

Engineering Package

HYBRID



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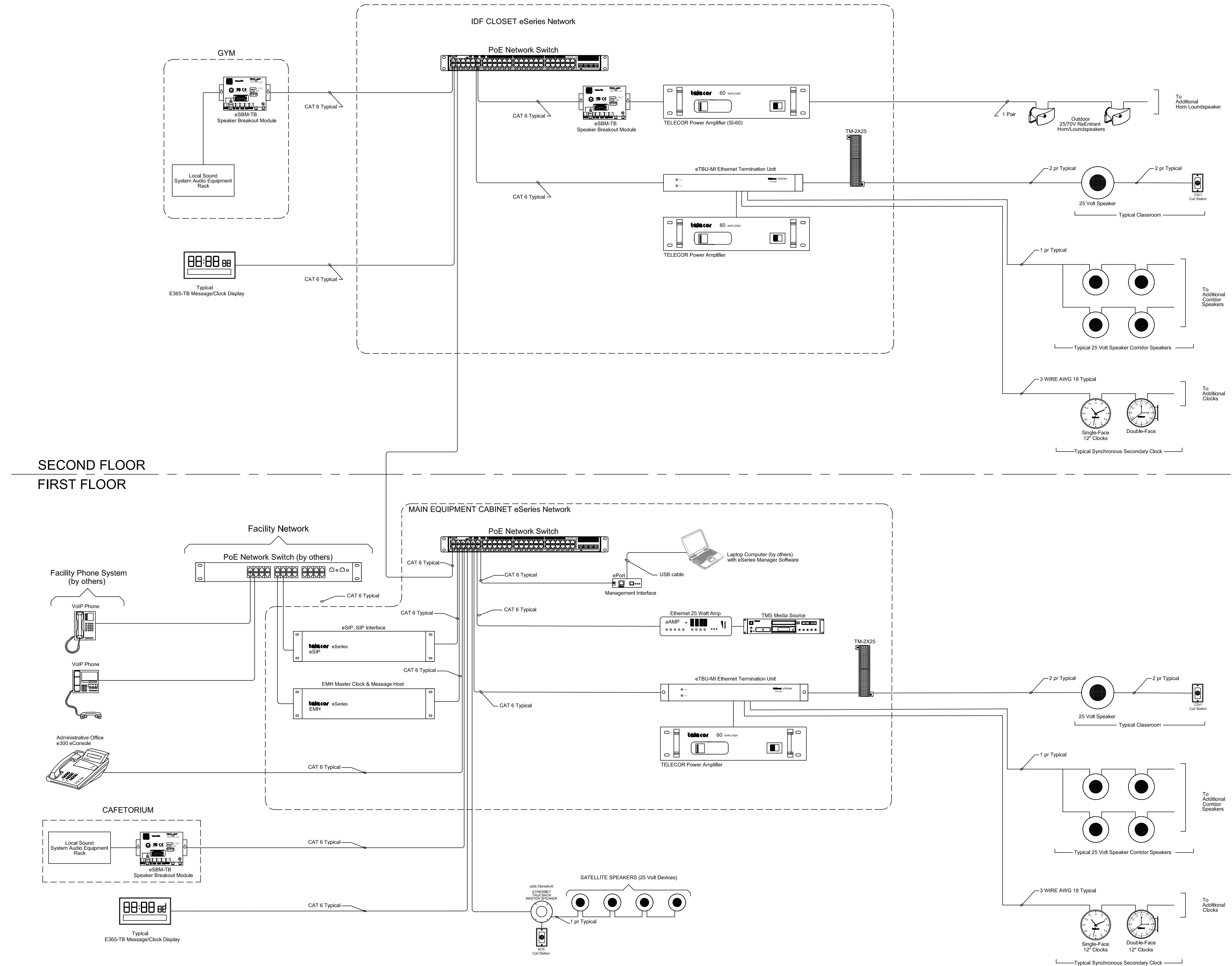
DWCLT DWConnect LT

