1 SPECIFICATIONS

Quantity:	1 pair per enclosure
Finish:	Rust-preventative, grey, satin coating
Material:	22 gauge, cold-rolled steel
Size:	23.75" (60.3 cm) L x 0.75" (1.9 cm) W x 0.5" (1.3 cm) deep
Weight:	0.6 lbs (0.3 kg)

H20 SPECIFICATIONS

Type:	Square, recessed enclosure
Finish:	Rust preventative, grey, satin coating
Material:	22 gauge, cold-rolled steel
Size:	11.8” (30 cm) square, 4” (10.2 cm) deep
Weight:	3.5 lbs (1.6 kg)

SH20-SB SPECIFICATIONS

Type:	Square, surface enclosure
Finish:	White, semi-gloss epoxy
Material:	18 gauge, cold-rolled steel
Size:	12.8” (32.5 cm) square, 4” (10.2 cm) deep
Weight:	4 lbs (1.8 kg)

PARTIAL LIST OF ASSOCIATED EQUIPMENT

H10	Round Recessed Enclosure
CC1	Channel Support
H20	Square Recessed Enclosure
SH20-SB	Square Surface Enclosure
eCS-1	Call Station with Privacy
eCS-2	Call Station with Do Not Disturb
eCS-3	Emergency Call Station
eCS-4	Volume Control and Public Channel Select Call Station
eCS-5	Volume Control and Public Channel Select Station
eCS-6	Call Station
e300	eConsole
ePORT	Management Interface

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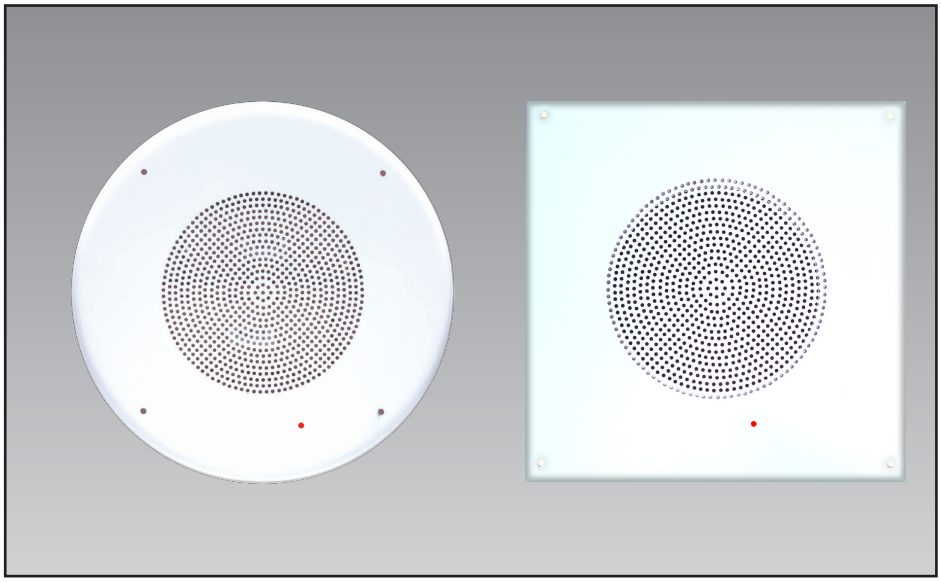
telecor™
eSeries

eS8-MA-(R)(SQ)
Ethernet 8” Ceiling Speaker Model A

FEATURES

- Round or square 8” loudspeaker
- Powered by Power-over-Ethernet (PoE)
- Fully supervised and monitored for network connectivity
- Features Just Plug It in!™ design
- Crystal clear HD Audio™ speech quality
- Requires no IP address, DHCP server, subnet, or mask configuration
- True digital network endpoint solution
- No head end, central server or controller equipment required
- Non-blocking audio between speaker and consoles via LAN
- Function based and digitally controlled volume
- Extremely low latency
- Extremely fast all station audio connect times
- Station status LED
- Advanced features configurable using ePORT
- Firmware upgradable over LAN

Just Plug It In™ HD Audio™ POE



eS8-MA-R and eS8-MA-SQ

DESCRIPTION

The eS8-MA Ethernet 8” Ceiling Speaker Model A is a network-based speaker used to allow paging into specific areas of a facility. The eS8-MA is specifically designed for installation in the ceilings of hallways or large common areas where no call-in button or talkback is required. The eS8-MA is available in two models: with a round baffle (eS8-MA-R) or with a square baffle (eS8-MA-SQ).

The Telecor eSeries uses Power-over-Ethernet technology, Just Plug It In!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Power-over-Ethernet technology allows the eS8-MA to be plugged into a PoE network switch to supply both power and data. The simplicity of Telecor's Just Plug It In!™ design means the eS8-MA does not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server or controller equipment is required to operate the network. Once plugged into the LAN, the eS8-MA can establish one-way broadcast voice from eConsoles as well as receive pages from devices in the network.

Speech from the LAN is transmitted through the eS8-MA in crystal-clear HD Audio. Audio is transmitted in the frequency range from 50 Hz to 7 kHz while using a 150 kbps of bandwidth during a call (128 kbps audio stream and overhead resulting in 150 kbps per audio channel). The maximum audio output level is 96 dB at 3.3 feet (1 m). Audio between stations and consoles is non-blocking, allowing a virtually unlimited number of audio channels across the LAN and reducing or eliminating busy signals.

The volume of the eS8-MA can be adjusted individually, by zone, or across the entire eSeries network via the ePort Management Interface or eCI Control Interface. Volume levels can be set by specific functions: intercom, paging, emergency paging, and public channel operations.

Telecor’s eSeries technology provides extremely low-latency audio, for exceptional performance during paging and live audio playback. It also provides extremely fast all station audio connect times when performing all-call pages throughout the network.

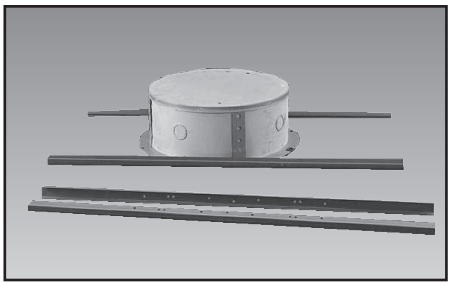
The eS8-MA features a status LED that illuminates when the speaker is functioning normally. The LED will flash in different patterns when a call or page is in progress or to indicate an error.

The eS8-MA is fully supervised and monitored for network connectivity. If the eS8’s network connection is lost, targeted e300 eConsoles will report the station as absent and display its dial number. The ePort logs the location, time, date, and type of fault. The ePort and eAmplifiers will also optionally generate an alarm tone.

The eS8-MA can further be configured using an ePORT to suit the building application. It can be programmed as a member of a single paging zone or multiple paging zones.

The eS8-MA baffle is constructed of 22 gauge cold-rolled steel and is finished in a mar-resistant, white, semi-gloss, epoxy coating. The edges are beveled to provide an attractive trim appearance.

The eS8-MA-R is suitable for ceiling mounting using an H10 round recessed enclosure. This enclosure is cold-rolled, welded steel, and is covered with a rust-preventative satin finish. Four combination ½" and ¾" knockouts are contained in the enclosure to allow conduit fittings. The H10 enclosure can be installed with a CC1 formed channel support to better secure the enclosure to the T-bar structures of suspended ceilings. Using a CC1 ensures that the weight of the speaker assembly is not concentrated on the ceiling tiles alone. Each enclosure requires a pair of CC1 channel supports. The channel supports are constructed of 22 gauge cold-rolled steel, and treated in a rust-preventative, satin finish. Each channel support has mounting holes for fastening the enclosure to it.



H10 ROUND RECESSED ENCLOSURE
AND CC1 CHANNEL SUPPORTS

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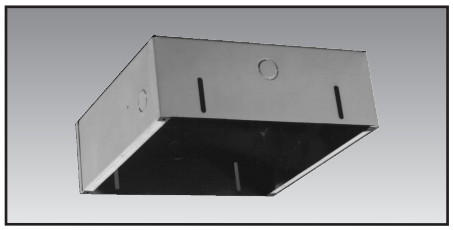
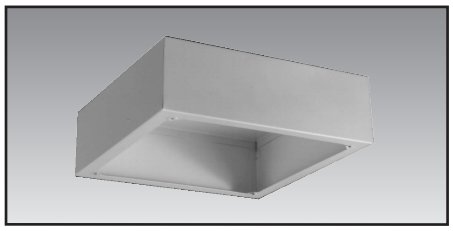
The eS8-MA-SQ can be mounted using an H20 square recessed enclosure. This enclosure is a welded assembly, constructed of 22 gauge cold-rolled steel, and treated in a rust-preventative satin finish. Four combination ½" and ¾" knockouts are contained in the enclosure to allow conduit fittings.



H20 SQUARE RECESSED ENCLOSURE

Alternatively, the eS8-MA-SQ can be wall or ceiling surface mounted using an SH20-SB square surface enclosure. This enclosure is a welded assembly constructed of 18 gauge cold-rolled steel and finished in a mar-resistant white semi-gloss epoxy coating.



SH20-SB SQUARE SURFACE ENCLOSURE

The interior of all enclosures are coated to prevent mechanical and acoustical resonances. They are also provided with four “J” clips in the mounting flange for screw mounting of the baffle.-

eS8-MA SPECIFICATIONS

Power Source:	Power-over-Ethernet IEE 802.3af compliant
PoE Power Required:	Class 0, 5.5 W
Network Interface:	RJ45 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Audio Format:	G.711.1 (wideband), Bandwidth of 50 Hz - 7 kHz @ 128 kbits/s (µLaw, 16 kHz sampling rate)
Audio Latency:	Typical 0.1 s
Connect Times:	
Paging:	0.01 s typical for 500 stations
Loudspeaker:	
Speaker Diameter:	8" (203 mm)
Power Rating:	10 watts
Frequency Range:	30 Hz to 15 kHz
Axial Sensitivity:	96 dB at 3 ft (0.91 m) (1 watt input)
Voice Coil:	¾" (19.1 mm) diameter
Depth:	2.75" (70 mm)
Indicators:	
Front Panel:	Status
Internal:	Network Connection Status, Activity Status
SPL:	96 dB at 3.3 ft (1 m)
Speaker:	8" (203 mm)
Terminations:	RJ45 network connector
Wiring Requirements:	CAT5 or higher
Environment Requirements:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing
Type:	Round or square, one-step contour
Finish:	White, semi-gloss epoxy
Material:	22 gauge, cold-rolled steel
Size :	12.75" (32.5 cm) diameter, 3.75" (9.5 cm) deep
Weight:	1.25 lbs (0.6 kg)
Compliance:	TUV-SUD Listed to UL62368-1 Standard

CAN ICES-3 (A)/NMB-3(A)

H10 SPECIFICATIONS

Type:	Circular, recessed enclosure
Finish:	Rust-preventative, grey, satin coating
Material:	22 gauge, cold-rolled steel
Size:	12" (30.5 cm) diameter flange, 10"(25.4 cm) body, 4" (10.2 cm) deep
Weight:	2.5 lbs (1.3 kg)

CC1 SPECIFICATIONS

Quantity:	1 pair per enclosure
Finish:	Rust-preventative, grey, satin coating
Material:	22 gauge, cold-rolled steel
Size:	23.75" (60.3 cm) L x 0.75" (1.9 cm) W x 0.5" (1.3 cm) deep
Weight:	0.6 lbs (0.3 kg)

H20 SPECIFICATIONS

Type:	Square, recessed enclosure
Finish:	Rust preventative, grey, satin coating
Material:	22 gauge, cold-rolled steel
Size:	11.8” (30 cm) square, 4” (10.2 cm) deep
Weight:	3.5 lbs (1.6 kg)

SH20-SB SPECIFICATIONS

Type:	Square, surface enclosure
Finish:	White, semi-gloss epoxy
Material:	18 gauge, cold-rolled steel
Size:	12.8” (32.5 cm) square, 4” (10.2 cm) deep
Weight:	4 lbs (1.8 kg)

PARTIAL LIST OF ASSOCIATED EQUIPMENT

H10	Round Recessed Enclosure
CC1	Channel Support
H20	Square Recessed Enclosure
SH20-SB	Square Surface Enclosure
e300	eConsole
ePORT	Management Interface

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telecor™
eSeries

eS8-TB4-MA-(R)(SQ)
Talkback Master Speaker Model A

FEATURES

- 8” Loudspeaker
- Provides two-way talkback communications
- Supports up to 4 Satellite Speakers
- Fully supervised and monitored for network connectivity
- Powered by Power-over-Ethernet (PoE)
- Features Just Plug It in!™ design
- True digital network endpoint solution
- Crystal clear HD Audio™ speech quality
- Requires no IP address, DHCP server, subnet, or mask configuration
- No head end, central server or controller equipment required
- Non-blocking audio between speaker and consoles via LAN
- Function based and digitally controlled volume
- Conditioned microphone with built-in compression and noise gate
- Extremely low latency
- Extremely fast all station audio connect times
- Integrates with eCS Call Stations; supports Privacy or Do Not Disturb Mode, and separate Emergency Call Station
- Station status LED
- Audible and visual call-in assurance
- Supports auxiliary functions (door release, siren, strobe)
- Advanced features configurable using ePort
- Firmware upgradable over LAN

Just Plug It In™ HD Audio™ POE

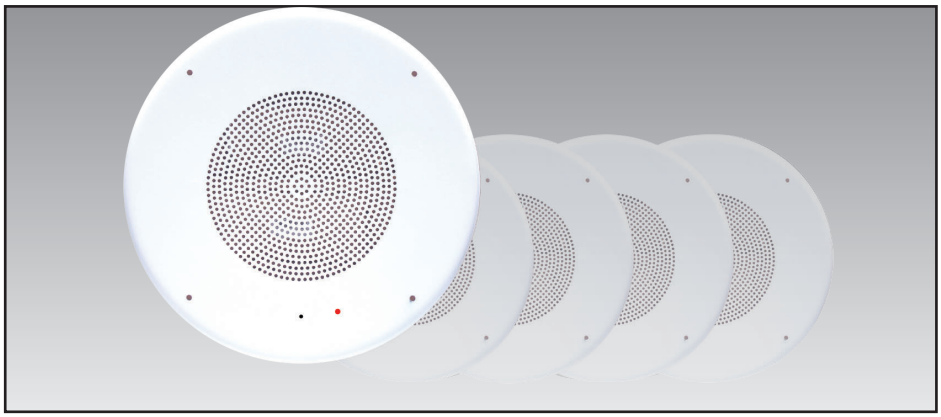
DESCRIPTION

The eS8-TB4-MA Talkback Master Speaker Model A is a network based 8” speaker station that provides two-way intercom communications and receives paging announcements. The eS8-TB4-MA is available in two models: with a round baffle (eS8-TB4-MA-R) or with a square baffle (eS8-TB4-MA-SQ).

In addition, it has the ability to support up to four additional Satellite Speakers that connect directly to the eS8-TB4-MA. This allows you to distribute an audio broadcast over a larger area, making it a perfect solution for larger rooms where a single speaker does not provide adequate coverage.

While the audio signal is broadcast through multiple speakers, the source of the talk back audio from the room is from only a single eS8-TB4-MA speaker, strategically located in the room to provide the best coverage. The single microphone picks-up audio that is predominantly the talker’s voice, minimizing the ambient noise within the coverage of the Satellite Speakers. This optimizes the signal to noise of the talk audio from the room, ensuring maximum intelligibility.

Satellite Speakers that can used with the eS8-TB4-MA are 25V speakers supporting a total speaker load of 4 watts. Satellite Speakers such as Telecor’s S8T2570, 8” Speaker Transformer Assemblies are suitable. These may be installed in appropriate enclosures with the appropriate speaker baffles.



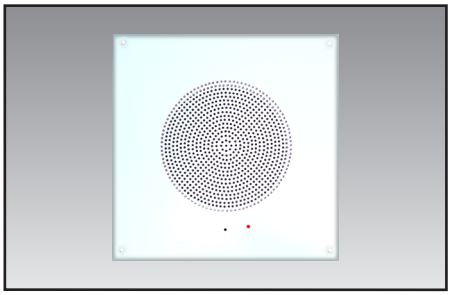
eS8-TB4-MA-R with Satellite Speakers

The eS8-TB4-MA uses Power-over-Ethernet technology, Just Plug It In!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Power-over-Ethernet technology allows the eS8-TB4-MA to be plugged into a PoE network switch to supply both power and data. The simplicity of Telecor's Just Plug It In!™ design means the eS8-TB4-MA does not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server or controller equipment is required to operate the network. Once plugged into the LAN, the eS8-TB4-MA is immediately functional. It can establish two-way audio communications with eConsoles as well as receive pages and audio source distributions from devices in the network.

Speech is transmitted through the speaker in crystal-clear HD Audio. Audio is transmitted in the frequency range from 50 Hz to 7 kHz while using a 150 kbps of bandwidth during a call (128 kbps audio stream and overhead resulting in 150 kbps per audio channel). The maximum audio output level is 95 dB at 3.3 feet (1 m). Audio between stations and consoles is non-blocking, allowing a virtually unlimited number of audio channels across the LAN and reducing or eliminating busy signals. The microphone includes a conditioned preamp with built-in compression and noise gate for excellent vocal clarity and noise reduction.

The volume of the eS8-TB4-MA can be adjusted individually, by zone, or across the entire eSeries network via the ePort-MC Management Interface or eCI-MA Control Interface. Volume controls incorporated into certain eCS station models also allow a user to adjust the volume of a local eS8-TB4-MA. Volume levels can be set for specific functions: intercom, paging, emergency paging, and Public Channel operations.

The eS8-TB4-MA is fully supervised and monitored for network connectivity, call destination, and call station connectivity, which is consistent with the NEMA SB-40 standard for communication systems. If the eS8-TB4-MA’s network connection is lost, targeted e300 eConsoles will report that station as absent and display its dial number. When the eS8-TB4-MA is used with call stations, the call-in destinations are monitored.



eS8-TB4-MA-SQ

If the device at a call-in destination loses network connectivity, the eS8-TB4-MA will automatically search for an alternate destination. If no other suitable call-in destinations exist, the call station will audibly and visually indicate an error. If a wiring fault is detected between a Call Station and the eS8-TB4-MA, the eS8-TB4-MA will audibly and visually indicate the error. The ePort logs the location, time, date and type of fault. The ePort, eLog, eCI and eAmplifiers can also generate an alarm tone.

Call-in capabilities can be provided with addition of any of Telecor’s eSeries Call Stations. The eCS-6 and eCS-3 are used to initiate Normal and Emergency calls respectively. Also available are advanced stations that provide additional features: the eCS-1 (Privacy and Normal Call), eCS-2 (Do Not Disturb and Normal Call), and eCS-4 (Volume Control, Public Channel Select and Normal Call).

eCS CALL STATIONS

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In the USA: 2434 Jerauld Avenue; Niagara Falls, New York; 14305; Phone: (716) 285-8272 Fax: (716) 285-8287
In Canada (Corporate): 6205 Kestrel Road; Mississauga, Ontario; L5T 2A1; Phone: (905) 564-0801 Fax: (905) 564-0806

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The eS8-TB4-MA features a status LED that flashes in different patterns to indicate normal operation, call-in assurance, message waiting, a call or paging audio in progress, or to indicate an error.

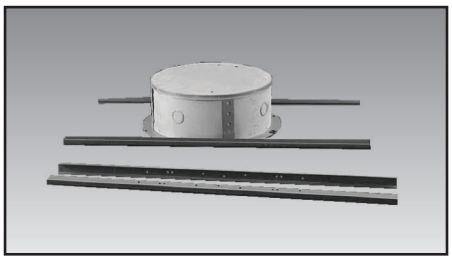
The eS8-TB4-MA supports a supervisory tone feature. This is intended to ensure room occupants are aware when the station is in a two-way intercom call. This is done by having the speaker sound a pre-announce tone whenever an intercom call is connected. Furthermore, a tone will sound at specified intervals for the duration of the connected call.

The eS8-TB4-MA is equipped with three relays. One relay can be activated remotely from an eConsole to support an auxiliary function (e.g. door control). The other two relays are used for emergency notifications, such as a strobe or combination strobe and siren. The strobe and siren relays are automatically activated on an emergency call-in or when receiving an audible or textual emergency message, but the siren is silenced once the speaker is active.

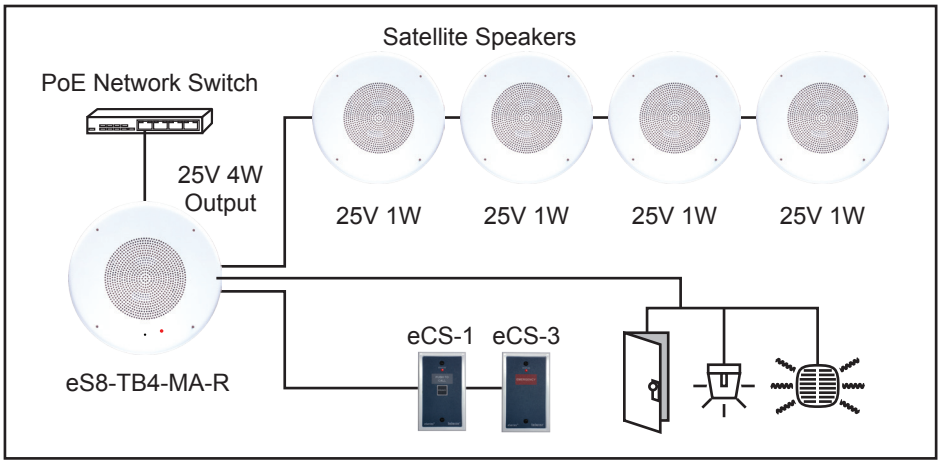
The eS8-TB4-MA can further be configured using an ePort to suit the building application. It can be programmed as a member of a single paging zone or multiple paging zones.

The eS8-TB4-MA baffle is constructed of 22 gauge cold-rolled steel and is finished in a mar-resistant, white, semi-gloss, epoxy coating. The edges are beveled to provide an attractive trim appearance.

The eS8-TB4-MA-R is suitable for ceiling mounting using an H10 round recessed enclosure. This enclosure is cold-rolled, welded steel, and is covered with a rust-preventative satin finish. Four combination ½" and ¾" knockouts are contained in the enclosure to allow conduit fittings. The H10 enclosure can be installed with a CC1 formed channel support to better secure the enclosure to the T-bar structures of suspended ceilings. Using a CC1 ensures that the weight of the speaker assembly is not concentrated on the ceiling tiles alone. Each enclosure requires a pair of CC1 channel supports. The channel supports are constructed of 22 gauge cold-rolled steel, and treated in a rust-preventative, satin finish. Each channel support has mounting holes for fastening the enclosure to it.



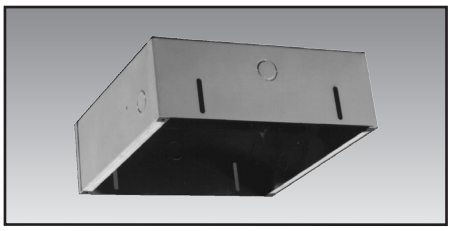
H10 ROUND RECESSED ENCLODURE
AND CC1 CHANNEL SUPPORTS



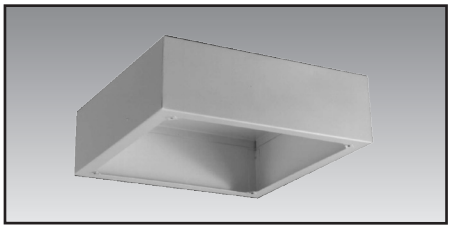
Example of eS8-TB4-MA-R Room Speaker and Call Station Configuration

The eS8-TB4-MA-SQ can be mounted using an H20 square recessed enclosure. This enclosure is a welded assembly, constructed of 22 gauge cold-rolled steel, and treated in a rust-preventative satin finish. Four combination ½" and ¾" knockouts are contained in the enclosure to allow conduit fittings. Alternatively, the eS8-TB4-MA-SQ can be wall or ceiling surface mounted using an SH20-SB square surface enclosure. This enclosure is a welded assembly constructed of 18 gauge cold-rolled steel and finished in a mar-resistant white semi-gloss epoxy coating.

The interior of all enclosures are coated to prevent mechanical and acoustical resonances. They are also provided with four “J” clips in the mounting flange for screw mounting of the baffle.