Bulletins

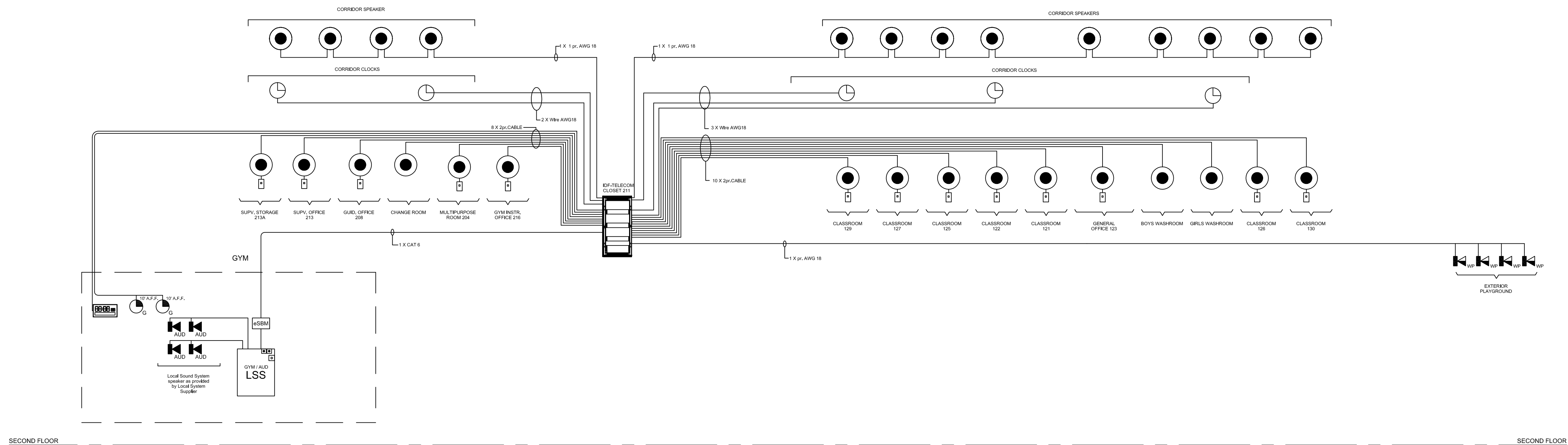
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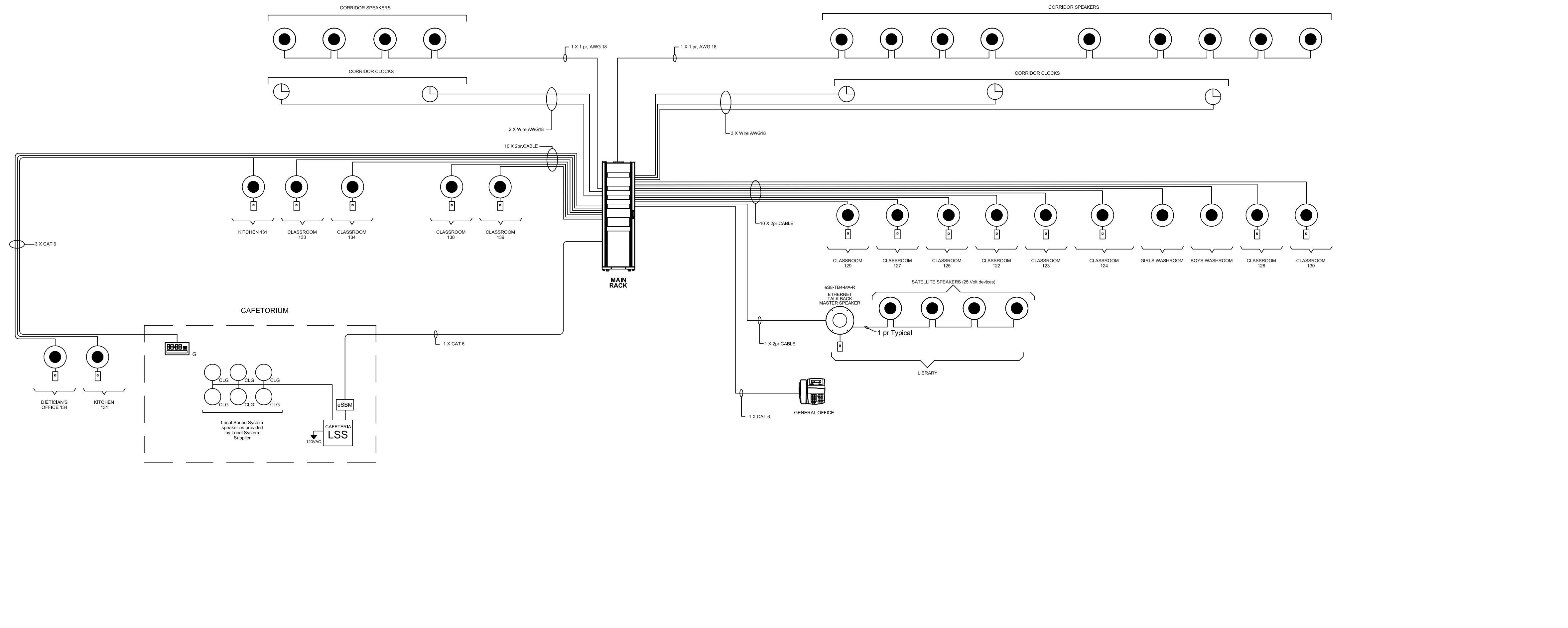