H20 SQUARE RECESSED ENCLOSURE



SH20-SB SQUARE SURFACE ENCLOSURE

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eS8-TB4-MA SPECIFICATIONS

Power Source:	Power-over-Ethernet IEE 802.3af compliant
PoE Power Required:	Class 0, 5.5 W, 8.6 W (with 4 x 1 W 25 V satellite speakers)
Network Interface:	RJ45 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Audio Format:	G.711.1 (wideband), Bandwidth of 50 Hz - 7 kHz @ 128 kbits/s (µLaw, 16 kHz sampling rate)
Audio Latency:	Typical 0.1s
Connect Times:	
Paging:	0.01 s typical for 500 stations
Loudspeaker:	
Speaker Diameter:	8" (203 mm)
Power Rating:	10 watts
Frequency Range:	30 Hz to 15 kHz
Axial Sensitivity:	96 dB @ 3 ft (0.91 m) (1 watt input)
Voice Coil:	¾" (19.1 mm) diameter
Depth:	2.75" (70 mm)
SPL:	95 dB at 3.3 ft (1 m)
Microphone:	
Type:	Omni Directional
Sensitivity:	-42 db (+/- 3dB)
Frequency:	20 Hz - 20 kHz
S/N Ratio:	60 dBA
Indicators:	
Front Panel:	Status
Internal:	Network Connection Status, Activity Status
Relays:	3 Switched Power from Auxiliary Power Input, Strobe, Siren
Contact Format:	DPDT
Contact Rating:	1 A @ 30 VDC or 0.3 A @ 125 VAC
Termination:	0.100 IDC
Switching Capacity:	1 A
Station Terminations:	RJ45 network connector
Wiring Requirements:	CAT5 or higher
Environment Requirements:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing
Baffle:	Round or square, one-step contour
Finish:	White, semi-gloss epoxy
Material:	22 gauge, cold-rolled steel
Size:	12.75" (32.5 cm) diameter, 3.75" (9.5 cm) deep
Weight:	1.25 lbs (0.6 kg)
Compliance:	TUV-SUD Listed to UL62368-1 Standard

CAN ICES-3 (A)/NMB-3(A)

H10 SPECIFICATIONS

Type:	Circular, recessed enclosure
Finish:	Rust-preventative, grey, satin coating
Material:	22 gauge, cold-rolled steel
Size:	12” (30.5 cm) diameter flange, 10” (25.4 cm) body, 4" (10.2cm) deep
Weight:	2.5lbs (1.3 kg)

CC1 SPECIFICATIONS

Quantity:	1 pair per enclosure
Finish:	Rust-preventative, grey, satin coating
Material:	22 gauge, cold-rolled steel
Size:	23.75" (60.3 cm) L x 0.75" (1.9 cm) W x 0.5" (1.3 cm) deep
Weight:	0.6 lbs (0.3 kg)

H20 SPECIFICATIONS

Type:	Square, recessed enclosure
Finish:	Rust preventative, grey, satin coating
Material:	22 gauge, cold-rolled steel
Size:	11.8” (30 cm) square, 4” (10.2 cm) deep
Weight:	3.5 lbs (1.6 kg)

SH20-SB SPECIFICATIONS

Type:	Square, surface enclosure
Finish:	White, semi-gloss epoxy
Material:	18 gauge, cold-rolled steel
Size:	12.8” (32.5 cm) square, 4” (10.2 cm) deep
Weight:	4 lbs (1.8 kg)

PARTIAL LIST OF ASSOCIATED EQUIPMENT

H10	Round Recessed Enclosure
CC1	Channel Support
H20	Square Recessed Enclosure
SH20-SB	Square Surface Enclosure
B11	Round Speaker Baffle
S8TB2570	Speaker Transformer Assembly
eCS-1	Call Station with Privacy
eCS-2	Call Station with Do Not Disturb
eCS-3	Emergency Call Station
eCS-4	Volume Control and Public Channel Select Call Station
eCS-5	Volume Control and Public Channel Select Station
eCS-6	Call Station
e300-MA	eConsole
ePORT-MC	Management Interface

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telecor™
eSeries

eSBM-TB
Speaker Breakout Module

FEATURES

- Enables intercom and paging between eSeries network and a variety of speaker options
- Operates as a single zone paging adapter
- Connects to eSeries eSTB-12 2x2 Ceiling Inlay Speaker and network switch with standard CAT5 Cables
- 8Ω/25V/70V speaker and line level outputs for alternate speaker configurations
- Function based and digitally controlled volume
- Powered by Power-over-Ethernet (PoE)
- Features Just Plug It In!™ design
- True digital network endpoint solution
- Requires no IP address, DHCP server, subnet, or mask configuration
- No head end, central server or controller equipment required
- Extremely low latency
- Extremely fast all station audio connect times
- Non-blocking audio between speaker and consoles via LAN
- Integrates with eSeries eCS Call Stations; supports Privacy or Do Not Disturb Mode, and separate Emergency Call Station
- Audible and visual call-in assurance from eCS Call Stations
- Supports normal and emergency call-ins from simple pushbutton call switches
- Fully supervised and monitored for network connectivity
- Station status LED
- Supports auxiliary functions (door release, siren, strobe)
- Advanced features configurable using ePORT
- Firmware upgradable over LAN

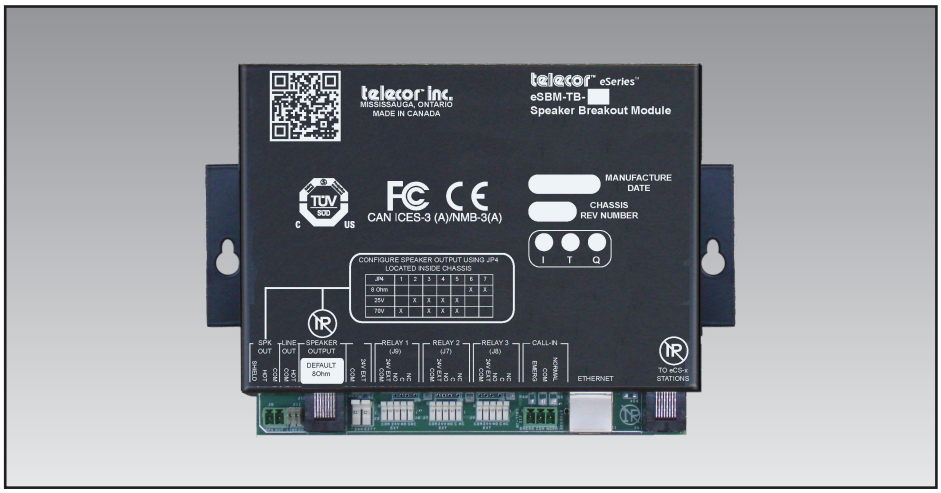
Just Plug It In™ HD Audio™ POE

TUV SUD C US

DESCRIPTION

The eSeries eSBM-TB Speaker Breakout Module provides the means of integrating traditional analog speakers and call initiating devices to the eSeries System. The module is also a Single Zone Paging Adapter that can drive an amplifier to provide paging coverage in a facility. The eSBM-TB features 3 relay outputs that can activate automatically during a call processing operation.

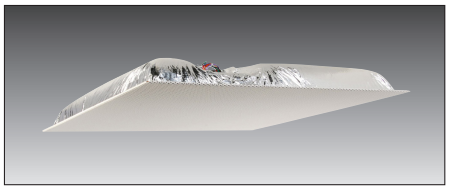
The eSBM-TB uses Power-over-Ethernet technology, Just Plug It In!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Power-over-Ethernet technology allows the eSBM-TB to be plugged into a PoE network switch to supply both power and data. The simplicity of Telecor's Just Plug It In!™ design means the eSBM-TB does not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server or controller equipment is required to operate the network. Once plugged into the LAN, the eSBM-TB is immediately functional.



eSBM-TB Speaker Breakout Module

Telecor's eSeries technology provides extremely low-latency audio for exceptional performance during paging and live audio playback. It also provides extremely fast all station audio connect times when performing all-call pages throughout the network. Audio between stations and consoles is non-blocking, allowing a virtually unlimited number of audio channels across the LAN and reducing or eliminating busy signals.

The eSBM-TB is suitable for a variety of audio applications. It can connected to conventional 8Ω/25V/70V speakers to provide paging and talkback operation from eSeries e300 eConsoles or phones via an eSIP and an IP-PBX.



eSTB-12 CEILING INLAY SPEAKER

The eSBM-TB is ideal for use with Telecor's eSTB-12 2x2 Ceiling Inlay Speaker, which connects to the eSBM-TB via a standard CAT5 cable. The eSTB-12 is a factory-assembled 8" speaker that is housed within a combination baffle and backbox designed to fit 24" wide tiles common in suspended ceilings.

The volume of the speakers can be adjusted individually, by zone, or across the entire eSeries network via the ePort Management Interface or eCI Control Interface. Volume controls incorporated into certain eCS station models also allow a user to adjust the speaker volume locally. Volume levels can be set by specific functions: intercom, paging, emergency paging, and Public Channel operations.

Call-in capabilities can be provided with addition of any of Telecor's eSeries Call Stations. The eCS-6 and eCS-3 are used to initiate Normal and Emergency calls respectively. Also available are advanced stations that provide additional features: the eCS-1 (Privacy and Normal Call), eCS-2 (Do Not Disturb and Normal Call), eCS-4 (Volume Control, Public Channel Select and Normal Call) and eCS-5 (Volume Control and Public Channel Select). All eCS Call Stations also provide "message waiting" indication.

The eSBM-TB also supports placing normal and emergency priority call-ins from simple pushbutton call switches. The normal call switch can be pressed once to place a normal call-in, and either pressed three times quickly or pressed and held for three seconds to place an emergency call-in. The emergency switch can be pressed once to place an emergency call-in.

eCS CALL STATIONS

The eSBM-TB can be configured to direct normal and emergency call-ins to different devices. If the device that is configured to receive the call-in loses network connectivity, the eSBM-TB will automatically search for an alternate destination. If no other suitable call-in destinations exist, the eSBM-TB will audibly and visually indicate a fault.

The eSBM-TB Module can be used as a Single Zone Paging Adapter enabling paging and Public Channel audio to be broadcast to a group of loudspeakers. The built in 4 watt audio amplifier can drive up to 4 watts of audio to a small zone of 8 ohm or 25/70 volt loudspeakers. In applications where the speaker zone load exceeds 4 watts, a line level audio output is provided that can connect to an external power amplifier.

The eSBM-TB is monitored for network connectivity. If the eSBM-TB's network connection is lost, targeted e300 eConsoles will report that station as absent and display its dial number. When the eSBM-TB is used with eCS Call Stations, the eSBM-TB also provides full supervision and monitoring for Call Station and call-in destination connectivity. If a wiring fault is detected between an eCS Call Station and the eSBM-TB, the eSBM-TB will audibly and visually indicate the error.

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The status LEDs on the eSBM-TB and Call Stations will pulse to indicate a trouble condition. The ePort or eLog logs the location, time, date and type of fault. The ePort, eLog, eCI and eAmplifiers can also generate an alarm tone.

The eSBM-TB features a status LED that flashes in different patterns to indicate normal operation, call-in assurance, message waiting, a call or paging audio in progress, or to indicate an error.

The eSBM-TB Module is equipped with three control relays that can be used to operate auxiliary devices such as strobe lights, tone initiating devices and door locks. The relays have the following operating characteristics:

Relay 1 has four programmable modes associated with non-emergency call processing and paging:

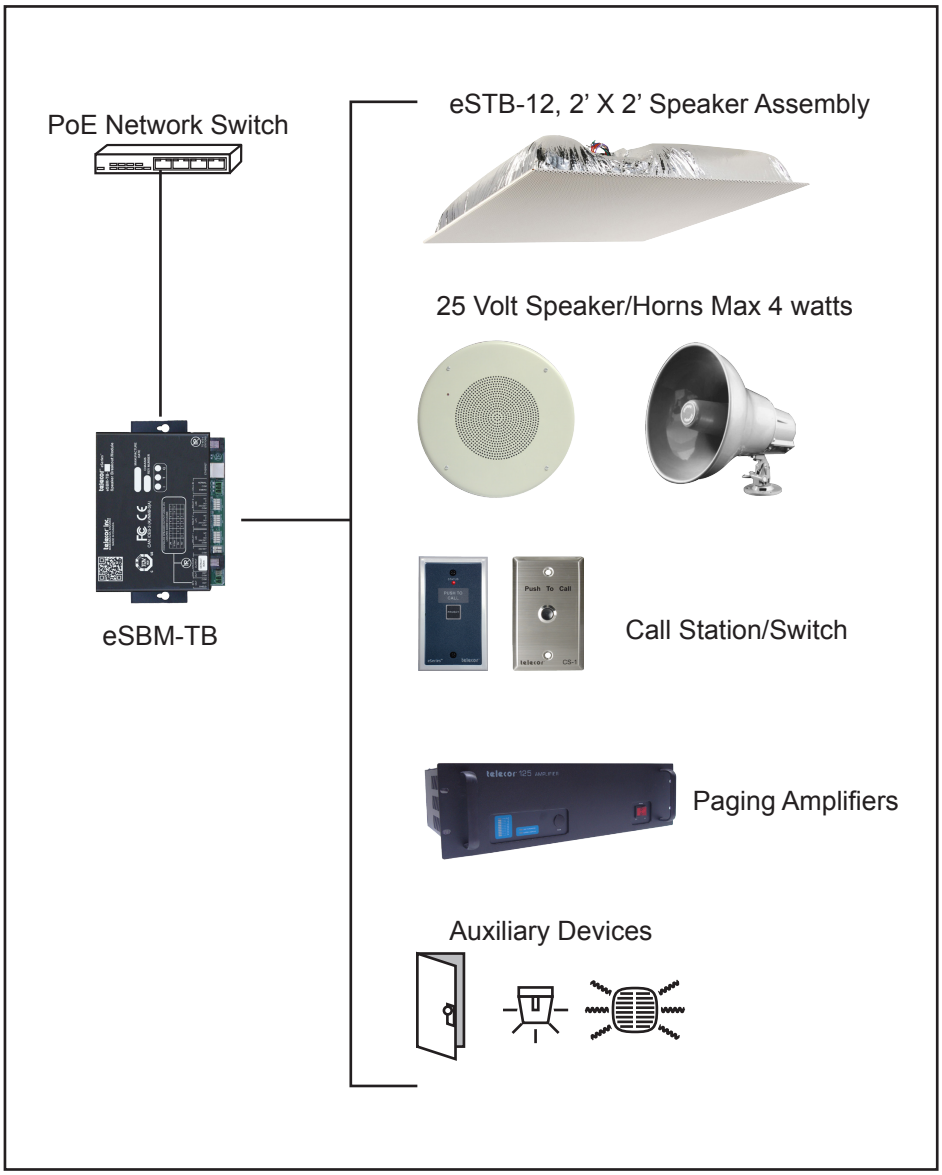
1. Door Mode: During an IC call can be activated from the e300 eConsole keypad
2. Call-In Mode: Activates when a call is initiated from the Module and deactivates when the call is answered.
3. Call Mode: Activates when call is initiated, and maintained until the call is completed.
4. Audio Received Mode: Activates when Module receives intercom or page audio.

Operation of Relays 2 & 3 are associated with Emergency level Call processing and paging:

Relay 2 activates when an Emergency level Call is initiated from the Module and deactivates when the call is answered.

Relay 3 activates when an Emergency level Call is initiated from the Module and deactivates when the call is answered. It will also energize whenever an Emergency page or Emergency level textual message is broadcast to the Module.

The eSBM-TB is designed to be wall-mounted using the attached mounting brackets.



eSBM-TB SPECIFICATIONS

Power Source:	Power-over-Ethernet IEE 802.3af compliant
PoE Power Required:	Class 0, 11.5 W
Network Interface:	RJ45 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Audio Format:	G.711.1 (wideband), Bandwidth of 50 Hz - 7 kHz @ 128 kbits/s (µLaw, 16 kHz sampling rate)
Audio Latency:	Typical 0.1 s
Max Audio Output:	4 watts
Connect Times:	
Paging:	0.01 s typical for 500 stations
Indicators:	
Front Panel:	Status
Internal:	Network Connection Status, Activity Status
Relays:	3 Switched Power from Auxiliary Power Input, Strobe, Siren
Contact Format:	DPDT
Contact Rating:	1 A @ 30 VDC
Termination:	0.100" IDC
Switching Capacity:	1 A

Terminations to Speaker	
eSeries:	RJ45 network connector
non-eSeries:	Plug in Screw Connectors
line level:	2-pin 0.100" IDC
Terminations to Call Stations/Switches:	
eSeries:	RJ45 network connector
non-eSeries:	Plug in Screw Connectors
Wiring Requirements:	
eSeries:	CAT5 or higher
Environmental Req's:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing
Dimensions:	4" L x 4.5" W x 1.5" H (10.2 cm x 11.4 cm x 3.8 cm)
Weight:	1.7 lbs (750 g)
Compliance:	UL/IEC/CAN/CSA-C22.2 No. 62368-1 EN 55032/CISPR 32 & EN 55024/CISPR 24 FCC Part 15 Subpart B ICES-003

CAN ICES-3 (A)/NMB-3(A)

PARTIAL LIST OF ASSOCIATED EQUIPMENT

eSTB-12	Ceiling Speaker Assembly
eCS-1	Call Station with Privacy
eCS-2	Call Station with Do Not Disturb
eCS-3	Emergency Call Station
eCS-4	Volume Control and Public Channel Select Call Station
eCS-5	Volume Control and Public Channel Select Station
eCS-6	Call Station
SI-60, SI-125, SI-250	Paging Amplifiers
e300	eConsole
ePORT	Management Interface

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Accessories

STB-5
Speaker/Transformer/Baffle Assembly

FEATURES

- Factory pre-assembled for reduced installation time
- 12" x 24" flush ceiling mounting
- 8" 12W speaker for excellent sound quality
- Mar-resistant, white epoxy finish
- Dual 25/70 volt transformer

DESCRIPTION

The Telecor STB-5 is a cost-effective 8", 12W speaker housed within a 12" x 24" baffle assembly designed to be installed flush in a suspended ceiling. The speaker has a wide frequency response for general purpose voice and music reproduction.

The assembly consists of an 8" cone loudspeaker, equipped with a dual 25/70 volt line-matching transformer, pre-assembled into a 12" x 24" rectangular perforated steel baffle and combination backbox. The transformer features primary taps at 5, 2.5, 1.25, 0.63, and 0.32 watts. The baffle is finished in a mar-resistant, white epoxy coating.

The STB-5 is designed to be installed in a suspended ceiling. Installation is simplified by the 12" x 24" rectangular shape designed to compliment common 24" x 24" and 24" x 48" ceiling tiles. Space in the ceiling can be made for the assembly by cutting a 24" by 24" tile in half or by removing a 12" x 24" section from a 24"' x 48" tile. The assembly includes a 24" white T-bar used to finish the edge where the cut ceiling tile meets the assembly. Tie off tabs allow the assembly to be attached to the building structure or ceiling grid, securing the assembly to address any safety concerns.

STB-5 SPEAKER ASSEMBLY SPECIFICATIONS

BAFFLE:

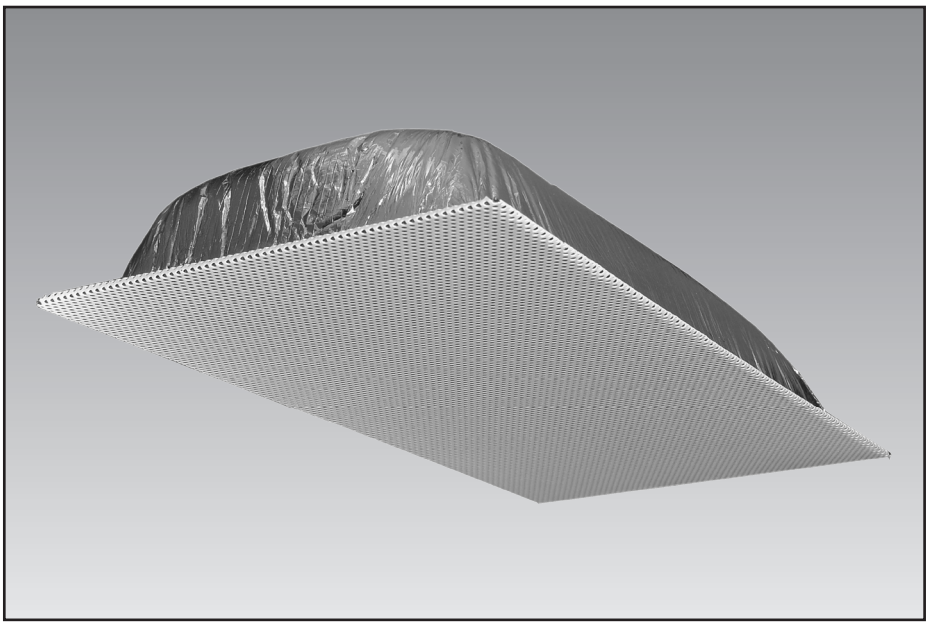
Type:	Rectangular
Finish:	White, epoxy
Material:	22 gauge cold-rolled steel
Size:	23-3/4" W x 11-3/4" L x 3-3/8" D 60.6 cm x 29.8 cm x 8.6 cm
Weight:	4 lbs, 14oz (2.2 kg)

CONE SPEAKER:

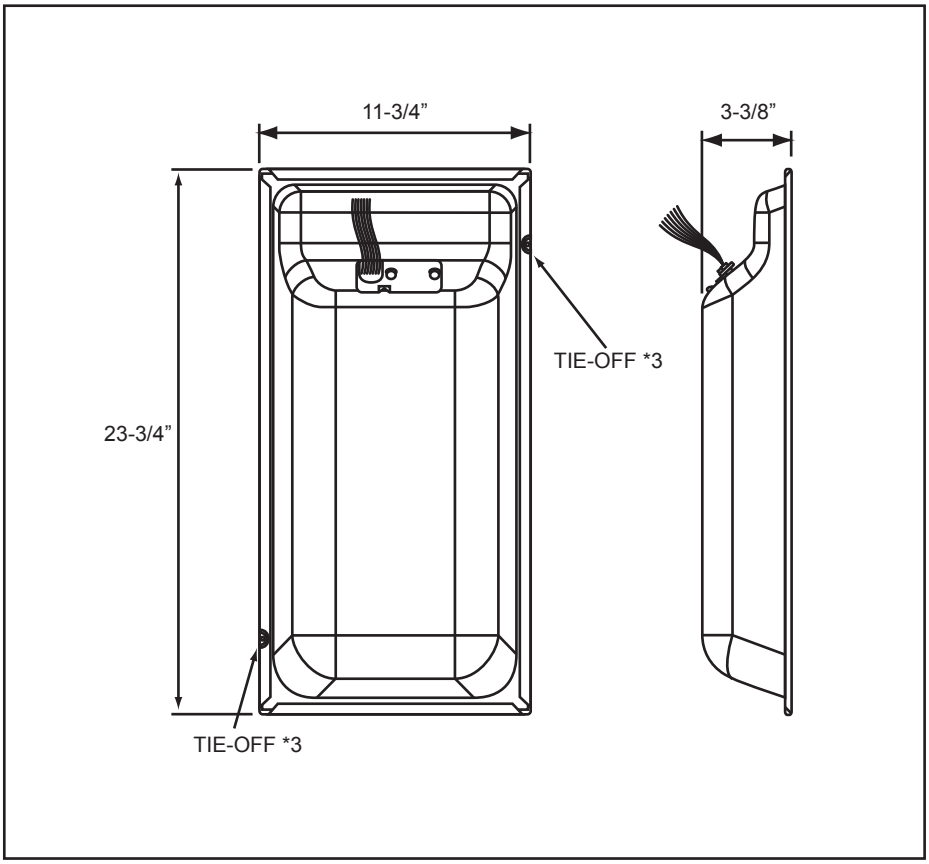
Speaker Diameter:	8"
Power Rating:	12 watts
Frequency Range:	65 to 17,000 Hz
Magnet:	5 oz
Axial Sensitivity:	92 db @ 1 m (1 watt input)

TRANSFORMER:

Type:	Dual voltage (25/70 volt)
Power Rating:	5 watts
Frequency Response:	65 to 17,000 Hz
Primary Taps:	5, 2.5, 1.25, 0.63, and 0.32 watts
Secondary Impedance:	8 Ohms
Connection:	7” long labeled, tinned wires, pre-cut



STB-5 Speaker/Transformer/Baffle Assembly



STB-5 Dimensions

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Accessories

STB-10
Speaker/Transformer/Baffle Assembly

FEATURES

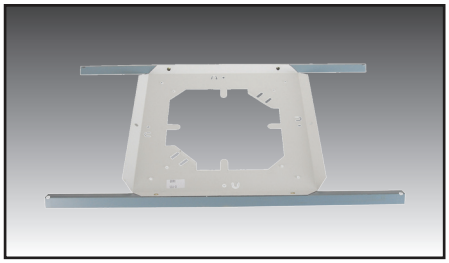
- Factory Preassembled
- Reduces Installation Time
- Dual 25/70 volt Transformer
- Accessory Support Bridge Available

DESCRIPTION

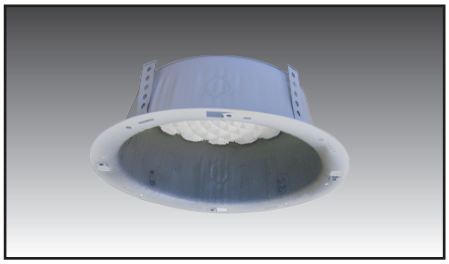
The Telecor STB-10 is a cost-effective 8" speaker/transformer/baffle control assembly that has a wide frequency response for general purpose voice and music reproduction.

The assembly consists of an 8" cone loudspeaker, equipped with a dual 25/70 volt line-matching transformer, preassembled onto a round baffle. The transformer features color-coded primary taps at 5/16, 5/8, 1-1/4, 2-1/2, and 5 watts. Secondary leads are soldered to the speaker terminals. The baffle is finished in a mar-resistant, white, epoxy coating.

The STB-10 is designed to be installed into suspended ceilings, in conjunction with a T7 support bridge. The support bridge prevents ceiling tile sag by distributing the weight of the speaker assembly to the overhead T-bar support members. The speaker assembly is screw-mounted onto the support bridge. In applications where a protective enclosure is required, a model H7 enclosure can be fastened to the support bridge prior to installation of the speaker assembly into the ceiling.



T7 Support Bridge



H7 Enclosure

The H7 is a round stackable steel loudspeaker enclosure with 4 welded tie off straps. It is designed for convenient attachment of the H7 to the T7 Support Bridge. The H7 enclosure includes a circular molded polystyrene damping pad fitted to the inside top of the enclosure to prevent acoustical and mechanical resonances. The surface of the pad is custom molded utilizing a triangular pattern for enhancing low frequencies, optimizing the audio response of the enclosure.

ARCHITECT'S & ENGINEER'S SPECIFICATIONS

The loudspeaker/transformer/baffle assembly shall be a Telecor model STB-10 or approved equal. The loudspeaker size shall be 8 inches in diameter and have a power handling capacity of 15 watts. The voice coil shall be of high-temperature bonded construction, be one inch in diameter and have an impedance of 8 ohms. The speaker shall have a frequency range of at least 65 Hz to 17,000 Hz and an axial sensitivity of 92dB at 1 m, with a 1 watt input signal @ 1000 Hz.

The loudspeaker shall be equipped with a factory wired 25/70 volt line-matching transformer. The transformer shall have the primary taps at 5/16, 5/8, 1-1/4, 2-1/2, and 5 watts. The insertion loss shall be no greater than 1.0 dB. The transformer shall be mounted to the speaker with the secondary leads soldered to the speaker terminals.

The assembly shall include a baffle constructed of 22 gauge, cold-rolled steel finished with a mar-resistant white, semi-gloss, epoxy coating. The baffle shall have a diameter of 13". The STB-10 shall mount to a T7 support bridge, used to attach the assembly to suspended ceilings.

The support bridge shall accept an optional enclosure, model H7, for applications where a protective enclosure is required. The H7 enclosure shall attach to the support bridge with appropriate mounting screws.

The enclosure shall be a Telecor H7 or approved equal. A circular molded polystyrene damping pad shall be fitted to the inside top of the enclosure to prevent acoustical and mechanical resonances. The pad's surface shall be molded with a triangular pattern for enhancing low frequencies and shall optimize the audio response of the enclosure.

STB-10 SPECIFICATIONS

Weight:	2.5 lbs
BAFFLE:	
Type:	Round, two-step contour
Finish:	White, semi-gloss epoxy
Material:	22 gauge CRS
CONE SPEAKER:	
Speaker Dia.:	8"
Power Rating:	15 watts
Freq. Range:	65 Hz to 15,000 Hz
Magnet:	6 oz
Axial Sens.:	92 dB @ 1 m (1 watt input)
TRANSFORMER:	
Type:	Dual voltage (25/70 volt)
Power Rating:	5 watts
Freq. Response:	65 to 17,000 Hz
Primary Taps:	25 volt / 70 volt
Secondary Taps:	5, 2-1/2, 1-1/4, 5/8, and 5/16 watt
Prim. Impedance:	
25 volt:	125, 245, 500, 1000, 2000 Ohms
70 volt:	980, 1960, 3920, 7778, 15313 Ohms
Sec. Impedance:	8
Terminations:	4" colour-coded leads

PARTIAL LIST OF ASSOCIATED EQUIPMENT

T7	Support Bridge
H7	Enclosure

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Rev: 1.2
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ETS-1156
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telecor™

Accessories

STB-12

Speaker/Transformer/Baffle Assembly

FEATURES

- Factory pre-assembled for reduced installation time
- 24” by 24” flush ceiling mounting
- 8" 12W speaker for excellent sound quality
- Mar-resistant, white epoxy finish
- Dual 25/70 volt transformers

DESCRIPTION

The Telecor STB-12 is a cost-effective 8", 12W speaker housed within a 24" x 24" baffle assembly designed to be installed flush in a suspended ceiling. The speaker has a wide frequency response for general purpose voice and music reproduction.

The assembly consists of an 8" cone loudspeaker, equipped with a dual 25/70 volt line-matching transformer, pre-assembled into a 24" x 24" square perforated steel baffle and combination backbox. The transformer features primary taps at 5, 2.5, 1.25, 0.63, and 0.32 watts. The baffle is finished in a mar-resistant, white epoxy coating.

The STB-12 is designed to be installed in a suspended ceiling. Installation is quick and simple as the 24" x 24" is designed to fit into a common 2 foot square ceiling grid. Tie off tabs allow the assembly to be secured to the building structure or ceiling grid to address any safety concerns.

STB-12 SPEAKER ASSEMBLY SPECIFICATIONS

BAFFLE:

Type:	Square
Finish:	White, epoxy
Material:	22 gauge cold-rolled steel
Size:	23-3/4" W x 23-3/4" L x 3-3/8" D (60.3 cm x 60.3 cm x 8.6 cm)
Weight:	6 lbs, 14 oz (2.8 kg)

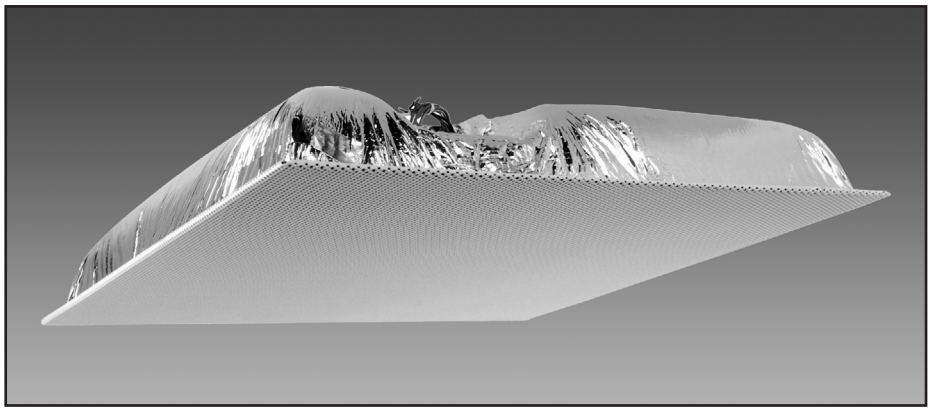
CONE SPEAKER:

Speaker Diameter:	8"
Power Rating:	12 watts
Frequency Range:	65 to 17,000 Hz
Magnet:	5 oz
Axial Sensitivity:	93 db @ 1 m (1 watt input)

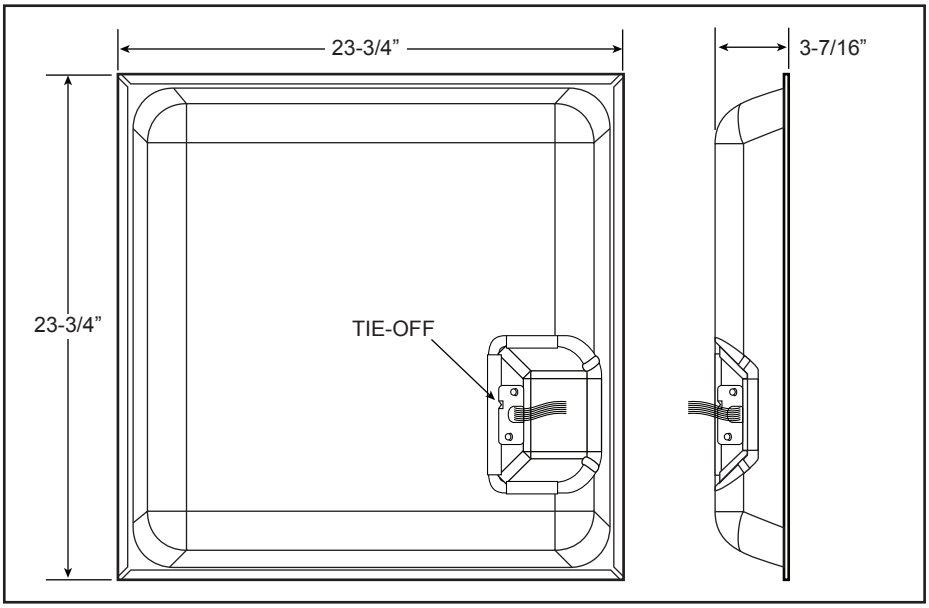
TRANSFORMER:

Type:	Dual voltage (25/70 volt)
Power Rating:	5 watts
Frequency Response:	65 to 17,000 Hz
Primary Taps:	5, 2.5, 1.25, 0.63, and 0.32 watts
Secondary Impedance:	8 Ohms

All product information subject to change without notice.



STB-12 Speaker/Transformer/Baffle Assembly



STB-12 Dimensions

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In Canada (Corporate): 6205 Kestrel Road; Mississauga, Ontario; L5T 2A1; Phone: (905) 564-0801 Fax: (905) 564-0806

Rev: 0.1
ETS-1155
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FEATURES

- Moisture-resistant 8-inch driver
- Excellent reproduction of music and voice audio
- Wide frequency range
- Low mounting profile

DESCRIPTION

The Telecor S8 8” Loudspeaker assembly is designed for use in a wide variety of sound distribution and communication systems. It is excellent for music and voice reproduction as it exhibits exceptional voice transmission characteristics.

The S8 is rated at 10 watts power handling with a frequency response range of 50 Hz to 17 Khz. The unit is equipped with a 5 oz magnet and a 1” diameter copper voice coil. The loudspeaker has a sensitivity of 95 dB and a dispersion angle of 105 degrees.

S8 Eight Inch Loudspeaker

S8 SPECIFICATIONS

Speaker Diameter:	8” (203 mm)
Power Rating:	10 watts
Frequency Range:	50 Hz to 17 Khz
Magnet:	5 oz
Voice Coil Impedence:	8 ohms
Axial Sensitivity:	95 db @ 4ft (1 watt input)
Depth:	2 3/4" (70 mm)
Mounting holes:	4 holes @ 90 degrees 7 5/8” d (19.4 cm)

PARTIAL LIST OF ASSOCIATED EQUIPMENT

e365-TB-STB-MA	Message Display/Calendar Clock
B11	Round Speaker Baffle
B25	Square Speaker Baffle
H10	Round Recessed Enclosure
H20	Square Recessed Enclosure
SH20-SB	Square Surface Enclosure
SH20	Square Surface Mounting Frame
CC1	Channel Supports

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Printed in Canada

STB-16 Vandal Resistant Horn

A-15T Re-Entrant Horn Loudspeaker

A-30T Re-Entrant Horn Loudspeaker

telecor™

Accessories

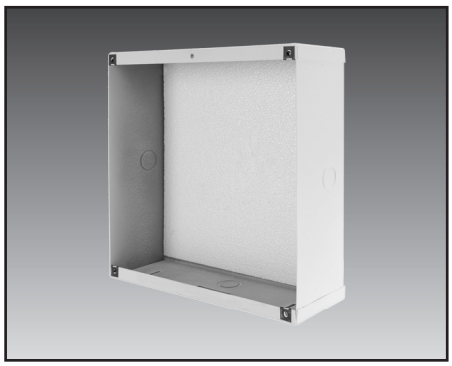
STB-16
Vandal Resistant Horn

FEATURES

- 16 gauge steel baffle
- Includes tamper-proof mounting hardware
- Mar-proof epoxy powder coat finish
- 16 watt compression loudspeaker

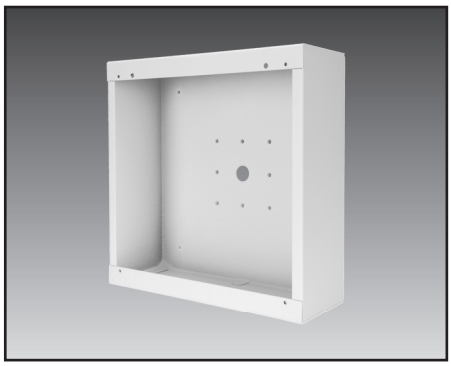
DESCRIPTION

The Telecor STB-16 is a vandal-resistant loudspeaker assembly that utilizes a double re-entrant horn compression type loudspeaker. It is recommended for use in speaker installations where the environment dictates the use of vandal-proof devices. These are weatherproof units that are designed for outdoor installation. They are capable of delivering 16 watts of continuous power and include an integral 25/70 volt line-matching transformer. The transformer features color-coded primary taps at 16, 8, 4, 2, and 1 watts. The nominal frequency range is 350 Hz to 10 kHz, with a sensitivity of 96 dB SPL (1 watt/1 meter).



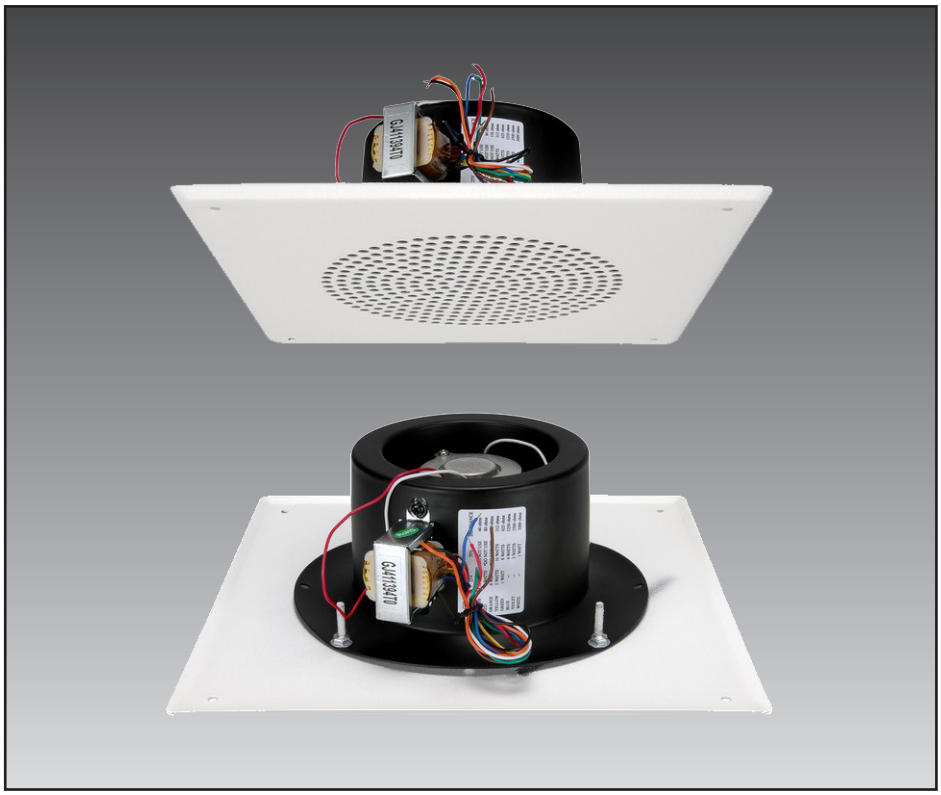
H16 Recessed Back Box

The loudspeaker is assembled onto a 16 gauge steel baffle that incorporates a unique interwoven steel security screen for maximum speaker protection while remaining acoustically transparent. This prevents any object from penetrating the loudspeaker. The baffle is finished in a powder epoxy coating that provides a resilient surface suitable for harsh environments. The STB-16 is secured to the backbox with “pin-in-torx” tamper-proof screws, which are included with the unit.



SH-16 Surface Back Box

The STB-16 is suitable for flush mounting using the H16 Recessed Back Box. Alternatively, surface installations can be accommodated using the SH-16 Surface Enclosure.



STB-16 Vandal Resistant Horn

STB-16 VANDAL-RESISTANT HORN SPECIFICATIONS

Frequency Response:	350 Hz - 10 kHz
Power Rating:	16 watts RMS
Sensitivity:	96 dB SPL, 1 watt @ 1 m
Max Output:	108 dB SPL 16 watt @ 1 m
Dispersion Angle:	90 degrees
Transformer:	25/70 volt, 16 watt
Transformer Taps:	1, 2,4, 8, and 16 watt
Finish:	White powder coat epoxy
Dimensions:	11 1/2” square x 3 11/16” deep
Weight:	6.2 lbs (2.8 kg)

H16 RECESSED BACK BOX

Type:	Square, recessed enclosure
Material:	22 gauge cold rolled steel
Finish:	White powder coat
Size:	10 3/4” square x 3 3/4” deep (27.3 cm x 9.53 cm)
Weight:	3.5 lbs (1.6 kg)

SH-16 SURFACE BACK BOX

Type:	Square, surface enclosure
Material:	16 gauge cold rolled steel
Finish:	White powder coat
Size:	11 5/8” square x 4” deep (29.53 cm x 10.16 cm)
Weight:	6.6 lbs (3 kg)

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Rev: 0.0
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ETS-1161
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Accessories

A-15T
Re-Entrant Horn/Loudspeaker

FEATURES

- Weatherproof Metal Construction
- 15 Watt Power Rating
- Excellent Speech Intelligibility
- Versatile 25/70 Volt Variable Tap Transformer
- Universal Mounting Bracket

DESCRIPTION

The Telecor A-15T Horn/Loudspeaker is a double re-entrant type device that provides excellent speech intelligibility and efficiency. It is ideal for medium power public address, intercom and security applications. The horn is weather-resistant and suitable for both indoor and outdoor installation.

The A-15T is equipped with a compression driver capable of delivering 15 watts of continuous power. The nominal frequency range is 375-14,000 Hz with a sensitivity of 110 dB at 1 watt. A dual 25/70 volt line matching transformer with a screwdriver-adjustable impedance selector switch provides for a versatile means of power selection.

A universal mounting bracket allows the horn to be positioned both in the vertical and horizontal planes with a single adjustment. The horn employs all metal construction and is finished in a grey epoxy coating.

ARCHITECT'S & ENGINEER'S SPECIFICATIONS

The loudspeaker shall be a Telecor model A-15T or approved equal. It shall be a double re-entrant type, with a flared bell and an integral compression driver rated for 15 watts of continues audio power. The frequency response shall be 375 -14,000Hz. Nominal sensitivity shall be such that a sound pressure level of 110 dB at 1000 Hz (on axis) at distance of one meter is produced with an input of one watt. Sound dispersion shall be no less than 100 degrees, regardless of the mounting position.

The horn shall contain a weatherproof, built-in, 25/70 volt line matching transformer. Power taps shall be at 0.48, 0.94, 1.8, 7.5 or 15 watts for a 25V line and 1, 2, 3.8, 7.5 or 15 watts for a 70 V line. The power taps shall be screwdriver adjustable. Impedance selection shall be 5,000, 2500, 1300, 666, 333, 87, or 45 ohms.

The unit shall include a die-cast universal mounting bracket, allowing the horn to be positioned both in the vertical and horizontal planes with a single adjustment.
The wiring terminals and the screwdriver power tap shall be enclosed by a clear plastic cover for security and weather protection. The horn shall be finished in a grey epoxy. Dimensions shall be 9 1/4" deep with a diameter of 8".

A-15T HORN/LOUDSPEAKER SPECIFICATIONS

Freq. Response:	375 -14,000 Hz	
Power Capacity:	15 watts continuous	
Sensitivity:	110 dB @ 1000 Hz (1 watt at 1 meter)	
Dispersion Angle:	100 degrees (radius)	
Mounting:	Universal bracket, Adjustable (horizontal & vertical with a single adjustment)	
Finish:	Grey baked epoxy	
Weight:	4 lbs	
Dimensions:	9 1/4" deep, 8" bell diameter	
Power Taps:	25 V:	0.48, 0.94, 1.8, 7.5, and 15 W
	70 V:	1, 2, 3.8, 7.5, and 15 W

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ETS-1138
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telecor™

Accessories

A-30T
Re-Entrant Horn/Loudspeaker

FEATURES

- Weatherproof Metal Construction
- 30 Watt Power Rating
- Excellent Speech Intelligibility
- Versatile 25/70 Volt Variable Tap Transformer
- Universal Mounting Bracket

DESCRIPTION

The Telecor A-30T Horn/Loudspeaker is a double re-entrant type device that provides excellent speech intelligibility and efficiency. It is ideal for high power public address, intercom and security applications. The horn is weather-resistant and suitable for both indoor and outdoor installation.

The A-30T is equipped with a compression driver capable of delivering 30 watts of continuous power. The nominal frequency range is 275-14,000 Hz with a sensitivity of 115 dB at 1 watt. A dual 25/70 volt line matching transformer with a screwdriver-adjustable impedance selector switch provides for a versatile means of power selection.

A universal mounting bracket allows the horn to be positioned both in the vertical and horizontal planes with a single adjustment. The horn employs all metal construction and is finished in a grey epoxy coating.

ARCHITECT'S & ENGINEER'S SPECIFICATIONS

The loudspeaker shall be a Telecor model A-30T or approved equal. It shall be a double re-entrant type, with a flared bell and an integral compression driver rated for 30 watts of continues audio power. The frequency response shall be 275 -14,000Hz. Nominal sensitivity shall be such that a sound pressure level of 115 dB at 1000 Hz (on axis) at distance of one meter is produced with an input of one watt. Sound dispersion shall be no less than 90 degrees, regardless of the mounting position.

The horn shall contain a weatherproof, built-in, 25/70 volt line matching transformer. Power taps shall be at 0.94, 1.8, 7.5, 15 watts for a 25V line and 2, 3.8, 7.5, 15 or 30 watts for a 70 V line. The power taps shall be screwdriver adjustable. Impedance selection shall be 5,000, 2500, 1300, 666, 333, 168, 87, or 45 ohms.

The unit shall include a die-cast universal mounting bracket, allowing the horn to be positioned both in the vertical and horizontal planes with a single adjustment.

The wiring terminals and the screwdriver power tap shall be enclosed by a clear plastic cover for security and weather protection. The horn shall be finished in a grey epoxy. Dimensions shall be 10 ½" deep with a diameter of 10".

A-30T HORN/LOUDSPEAKER SPECIFICATIONS

Freq. Response:	275-14,000 Hz
Power Capacity:	30 watts continuous
Sensitivity:	115 dB @ 1000 Hz (1 watt at 1 meter)
Dispersion Angle:	90 degrees (radius)
Mounting:	Universal bracket, Adjustable (horizontal & vertical with a single adjustment)
Finish:	Grey baked epoxy
Weight:	5 lbs
Dimensions:	10 ½" deep, 10" bell diameter
Power Taps:	25 V: 0.94, 1.8, 7.5, 15 W 70 V: 2, 3.8, 7.5, 15, and 30 W

PARTIAL LIST OF ASSOCIATED EQUIPMENT

All Telecor Communication Systems

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Paging Amplifiers and Accessories

eAMP Ethernet 25W Amplifier

TTM-RMK Rack Mount Kit

SI-60 60W Amplifier

SI-125 125W Amplifier

SI-250 250W Amplifier

telecor™
eSeries

eAMP(-MA)
Ethernet 25W Amplifier

FEATURES

- Adds conventional speaker paging and public address to eSeries Intercom System
- Receives Audio Signals Over LAN
- Features Just Plug It In!™ design
- No head end, central server or controller equipment required
- Requires no IP address, DHCP server, subnet, or mask configuration
- Two microphone/line level audio inputs
- Four contact inputs for manual tone or audio file (alert) playback control
- Audio input can be configured as a Public Channel and made available across network*
- Audio Level and Status Indicators
- 25V/70V/8Ω audio output
- One line level audio output with automatic contact closure queuing
- Supports external supplemental audio amplifier for higher loads
- Crystal clear HD Audio™ speech quality
- Non-blocking audio via LAN
- Advanced features configurable using ePORT
- Firmware upgradable over LAN
- Supports fault monitoring*
- Supports companion text/coded messages and countdown or count-up timers for alerts*
- Extremely low latency
- Extremely fast all station audio connect times
- Class-D design, optimized for high efficiency
- Short-circuit and overload protected

*Latest feature in eSeries V1.1

Just Plug It In™
HD Audio™

DESCRIPTION

The eAMP(-MA) is a 25 watt amplifier that adds paging and public address capabilities to the eSeries Intercom System. It is designed to receive audio signals from either the eSeries network or a local input and broadcast them over conventional speakers and/or back into the eSeries network for broadcast to other eSeries devices. It also has the ability to store and play pre-recorded alerts or tones to its speakers or over other eSeries devices connected to the network. Each eAMP(-MA) is intended to provide one zone of paging. For larger applications, multiple eAMP(-MA)s can work co-operatively on the network to support a comprehensive zone paging system.

The Telecor eSeries uses Ethernet technology, Just Plug It In!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Ethernet technology allows the eAMP(-MA) to be plugged into a network switch to transmit and receive data. The simplicity of Telecor's Just Plug It In!™ design means the eAMP(-MA) does not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server or controller equipment is required. Once plugged into the LAN and supplied with power, the eAMP(-MA) is immediately functional.

The eAMP(-MA) has two audio inputs. Each input can be independently configured for either a microphone or a line-level input such as a radio or tuner. Each audio input has 2 control inputs that allow the eAMP(-MA) to select up to three speaker zones to broadcast live or pre-recorded announcements. Zones can consist of local speakers that connect to the eAMP(-MA) as well as eSeries speakers that reside on the eSeries network.

The eAMP(-MA) can store up to four pre-recorded announcements and up to16 pre-programmed tones. These can be activated for playback by contact closures, e300-MA eConsoles, and VoIP telephones via eSIP integration. The eAMP(-MA) also has four tone/alert control lines. When one of these lines is activated, it will play a pre-recorded alert or tone.

The ePORT is also used to upload pre-recorded alert files to the eAMP(-MA). Alert messages can also include accompanying text messages and countdown or count-up timers. Text messages will be sent to e365-TB-MA, e2443-MA and e300-MA eConsoles in the same zone as the audio alert. Associated countdown or count-up timers will be displayed in the clock portion of e365-TB-MA and e2443-MA displays in the zone.

The microphone inputs are prioritized above the other inputs, with the first microphone input over the second. If a pre-recorded alert or tone is pre-empted, it will be replayed once the higher priority broadcast finishes.

The eAMP(-MA) allows an audio source to be configured as a Public Channel. Stations on the network that are tuned to the Public Channel will continuously play audio from the source. Public Channel audio is set to the lowest priority and is automatically interrupted for other audio broadcasts, pages, and intercom calls.

The eAMP(-MA) features LEDs that indicate when a tone/alert or audio input is active. A front panel LED meter indicates the audio signal level.