		TITLE: eSeries Hybrid System Equipment Cabinet Block Diagram	
		PROJECT: eSeries	
SCALE: NTS	APPROVED BY: P.J	DWN BY:	FILE NAME: 001-2-B-r0.0_eSeries_Hybrid_
DATE: 12/14/2021	DWG.NO: 001-2-B-r0.0	REV: 0	System_Equipment_Cabinet_Block_Diagram



SECOND FLOOR



FIRST FLOOR

LEGEND:

- E300 Administrative Console
- eCS Call Station
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- A-15 T Horn Loudspeaker WP denotes Weather Proof
- ESBM-TB Speaker Breakout Module
- CAFETERIA LOCAL SOUND SYSTEM. This is a none Telecor System that integrates through an eSBM. Local Sound System shall incorporate an override 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.
- GYMATORIUM LOCAL SOUND SYSTEM. This is a none Telecor System that integrates through an eSBM. Local Sound System shall incorporate an override 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.

		TITLE: eSeries Hybrid Design Riser Diagram	
		PROJECT: eSeries	
SCALE: NTS	APPROVED BY: P.J	DWN BY:	FILE NAME: 001-1-R-r0.0_eSeries_Hybrid_Design_Riser_Diagram
DATE: 12/14/2021	DWG.NO:001-1-R-r0.0	REV: 0	

SECTION 275123 - eSERIES HYBRID 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.

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. 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 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.

G. 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.

H. 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 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.
- I. Supervised Ethernet Termination Board Unit
1. The Ethernet Termination Board Unit shall reside on the facilities LAN providing provide two-way intercom communications between Consoles and industry standard 25 Volt speaker stations.
 2. The Ethernet Termination Board Unit shall distribute program audio to speaker locations and detect call-in annunciation from call switches in room locations. It shall selectively transmit Paging, Audio Programs and Time Tone Signals originating on the eSeries Network Devices, to individual rooms, all rooms, selected rooms, or zones of loudspeakers.
 3. The Ethernet Termination Board Unit shall be consistent with the ANSI/NEMA SB 40 Standard for Communications Systems for Life Safety in Schools, supporting multiple call-in locations per room. These include the support of call-in devices with LED call assurance and privacy or do-not-disturb indication for each room. Multiple devices at a room location shall be configured to place call-ins with different destinations and priority levels. If the call-in destination of these devices is a Console or an IP-PBX phone extension, the device display shall indicate the calling room location dial number, a textual room name, and the priority level of the call-in. Room locations can be configured with a primary, secondary, and back-up call-in destinations. Emergency priority call-ins placed from a room location shall be configured with a different call-in destination.
 4. The Ethernet Termination Board Unit shall support a Message Waiting (MW) feature. This feature shall use the LED on call stations to indicate waiting messages to room occupants. If no one is present in a room location to respond to a call or if the room is in Privacy or DND mode, the caller has the option to activate a MW indication. This causes the LED on the call station to pulse. When a call-in is initiated from the room, it shall be directed to the device that activated the MW indication and the MW indication will be deactivated.
 5. The Ethernet Termination Board Unit shall support the Privacy function on Call Stations that are equipped with a Privacy button. When pressed, the Privacy button shall place the room location in privacy mode. This shall prevent monitoring of audio in the room. In privacy mode, the LED on the Call Station shall illuminate to indicate privacy mode. When a call-in is placed from the room location, privacy mode shall automatically be suspended for the duration of the call and re-enabled afterwards. If a call is placed to the room location while in privacy mode, the caller shall be alerted to the privacy mode and given the option to connect the call, leave a message-waiting indication, or to cancel the call.
 6. The Ethernet Termination Board Unit shall include support for the Do Not Disturb mode. Call Stations equipped with a Do Not Disturb (DND) button shall place the room in DND mode when pressed. In DND mode, the LED

on the Call Station shall flash to indicate that the station is in the DND mode. This shall suspend zone pages and normal priority audio distributions from being broadcast into that room. DND mode shall not prevent emergency priority operations from reaching the location. If a call is initiated from a room location that is in the DND state, the DND shall be automatically suspended for the duration of the call and re-enabled afterwards.

7. The Ethernet Termination Board Unit shall also provide synchronization and correction of traditional Digital and Analog Clocks, as well as Electronic Message Displays. The digital signaling that provides support for these devices shall originate in the eSeries Network. Analog Clock correction formats supported by Legacy T2 or XL systems, shall also be supported by the Ethernet Termination Board Unit.
8. The Ethernet Termination Board Unit shall monitor the wiring of all room location call devices for call line failure. It shall analyze the wiring for an open circuit, short circuit, or short to ground conditions. In the event of a fault, the Ethernet Termination Board Unit shall detect the fault and provide trouble notification messages to devices equipped with trouble LED and buzzers which will annunciate the trouble signals.
9. The Ethernet Termination Board Unit shall be equipped with an integrated 25 watt, dual-purpose intercom/paging amplifier. It shall be used to provide amplification for two-way intercom communications to room stations, as well as amplification for paging, audio programs, and time tone signals to speaker locations. In the event that the audio load is greater than 25 watts, a line level output shall provide for the connection of an external power amplifier.
10. All speakers, when connected to the Ethernet Termination Board Unit shall reside on an "Off Bus." This shall ensure failsafe operation, where even in the event that network connectivity is lost, a redundant audio source can be connected to the "Off Bus" and emergency paging announcements can be transmitted to all speakers connected to the Ethernet Termination Board Unit.
11. The Ethernet Termination Board Unit shall mount in a standard rack panel measuring 19" W x 1.75" H and shall occupy a single rack unit. It shall be ideally suited for use with a patch panel. Alternatively, two 50-pin, RJ-21 connectors shall provide termination facilities to a pair of terminal blocks for connecting field devices. The unit shall be powered from an external 24 VDC Power Supply.

J. 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.

K. 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.

L. 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.

M. Call Stations

1. The Call Stations, as indicated on the drawings, shall be used to initiate calls from remote locations to eSeries Consoles. Call Stations are designed to be used in conjunction with a Multi Input Buffer Unit, IP Termination Unit (Multi-Input), or the Ethernet Termination Board Unit on a single pair of wires.
2. Call Stations with a "PUSH TO CALL" momentary contact touchpoint shall initiate a normal priority level call from a remote location when the touchpoint is pressed. A Call Assurance LED shall provide call confirmation.

- When a call is placed, the LED shall flash, confirming call placement. The LED shall continue to flash until the call is answered by the console operator.
3. Privacy Call Stations shall, when pressed, place the room into privacy mode, preventing monitoring of audio activity in the classroom. When in privacy mode, the LED on the station illuminates, indicating privacy status. When a call-in is initiated from the room, the privacy status shall be automatically suspended for the duration of the call and automatically re-enabled afterwards. If a console calls a room that is in Privacy, the operator shall 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 hear the operator, but the operator will not hear the room until an occupant turns off the Privacy feature.
 4. Do Not Disturb (DND) Call Stations shall, when pressed, place the room into DND mode. When enabled, the LED on the station shall illuminate, indicating DND, and scheduled events, zone pages and normal priority audio programs will not sound in the room. However, emergency pages, manual tones and high priority audio distributions shall continue to be broadcast into the room. When a call-in is initiated from the room, the DND status shall be automatically suspended for the duration of the call, and automatically re-enabled afterwards. If a console calls a room that is in DND, the operator shall 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 shall proceed normally; this allows an immediate option to reach the rooms occupants in the event of an emergency.
 5. Call Stations shall indicate waiting messages 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 indication. If the MW option is chosen, the LED indicator on the room call stations shall begin to pulse. When a call-in is initiated from the room, the MW indication shall be automatically deactivated.
 6. Emergency Call Stations shall be capable of being paired with other call stations and, when pressed, shall initiate an emergency priority level call-in from a remote location. A Call Assurance LED shall provide call confirmation. Then a call is placed, the LED flashes to confirm call placement. The LED shall continue to flash until the call is answered by the console operator. Consistent with the NEMA SB 40-2008 Communications Systems for Life Safety in Schools standard, the Emergency Call Station shall allow the establishment of multiple call-in locations per room and a separate emergency call-in, without the investment in additional wiring infrastructure. The Emergency Call Station shall be connected with a pair of wires from the other associated call station.
 7. An alternative model Emergency Call Station shall be able to operate independently without having to be paired with another call station.