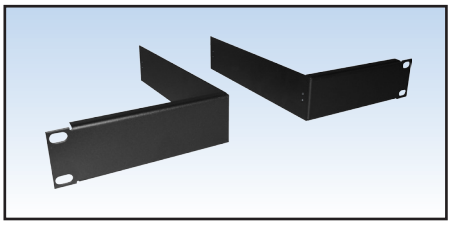
The eAMP(-MA) provides 25 watts of audio power. It provides transformer-isolated 25 volt, 70 volt, and 8 ohm outputs. For greater power requirements, an external amplifier can be connected to the eAMP(-MA) via a line level output port. Speech is transmitted through the eAMP(-MA) in crystal-clear HD Audio. Audio is transmitted in the frequency range from 50 Hz to 7 kHz while using only 128 kbps of bandwidth when active. Audio between the amplifier and the LAN is non-blocking, allowing a virtually unlimited number of audio channels across the network and reducing or eliminating busy signals.
Combining the eAMP(-MA) with other devices in the eSeries family adds additional capabilities to the eSeries system. The eConsole and eStations can act as paging sources for the eAMP(-MA) and can also be included in the eAMP(-MA)'s paging zone, so that a mix of traditional speakers and PoE speakers can be broadcast to simultaneously.

Telecor eAMP(-MA)s can be further configured to suit the building application. A Telecor ePORT, a device that connects to the PoE network switch via Ethernet and to a computer via USB, is used to configure amplifiers, or to download all eAMP(-MA) programming simultaneously. Spreadsheet applications (such as Excel®) are used to edit the programming. The ePORT can then upload the programming back to all the eAMP(-MA)s. The ePORT is also able to make simple configuration changes to individual eAMP(-MA) settings directly without requiring downloading and uploading all eAMP(-MA) programming. The ePORT also enables simultaneous mass-upgrading of device firmware across the LAN.

Using an ePORT, the eAmp can be configured to provide visual and audible indication of eSeries wiring faults and network errors. Upon detecting a problem, the eAmp will sound an alarm tone and the trouble LED indicator will light up. Pressing the Tone Silence button will silence the alarm for 24 hours.

Telecor's eSeries technology provides extremely low-latency audio, for exceptional performance during paging and live audio playback. It also provides extremely fast all station audio connect times when performing all-call pages throughout the network.

The eAMP(-MA) utilizes Class-D design, which means the amplifier is highly efficient and reliable. The amplifier will shut down to protect itself from damage from a short circuit or overload. The unit is powered from a 24 VDC Power Adaptor and can be mounted in a standard 19" equipment rack using the optional rack-mount kit.



TTM-RMK RACK MOUNT KIT

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Rev: 1.1
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ETS-2815
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telecor™
eSeries

eAMP(-MA)
Ethernet 25W Amplifier

eAMP(-MA) SPECIFICATIONS

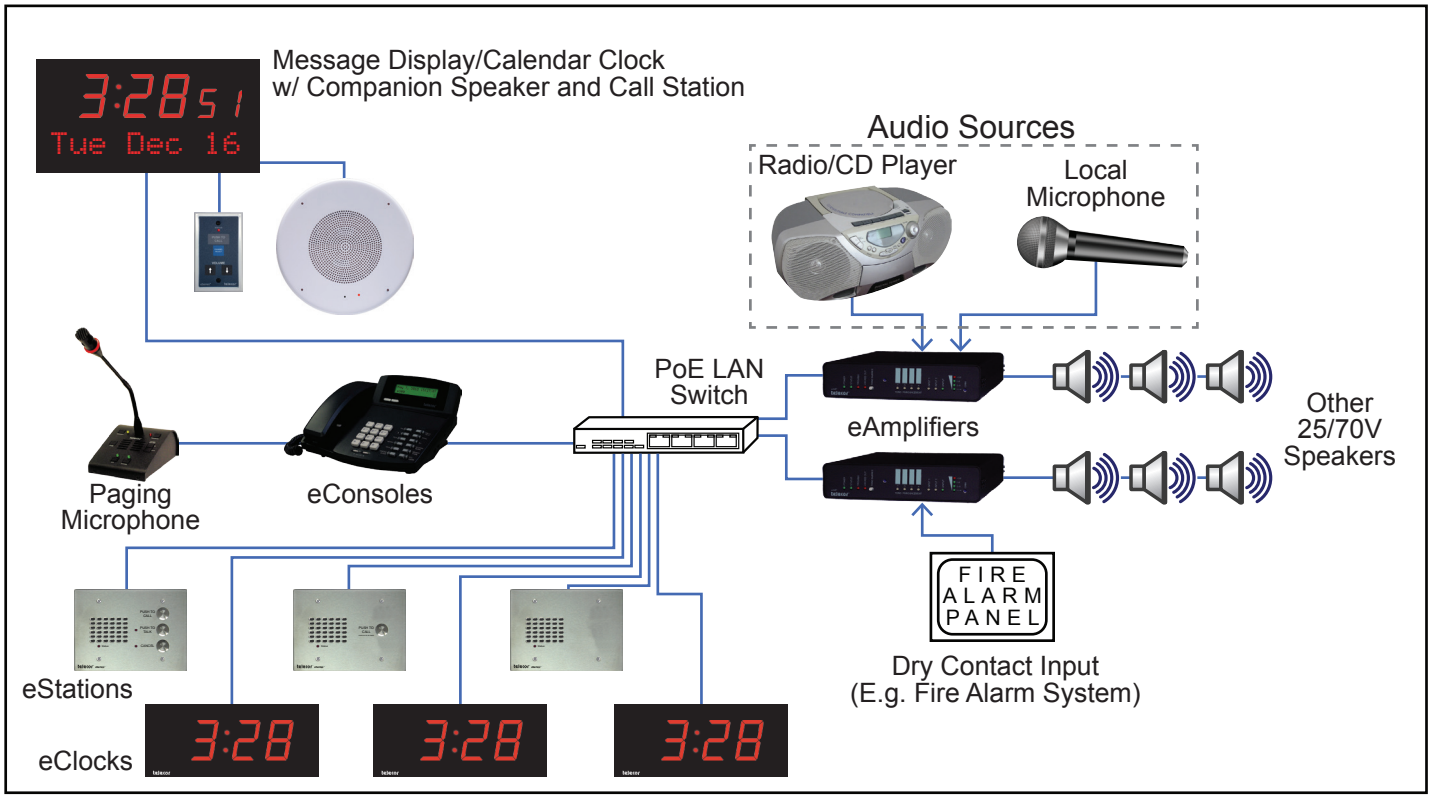
Power Source:	24 VDC
Current Consumption:	2 amps max @ Full audio output
Network Interface:	RJ45, 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Audio Format:	G.711.1 (wideband), bandwidth of 50 Hz - 7 kHz @ 128 kbits/s (µLaw, 16 kHz sampling rate)
Audio Latency:	Typical 0.1 s
Connect Times:	
Paging:	0.01 s typical for 500 stations
Intercom Call:	0.1 s typical for 500 stations
Audio Inputs:	1 Ethernet 2 Mic or Line Level 1 V, 10 kOhm
Output Power:	25 W RMS Maximum
Audio Output:	8 Ohm, 25 V, 70 V
Frequency Response	
Main:	Speech-Filtered 170 Hz - 15 kHz (+0/-3 dB)
Line Level:	35 Hz - 15 kHz (+0/-3 dB)
Harmonic Distortion	
Main:	<1% THD @ 1 kHz
Line Level:	<0.1%THD @ 1 kHz
Indicators	
Front Panel:	Power, Status, Tone/ Alert 1-4, Input 1, Input 2, eInput, Signal Level
Rear Panel:	Network Speed, Network Activity
Controls:	4 tone / alert contacts 1 input gain control silence button
Remote Control:	Dry Contact, Audio Out
Terminations:	Plug-In Screw Connectors
Finish:	Black, Textured, Semi-Gloss Enamel
Dimensions:	1.75" H x 7.85" W x 8.31" D (4.4 cm H x 20 cm W x 21.1 cm D)
Weight:	3.62 lbs (1.65 kg)
Environment Req's:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing

Compliance: TUV-SUD Listed UL62368-1 Standard

CAN ICES-3 (A)/NMB-3(A)

PARTIAL LIST OF ASSOCIATED EQUIPMENT

TTM-RMK	Rack Mount Kit
e2443-MA	Message Display/Calendar Clock/Speaker
e300-MA	Console
e365-TB-MA	Message Display/Calendar Clock
eCI-MA	Control Interface
eCS-4	Volume Control and Channel Select Call Station
eCS-5	Volume Control and Channel Select Station
eLOG	Logging Interface
ePORT-MC	Management Interface
eS8	Ethernet 8" Ceiling Speaker
eS8-TB-MA	Talkback Speaker
eS8-TB4-MA	Talkback Master Speaker
eSIP	SIP Interface
eSTN-0, eSTN-1, eSTN-2, eSTN-3	eStations
BA24025	24V, 2.5A AC Adapter



Example of typical eSeries network with eAmplifiers

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Administrative Communication Systems

SI-60
60 Watt Amplifier

FEATURES

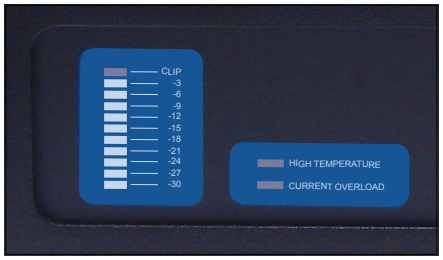
- 60 W Output Power
- Front-Panel LEDs: Output Signal Level, Temperature and Overload Indicators
- Temperature and Overload Protection
- Wide Frequency Response 50 to 15,000 Hz +/- 2 dB
- Low Distortion and Noise Levels
- Transformer Outputs: 4 Ohm, 8 Ohm, 25 V and 70 V
- Switchable Input Sensitivity Balanced/Unbalanced Configuration
- Optional Modules

DESCRIPTION

The Telecor model SI-60 Amplifier delivers up to 60 W of power at less than 0.5% total harmonic distortion with a frequency response of 50 to 15,000 Hz +/- 2 dB. The device is designed for dependable continuous operation. Elaborate protection circuitry is implemented in the design, to ensure maximum protection from damage caused by overloads and shorted line conditions.

Current limiting protection is activated whenever the amplifier is overloaded. Current will be limited to the speaker load, and an LED will light, if the amplifier is overdriven, connected to an excessive load or short circuited.

A thermal sensor detects excessive heat build-up in the heat sink and automatically reduces the output level to lower the temperature to an acceptable level. If necessary, the amplifier will shut down to prevent damage to internal components. A warning LED lights in the event of an unusual temperature rise.

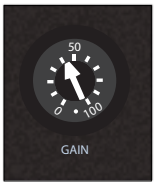


A calibrated LED level meter indicates the amount of signal present in 3 dB steps, from - 30 dB to -3 dB. The clip LED lights whenever the output stage is about to clip from either an overdriven input or an overloaded output.

Rear panel input terminals can accommodate either a balanced input signal source or a single-ended input signal source connection to the amplifier. A 0 dBv (1 V) or a -20 dBv (100mV) input signal level can be selected with a sensitivity switch.

Barrier strips are used for input/output connections. This provides more secure wiring terminations and greater current handling capabilities than typical phone jacks or binding posts.

The amplifier is provided with a recessed adjustable input attenuator. To prevent casual tampering, the control must be adjusted by means of a screwdriver. A plastic cap is supplied for added security.



Output configurations are available for 4 Ohm or 8 Ohm speakers, as well as 25 V or 70 V constant voltage lines.

Optional factory-installed modules are available and can add additional functionality to the amplifier.

PA-PM Power Amplifier Paging Module: provides the amplifier with additional inputs for a low impedance microphone and two balanced line level inputs. The three inputs can be assigned priorities, configurable with internal jumpers on the module. Each input is activated with a external contact closure.

PA-AM Power Amplifier Attenuator Module: allows the amplifier to accept a 25 V input signal.

PA-MM Power Amplifier Monitor Module: monitors critical voltage levels inside the SI amplifier and provides an alarm contact when the voltages fall outside the normal operating range.

Continued on next page

SPECIFICATIONS

Input Level:	1 V or 100 mV (switchable)
Input Impedance:	10 kΩ (balanced)
Output:	60 watts RMS into balanced 4 Ω, 8 Ω, 25 V, or 70 V lines
Frequency Response:	50 to 15,000 Hz (± 2 dB)
Total Harmonic Distortion:	0.05% @ 1 kHz rated output
Output Regulation (with Transformer):	< 1 dB, no load to full load
Signal to Noise Ratio (Band Pass 20 to 20,000 Hz):	Input Level switch in 0 dBv (1 V) position: > 91 dB
Connectors:	Screw-Barrier Terminals on input and output Mas-con connectors used with optional modules
Controls:	Power Switch (Illuminate), Gain Control, Low Cut Switch, Input Level Switch (1 V / 100 mV)
Indicators:	Clip, High Temperature, VU Meter, and Current Overload
Protection:	Foldback current limiting, Over-temperature protection, Primary circuit fused at 2.25 A
Temperature Range:	-10ºC to +35ºC (14ºF to 95ºF)
Power Consumption:	AC 120 V, 60 Hz
Idle:	15 W
Full Load:	205 W
Weight:	8.4 kg (19 lbs)
Dimensions (without amplifier handles):	8.9 cm H x 48.25 cm W x 30.8 cm D (3.5" H x 19" W x 12.12" D)
Finish:	Black Powder Coating
Optional Modules:	
PA-AM	Power Amplifier Attenuator Module
PA-MM	Power Amplifier Monitor Module
PA-PM	Power Amplifier Paging Module

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Administrative Communication Systems

SI-125
125 Watt Amplifier

FEATURES

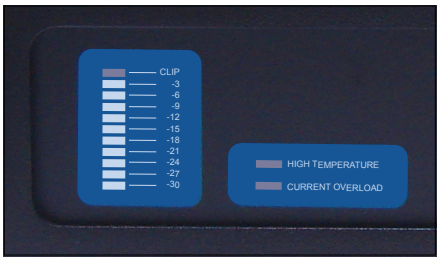
- 125 W Output Power
- Front-Panel LEDs: Output Signal Level, Temperature and Overload Indicators
- Temperature and Overload Protection
- Wide Frequency Response 50 to 15,000 Hz +/- 2 dB
- Low Distortion and Noise Levels
- Transformer Outputs: 4 Ohm, 8 Ohm, 25 V and 70 V
- Switchable Input Sensitivity Balanced/Unbalanced Configuration
- Optional Modules

DESCRIPTION

The Telecor model SI-125 Amplifier delivers up to 125 W of power at less than 0.5% total harmonic distortion with a frequency response of 50 to 15,000 Hz +/- 2 dB. The device is designed for dependable continuous operation. Elaborate protection circuitry is implemented in the design, to ensure maximum protection from damage caused by overloads and shorted line conditions.

Current limiting protection is activated whenever the amplifier is overloaded. Current will be limited to the speaker load, and an LED will light, if the amplifier is overdriven, connected to an excessive load or short circuited.

A thermal sensor detects excessive heat build-up in the heat sink and automatically reduces the output level to lower the temperature to an acceptable level. If necessary, the amplifier will shut down to prevent damage to internal components. A warning LED lights in the event of an unusual temperature rise.

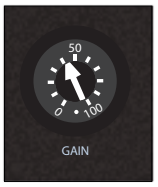


A calibrated LED level meter indicates the amount of signal present in 3 dB steps, from - 30 dB to -3 dB. The clip LED lights whenever the output stage is about to clip from either an overdriven input or an overloaded output.

Rear panel input terminals can accommodate either a balanced input signal source or a single-ended input signal source connection to the amplifier. A 0 dBv (1 V) or a -20 dBv (100mV) input signal level can be selected with a sensitivity switch.

Barrier strips are used for input/output connections. This provides more secure wiring terminations and greater current handling capabilities than typical phone jacks or binding posts.

The amplifier is provided with a recessed adjustable input attenuator. To prevent casual tampering, the control must be adjusted by means of a screwdriver. A plastic cap is supplied for added security.



Output configurations are available for 4 Ohm or 8 Ohm speakers, as well as 25 V or 70 V constant voltage lines.

Optional factory-installed modules are available and can add additional functionality to the amplifier.

PA-PM Power Amplifier Paging Module: provides the amplifier with additional inputs for a low impedance microphone and two balanced line level inputs. The three inputs can be assigned priorities, configurable with internal jumpers on the module. Each input is activated with an external contact closure.

PA-AM Power Amplifier Attenuator Module: allows the amplifier to accept a 25 V input signal.

PA-MM Power Amplifier Monitor Module: monitors critical voltage levels inside the SI amplifier and provides an alarm contact when the voltages fall outside the normal operating range.

Continued on next page

SPECIFICATIONS

Input Level:	1 V or 100 mV (switchable)
Input Impedance:	10 kΩ (balanced)
Output:	125 watts RMS into balanced 4 Ω, 8 Ω, 25 V, or 70 V lines
Frequency Response:	50 to 15,000 Hz (± 2 dB)
Total Harmonic Distortion:	0.05% @ 1 kHz rated output
Output Regulation (with Transformer):	< 1 dB, no load to full load
Signal to Noise Ratio (Band Pass 20 to 20,000 Hz):	Input Level switch in 0 dBv (1 V) position: > 94 dB
Connectors:	Screw-Barrier Terminals on input and output Mas-con connectors used with optional modules
Controls:	Power Switch (Illuminate), Gain Control, Low Cut Switch, Input Level Switch (1 V / 100 mV)
Indicators:	Clip, High Temperature, VU Meter, and Current Overload
Protection:	Foldback current limiting, Over-temperature protection, Primary circuit fused at 3.5 A
Temperature Range:	-10ºC to +35ºC (14ºF to 95ºF)
Power Consumption:	AC 120 V, 60 Hz
Idle:	15 W
Full Load:	352 W
Weight:	11.8 kg (26 lbs)
Dimensions (without amplifier handles):	13.33 cm H x 48.25 cm W x 30.8 cm D (5.25"H x 19" W x 12.12" D)
Finish:	Black Powder Coating
Optional Modules:	
PA-AM	Power Amplifier Attenuator Module
PA-MM	Power Amplifier Monitor Module
PA-PM	Power Amplifier Paging Module

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Administrative Communication Systems

SI-250
250 Watt Amplifier

FEATURES

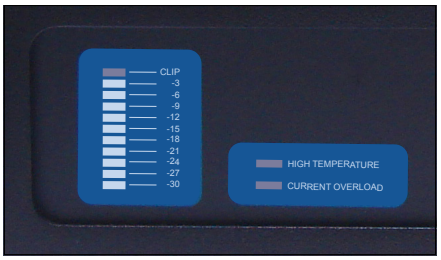
- 250 W Output Power
- Front-Panel LEDs: Output Signal Level, Temperature and Overload Indicators
- Temperature and Overload Protection
- Wide Frequency Response 50 to 15,000 Hz +/- 2 dB
- Low Distortion and Noise Levels
- Transformer Outputs: 4 Ohm, 8 Ohm, 25 V and 70 V
- Switchable Input Sensitivity Balanced/Unbalanced Configuration
- Optional Modules

DESCRIPTION

The Telecor model SI-250 Amplifier delivers up to 250 W of power at less than 0.5% total harmonic distortion with a frequency response of 50 to 15,000 Hz +/- 2 dB. The device is designed for dependable continuous operation. Elaborate protection circuitry is implemented in the design, to ensure maximum protection from damage caused by overloads and shorted line conditions.

Current limiting protection is activated whenever the amplifier is overloaded. Current will be limited to the speaker load, and an LED will light, if the amplifier is overdriven, connected to an excessive load or short circuited.

A thermal sensor detects excessive heat build-up in the heat sink and automatically reduces the output level to lower the temperature to an acceptable level. If necessary, the amplifier will shut down to prevent damage to internal components. A warning LED lights in the event of an unusual temperature rise.

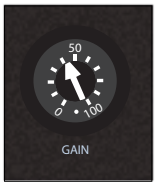


A calibrated LED level meter indicates the amount of signal present in 3 dB steps, from - 30 dB to -3 dB. The clip LED lights whenever the output stage is about to clip from either an overdriven input or an overloaded output.

Rear panel input terminals can accommodate either a balanced input signal source or a single-ended input signal source connection to the amplifier. A 0 dBv (1 V) or a -20 dBv (100mV) input signal level can be selected with a sensitivity switch.

Barrier strips are used for input/output connections. This provides more secure wiring terminations and greater current handling capabilities than typical phone jacks or binding posts.

The amplifier is provided with a recessed adjustable input attenuator. To prevent casual tampering, the control must be adjusted by means of a screwdriver. A plastic cap is supplied for added security.



Output configurations are available for 4 Ohm or 8 Ohm speakers, as well as 25 V or 70 V constant voltage lines.

Optional factory-installed modules are available and can add additional functionality to the amplifier.

PA-PM Power Amplifier Paging Module: provides the amplifier with additional inputs for a low impedance microphone and two balanced line level inputs. The three inputs can be assigned priorities, configurable with internal jumpers on the module. Each input is activated with an external contact closure.

PA-AM Power Amplifier Attenuator Module: allows the amplifier to accept a 25 V input signal.

PA-MM Power Amplifier Monitor Module: monitors critical voltage levels inside the SI amplifier and provides an alarm contact when the voltages fall outside the normal operating range.

Continued on next page

SPECIFICATIONS

Input Level:	1 V or 100 mV (switchable)
Input Impedance:	10 kΩ (balanced)
Output:	250 watts RMS into balanced 4 Ω, 8 Ω, 25 V, or 70 V lines
Frequency Response:	50 to 15,000 Hz (± 2 dB)
Total Harmonic Distortion:	0.05% @ 1 kHz rated output
Output Regulation (with Transformer):	< 1 dB, no load to full load
Signal to Noise Ratio (Band Pass 20 to 20,000 Hz):	Input Level switch in 0 dBv (1 V) position: > 84 dB
Connectors:	Screw-Barrier Terminals on input and output Mas-con connectors used with optional modules
Controls:	Power Switch (Illuminate), Gain Control, Low Cut Switch, and Input Level Switch (1 V / 100 mV)
Indicators:	Clip, High Temperature, VU Meter, and Current Overload
Protection:	Foldback current limiting, Over-temperature protection, Primary circuit fused at 7 A
Temperature Range:	-10ºC to +35ºC (14ºF to 95ºF)
Power Consumption:	AC 120 V, 60 Hz
Idle:	20 W
Full Load:	680 W
Weight:	19 kg (42 lbs)
Dimensions (without amplifier handles):	13.33 cm H x 48.25 cm W x 33 cm D (5.25"H x 19" W x 13" D)
Finish:	Black Powder Coating
Optional Modules:	
PA-AM	Power Amplifier Attenuator Module
PA-MM	Power Amplifier Monitor Module
PA-PM	Power Amplifier Paging Module

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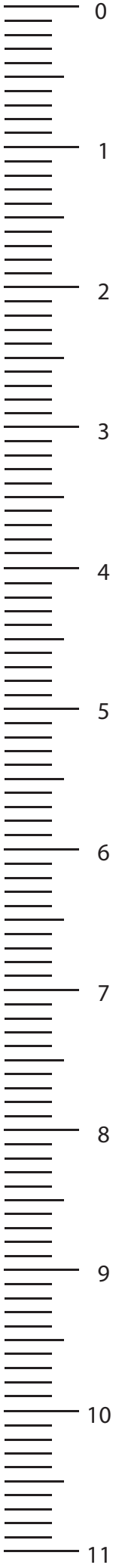
Clocks

Master Clock
Messaging Display/Clocks
Digital Clocks



Master Clocks

eMH eSeries Master Clock & Message Host

telecor™
eSeries

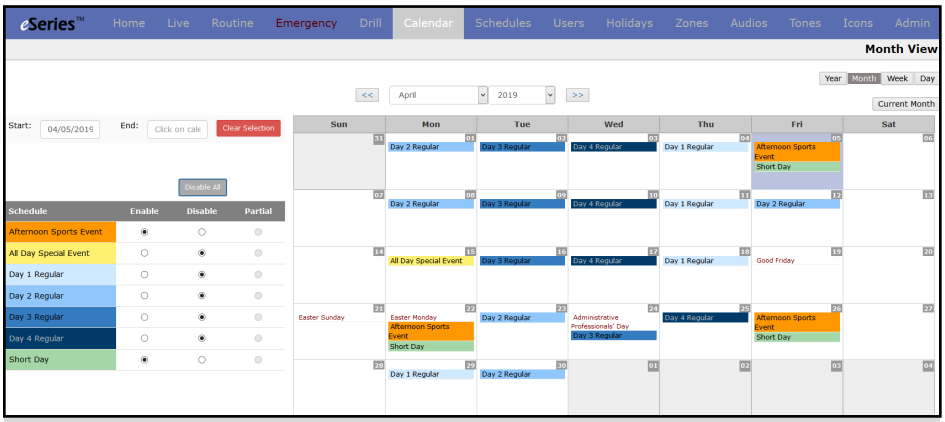
eMH
Master Clock & Message Host

FEATURES

- Provides eSeries Master Clock functionality, including:
  - Unlimited schedules that collect eSeries operations for automatic batch activation at specific dates and times
  - Unlimited scheduled event operations
  - Schedule emergency drills independently of other schedules
  - Calendar-based schedule activations
  - 10 year calendar for long and short range planning
  - Drag and drop calendar functionality
  - Schedule color codes for at-a-glance calendar views of active schedules
  - At-a-glance views of active schedules and upcoming operations
  - Supports unlimited holidays directly on the calendar
- Easy-to-use web-based graphical user interface for eSeries networks
- Activate and configure unlimited eSeries operations, including emergency announcements and drills
- Specific eSeries operations can be made accessible on a user-by-user basis
- eMH users can put frequently used or emergency icons on their personal home page
- Automatic synchronization of emergency announcements and drill operations
- Integration with Visual Console for eSeries allowing the same operations to be controlled by either interface
- Can activate third-party devices and systems connected to eNode relays
- Unlimited user accounts with individualized permissions for access, access from mobile device, and configuration
- Supports user accounts managed by LDAP-based Active Directory service
- User-specific and system-hosted on-demand training videos
- Upload unlimited audio files for operations and pre-announce tones
- Assign icons to operations and schedules for visual identification and selection
- Configurable test zone for testing of eMH operations
- Comprehensive database features for backup and copying eMH configuration
- Maintenance Portal that provides:
  - eStation device management that includes volume control settings
  - Enabling/disabling service mode
  - eSeries network Trouble notification with specific station and problem identification
  - Distribution of Trouble notification emails
- Perform eSeries network device firmware updates
- Cybersecurity features include network lock code support and forced factory password change
- Supports both desktop- and mobile-based browsers with separately configurable mobile user account permissions
- Supports rapid access to emergency buttons, in particular for mobile devices

DESCRIPTION

The eSeries eMH Master Clock & Message Host is a time master device for the eSeries network. It alsoenables configuration and activation of eSeries operations from a web-based graphical user interface (GUI). An unlimited number of operations can be managed for activation by schedules or users.