N. Security Intercom Stations

1. The Security Intercom Stations, as indicated on the drawings, 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.

2. The Security Intercom Stations shall mount onto standard, two-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.

O. 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.

P. 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.

Q. 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 continuous 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".

R. Digital Message Display/Calendar Clock

1. The Digital Message Display/Calendar Clocks, as indicated on the drawings, 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.
2. These clocks are designed for use in conjunction with the Master Clock/Message Host and Ethernet Termination Board Unit. All secondary clocks shall be synchronized with the Master Clock/Message Host. Corrections are done instantaneously and all clocks display the identical time and date. In the event of a power failure, the eSeries System maintains accurate timekeeping during the outage. Once power is restored, all clocks shall be immediately updated with the correct time and date.
3. In addition to displaying the time, the Digital Message Display/Calendar Clocks shall display messages in the dot matrix section of the display. These messages can be used to alert personnel of an emergency or a situation of concern.
4. Messages shall be programmed using software or from a web based Graphical User Interface (GUI). Messages can be activated by the Master Clock/Message Host Event Scheduler, allowing text to be displayed at specific times and days of the week. Messages can 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 defaults back to the date when not displaying messages.
5. The Digital Message Display/Calendar Clock shall be capable of being used as an elapsed digital timer, providing stopwatch functionality, indicating elapsed time on the six-digit display. Elapsed timer functions shall include the ability to count upwards from zero to 24 hours, as well as counting down to zero from a specified value. The elapsed timer shall be controlled using a Timer Button Panel, providing start, stop, and reset functionality. When not operating as an elapsed timer, the Display shall default back to displaying the current time.
6. The Digital Message Display/Calendar Clock shall be suitable for surface or recessed installations using the appropriate enclosure. For surface installations, the surface enclosure is required. For recessed installations, the flush enclosure is used. Two surface-mount enclosures shall be mounted back-to-back with a Dual Mounting Kit, creating a double-faced version.
7. The Digital Message Display/Calendar Clock shall be powered from a 24 VAC power source.

S. Digital Clocks

1. The Digital Clocks, shall be used in conjunction with the Master Clock/Message Host and Ethernet Termination Board Units. All secondary clocks shall be synchronized with the Master Clock/Message Host and shall maintain identical time. They shall display the current time in hours and minutes with a four-digit, seven-segment display utilizing AlGaAs "Super-Bright" LED displays
2. In the event of a power failure, the eSeries System maintains accurate timekeeping during the outage. Once power is restored, all clocks shall be immediately updated with the correct time.
3. The 2.5" Digital Clock shall incorporate a 2.5" display which can be viewed from up to 120 feet. It shall be suitable for surface or recessed installations using the appropriate enclosure. For surface installations, the surface enclosure is required. For recessed installations, the flush enclosure is used.
4. The 4" Digital Clock shall incorporate a 4" display which can be viewed from up to 200 feet. It shall be suitable for surface or recessed installations using the appropriate enclosure. For surface installations, the surface enclosure is required. For recessed installations, the flush enclosure is used.
5. Two surface-mount enclosures shall be mounted back-to-back with a Dual Mounting Kit, creating a double-faced version.
6. The clocks shall operate from 24 VAC power sources.

T. Analog Secondary Clocks

1. Analog Secondary Clocks shall be designed for use in conjunction with the Master Clock/Message Host and Ethernet Termination Board Units. All secondary clocks shall be synchronized with the Master Clock and shall maintain identical time.
2. These Analog Secondary Clocks shall be synchronous 3-wire units with a second hand to mark the fractions of a minute as well as the minute and hour hands. The precision timekeeping is furnished by a microprocessor based movement and correction coil. These clocks shall be powered from a 24 VAC source.
3. The microprocessor-based movement shall require only 20 mA for operation.
4. In the event of a power failure, the eSeries System maintains accurate timekeeping during the outage. Once power is restored, all Analog Clocks respond to the corrective signal transmitted by the Ethernet Termination Board Units.
5. The 12" Analog Secondary Clock is housed in a low-profile, semi-flush metal case designed for wall mounting. The low profile design eliminates the need for custom backboxes and all clocks are designed to be mounted onto single gang electrical utility boxes. In locations as indicated on the drawings, where a double face version is required, a Double Mount Housing shall be used to mount two single face Analog clocks to create a dual face 12" Analog Clock.
6. The 16" Analog Secondary Clock is housed in a low-profile, semi-flush metal case designed for wall mounting. The low profile design eliminates the need for custom backboxes and all clocks are designed to be mounted onto single gang electrical utility boxes. In locations as indicated on the drawings, where a double face version is required, a Double Mount Housing shall be used to mount two single face Analog clocks to create a dual face 16" Analog Clock.

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

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.

Interface Components
Software
Master Stations
Call Stations & Switches
Intercom Stations
Speakers
Horns
Amplifiers
Master Clock
Messaging Clocks
Digital Clocks
Analog Clocks
System Components
Mass Notification

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Interface Components



- eCI-MA Control Interface, Model A
- ePort-MC Management Interface, Model C
- eSIP SIP Interface
- eTBU-MI Ethernet Terminal Board Unit
- eLog Logging Interface

FEATURES

- Uses eDesktop to interact with the eSeries system from a PC
- Features Just Plug It In!TM 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



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

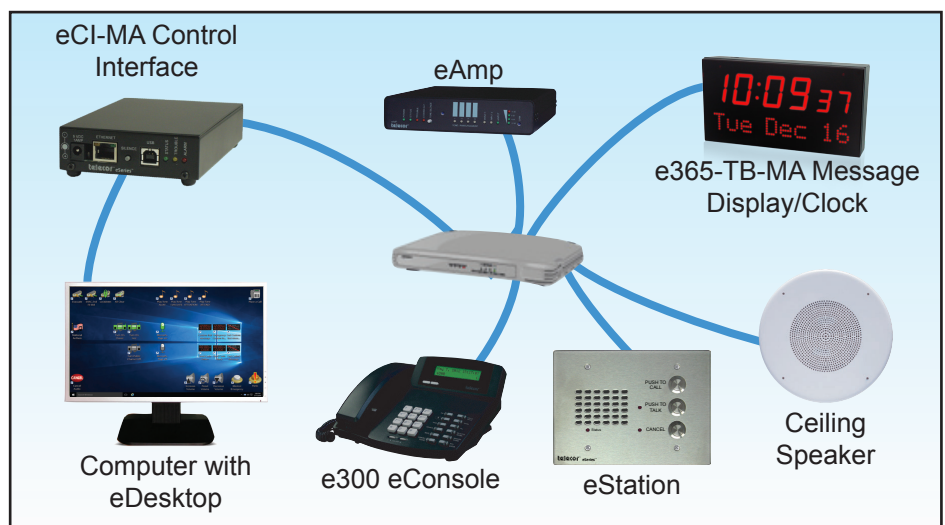
The eCI-MA provides a Command Interface Protocol that allows the eSeries system to interact with other external systems such as integrated security management or building management systems via devices such as computers, programmable logic controllers, or software based annunciator panels. The Command 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



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: 50-104°F/10-40°C, 0-90% relative humidity, non-condensing
 Compliance: TUV-SUD Listed to UL62368-1 Standard



C US



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

PARTIAL LIST OF ASSOCIATED EQUIPMENT

eDSKT-1.1 eDesktop Software

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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 controller 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



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
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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.