The eMH Calendar above shows a month with a rotating four-day schedule. Interspersed throughout the month are shortened days with afternoon sports events or all-day special events. The regular scheduled days are easily arranged around the event days. Holidays are also prominently displayed and schedules can be disabled on those days as appropriate (such as when schools are closed).

MASTER CLOCK

As a master clock, the eMH provides a Time Master source for central time keeping and synchronization of all other eSeries devices throughout the eSeries network. The eMH synchronizes with Network Time Protocol (NTP) servers directly or via an NTP-enabled eSIP present on the eSeries network.

The eMH manages an unlimited number of calendar-based schedules, which are collections of operations intended to be performed frequently, periodically, or on specific dates and times. For example, a schedule may be a series of bell tones that consistently indicate class changes. Users can set schedules so that the operations they contain will activate accordingly. All operations can be searched and the results quickly edited, copied to schedules, and reviewed to avoid the creation of identical operations.

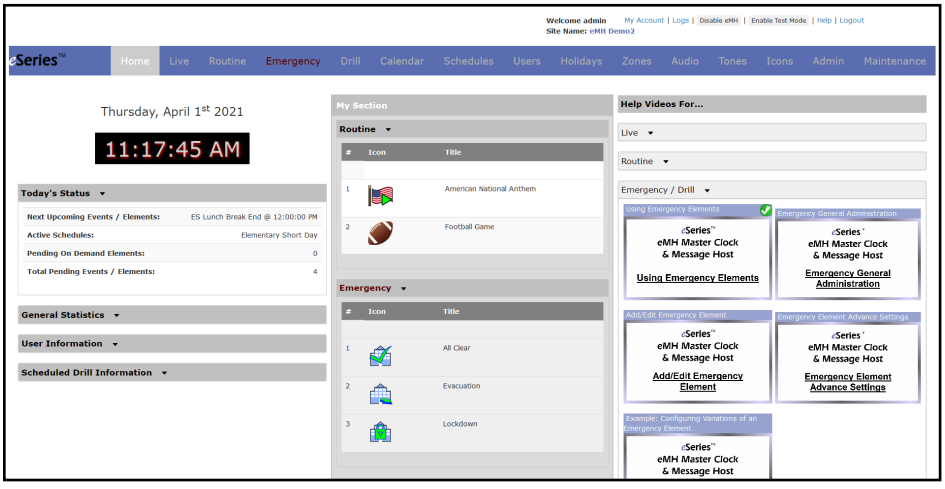
Schedules can be viewed, enabled or disabled in a calendar. The calendar can display schedules on a daily, weekly, monthly or yearly basis. The eMH supports scheduling operations up to 10 years into the future.

Additionally, an unlimited number of holidays can be specified and marked on the calendar. This indicates days where special scheduling considerations should be taken. Alternatively, holidays can be configured to disable all schedules on that day. Holidays can also be set to recurring so that the eMH maintains copies of the holiday going forward for the next 10 years. Each of these copies can be edited in case the holiday does not have a fixed date. Certain fixed-date holidays will be automatically created and made recurring.

MESSAGE HOST

The eMH provides an easy-to-use GUI that simplifies operation configuration and activation.

Operations can include several components, including: pre-announce tones, pre-recorded audio, scrolling textual messages, coded messages, and the activation of third-party devices and systems connected to eNode dry contact relays. If desired, specific details of the components can be customized. Customization includes: the number of times the pre-announce tone plays, the message scroll speed, and the delay before pre-recorded audio repeats. Depending on the operation type, user-activated operations may be distributed immediately or queued for later distribution.



eMH HOME PAGE

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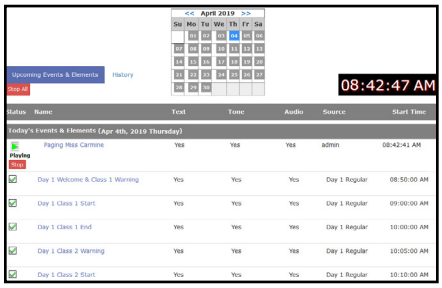
Operation can be made accessible on a user-by-user basis. Additionally, each user can collect frequently used and important operations in a customizable user specific home page for their own convenience.

OPERATION CONFIGURATION AND ACTIVATION

The eMH GUI compartmentalizes different aspects of the eMH and the operations it manages to specific pages.

For at-a-glance assuredness, the Home page provides a quick overview of eMH-managed operations. This includes the next scheduled operation, the schedules that are currently active, and the next scheduled school drill. The eMH includes user specific short tutorial videos that explain various aspects of the GUI and provides built-in on demand training.

The eMH establishes greater confidence for administrators by always showing upcoming events in advance. The Live page shows currently active and upcoming operations. A history of recently performed operations confirms that operations occurred as intended. Also, users can easily initiate on-the-fly operations on the Live page by configuring and activating them on demand.



eMH LIVE PAGE

Routine operations can include an unlimited number of pre-configured common audio distributions. Examples include announcements for special assemblies, bus arrivals, staff meetings, and festive events.

EMERGENCY RESPONSE MANAGEMENT

For emergency situations, the eMH provides the ability to configure an unlimited number of dedicated emergency response operations. A corresponding drill operation will be automatically created for each emergency operation.

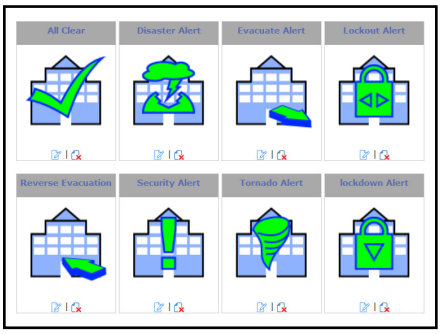
eMH operations can target one or more eSeries zones. For simpler zone selection the eMH supports an unlimited number of Named Zones that easily identify different parts of a school in plain text.

The eMH supports unlimited uploading of audio files (WAV and MP3) and images to support operations. Audio files are used for tones or announcements. Images are used as icons throughout the GUI to represent different operations or schedules. To support integration with the eAM Alarm Manager, the eMH offers eAM related icons which can be individually uploaded to the eMH as desired.

Access to the eMH is user-account controlled. Integration with the Lightweight Directory Access

#	Icon	Time	Title	Days	Dial Numbers	Textual Message	Tone	Audio	Enabled	Schedules	Action
1		08 :50 :00 AM	Day 1 Welcome & Class 1 Warning	Mo,Tu,We,Th,Fr	-	Good morning! Today is Day 1. Class 1 starts in 10 minutes.	Tone 3	Day 1 Morning & Class 1 Warning	☑	Day 1 Regular	
2		09 :00 :00 AM	Day 1 Class 1 Start	Mo,Tu,We,Th,Fr	-	Class 1 Has Started (Day 1)	Bell	Class 1 Start	☑	Day 1 Regular	
3		10 :00 :00 AM	Day 1 Class 1 End	Mo,Tu,We,Th,Fr	-	Class 1 Has Ended (Day 1)	Bell	Class 1 End	☑	Day 1 Regular	
4		10 :05 :00 AM	Day 1 Class 2 Warning	Mo,Tu,We,Th,Fr	-	Class 2 Starts in 5 Min (Day	Tone 5	Class 2 Warning	☑	Day 1 Regular	
5		10 :10 :00 AM	Day 1 Class 2 Start	Mo,Tu,We,Th,Fr	-	Class 2 Has Started (Day1)	Bell	Class 2 Start	☑	Day 1 Regular	
6		11 :10 :00 AM	Day 1 Class 2 End	Mo,Tu,We,Th,Fr	-	Class 2 Has Ended (Day 1)	Bell	Class 2 End	☑	Day 1 Regular	
7		11 :15 :00 AM	Day 1 Class 3 Warning	Mo,Tu,We,Th,Fr	-	Class 3 Starts in 5 Mins (Day	Tone 5	Class 3 Warning	☑	Day 1 Regular	
8		11 :20 :00 AM	Day 1 Class 3 Start	Mo,Tu,We,Th,Fr	-	Class 3 Has Started (Day 1)	Bell	Class 3 Start	☑	Day 1 Regular	
9		12 :20 :00 PM	Day 1 Class 3 End	Mo,Tu,We,Th,Fr	-	Class 3 Has Ended (Day 1)	Bell	Class 3 End	☑	Day 1 Regular	
10		12 :25 :00 PM	Lunch Start	Mo,Tu,We,Th,Fr	-	Lunch Has Started	Tone 8	Lunch Start	☑	Multiple	

The example schedule above shows the first day of a four-day regular schedule rotation. The schedule contains several bell tones to indicate the start and end of classes five-minute warnings before the start of classes. The audio and textual message components of each operation can be customized to indicate the specific day in the rotation. The Lunch Start operation is generic across all days and is in multiple schedules.



eMH EMERGENCY OPERATIONS

Protocol-based Active Directory is also supported to allow users managed by such a service to access the eMH. The eMH supports an unlimited number of users with a high level of individual customization. Users can be given access to only the pages and operations relevant to their intended roles. For each page, users can be granted permissions to activate or configure operations and schedules from a desktop or, for certain users, from mobile devices. For example, an administrator account could have full access to view and make configuration changes on all pages, while an operator account is limited to activating routine or emergency operations and enabling or disabling schedules.

Additionally, user accounts can be configured to only contain a single emergency operation for activation. This allows mobile device users to quickly activate the emergency operation from any location and with minimal risk of error. This can be combined with fingerprint or facial recognition login features of mobile devices to greatly speed up the login process and minimize the number of presses on the device touchscreen.

To help in account creation and management, a configurable default user account serves as a template to determine the initial permissions of new users. For security purposes, Administrators can suspend (and re-enable) user accounts at any time.

Users with administrative privileges have the ability

eMH EMERGENCY RESPONSE
ACCESSED VIA MOBILE SMART DEVICE

to configure the eMH site name, time, time zone, test zone, and manage eMH database backups. To aid installers with initial configuration, the eMH includes a test mode and a database backup feature. Test mode redirects all eMH activated operations to a test zone (that only the installer occupies) to prevent disrupting other people during configuration and testing.

Database backups are automatically created every night and can also be manually created. In addition to backup purposes, the database backups can be used to quickly copy the eMH configuration to other eMH installations. The eMH also supports administrative one-click disabling (and enabling) of all schedules while maintaining support for emergency functions.

The eMH features the ability to perform eSeries network firmware updates without the need for an ePort.

telecor™
eSeries

eMH
Master Clock & Message Host

eSERIES DEVICE MANAGEMENT

The eMH features a Maintenance Portal that lists all eSeries devices on the network. The Portal can be used to make basic configuration changes to these devices. The settings that can be changed include dial number, name, primary call-in destination, zone membership, and volume settings (for intercom, page, public channel, emergency page, and trouble notification). Changes can be made to individual devices or multiple selected devices at the same time (depending on the type of setting being changed).

The Portal also provides trouble notification for faults being experienced by any eSeries device. The notification includes a detailed fault report that can be easily copied for pasting into other documents (e.g., email). A service mode button in the Portal provides users the ability to enable or disable trouble notification while the eSeries network is being serviced.

The Portal can also be configured to use an email server and account to send trouble notification emails to a list of designated addresses. These emails will list the details of all current faults. A convenient link to the eMH web interface is also provided so that the recipient can perform trouble shooting actions such as: viewing up-to-date fault information; enabling service mode to silence further trouble notifications; and making configuration changes to fix certain faults, e.g., correcting duplicate dial numbers.

Mobile device users can access the Maintenance Portal to view current faults and to toggle service mode.

CYBERSECURITY

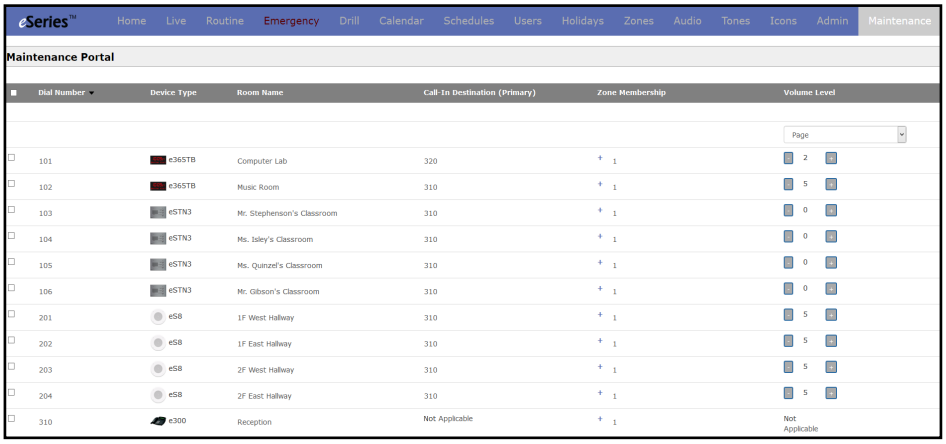
The eMH supports cybersecurity features implemented as part of the eSeries System. This includes the eMH requiring a matching network lock code to be entered to access the eSeries network. Also, the eMH will also force a password change if the factory set password is used to log into the default administrative account.

IMPLEMENTATION

The eMH application is web-based and secured via HTTPS certification. It is preconfigured with a variety of default operations, schedules, audio, and icons for quick customization. Users log into the application from any desktop computer or mobile smart device using a supported web-browser. Supported web browsers include Microsoft Edge, Mozilla Firefox, Google Chrome, and Apple Safari. Users can activate emergency response operations from facility PCs or remote mobile devices.

The eMH is a physical device that comes pre-configured with the eMH software application. The eMH sits on a horizontal flat surface or can be installed in a rack. The eMH supports isolation between the eSeries network and the facility network with dual Ethernet ports.

eMH MASTER CLOCK AND MESSAGE HOST



eMH MAINTENANCE PORTAL

telecor™ eSeries™ Trouble Report

This is a Trouble Report from *Area 51*: ***33*** fault(s) have been detected.

Click *here* (https://area51.telecor.biz/) to go to the Area 51 web interface.

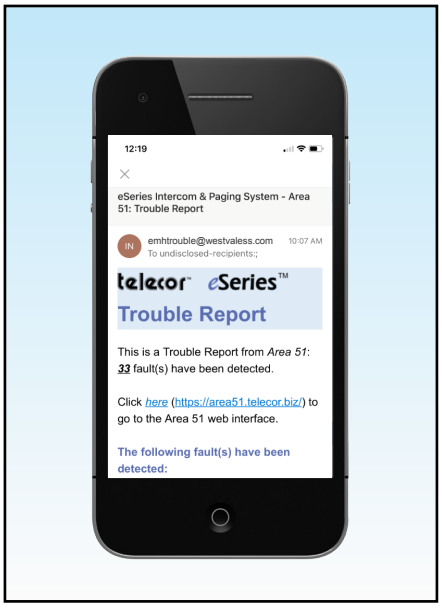
The following fault(s) have been detected:

1) Device **A51-R6-S8-S6B** with dial number **17260** is experiencing fault: **"Device version control file does not match network version control** file"
2) Device **Bob's ePort** with dial number **N/A** is experiencing fault: **"This ePort's firmware is older than the rest of the network. It is recommended to update the older firmware if this ePort is intended to be permanently installed on this network"**
3) Device **eSIP.0 A51** with dial number **N/A** is experiencing fault: **"Software not compatible with the network"**
4) Device **eSTN-1** with dial number **17197** is experiencing fault: **"Device version control file does not match network version control file"**
5) Device **A51-R5-S1-S15** with dial number **17205** is experiencing fault: **"Device version control file does not match network version control file"**
6) Device **A51-R7-S3** with dial number **20975** is experiencing fault: **"Device version control file does not match network version control file"**
7) Device **A51-R6-S8-S12** with dial number **41944** is experiencing fault: **"Device version control file does not match network version control file"**
8) Device **A51-R5-S3-S12F** with dial number **17213** is experiencing fault: **"Device version control file does not match network version control file"**
9) Device **A51-R6-S1** with dial number **10350** is experiencing fault: **"Device version control file does not match network version control file"**
10) Device **A51-eTBU #9** with dial number **17970** is experiencing fault: **"Device version control file does not match network version control file"**
11) Device **A51-R6-S4-S14** with dial number **17646** is experiencing fault: **"Device version control file does not match network version control file"**
12) Device **A51-R5-S3-S4** with dial number **16822** is experiencing fault: **"Device version control file does not match network version control file"**
13) Device **A51-R5-S3-S4B** with dial number **17220** is experiencing fault: **"Device version control file does not match network version control file"**
14) Device **A51-R6-S2** with dial number **10358** is experiencing fault: **"Device version control file does not match network version control file"**
15) Device **A51-R6-S6-S6** with dial number **17654** is experiencing fault: **"Device version control file does not match network version control file"**
16) Device **A51-R6-S3** with dial number **16830** is experiencing fault: **"Device version control file does not match network version control file"**
17) Device **A51-R5-R8-S3** with dial number **42291** is experiencing fault: **"Device version control file does not match network version control file"**
18) Device **A51-R6-S7-S18F** with dial number **17236** is experiencing fault: **"Device version control file does not match network version control file"**
19) Device **A51-R5-R2-S1** with dial number **10247** is experiencing fault: **"Device version control file does not match network version control file"**
20) Device **A51-R5-S3-S14B** with dial number **17224** is experiencing fault: **"Device version control file does not match network version control file"**

- **Other additional faults have been detected, see the attached CSV file for a detailed list of all faults (*33* in total)**

Click *here* (https://area51.telecor.biz/) to go to the Area 51 web interface.

eMH TROUBLE NOTIFICATION EMAIL



eMH TROUBLE NOTIFICATION EMAIL
SENT TO MOBILE SMART DEVICE

SPECIFICATIONS

Power Source:	
AC Voltage:	100-240 VAC, Auto sensing
Line Frequency:	50-60 Hz
Current:	2 A Max
Ports:	2 Ethernet, 2 USB, VGA, HDMI, Line Out
Controls:	Power Switch (Illuminated)
Indicators:	Power LED
Network Interface:	RJ45, 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC, IEEE 802
Dimensions:	17.25" W x 3.5" H x 10" D 43.8 cm x 8.9 cm x 25.4 cm)
Weight:	10 lbs (4.5 kg)
Environment Requirements:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing

Compliance:

ETL LISTED CONFORMS TO ANSI/UL Standard 60950-1 CERTIFIED TO CAN/CSA Standard C22.2 No. 60950-1
Intertek 3059290

CAN ICES-3 (A)/NMB-3(A)

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Printed in Canada

Messaging Display/Clocks

e2444 Message Display/Calendar Clock/Speaker/Strobe

e2444-LD Message Display/Calendar Clock/Speaker

LD-1 LED Strobe

e365-TB-MA Message Display/Calendar Clock

2431-BBS Surface Backbox

2431-BBF Flushmount Backbox

e365-TB-STB Message Display/Calendar Clock

2431-BBS Surface Backbox

2431-BBF Flushmount Backbox

VuAlert Dynamic Display

telecor™
eSeries

e2444
Message Display/Calendar Clock/Speaker

FEATURES

- Combines e365-TB-MA Message Display/Calendar Clock and Speaker
- True digital network endpoint solution
- Appealing architectural appearance
- Easy to read 7-segment clock display
- Anti-reflective cover optimizes readability
- Wide viewing angle
- Displays current time in six digit format (HH:MM:ss)
- Elapsed and count-down timer capabilities
- Displays date in English, French or Spanish
- Scrolling dot matrix marquee for emergency and routine messages
- Supports zoned Companion Text Messages scrolling automatically upon audio file playback
- Provides two-way talkback communications
- Crystal clear HD Audio™ speech quality
- Non-blocking audio between speaker and consoles via LAN
- Function based and digitally controlled volume
- Extremely low latency
- Extremely fast all station audio connect times
- Conditioned microphone with built-in compression and noise gate
- Integrates with eCS Call Stations; supports Privacy or Do Not Disturb Mode, and separate Emergency Call Station
- Fully supervised and monitored for network connectivity
- Powered by Power-over-Ethernet (PoE)
- Features Just Plug It in!™ design
- Requires no IP address, DHCP server, subnet, or mask configuration
- No head end, central server, or controller equipment required
- Supports auxiliary functions (door release, siren, strobe)
- Firmware upgradable over LAN
- Recessed and Surface Models
- Designed to fit between wall studs

Just Plug It In™ HD Audio™ POE

TÜV SÜD C US

e2444 Message Display/Calendar Clock/Speaker

DESCRIPTION

The e2444 provides an architectural solution for a network-based Message Display/Calendar Clock/Speaker Assembly. Combining all these components onto a single assembly offers an attractive appearance while reducing fixture and labor costs.

The e2444 uses Power-over-Ethernet technology, Just Plug It In!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Power-over-Ethernet technology allows the e2444 to be plugged into a PoE network switch to supply both power and data. The simplicity of Telecor's Just Plug It In!™ design means the e2444 does not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server or controller equipment is required to operate the network. Once plugged into the LAN with a valid time signal, the e2444 is immediately functional.

The e2444 is fully supervised and monitored for network connectivity, call destination, and call station connectivity, which is consistent with the NEMA SB-40 standard for communication systems. If the e2444's network connection is lost, targeted e300(-MA) eConsoles will report that station as absent and display its dial number. When the e2444 is used with call stations, the call-in destinations are monitored. If the device at a call-in destination loses network connectivity, the e2444 will automatically search for an alternate destination. If no other suitable call-in destinations exist, the call station will audibly and visually indicate a fault. If a wiring fault is detected between a Call Station and the e2444, the e2444 will audibly and visually indicate the fault. eSeries devices that monitor the network for faults (for example: eConsoles, eAmplifiers, ePorts, and Visual Console for eSeries) will also report the fault.

The e2444 allows for two-way intercom communications with an eConsole. The e2444 can also be assigned to a single paging zone or multiple paging zones to receive selected paging announcements, audio programs, tuning into Public Channels, and tone signals for applications such as class or shift change.

Telecor's eSeries technology provides extremely low-latency audio, for exceptional performance during paging and live audio playback. It also provides extremely fast all station audio connect times when performing all-call pages throughout the network.

Speech is transmitted through the speaker in crystal-clear HD Audio. Audio is transmitted in the frequency range from 50 Hz to 7 kHz while using a 150 kbps of bandwidth during a call (128 kbps audio stream and overhead resulting in 150 kbps per audio channel). The maximum audio output level is 104 dB at 3.3 feet (1 m). Audio between stations and consoles is non-blocking, allowing a virtually unlimited number of audio channels across the LAN and reducing or eliminating busy signals. The microphone includes a conditioned preamp with built-in compression and noise gate for excellent vocal clarity and noise reduction.

The e2444 simultaneously displays plain text emergency or routine messages. When not displaying a message, it displays the current time and date. Hours and minutes are displayed with large 2.25" digits. Seconds are slightly smaller for easy distinction. The date is displayed in plain text by a 10-character, dot matrix display showing the day of the week, followed by the month and date. The date can be displayed in English, French or Spanish.

When the e2444 receives a zone distribution, the e2444 will automatically broadcast the audio announcement and a corresponding text message. Zone distributions sent to the e2444 can be manually initiated from eConsoles, from contact closures from 3rd party hardware, or from the desktop of a PC via the eCI Interface protocol. Use of the eCI Interface protocol also allows the e2444 to display text-only messages independent of any audio messages.

These messages can be used to alert personnel of an emergency or situation of concern. In addition to plain text messages, the e2444 can also simultaneously display numerically-coded messages which can be activated independently to provide trained staff with additional context to the plain text messages. These can be enhanced with strobe illumination.

In addition to displaying the time, the e2444 also features elapsed timer and count-down functions. By installing the Telecor 2481-TBP Timer Button Panel in conjunction with the e2444, users are able to count upwards from zero to 24 hours or count down from a specified value to zero. Additionally, each e2444 also has a local input that will accept a relay closure to activate the elapsed or countdown timer operation. Timers can also be embedded into pre-set plain text messages.

All e2444s on the LAN are continuously synchronized to a Time Master connected anywhere on the same network. Examples of Time Masters include: the Telecor ePort Management Interface, eCI Control Interface, eLOG Logging Interface, eSIP Interface, or a PC running the Telecor Ethernet Time Server Software. Time corrections are performed instantaneously so that all e2444s display the correct time. If communication is lost with the Time Master, the e2444s will maintain the time independently and stay synchronized with each other. Once communication with the Time Master is re-established, the display will automatically resynchronize with the Time Master.

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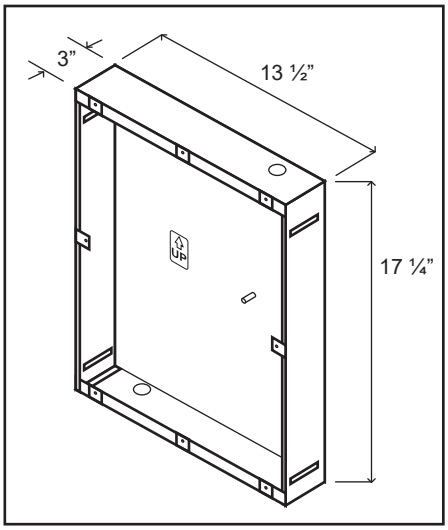
ETS-4124
Printed in Canada

The volume of the e2444 can be adjusted individually, by zone, or across the entire eSeries network via the ePort Management Interface or eCI Control Interface. Volume controls incorporated into certain eCS station models also allow a user to adjust the volume of a local e2444. Volume levels can be set for specific functions: intercom, paging, emergency paging, and Public Channel operations.

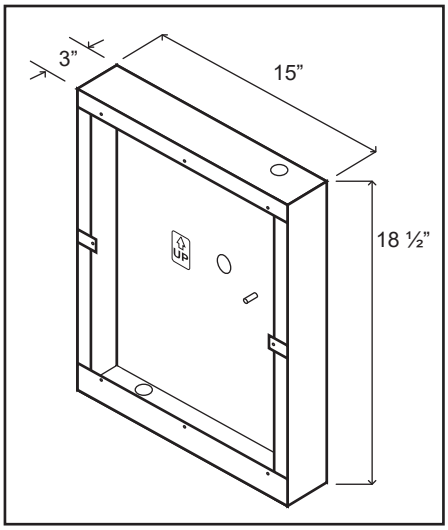
Call-in capabilities can be provided with addition of any of Telecor's eSeries Call Stations. The eCS-6 and eCS-3 are used to initiate Normal and Emergency calls respectively. Advanced stations that provide additional features such as Privacy, Do Not Disturb, Volume Controls, and Public Channel Select are also available. The e2444 is equipped with three control relays. One relay can be activated remotely from an eConsole to support an auxiliary function (e.g. door control). The other two relays are used for activating external devices during emergency notifications. These relays are automatically activated during an emergency call-in or when receiving an audible or textual emergency message.

An e2444 can be added to a Group containing eConsoles or certain model eStations. When a call-in is placed to the Console Group, the e2444 will report the originating device's name, dial number and the priority of the call-in.

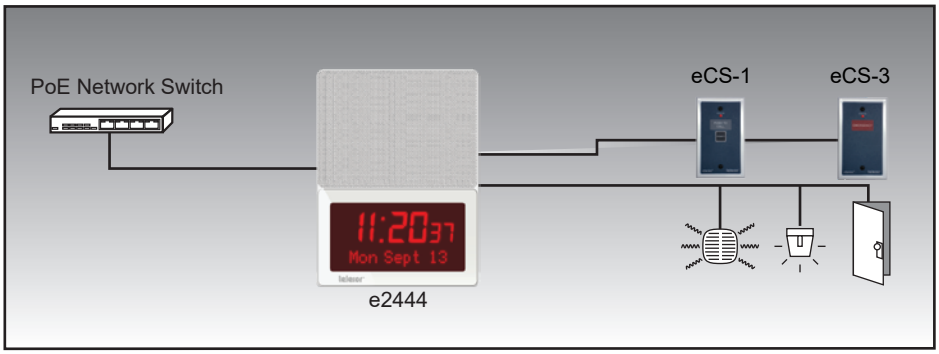
The e2444 can be flush mounted using an e2444-BBF enclosure. This enclosure is formed from 20 gauge satin coated steel and measures 17.25" H x 13.54" W x 3.035" D. For surface installation, an e2444-BBS enclosure is available. It is formed from 20 gauge cold rolled steel and measures 18.565" H x 15.065" W x 3.035" D.



e2444-BBF Recessed Backbox



e2444-BBS Surface Backbox



Example of e2444 Message Display/Calendar Clock/Speaker and Call Stations

e2444 SPECIFICATIONS

Power Source:	Power-over-Ethernet, IEEE 802.3af compliant
PoE Power Required:	Class 0, 13 W
Network Interface:	RJ45 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Audio Format:	G.711.1 (wideband), Bandwidth of 50 Hz - 7 kHz @ 128 kbits/s (µLaw, 16 kHz sampling rate)
Audio Latency:	Typical 0.1 s
Connect Times:	
Paging:	0.01s typical for 500 stations
Display:	
Type:	Red AlGaAs "Super-Bright" LEDs
Display Characters:	
Time:	7 Segment
Date/Message:	Dot Matrix
Character Height:	
Time Display:	HH, MM: 2.25"; SS: 1.5"
Date Display:	1.0"
Speaker:	
Size:	8" (203 mm)
Power Rating:	10 watts
Frequency Range:	30 Hz to 15 kHz
Axial Sensitivity:	96 dB @ 3 ft (0.91 m) (1 watt input)
Voice Coil:	¾" (19.1 mm) diameter
SPL:	104 dB at 3.3 ft (1 m)
Indicators:	
Internal:	Network Connection, Network Activity
Relays:	3 Switched Power from Auxiliary Power Input, Strobe, Siren
Contact Format:	DPDT
Contact Rating:	1 A @ 30 VDC or 0.3 A @ 125 VAC
Termination:	0.100 IDC
Switching Capacity:	1 A
Station Terminations:	RJ45 network connector
Wiring Requirements:	CAT5 or higher
Environment Requirements:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing
Compliance:	UL/IEC/CAN/CSA-C22.2 No. 62368-1 EN 55032/CISPR 32 & EN 55024/CISPR 24 FCC Part 15 Subpart B, Class A ICES-003

CAN ICES-3 (A)/NMB-3(A)

Baffle

Dimensions:	18.25" H x 14.75" W (46.4 cm x 37.5 cm)
Material:	Molded Plastic
Finish:	Epoxy Powder Coat
Color:	White
Weight:	4.2 lbs (2.1 kg)

e2444-BBF Flush Back Box

Dimensions:	17.25" H x 13.54" W x 3.035" D (43.8 cm x 34.4 cm x 7.7 cm)
Material:	20 gauge Satin Coat Steel
Finish:	Satin Coat
Weight:	7 lbs (3.2 kg)

e2444-BBS Surface Back Box

Dimensions:	18.565" H x 15.065" W x 3.035" D (47.2 cm x 38.3 cm x 7.7 cm)
Material:	20 gauge CRS
Finish:	Epoxy Powder Coat
Color:	White
Weight:	8 lbs (3.6 kg)

PARTIAL LIST OF ASSOCIATED EQUIPMENT

e2444-BBF	Recessed Backbox
e2444-BBS	Surface Backbox
eCS-1	Call Station with Privacy
eCS-2	Call Station with Do Not Disturb
eCS-3	Emergency Call Station
eCS-4	Volume Control and Public Channel Select Call Station
eCS-5	Volume Control and Public Channel Select Station
eCS-6	Call Station
e300	eConsole
ePORT	Management Interface

All product information subject to change without notice.

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Printed in Canada

telecor™
eSeries

e2444-LD
Message Display/Calendar Clock/Speaker/Strobe

FEATURES

- Combines e365-TB-MA Message Display/Calendar Clock, Speaker and Strobe Light
- True digital network endpoint solution
- Appealing architectural appearance
- Easy to read 7-segment clock display
- Anti-reflective cover optimizes readability
- Wide viewing angle
- Displays current time in six digit format (HH:MM:ss)
- Elapsed and count-down timer capabilities
- Displays date in English, French or Spanish
- Scrolling dot matrix marquee for emergency and routine messages
- Supports zoned Companion Text Messages scrolling automatically upon audio file playback
- Built-in LED Strobe
- Variable Flash Rates
- Selectable Strobe Colors
- Provides two-way talkback communications
- Crystal clear HD Audio™ speech quality
- Non-blocking audio between speaker and consoles via LAN
- Function based and digitally controlled volume
- Extremely low latency
- Extremely fast all station audio connect times
- Conditioned microphone with built-in compression and noise gate
- Integrates with eCS Call Stations; supports Privacy or Do Not Disturb Mode, and separate Emergency Call Station
- Fully supervised and monitored for network connectivity
- Powered by Power-over-Ethernet (PoE)
- Features Just Plug It in!™ design
- Requires no IP address, DHCP server, subnet, or mask configuration
- No head end, central server, or controller equipment required
- Supports auxiliary functions (door release, siren, strobe)
- Firmware upgradable over LAN
- Recessed and Surface Models
- Designed to fit between wall studs

Just Plug It In™ HD Audio™ POE

TÜV SÜD C US

DESCRIPTION

The e2444-LD provides an architectural solution for a network-based Message Display/Calendar Clock/Speaker/Strobe Light Assembly. Combining all these components onto a single assembly offers an attractive appearance while reducing fixture and labor costs.

The e2444-LD uses Power-over-Ethernet technology, Just Plug It In!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Power-over-Ethernet technology allows the e2444-LD to be plugged into a PoE network switch to supply both power and data. The simplicity of Telecor's Just Plug It In!™ design means the e2444-LD does not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server or controller equipment is required to operate the network. Once plugged into the LAN with a valid time signal, the e2444-LD is immediately functional.

e2444-LD Message Display/Calendar Clock/Speaker/Strobe

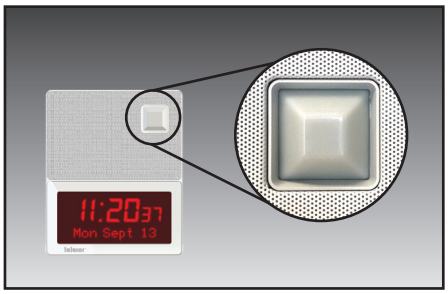
The e2444-LD is fully supervised and monitored for network connectivity, call destination, and call station connectivity, which is consistent with the NEMA SB-40 standard for communication systems. If the e2444's network connection is lost, targeted e300(-MA) eConsoles will report that station as absent and display its dial number. When the e2444-LD is used with call stations, the call-in destinations are monitored. If the device at a call-in destination loses network connectivity, the e2444-LD will automatically search for an alternate destination. If no other suitable call-in destinations exist, the call station will audibly and visually indicate a fault. If a wiring fault is detected between a Call Station and the e2444-LD, the e2444-LD will audibly and visually indicate the fault. eSeries devices that monitor the network for faults (for example: eConsoles, eAmplifiers, ePorts, and Visual Console for eSeries) will also report the fault.

The e2444-LD allows for two-way intercom communications with an eConsole. The e2444-LD can also be assigned to a single paging zone or multiple paging zones to receive selected paging announcements, audio programs, tuning into Public Channels, and tone signals for applications such as class or shift change.

Telecor's eSeries technology provides extremely low-latency audio, for exceptional performance during paging and live audio playback. It also provides extremely fast all station audio connect times when performing all-call pages throughout the network.

Speech is transmitted through the speaker in crystal-clear HD Audio. Audio is transmitted in the frequency range from 50 Hz to 7 kHz while using a 150 kbps of bandwidth during a call (128 kbps audio stream and overhead resulting in 150 kbps per audio channel). The maximum audio output level is 104 dB at 3.3 feet (1 m). Audio between stations and consoles is non-blocking, allowing a virtually unlimited number of audio channels across the LAN and reducing or eliminating busy signals. The microphone includes a conditioned preamp with built-in compression and noise gate for excellent vocal clarity and noise reduction.

The built-in LED strobe will flash for the duration of an announcement being broadcast over the speaker and/or a message being displayed on the clock display. The strobe quickly draws attention to the announcement in progress, making this unit ideal for use in environments where high ambient noise makes announcements difficult to hear.



e2444-LD Strobe

The LED Strobe can be configured to illuminate in up to 4 colors (white, red, green or blue) with various flash patterns. Patterns can be set to activate based on defined conditions. For example, an Emergency Announcement can be assigned one flash pattern and color, while a routine announcement can be assigned another pattern with a different color.

The e2444-LD simultaneously displays plain text emergency or routine messages. When not displaying a message, it displays the current time and date. Hours and minutes are displayed with large 2.25" digits. Seconds are slightly smaller for easy distinction. The date is displayed in plain text by a 10-character, dot matrix display showing the day of the week, followed by the month and date. The date can be displayed in English, French or Spanish.

When the e2444-LD receives a zone distribution, the e2444-LD will automatically broadcast the audio announcement and a corresponding text message. Zone distributions sent to the e2444-LD can be manually initiated from eConsoles, from contact closures from 3rd party hardware, or from the desktop of a PC via the eCI Interface protocol. Use of the

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eCI Interface protocol also allows the e2444-LD to display text-only messages independent of any audio messages.

These messages can be used to alert personnel of an emergency or situation of concern. In addition to plain text messages, the e2444-LD can also simultaneously display numerically-coded messages which can be activated independently to provide trained staff with additional context to the plain text messages. These can be enhanced with strobe illumination.

In addition to displaying the time, the e2444-LD also features elapsed timer and count-down functions. By installing the Telecor 2481-TBP Timer Button Panel in conjunction with the e2444-LD, users are able to count upwards from zero to 24 hours or count down from a specified value to zero. Additionally, each e2444-LD also has a local input that will accept a relay closure to activate the elapsed or countdown timer operation. Timers can also be embedded into pre-set plain text messages.

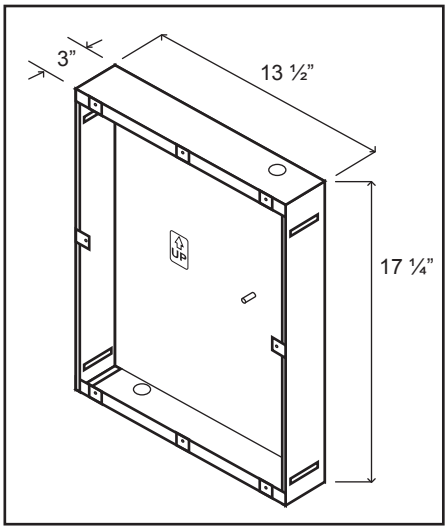
All e2444s on the LAN are continuously synchronized to a Time Master connected anywhere on the same network. Examples of Time Masters include: the Telecor ePort Management Interface, eCI Control Interface, eLOG Logging Interface, eSIP Interface, or a PC running the Telecor Ethernet Time Server Software. Time corrections are performed instantaneously so that all e2444s display the correct time. If communication is lost with the Time Master, the e2444s will maintain the time independently and stay synchronized with each other. Once communication with the Time Master is re-established, the display will automatically resynchronize with the Time Master.

The volume of the e2444-LD can be adjusted individually, by zone, or across the entire eSeries network via the ePort Management Interface or eCI Control Interface. Volume controls incorporated into certain eCS station models also allow a user to adjust the volume of a local e2444-LD. Volume levels can be set for specific functions: intercom, paging, emergency paging, and Public Channel operations.

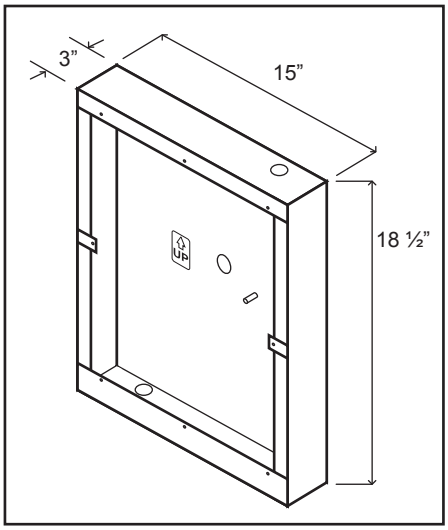
Call-in capabilities can be provided with addition of any of Telecor's eSeries Call Stations. The eCS-6 and eCS-3 are used to initiate Normal and Emergency calls respectively. Advanced stations that provide additional features such as Privacy, Do Not Disturb, Volume Controls, and Public Channel Select are also available. The e2446 is equipped with three control relays. One relay can be activated remotely from an eConsole to support an auxiliary function (e.g. door control). The other two relays are used for activating external devices during emergency notifications. These relays are automatically activated during an emergency call-in or when receiving an audible or textual emergency message.

An e2444-LD can be added to a Group containing eConsoles or certain model eStations. When a call-in is placed to the Console Group, the e2444-LD will report the originating device's name, dial number and the priority of the call-in.

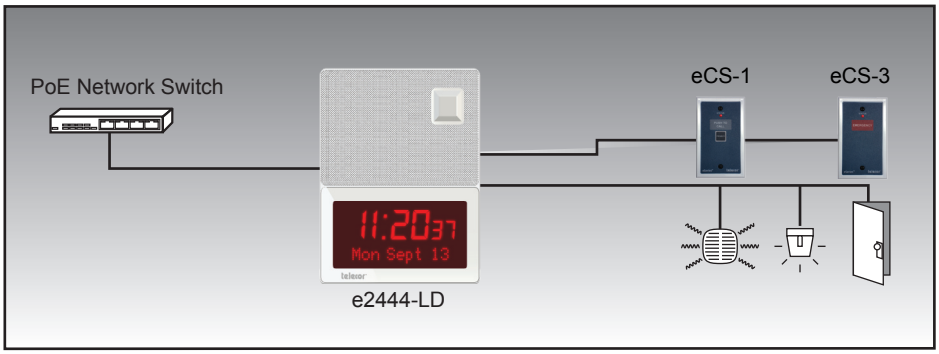
The e2444-LD can be flush mounted using an e2444-BBF enclosure. This enclosure is formed from 20 gauge satin coated steel and measures 17.25" H x 13.54" W x 3.035" D. For surface installation, an e2444-BBS enclosure is available. It is formed from 20 gauge cold rolled steel and measures 18.565" H x 15.065" W x 3.035" D.



e2444-BBF Recessed Backbox



e2444-BBS Surface Backbox



Example of e2444-LD Message Display/Calendar Clock/Speaker/Strobe and Call Stations

e2444-LD SPECIFICATIONS

Power Source:	Power-over-Ethernet, IEEE 802.3at compliant
PoE Power Required:	Class 4, 25.5 W
Network Interface:	RJ45 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Audio Format:	G.711.1 (wideband), Bandwidth of 50 Hz - 7 kHz @ 128 kbits/s (µLaw, 16 kHz sampling rate)
Audio Latency:	Typical 0.1 s
Connect Times:	
Paging:	0.01s typical for 500 stations
Display:	
Type:	Red AlGaAs "Super-Bright" LEDs
Display Characters:	
Time:	7 Segment
Date/Message:	Dot Matrix
Character Height:	
Time Display:	HH, MM: 2.25"; SS: 1.5"
Date Display:	1.0"
Speaker:	
Size:	8" (203 mm)
Power Rating:	10 watts
Frequency Range:	30 Hz to 15 kHz
Axial Sensitivity:	96 dB @ 3 ft (0.91 m) (1 watt input)
Voice Coil:	¾" (19.1 mm) diameter
SPL:	104 dB at 3.3 ft (1 m)
Strobe:	
Type:	LED
Color Range:	Red, Green, Blue, White
Flash Rate:	Selectable
Viewable Dimensions:	2.5" H x 2.5" W
Control:	Software
Indicators:	
Internal:	Network Connection, Network Activity
Relays:	3 Switched Power from Auxiliary Power Input, Strobe, Siren
Contact Format:	DPDT
Contact Rating:	1 A @ 30 VDC or 0.3 A @ 125 VAC
Termination:	0.100 IDC
Switching Capacity:	1 A
Station Terminations:	RJ45 network connector

Wiring Requirements:	CAT5 or higher
Environment Requirements:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing
Compliance:	UL/IEC/CAN/CSA-C22.2 No. 62368-1 EN 55032/CISPR 32 & EN 55024/CISPR 24 FCC Part 15 Subpart B, Class A ICES-003

CAN ICES-3 (A)/NMB-3(A)

Baffle	
Dimensions:	18.25" H x 14.75" W (46.4 cm x 37.5 cm)
Material:	Molded Plastic
Finish:	Epoxy Powder Coat
Color:	White
Weight:	4.2 lbs (2.1 kg)
e2444-BBF Flush Back Box	
Dimensions:	17.25" H x 13.54" W x 3.035" D (43.8 cm x 34.4 cm x 7.7 cm)
Material:	20 gauge Satin Coat Steel
Finish:	Satin Coat
Weight:	7 lbs (3.2 kg)
e2444-BBS Surface Back Box	
Dimensions:	18.565" H x 15.065" W x 3.035" D (47.2 cm x 38.3 cm x 7.7 cm)
Material:	20 gauge CRS
Finish:	Epoxy Powder Coat
Color:	White
Weight:	8 lbs (3.6 kg)

PARTIAL LIST OF ASSOCIATED EQUIPMENT

e2444-BBF	Recessed Backbox
e2444-BBS	Surface Backbox
eCS Series	Call Stations
e300	eConsole
ePORT	Management Interface

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FEATURES

- Variable Flash Rates
- Selectable Strobe Colors
- Fully supervised and monitored for network connectivity
- Powered by Power-over-Ethernet (PoE)
- Features Just Plug It in!™ design
- Requires no IP address, DHCP server, subnet, or mask configuration
- No head end, central server, or controller equipment required
- Firmware upgradable over LAN

DESCRIPTION

The eLD1 is a network-based LED strobe that will illuminate for the duration of an announcement being broadcast over the eSeries communications system. It is used in conjunction with eSeries speakers and message/clock displays to quickly alert building occupants to the announcement in progress. It is ideal for use in environments where high ambient noise makes announcements difficult to hear.

The eLD1 uses Power-over-Ethernet technology, Just Plug It In!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Power-over-Ethernet technology allows the eLD1 to be plugged into a PoE network switch to supply both power and data. The simplicity of Telecor's Just Plug It In!™ design means the eLD1 does not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server or controller equipment is required to operate the network.

The eLD1 can be configured to illuminate in up to 4 colors (white, red, green or blue) with various flash patterns. Patterns can be set to activate based on defined conditions. For example, an Emergency Announcement can be assigned one flash pattern and color, while a routine announcement can be assigned another pattern with a different color.

The eLD1s can be assigned to a single zone, multiple zones or to a single device addressed by dial number. Activation can be by placing an intercom call to a room station with an associated eLD1, a broadcast of a paging announcement into a zone or by an activation of an alarm event such as Lockdown. The eLD1 will illuminate for the duration of the announcement or event.

When the eLD1 is installed in locations with an associated eS8-TB Talkback Speaker, eSBM-TB Breakout Module or e365-TB Message Display/Calendar Clock, both the eLD1 and the associated device can be supported by a single Ethernet drop as shown in Figure 1.

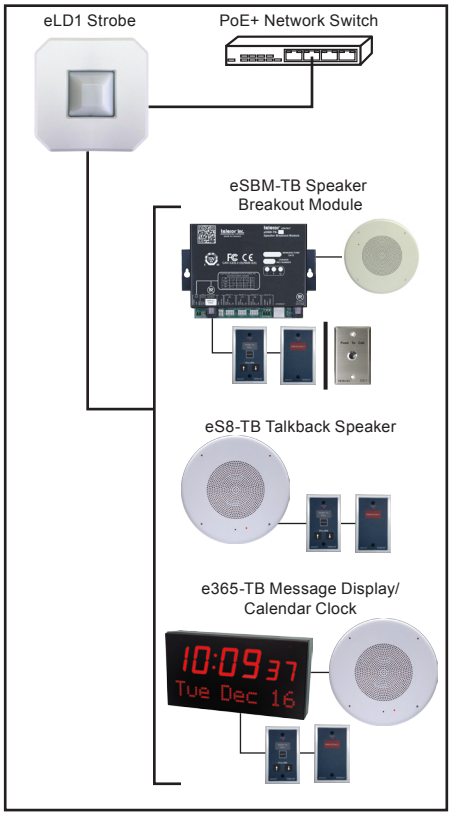

Figure 1: eLD1 with Associated Stations

The eLD1 can be configured as a single device that is associated with a paging zone as shown in Figure 2. In this configuration, the eLD1 will be activated whenever a broadcast is made to that paging zone. Multiple eLD1s can be assigned to a given paging zone.

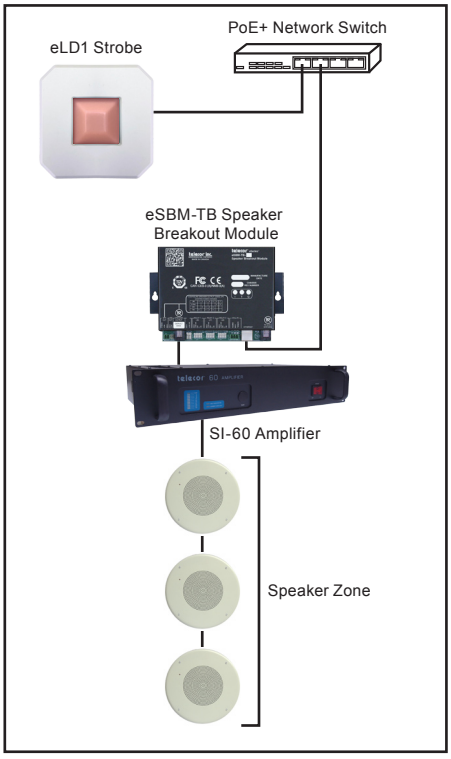

Figure 2: eLD1 as a Page Zone Indicator

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The eLD1 can be flush mounted using a standard 4 11/16” square x 2” deep electrical box.