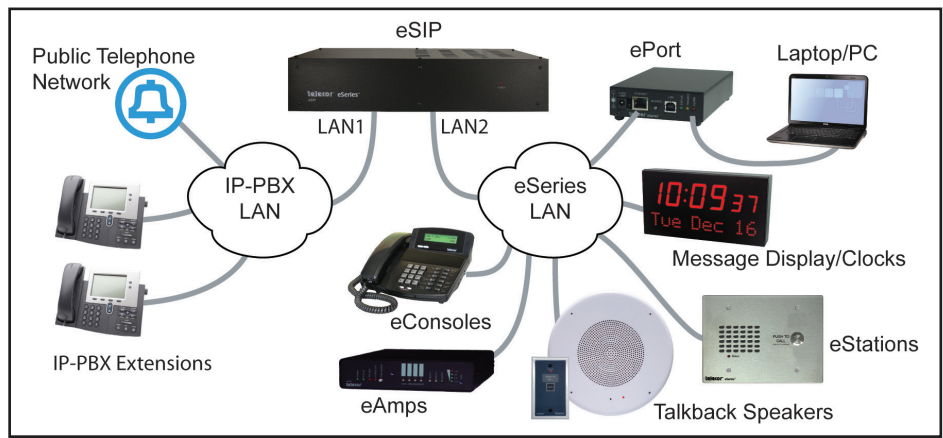
The eSIP is equipped with two Ethernet ports that internally bridge the physically distinct eSeries and IP-PBX networks. This simplifies installation when the IP-PBX and the eSeries devices exist on separate networks or VLANs. The eSIP can be set to dynamic (DHCP) or static IP configuration to meet network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



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:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing
Compliance:	



ETL LISTED
CONFORMS TO
ANSI/UL Standard
60950-1



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



CERTIFIED TO
CAN/CSA Standard
C22.2 No. 60950-1

PARTIAL LIST OF ASSOCIATED EQUIPMENT

eAMP	Ethernet 25W Amplifier
e300	eConsole
ePORT	Management Interface

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Asterisk® is the registered trademarks of Digium, Inc.
Linux® is the registered trademark of Linus Torvalds in the
U.S. and other countries.



FEATURES

- Integrates T2/XL room location devices into eSeries network
- Enables all connected devices for eSeries operations
- Connects directly to eSeries LAN/WAN
- Supports up to 25 room locations
- Allows unique dial number for each location
- Allows primary, secondary, and back-up call-in destinations for each location
- Operates with industry standard 25 or 70 volt speakers
- Supports CS5 series call stations and CS series call switches
- Supports all CS5 Do Not Disturb Mode, Privacy Mode, Call Assurance, and Message Waiting features
- Supports normal and emergency priority levels
- Consistent with NEMA SB 40-2008 Communications Systems for Life Safety in Schools
- Correction and synchronization of Telecor analog and digital secondary clocks
- Supports alphanumeric messages to electronic message displays and PDD-1 and 2484s
- Built-in 25-watt amplifier
- Line-level bridging output for external amplifiers
- Power and online status indicators
- Supports eSeries fault monitoring and trouble notification



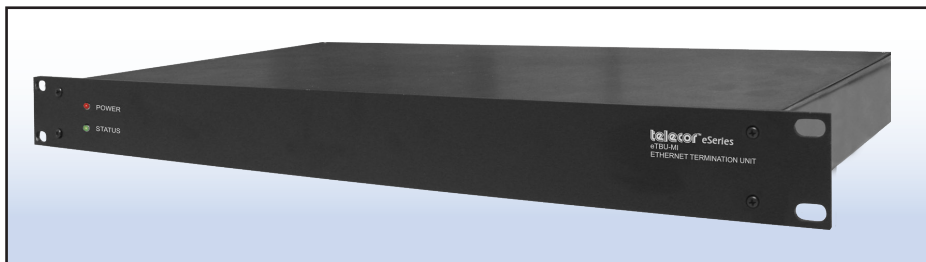
www.mytelecor.com

DESCRIPTION

The eTBU-MI Ethernet Termination Unit allows traditionally wired industry standard 25/70V intercom speakers and call switches to be added to an eSeries network. Since traditional room station locations (such as those used by T2/XL) use a radially cabled design, the eTBU-MI allows these locations to be added to the eSeries network by providing termination for up to 25 locations equipped with call stations, clocks, and speakers. Each location is represented consistently with eSeries end-point devices, allowing them to initiate or be targeted by eSeries operations such as calls, call-ins, pages, and audio distributions.