Figure 3: eLD1 Backbox

eLD1 SPECIFICATIONS

Power Source:	Power-over-Ethernet, IEEE 802.3at compliant
PoE Power Required:	Class 4, 25.5 W
Network Interface:	RJ45 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Strobe:	
Type:	LED
Color Range:	Red, Green, Blue, White
Flash Rate:	Selectable
Viewable Dimensions:	2.5“ H x 2.5” W
Control:	Software
Station Terminations:	RJ45 network connectors
Wiring Requirements:	CAT5 or higher
Environment Requirements:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing
Size:	5.5“ H x 5.5” W x 1.5“ D (13.97 cm x 13.97 cm x 3.8 cm D)
Faceplate:	
Finish:	White Epoxy Powder Coating
Backbox Required:	2-gang, 1.75” min. depth
Weight:	7 oz (0.2 kg)
Approvals:	FCC, CE

PARTIAL LIST OF ASSOCIATED EQUIPMENT

e2444	Message Display/Calendar Clock/Speaker
e365-TB-MA	Message Display/Calendar Clock/Speaker
eS8-TB-MA	Talkback Speaker
eSBM-TB	Speaker Breakout Module
ePORT	Management Interface

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eSeries

e365-TB-MA
Message Display/Calendar Clock Model A

FEATURES

- Scrolling dot matrix marquee for emergency and routine messages
- Easy to read 7-segment clock display
- Displays current time in six digit format (HH:MM:ss)
- Displays date in English, French or Spanish
- Can provide visual call-in indication for eConsoles
- True digital network endpoint solution
- Provides two-way talkback from companion loudspeaker
- Integrates with eCS Call Stations
- Fully supervised and monitored for network connectivity
- Powered by Power-over-Ethernet (PoE)
- Features Just Plug It in!™ design
- Requires no IP address, DHCP server, subnet, or mask configuration
- No head end, central server or controller equipment required
- Enhanced message display capabilities
- Elapsed and count-down timer capabilities
- Single or dual face configuration
- Flush, surface or wall/ceiling mounting
- Anti-reflective cover optimizes readability
- Wide viewing angle
- Audible and visual call-in assurance
- Assigned to Zone(s) for Companion Textual Messages
- Supports auxiliary functions (door release, siren, strobe)
- Advanced features configurable using ePort
- Firmware upgradable over LAN

Just Plug It In!™ HD Audio™ POE

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e365-TB-MA

DESCRIPTION

The Telecor e365-TB-MA Message Display/Calendar Clock Model A simultaneously displays plain text emergency or routine messages and independent numerically-coded messages. When not displaying a message, it displays the current time and date. Hours and minutes are displayed with large 2.25" digits. Seconds are slightly smaller for easy distinction. The date is displayed in plain text by a 10-character, dot matrix display showing the day of the week, followed by the month and date. The date can be displayed in English, French or Spanish.

A unique feature of the e365-TB-MA is its ability to support Telecor's e365-SPK Companion Talkback Speaker as well as Telecor's eCS-1, eCS-2, eCS-3 and eCS-6 Call Stations, all from a single network drop.

The e365-TB-MA uses Power-over-Ethernet technology, Just Plug It In!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Power-over-Ethernet technology allows the e365-TB-MA to be plugged into a PoE network switch to supply both power and data. The simplicity of Telecor's Just Plug It In!™ design means the e365-TB-MA does not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server or controller equipment is required to operate the network. Once plugged into the LAN with a valid time signal, the e365-TB-MA is immediately functional.

The e365-TB-MA is fully supervised and monitored for network connectivity, call destination, and call station connectivity, which is consistent with the NEMA SB-40 standard for communication systems. If the e365-TB-MA's network connection is lost, targeted e300-MA eConsoles will report that station as absent and display its dial number. When the e365-TB-MA is used with call stations, the call-in destinations are monitored. If the device at a call-in destination loses network connectivity, the e365-TB-MA will automatically search for an alternate destination. If no other suitable call-in destinations exist, the call station will audibly and visually indicate an error. If a wiring fault is detected between a Call Station and the e365-TB-MA, the e365-TB-MA will audibly and visually indicate the error. The ePort logs the location, time, date and type of fault. The ePort, eLog, eCI and eAmplifiers can also generate an alarm tone.

The Companion Speaker, when installed in conjunction with the e365-TB-MA, provides two-way intercom communications with eConsoles. The speaker will also receive paging announcements, audio programs, and time tone signals suitable for applications such as class or shift changes. It can be programmed as a member of a single paging zone or multiple paging zones. The volume of the Companion Speaker can be adjusted individually, by zone, or across the entire eSeries network via the ePORT-MC Management Interface or eCI-MA Control Interface. Volume controls incorporated into certain eCS station models also allow a user to adjust the volume of a local Companion Speaker. Volume levels can be set for specific functions: intercom, paging, emergency paging, and Public Channel operations.

Call-in capabilities can be provided with addition of any of Telecor's eSeries Call Stations. The eCS-6 and eCS-3 are used to initiate Normal and Emergency calls respectively. Also available are advanced stations that provide additional features: the eCS-1 (Privacy and Normal Call), eCS-2 (Do Not Disturb and Normal Call), and eCS-4 (Volume Control, Public Channel Select and Normal Call).

eCS CALL STATIONS

The e365-TB-MA supports a supervisory tone feature. This is intended to ensure room occupants are aware when the station is in a two-way intercom call. This is done by having the speaker sound a pre-announce tone whenever an intercom call is connected. Furthermore, a tone will sound at specified intervals for the duration of the connected call.

The e365-TB-MA is equipped with three control relays. One relay can be activated remotely from an eConsole to support an auxiliary function (e.g. door control). The other two relays are used for emergency notifications, such as a strobe or combination strobe and siren. The strobe and siren relays are automatically activated on an emergency call-in or when receiving an audible or textual emergency message, but the siren is silenced once the speaker is active.

Enhanced Clock Messaging

In addition to displaying the time, the e365-TB-MA can be directly engaged by the Telecor software to display messages in the dot matrix section of the display. Messages can be transmitted to the Display as visual only messages, independent of any audio broadcast. Alternatively textual messages can be sent as an automatic companion message to a stored digital audio message from an eAmplifier. When the e365-TB-MA is a member of a zone distribution, the e365-TB-MA will automatically display the companion text message stored on the eAmplifier and broadcast the audio message on the companion speakers. Messages sent to the e365-TB-MA can be manually initiated from eConsoles, from contact closures from 3rd party hardware, or from the desktop of a PC via the eCI Interface protocol. Use of the eCI Interface

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protocol also allows the Message Display/Calendar Clock to show just textual messages independent of any audio messages.

An e365-TB-MA can be added to a Group containing eConsoles or certain model eStations. When a call-in is placed to the Console Group, the e365-TB-MA will report the originating device's name, dial number and the priority of the call-in.

These messages can be used to alert personnel of an emergency or situation of concern. Optional strobes can also be activated when the e365-TB-MA receives emergency messages to draw attention to its display. This is ideal for communicating visual messages to people with hearing impairment during critical situations. In addition to plain text messages, the e365-TB-MA can also simultaneously display numerically-coded messages which can be activated independently to provide trained staff with additional context for the plain text messages.

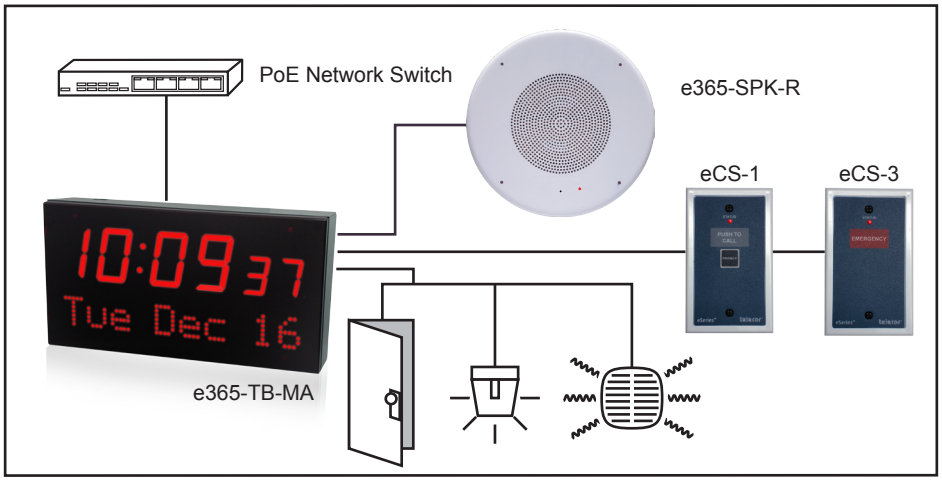
In addition to displaying the time, the e365-TB-MA also features elapsed timer and count-down functions. By installing the Telecor 2481-TBP Timer Button Panel in conjunction with the e365-TB-MA, users are able to count upwards from zero to 24 hours or count down from a specified value to zero. Additionally, each e365-TB-MA also has a local input that will accept a relay closure to activate the elapsed or countdown timer operation. Timers can also be embedded into preset plain text messages.

All e365-TB-MAs on the LAN are continuously synchronized to a Time Master connected anywhere on the same network. Examples of Time Masters include: the Telecor ePORT-MC Management Interface, eCI-MA Control Interface, eLOG Logging Interface, eSIP Interface, or a PC running the Telecor Ethernet Time Server Software. Time corrections are performed instantaneously so that all e365-TB-MAs display the correct time. If communication is lost with the Time Master, the e365-TB-MAs will maintain the time independently and stay synchronized with each other. Once communication with the Time Master is re-established, the display will automatically resynchronize with the Time Master.

The e365-TB-MA can surface or flush mounted using the appropriate Back Box.

Model	Surface Mounted Backbox	Flush Mounted Backbox
e365-TB-MA	2431-BBS	2431-BBF

FLUSH AND SURFACE BACKBOXES FOR e365-TB-MA



Example of e365-TB-MA Message Display/Calendar Clock and Call Station Configuration

Two surface mount e365-TB-MAs can be mounted back-to-back using a pair of 2431-BBS surface enclosures along with a 2423 Dual Mounting Kit, creating a double-face version. The Dual Mounting Kit is supplied with a bracket that allows the clock to be mounted 4" away from a wall or ceiling surface.

An optional 2433 Clock Guard is also available for the surface mount models of the e365-TB-MAs. The guards are constructed from sturdy, heavy gauge steel and include a plexiglass window that provides both protection and optimum visibility of the clock display.

e365-TB-MA MESSAGE DISPLAY/CALENDAR CLOCK SPECIFICATIONS

Type:	Surface and Flush Mount
Display:	Red AlGaAs "Super-Bright" LEDs
Display Characters:	
Time:	7 Segment
Date/Message:	Dot Matrix
Character Height:	
Time Display:	HH, MM: 2.25"; SS: 1.5"
Date Display:	1.0"
Power Source:	Power-over-Ethernet, IEEE 802.3af compliant
PoE Power Required:	
Alone:	Class 0, 7.0 W
with Speaker:	Class 0, 12.0 W
Network Interface:	RJ45 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Audio Format:	G.711.1 (wideband), Bandwidth of 50 Hz - 7 kHz @ 128 kbits/s (µLaw, 16 kHz sampling rate)
Audio Latency:	Typical 0.1 s
Connect Times:	
Paging:	0.01 s typical for 500 stations
Companion Speakers:	e365-SPK-R e365-SPK-SQ
Power Rating:	10 watts
Frequency Range:	30 Hz to 15 kHz
Axial Sensitivity:	96 dB at 3 ft (0.91 m)
Voice Coil:	¾" (19.1 mm) diameter
SPL:	104 dB at 3.3 ft (1 m)
Microphone (on Companion Speaker):	
Type:	Omni Directional
Sensitivity:	-42 db (+/- 3dB)
Frequency:	20 Hz - 20 kHz
S/N Ratio:	60 dBA
Indicators (on Companion Speaker):	
Front Panel:	Status
Internal:	Network Connection, Network Activity
Relays:	3 Switched Power from Auxiliary Power Input, Strobe, Siren
Contact Format:	DPDT
Contact Rating:	1 A @ 30 VDC or 0.3 A @ 125 VAC
Termination:	0.100 IDC
Switching Capacity:	1 A
Station Terminations:	RJ45 network connector
Wiring Requirements:	CAT5 or higher
Environment Requirements:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing
Dimensions:	
Calendar Clock:	15" W x 8" H x 3.25" D 38.4 cm W x 20.5 cm H x 8.3 cm D
2431-BBF Recessed Enclosure:	14.13" W x 7.06" H x 3.13" D 36.2 cm W x 18.1 cm H x 8.0 cm D
2431-BBS Surface Enclosure:	15.06" W x 8.06" H x 4.5" D 38.6 cm W x 20.6 cm H x 11.5 cm D
Weight:	3.196 lb (1.45 kg)
Compliance:	UL/IEC/CAN/CSA-C22.2 No. 62368-1 EN 55032/CISPR 32 & EN 55024/CISPR 24 FCC Part 15 Subpart B, Class A ICES-003

CAN ICES-3 (A)/NMB-3(A)

PARTIAL LIST OF ASSOCIATED EQUIPMENT

2431-BBF	Flush Mount Backbox
2431-BBS	Surface Mount Backbox
2423	Dual Mounting Kit
2481-TBP	Timer Button Panel
2433	Protective Guard
e365-SPK-(R)(SQ)	Companion Speaker
SW-ETS	Ethernet Time Server Software
eCS-1	Call Station with Privacy
eCS-2	Call Station with Do Not Disturb
eCS-3	Emergency Call Station
eCS-4	Volume Control and Public Channel Select Call Station
eCS-5	Volume Control and Public Channel Select Station
eCS-6	Call Station
e300-MA	eConsole
ePORT-MC	Management Interface

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eSeries

e365-TB-STB-MA
Message Display/Calendar Clock Model A

FEATURES

- Scrolling dot matrix marquee for emergency and routine messages
- Easy to read 7-segment clock display
- Displays current time in six digit format (HH:MM:ss)
- Displays date in English, French or Spanish
- Can provide visual call-in indication for eConsoles
- Connects to eSeries eSTB-12 2x2 Ceiling Inlay Speaker and network switch with standard CAT5 Cables
- True digital network endpoint solution
- Provides two-way talkback from companion loudspeaker
- Integrates with eCS Call Stations
- Fully supervised and monitored for network connectivity
- Powered by Power-over-Ethernet (PoE)
- Features Just Plug It in!™ design
- Requires no IP address, DHCP server, subnet, or mask configuration
- No head end, central server or controller equipment required
- Enhanced message display capabilities
- Elapsed and count-down timer capabilities
- Single or dual face configuration
- Flush, surface or wall/ceiling mounting
- Anti-reflective cover optimizes readability
- Wide viewing angle
- Audible and visual call-in assurance
- Assigned to Zone(s) for Companion Textual Messages
- Supports auxiliary functions (door release, siren, strobe)
- Advanced features configurable using ePort
- Firmware upgradable over LAN

Just Plug It In™
HD Audio™
POE

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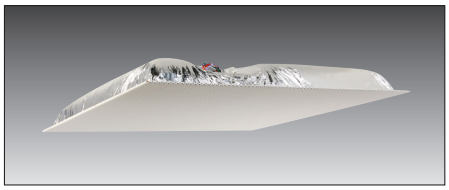
e365-TB-STB-MA

DESCRIPTION

The Telecor e365-TB-STB-MA is a variation of the e365-TB to support the eSTB-12 Ceiling Inlay Speaker, which is designed for quick and easy installation into suspended ceilings. The e365-TB-STB-MA connects to the speaker and call stations via RJ-45 connectors and standard CAT5 or higher cables. It supports the speaker and Telecor's eCS series Call Stations all from a single network drop.

The e365-TB-STB-MA provides all the features of the e365-TB-MA Message Display/Calendar Clock. It displays plain text emergency or routine messages and independent numerically-coded messages. When not displaying a message, it displays the current time and date. Hours and minutes are displayed with large 2.25" digits. Seconds are slightly smaller for easy distinction. The date is displayed in plain text by a 10-character, dot matrix display showing the day of the week, followed by the month and date. The date can be displayed in English, French or Spanish.

The e365-TB-STB-MA uses Power-over-Ethernet technology, Just Plug It In!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Power-over-Ethernet technology allows the e365-TB-STB-MA to be plugged into a PoE network switch to supply both power and data. The simplicity of Telecor's Just Plug It In!™ design means the e365-TB-STB-MA does not require any network configuration or administration, eliminating IP address and DHCP server requirements. The decentralized network structure means no head end, central server or controller equipment is required to operate the network. Once plugged into the LAN with a valid time signal, the e365-TB-STB-MA is immediately functional.



eSTB-12 CEILING INLAY SPEAKER

The eSTB-12 is a factory-assembled 8" speaker that is housed within a combination baffle and backbox designed to fit 24" wide tiles common in suspended ceilings. It provides two-way intercom communications with eConsoles. The speaker will also receive paging announcements, audio programs, and time tone signals suitable for applications such as class or shift changes. It can be programmed as a member of a single paging zone or multiple paging zones. The volume of the Companion Speaker can be adjusted individually, by zone, or across the entire eSeries network via the ePORT-MC Management Interface or eCI-MA Control Interface. Volume controls incorporated into certain eCS station models also allow a user to adjust the volume of a local Companion Speaker. Volume levels can be set for specific functions: intercom, paging, emergency paging, and Public Channel operations.

Call-in capabilities can be provided with addition of any of Telecor's eSeries Call Stations. The eCS-6 and eCS-3 are used to initiate Normal and Emergency calls respectively. Also available are advanced stations that provide additional features: the eCS-1 (Privacy and Normal Call), eCS-2 (Do Not Disturb and Normal Call), and eCS-4 (Volume Control, Public Channel Select and Normal Call).

eCS CALL STATIONS

The e365-TB-STB-MA is fully supervised and monitored for network connectivity, call destination, and call station connectivity, which is consistent with the NEMA SB-40 standard for communication systems. If the e365-TB-STB-MA's network connection is lost, targeted e300-MA eConsoles will report that station as absent and display its dial number. When the e365-TB-STB-MA is used with call stations, the call-in destinations are monitored. If the device at a call-in destination loses network connectivity, the e365-TB-STB-MA will automatically search for an alternate destination. If no other suitable call-in destinations exist, the call station will audibly and visually indicate an error. If a wiring fault is detected between a Call Station and the e365-TB-STB-MA, the e365-TB-STB-MA will audibly and visually indicate the error. The ePort logs the location, time, date and type of fault. The ePort, eLog, eCI and eAmplifiers can also generate an alarm tone.

The e365-TB-STB-MA supports a supervisory tone feature. This is intended to ensure room occupants are aware when the station is in a two-way intercom call. This is done by having the speaker sound a pre-announce tone whenever an intercom call is connected. Furthermore, a tone will sound at specified intervals for the duration of the connected call.

The e365-TB-STB-MA is equipped with three control relays. One relay can be activated remotely from an eConsole to support an auxiliary function (e.g. door control). The other two relays are used for emergency notifications, such as a strobe or combination strobe and siren. The strobe and siren relays are automatically activated on an emergency call-in or

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when receiving an audible or textual emergency message, but the siren is silenced once the speaker is active.

Enhanced Clock Messaging
In addition to displaying the time, the e365-TB-STB-MA can be directly engaged by the Telecor software to display messages in the dot matrix section of the display. Messages can be transmitted to the Display as visual only messages, independent of any audio broadcast. Alternatively textual messages can be sent as an automatic companion message to a stored digital audio message from an eAmplifier. When the e365-TB-STB-MA is a member of a zone distribution, the e365-TB-STB-MA will automatically display the companion text message stored on the eAmplifier and broadcast the audio message on the companion speakers. Messages sent to the e365-TB-STB-MA can be manually initiated from eConsoles, from contact closures from 3rd party hardware, or from the desktop of a PC via the eCI Interface protocol. Use of the eCI Interface protocol also allows the Message Display/Calendar Clock to show just textual messages independent of any audio messages.

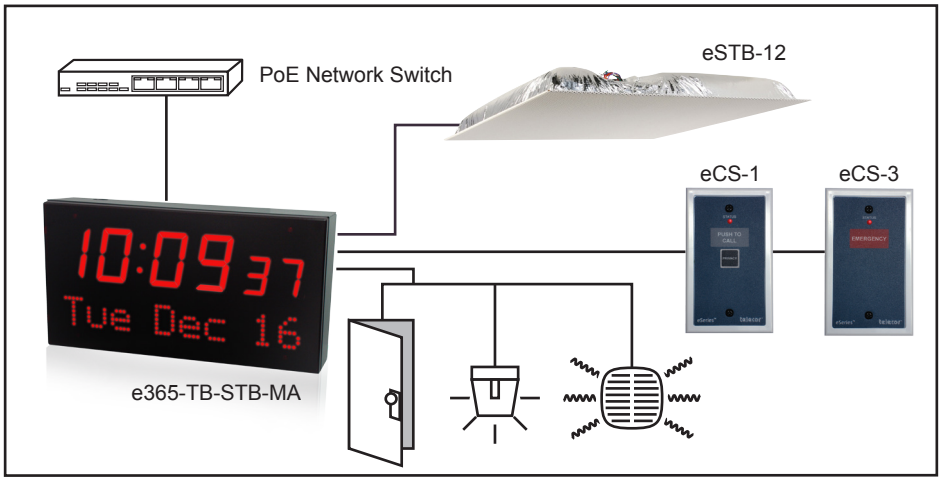
An e365-TB-MA can be added to a Group containing eConsoles or certain model eStations. When a call-in is placed to the Console Group, the e365-TB-MA will report the originating device's name, dial number and the priority of the call-in.

These messages can be used to alert personnel of an emergency or situation of concern. Optional strobes can also be activated when the e365-TB-STB-MA receives emergency messages to draw attention to its display. This is ideal for communicating visual messages to people with hearing impairment during critical situations. In addition to plain text messages, the e365-TB-STB-MA can also simultaneously display numerically-coded messages which can be activated independently to provide trained staff with additional context for the plain text messages.

In addition to displaying the time, the e365-TB-STB-MA also features elapsed timer and count-down functions. By installing the Telecor 2481-TBP Timer Button Panel in conjunction with the e365-TB-STB-MA, users are able to count upwards from zero to 24 hours or count down from a specified value to zero. Additionally, each e365-TB-STB-MA also has a local input that will accept a relay closure to activate the elapsed or countdown timer operation. Timers can also be embedded into preset plain text messages.

All e365-TB-STB-MAs on the LAN are continuously synchronized to a Telecor Time Master connected anywhere on the same network. Examples of Time Masters include: the Telecor ePORT-MC Management Interface, eCI-MA Control Interface, eLOG Logging Interface, eSIP Interface, or a PC running Telecor Ethernet Time Server Software. Time corrections are performed instantaneously so that all e365-TB-STB-MAs display the correct time. If communication is lost with the Time Master, the e365-TB-STB-MAs will maintain the time independently but stay synchronized with each other. Once communication with the Time Master is re-established, the display will automatically resynchronize with the Time Master.

FLUSH AND SURFACE BACKBOXES
FOR e365-TB-STB-MA



Example of e365-TB-STB-MA Message Display/Calendar Clock and Call Station Configuration

The e365-TB-STB-MA can be surface or flush mounted using the appropriate Back Box.

Model	Surface Mounted Backbox	Flush Mounted Backbox
e365-TB -STB-MA	2431-BBS	2431-BBF

Two surface mount e365-TB-STB-MAs can be mounted back-to-back using a pair of 2431-BBS surface enclosures along with a 2423 Dual Mounting Kit, creating a double-face version. The Dual Mounting Kit is supplied with a bracket that allows the clock to be mounted 4" away from a wall or ceiling surface.

An optional 2433 Clock Guard is also available for the surface mount models of the e365-TB-STB-MAs. The guards are constructed from sturdy, heavy gauge steel and include a plexiglass window that provides both protection and optimum visibility of the clock display.

e365-TB-STB-MA MESSAGE DISPLAY/CALENDAR CLOCK SPECIFICATIONS

Type:	Surface and Flush Mount
Display:	Red AlGaAs "Super-Bright" LEDs
Display Characters:	
Time:	7 Segment
Date/Message:	Dot Matrix
Character Height:	
Time Display:	HH, MM: 2.25"; SS: 1.5"
Date Display:	1.0"
Power Source:	Power-over-Ethernet, IEEE 802.3af compliant
PoE Power Required:	
Alone:	Class 0, 7.0 W
with Speaker:	Class 0, 12.0 W
Network Interface:	RJ45 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
Audio Format:	G.711.1 (wideband), Bandwidth of 50 Hz - 7 kHz @ 128 kbits/s (µLaw, 16 kHz sampling rate)
Audio Latency:	Typical 0.1 s
Connect Times:	
Paging:	0.01 s typical for 500 stations
Companion Speakers:	eSTB-12
Power Rating:	12 watts
Frequency Range:	65 Hz to 17 kHz
Axial Sensitivity:	92 dB at 1 m (1 watt input)
Impedance:	8 ohms
Indicators:	
Internal:	Network Connection, Network Activity
Relays:	3 Switched Power from Auxiliary Power Input, Strobe, Siren
Contact Format:	DPDT
Contact Rating:	1 A @ 30 VDC or 0.3 A @ 125 VAC
Termination:	0.100 IDC
Switching Capacity:	1 A
Station Terminations:	RJ45 network connector
Wiring Requirements:	CAT5 or higher
Environment Requirements:	50-104ºF/10-40ºC, 0-90% relative humidity, non-condensing
Dimensions:	
Calendar Clock:	15" W x 8" H x 3.25" D 38.4 cm W x 20.5 cm H x 8.3 cm D
2431-BBF Recessed Enclosure:	14.13" W x 7.06" H x 3.13" D 36.2 cm W x 18.1 cm H x 8.0 cm D
2431-BBS Surface Enclosure:	15.06" W x 8.06" H x 3.5" D 38.6 cm W x 20.6 cm H x 11.5 cm D
Weight:	3.196 lb (1.45 kg)
Compliance:	UL/IEC/CAN/CSA-C22.2 No. 62368-1 EN 55032/CISPR 32 & EN 55024/CISPR 24 FCC Part 15 Subpart B, Class A ICES-003

CAN ICES-3 (A)/NMB-3(A)

PARTIAL LIST OF ASSOCIATED EQUIPMENT

eSTB-12	Ceiling Speaker/Baffle
2431-BBF	Flush Mount Backbox
2431-BBS	Surface Mount Backbox
2423	Dual Mounting Kit
2481-TBP	Timer Button Panel
2433	Protective Guard
SW-ETS	Ethernet Time Server Software
eCS-1	Call Station with Privacy
eCS-2	Call Station with Do Not Disturb
eCS-3	Emergency Call Station
eCS-4	Volume Control and Public Channel Select Call Station
eCS-5	Volume Control and Public Channel Select Station
eCS-6	Call Station
e300-MA	eConsole
ePORT-MC	Management Interface

All product information subject to change without notice.

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VuAlert

VuAlert Dynamic Display, Dynamic View Adapter, and Integrator

FEATURES

- Supports an unlimited number of displays
- Distributes messages/emergency alarms to displays which can include plain text and audio
- NOAA severe weather notifications can automatically activate emergency alarms
- Displays synchronized time
- Displays weather information
- Customizable visual color schemes
- Unique color schemes for emergency alarms
- Displays can connect to network via wired Ethernet or wireless Wi-Fi
- Manual/scheduled adjustment of display brightness
- Scheduled display sleep mode for energy conservation
- Displays automatically resumes operation after power interruption
- Online cloud management
- Send SMS/email notifications upon emergency alarm activation

DYNAMIC DISPLAY FEATURES
- 22" HD screen with speakers
- Supports both landscape and portrait orientation

DYNAMIC VIEW FEATURES
- Provides HDMI output for third-party displays
- Supports HD, large-format display resolutions
- Supports landscape orientation

INTEGRATOR FEATURES
- Allows eSeries and T2/XL Systems to activate VuAlert emergency alarms/messages

DESCRIPTION

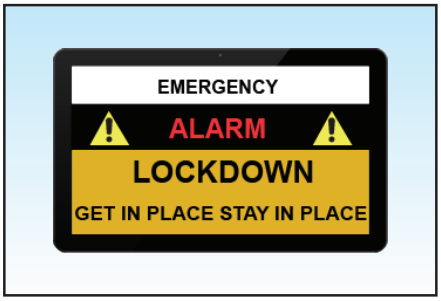
The Telecor VuAlert platform allows visual displays to be integrated into Telecor's eSeries and T2/XL Systems. These displays can show the time, weather information, alarms, messages, and emergency alarms. Multiple visual layouts and color schemes are available for use. The time can be displayed as an analog or digital clock. Messages and emergency alarms can include plain text and audio. Messages can be scheduled to appear at certain times and days of the week. Live local weather at the facility is also shown on each screen.

Messages can also be configured to appear on specific displays and zones (which group together multiple displays).

Severe weather notifications issued by the National Oceanic and Atmospheric Administration (NOAA) can also automatically activate weather alerts.

VA-DD Dynamic Display

Emergency alarm screens can be activated from the eSeries or TII/XL Visual Console GUI. This allows complete integration with an operational control from the facilitiy's Telecor communications system. VuAlert emergency alarms can activate in conjunction with the delivery of SMS text messages and email notifications.



Emergency Alarm

The VuAlert platform supports an unlimited number of displays. All displays can have their brightness adjusted. A scheduled sleep mode feature is also available for further energy conservation. Should a VuAlert display lose power, it will automatically resume regular operation upon power and network restoration.

Displays connect via wired Ethernet or wireless Wi-Fi to the facility LAN which has access to the VuAlert cloud-based web portal. This portal is used to manage and configure the VuAlert platform and its features. The cloud-based nature of the VuAlert platform also makes it possible to manage different sites, each with their own sets of displays, through the web portal.

The Dynamic Display is a 22" HD screen. The Dynamic Display is also equipped with both a wired and wireless network adapters for connection to the facility LAN.

The Dynamic Display can be wall mounted with the VA-B surface mount bracket in either a landscape or portrait orientation.

The Dynamic View Adapter allows any third-party display capable of receiving HDMI input to serve as a VuAlert display. This includes large-format HD resolution displays. The Adapter includes a wired and wireless network adapters to allow the display to connect to the facility LAN.

VA-DVA Dynamic View Adapter

The Integrator provides integration between Telecor's eSeries/T2/XL System and the VuAlert platform. VuAlert messages and emergency alarms can be configured to activate from Visual Console.

VA-I Integrator

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VuAlert

VuAlert Dynamic Display, Dynamic View Adapter, and Integrator

SPECIFICATIONS

VA-DD DYNAMIC DISPLAY

Weight:	8 lbs
Dimensions:	20 13/16” x 1 3/8” x 12 9/16” (52.9cm x 3.5cm x 31.9cm)
Display screen diagonal size:	21.5” (54.6cm)
Screen type:	LCD with LED backlight
Screen resolution:	1920 x 1080
Mounting orientation:	landscape or portrait
Internal speakers:	2 each at 2W
External speaker out:	3.5mm jack
Ports:	2 USB 2.0 1 10/100Mb Ethernet/RJ45
Wireless connectivity:	802.11b/g/n (2.5Ghz)
USB provisioning:	USB drive with AES encryption
Wired provisioning:	LAN/DHCP Web portal on network connection
Time synchronization:	2 static IP address SNTP servers
Clock battery backup:	CR1220 lithium
Relative humidity:	85% maximum
Operating temperature:	32˚F-104˚F/0˚C-40˚C
Input voltage to power supply:	100-240VAC, 50/60Hz
Output voltage from power supply:	12VDC
Energy efficiency:	Level VI
Power Consumption:	25W (average), 40W (maximum), 20W (in sleep mode)
Certifications:	CE/FCC, PSU with UL

VA-DVA DYNAMIC VIEW ADAPTER

Weight:	1.1 lbs
Dimensions:	7.5" x 3.75" x 0.75" (19.05cm x 9.53cm x 1.91cm)
Supported Screen resolution:	1920 x 1080
Supported orientation:	landscape
External speaker out:	3.5mm jack
Ports:	2 USB 2.0 1 10/100Mb Ethernet/RJ45
Wireless connectivity:	802.11b/g/n (2.5Ghz)
USB provisioning:	USB drive with AES encryption
Wired provisioning:	LAN/DHCP Web portal on network connection
Time synchronization:	2 static IP address SNTP servers
Clock battery backup:	CR1220 lithium
Relative humidity:	85% maximum, non-condensing
Operating temperature:	32˚F-104˚F/0˚C-40˚C
Input voltage to power supply:	100-240VAC, 50/60Hz
Output voltage from power supply:	12VDC
Energy efficiency:	Level VI
Power Consumption:	9.5W (average), 14.5W (maximum)
Certifications:	CE/FCC, PSU with UL

VA-I INTEGRATOR

Ports:	1 10/100Mb Ethernet/RJ45
Monitored switch style:	normally-open dry contact
Monitored switch wiring length:	25ft (7.62m) maximum
Number of monitored switches:	2
Maximum number of Integrators per VuAlert system:	5
Power supply input voltage:	100-240VAC, 50/60Hz
Power supply output voltage:	9VDC
Certifications:	FCC

DYNAMIC DISPLAY ACCESSORIES

VA-B Surface Mounting Bracket

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Digital Clocks

eCLK-2.5 2.5" Ethernet Digital Clock

2421-BBS Surface Backbox

2421-BBF Flushmount Backbox

eCLK-4 4" Ethernet Digital Clock

2431-BBS Surface Backbox

2431-BBF Flushmount Backbox

2423 Dual Mounting Kit

2481-TBP Timer Button Panel

2433 Clock Guard

telecor™

eSeries Time Keeping System

eCLK-2.5/eCLK-4

2.5”/4” Ethernet Digital Clock

FEATURES

- Four-digit (HH:MM format) time display
- Power-over-Ethernet driven
- Features Just Plug It In!™ design
- No head end or controller equipment required
- Requires no IP address, DHCP server, subnet, or mask configuration
- Synchronizes time with ePORT, eLOG or Server PC running Telecor Ethernet Time Server Software
- Firmware upgradable over LAN
- 12 and 24 hour modes
- 2.5" and 4" display models
- Flush, surface, and dual-face mounting options
- Wide viewing angle
- Anti-reflective cover to optimize readability
- Elapsed and count-down timer capabilities controlled by button panel or external contact closure
- Displays “BELL” or “FirE” on Network via Dry Contact

Just Plug It In!™

DESCRIPTION

The Telecor eCLK-2.5 and eCLK-4 Ethernet Digital Clocks incorporate four-digit displays that indicate the time in hours and minutes.

The Telecor eSeries uses Power-over-Ethernet technology, Just Plug It In!™ design, and a decentralized network structure to ensure easy wiring and simplified network planning. The use of Power-over-Ethernet technology allows the eClock to be plugged into a PoE network switch to supply both power and data. The simplicity of Telecor's Just Plug It In!™ design means the eClock does not require any network configuration or administration, eliminating IP adddress and DHCP server requirements. The decentralized network structure means no head end or controller equipment is required. Once plugged into a LAN with a valid time signal, the eClock is immediately functional.

All eClocks on the LAN are continuously synchronized to a Telecor Time Server connected anywhere on the same network. The Time Server can be a Telecor ePORT Manangement Interface, eLOG Logging Interface, or a PC running the Telecor Ethernet Time Server Software. Time corrections are performed instantaneously so that all eClocks display the correct time. If an eClock loses communication with the Time Server, the eClock will maintain the time independently. Once communication with the Time Server is re-established, the eClock will resynchronize with the Time Server and continue to apply time correction.

A Telecor ePORT, a device that connects to the PoE network switch via Ethernet and to a computer via USB, provides a single access point to allow simultaneous mass-upgrading of device firmware across the LAN, eliminating the need to remove the device from the wall to perform firmware upgrades.

The eClocks are available in 2.5” and 4” models, both of which feature bright red, seven segment LED digits. The 2.5” model can be viewed from 120 feet away while the 4” model is legible up to 250 feet away.

The eClock can be installed flush with a wall or surface mounted using the appropriate backbox.

All models feature an anti-reflective cover and wide viewing angle to optimize readability.

In addition to displaying the time, the eClocks also feature an elapsed timer and count-down functions. By installing the Telecor 2481-TBP Timer Button Panel in conjunction with the eClock, users are able to count upwards from zero to 24 hours or count down to zero from a specified value.

The eClock is also capable of using a relay closure to integrate with other communication systems such as nurse/code calling systems (made by Telecor or by another manufacturer). This integration allows components of the other system to activate the elapsed or countdown timer operation.

2481-TBP Timer Button Panel

eClock Messaging

Telecor’s eClocks can be connected to a dry contact output such as from a Master Clock or fire alarm instead of supporting the 2481-TBP. When the contact is closed, the clocks can display a "BELL" or "FirE" message for as long as the contact is active. The messages are prioritized so that “FirE” will override “BELL,” and either message will override displaying the time.

Using the ePORT, eClocks can be configured to display a custom 4-character message, with a variety of display options. The ePORT can also be used to organize eClocks into zones so that a message can be displayed on all clocks in a zone, independently of other zones.

Dual-Face Wall Mounted

Two surface mount eClocks can be mounted back-to-back with a 2423 Dual Mounting Kit, creating a double-face version of the eClock. The Dual Mounting Kit is supplied with a bracket that allows the clock to be mounted 4" away from a wall or ceiling surface.

eClock Model	Surface Mounted Backbox	Flush Mounted Backbox
eCLK-2.5	2421-BBS	2421-BBF
eCLK-4	2431-BBS	2431-BBF

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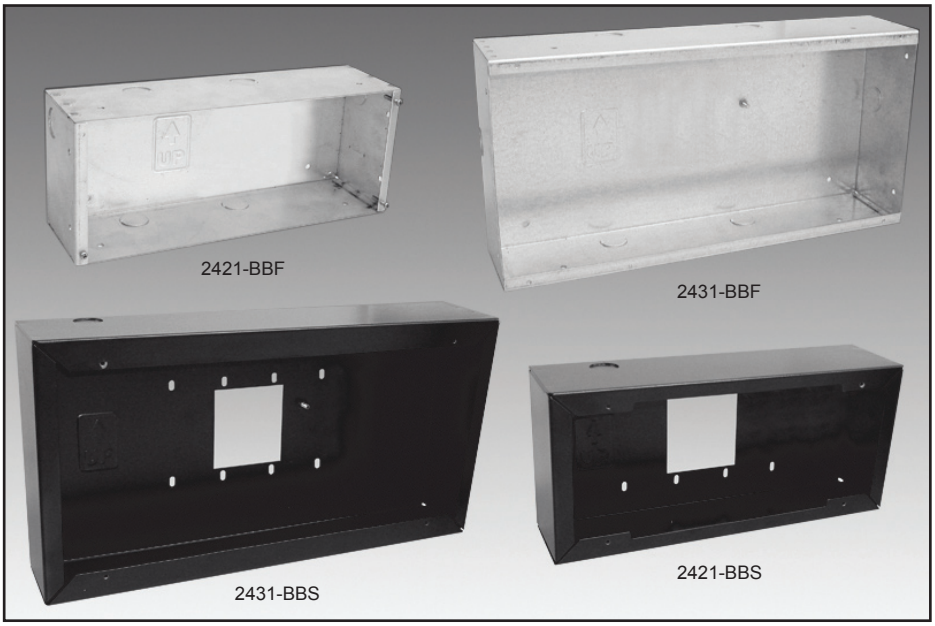
Single-Face Ceiling Mounted

An optional 2433 Clock Guard is also available for the surface mount models of the eClocks. The guards are constructed from sturdy, heavy gauge steel and include a plexiglas window that provides both protection and optimum visibility of the clock's display.

eClock with 2433 Clock Guard

eSERIES

Other devices in Telecor's eSeries include the eStations (eSTN-0, 1, 2, & 3), eConsole, eAMP, and eS8 Ceiling Speaker. The eStations provide two-way voice to Consoles. The eSTN-1 and eSTN-3 can place call-ins to eConsoles or to other eStations. The eSTN-2 or eSTN-3 can act as a simple wall mounted console that can receive call-ins from other eStations. The eS8 is intended for ceiling installation when no call-in button or talkback is required. The eSTN-0 is similar but intended for wall mount locations and supports talkback. The eConsole serves as an administrative control center that can send and receive calls, perform paging, and distribute audio programs. The eAMP allows a zone of traditional paging speakers to be added to the eSeries network and supports the distribution of preset tones and digital audio files. It also provides separate microphone and audio inputs that can service the entire eSeries network.



Surface and Flush Backboxes for eCLK-2.5 and eCLK-4

eCLOCK SPECIFICATIONS

Type:	Surface and Flush Mount
Display:	4 digit, 7 segment, bright red LEDs
Power Source:	Power-over-Ethernet, IEEE 802.3af compliant
PoE Power Required:	Class 3, 7.0 W
Network Interface:	RJ45 10/100 Mbit Ethernet
Hardware Protocols:	Ethernet MAC
eCLK-2.5	
Character Height:	2.5"
Dimensions:	10.75" W x 4.5" H x 3.75" D (27.3 cm x 11.4 cm x 9.5 cm)
eCLK-4	
Character Height:	4.0"
Dimensions:	14.25" W x 7.25" H x 3.75" D (36.2 cm x 18.4 cm x 9.5 cm)
Surface Backbox Dimensions:	
2421-BBS:	11.25" W x 5.25" H x 3.5" D (28.8 cm x 13.5 cm x 8.3 cm)
2431-BBS:	15.06" W x 8.06" H x 4.5" D (38.6 cm x 20.6 cm x 11.5 cm)
Recessed Backbox Dimensions:	
2421-BBF:	10. 5" W x 4.25" H x 3.13" D (27.9 cm x 10.9 cm x 8.0 cm)
2431-BBF:	14.13" W x 7.06" H x 3.13" D (36.2 cm x 18.1 cm x 8.0 cm)
Weight:	
eCLK-2.5:	1.673 lb (0.759 kg)
eCLK-4:	2.617 lb (1.187 kg)
Environmental Req's:	50-77°F/10-25°C, 5-90% relative humidity, non-condensing
Approvals:	FCC, CE

PARTIAL LIST OF ASSOCIATED EQUIPMENT

SW-ETS	Ethernet Time Server Software (requires Windows 7 64-bit)
2481-TBP	Timer Button Panel
2421-BBF	2.5" Flush Mount Backbox
2421-BBS	2.5" Surface Mount Backbox
2431-BBF	4" Flush Mount Backbox
2431-BBS	4" Surface Mount Backbox
2423	Dual Mounting Kit
2433	Protective Guard
eSTN-0, eSTN-1, eSTN-2, eSTN-3	eStations
eS8	Ethernet 8" Ceiling Speaker
eAMP	Ethernet 25W Amplifier
ePORT	Management Interface
eLOG	Logging Interface

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In Canada (Corporate): 6205 Kestrel Road; Mississauga, Ontario; L5T 2A1; Phone: (905) 564-0801 Fax: (905) 564-0806

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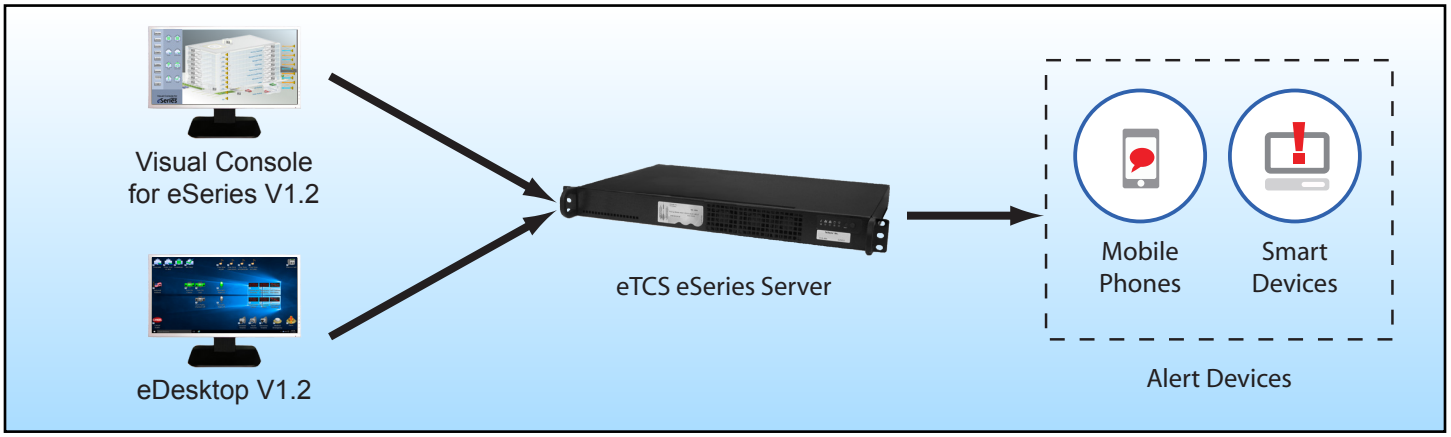
Mass Notification

DWCLT DWConnect LT

eSeries Distributed Recipient Mass Notification Software

DWCLT
DWConnect LT



FEATURES

- Distributes notifications to key staff/technical support members
- Notifications distributed to mobile phones and smart devices
- Integrates with Visual Console for eSeries V1.2 (eVC) or eDesktop V1.2
- Receives signals from eVC upon activation of: emergency element icons, emergency call-ins from call stations, and third-party devices
- Receives signals from eVC if eSeries network experiences trouble
- Receives signal if eVC interfaces lose network connectivity
- eDesktop operations can be configured to signal DWConnect LT

DESCRIPTION

DWConnect LT is a Targeted Wide Area Distributed Recipient Mass Notification System (DRMNS) available for integration with the Telecor eSeries System in single or multi-site environments. All sites must be equipped with a Telecor eSeries V1.2 or later system. These sites must also be equipped with Visual Console for eSeries V1.2 (eVC) or eDesktop V1.2.

DWConnect LT automatically distributes notifications when DWConnect LT receives a signal that an emergency event is occurring at a site. Notifications are distributed to user alert devices to ensure all relevant staff members are made aware of the emergency event so that they can respond appropriately. DWConnect LT supports up to 100 users. Email server forwarding lists can be configured as users to effectively distribute notifications to an unlimited number of alert devices. Alert devices may be mobile phones and smart devices. Users may be configured with a mobile phone, smart device, or both. Mobile phones receive the notifications as SMS messages while smart devices receive email messages.

The emergency events that signal DWConnect LT include the activation of emergency-themed element icons (e.g., Lockdown, Evacuate, etc.) in the eVC interface. eVC can also be configured with element icons that represent room station locations and third-party devices (such as push-buttons). These element icons are then activated when call stations place emergency calls and third-party devices are activated which results in a signal being sent to DWConnect LT.

The eVC interface can also be configured with a trouble notification element that indicate the eSeries network is experiencing a fault. Activation of this element can signal DWConnect LT which then distributes notifications of a fault to appropriate technical support staff. A notification of a technical fault will also be distributed if the network connection between an eVC interface and DWConnect LT is lost or disrupted.

If used with eDesktop, eDesktop operations can be configured to signal DWConnect LT to distribute notifications.

DWConnect LT is implemented via an eTCS eSeries Server which has the necessary software installed onto it prior to shipping. The eTCS must connect to the local area network and may be rack mounted or installed onto a flat surface. The eTCS is included as part of the Visual Console for eSeries V1.2 BASIC package which is required for implementation. The eDesktop software is included as part of the Visual Console for eSeries V1.2 software.

DWConnect LT is configured by accessing the eTCS via Microsoft Remote Desktop and using the DWConnect LT software application. Customers may configure the user accounts of those that will receive notifications, what kind of notifications they will receive, and the user alert devices to receive the distributed notifications.

PARTIAL LIST OF ASSOCIATED EQUIPMENT & LICENSES

eVC V1.2 BASIC	Visual Console for eSeries V1.2 BASIC Package
eTCS	eSeries Server

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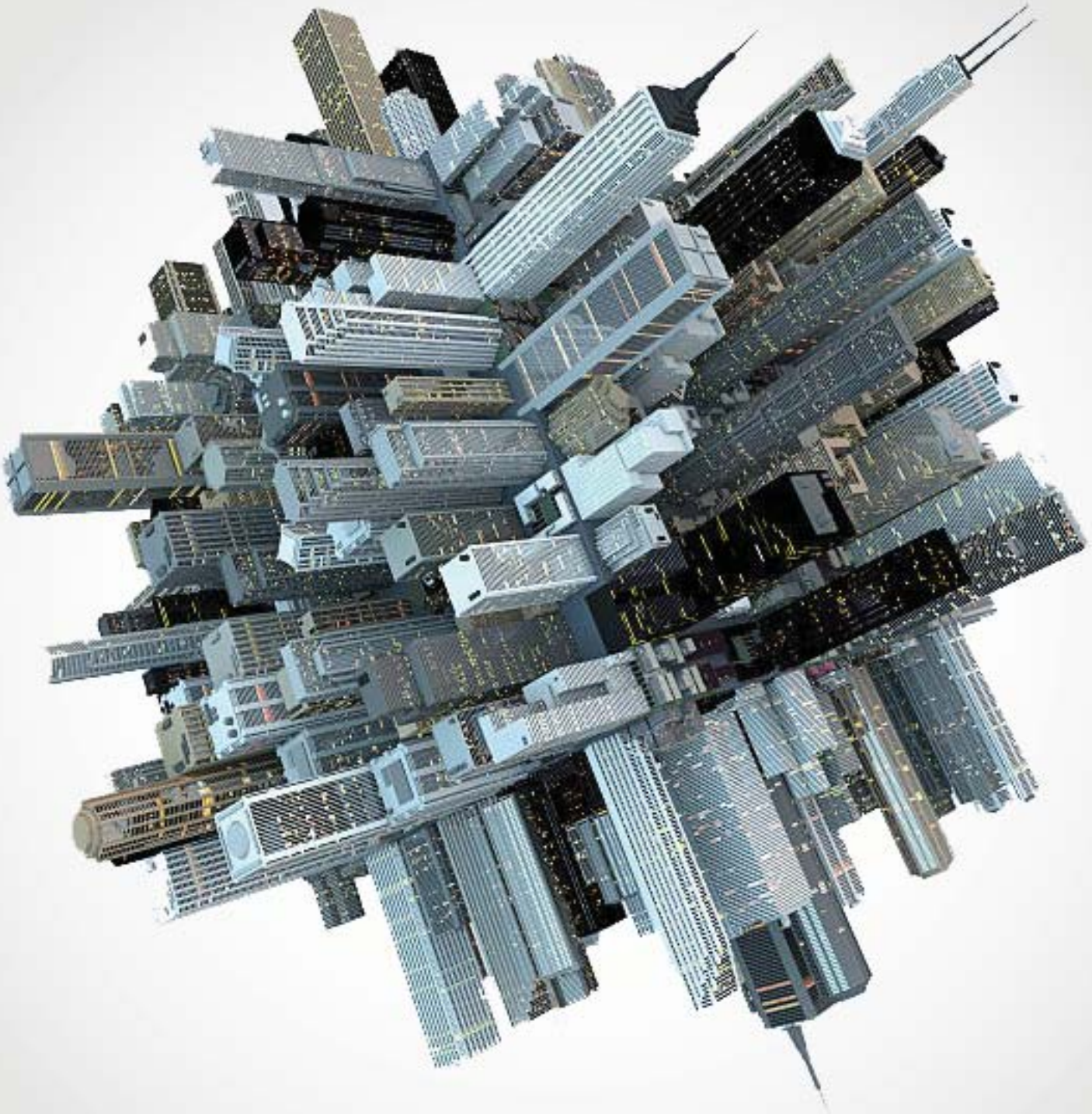

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