The eTBU-MI is especially useful for retrofits where installing new CAT5/6 cable may be prohibitive or costly. Additionally, the eTBU-MI allows a Telecor II/XL system or systems from other manufacturers to be replaced with an eSeries network while maintaining existing room location devices.

The eTBU-MI supports multiple CS5 call-in devices with LED call assurance and privacy or do-not-disturb indication for each room. All of this is supported on a single CAT5 twisted pair (in addition to the speaker pair). Each room location can be configured to place call-ins to different destinations and with Normal or Emergency priority levels. If the call-in destination of these devices is an e300 eConsole or an IP-PBX phone extension, the device display indicates the calling room location dial number, a textual room name, and the priority level of the call-in. Room locations can be configured with a primary, secondary,



eTBU-MI ETHERNET TERMINATION UNIT

and back-up call-in destinations. Emergency priority call-ins placed from a room location can be configured with a different call-in destination. Consistent with the ANSI/NEMA SB 40-2008 Communications Systems for Life Safety in Schools standard, the eTBU-MI allows the establishment of multiple call-in locations per room (via a separate emergency station) without the investment in additional wiring infrastructure.

The eTBU-MI also supports Call Assurance indication for all call station devices that support the feature. The Telecor CS5-1-MA, CS5-2-MA, CS5-3-MA, CS5-6-MA, and CS5-8-MA call stations have a built-in LED used for the call placed indication. When a call button on a device is pressed, the status LED on the call device will flash to indicate the ringing call. When the call is answered, the LED will continue to flash. The LED will stop flashing when the call is ended.



CS5-1-MA, CS5-3-MA/CS5-8-MA,
CS5-2-MA, CS5-6-MA (LEFT TO RIGHT)

The eTBU-MI supports the eSeries Message Waiting (MW) feature. This feature uses the LED on CS5-X-MA call stations to indicate waiting messages to room occupants. If no one is present in a room location to respond to a call or if the room is in Privacy or DND mode, the caller has the option to activate a MW indication. This causes the LED on the call station to pulse. When a call-in is initiated from the room, it will be directed to the device that activated the MW indication and the MW indication will be deactivated.

The eTBU-MI includes support for the eSeries Privacy mode. The CS5-1-MA is equipped with a Privacy button that places the room location in privacy mode when pressed. This prevents monitoring of audio activity in the classroom. In privacy mode, the LED on the CS5-1-MA turns solid on to indicate privacy mode. When a call-in is placed from the room location, privacy mode is automatically suspended for the duration of the call and re-enabled afterwards. If a call is placed to the room location while in privacy mode, the caller

is alerted to the privacy mode and given the option to connect the call, leave a message waiting indication, or to cancel the call. If the call is connected, the room occupants will be able to hear the caller but the caller will not be able to hear the room until the occupants turn off privacy mode.

The eTBU-MI includes support for the eSeries Do Not Disturb mode. The CS5-2-MA is equipped with a Do Not Disturb (DND) button that places the room in DND mode when pressed. In DND mode, the LED on the CS5-2-MA flashes to indicate DND mode is preventing zone pages and normal priority audio distributions from sounding at the location. DND mode does not prevent emergency priority operations from reaching the location. If a call-in is placed from the room location, DND mode is automatically suspended for the duration of the call and re-enabled afterwards. If a call is placed to the room location while in DND mode, the caller is alerted to the DND mode and given the option to connect the call, leave a message waiting indication, or to cancel the call. If the call is connected, it will proceed normally. This ensures the room occupants can be immediately reached in case of emergency.

The eTBU-MI monitors the wiring of CS5 Series call switches for call line failure. It analyzes the wiring for open circuit, short circuit, or short to ground conditions. If a wiring fault is detected between a CS5 Call Station and the eTBU-MI, the eTBU-MI will visually and audibly indicate the fault on specific eSeries devices equipped with trouble LEDs and buzzers (ePorts, eCIs, and eAmps).

While the eTBU-MI provides Ethernet connectivity to the eSeries network, it uses traditional call station and switches, speakers, and clocks in room locations. Intercom and paging speakers are industry standard 25 or 70 volt devices. For zone paging applications, connected speakers may also be supported via an external paging amplifier.

The eTBU-MI also provides synchronization and correction of Telecor Digital and Analog Clocks and Electronic Message Displays. The digital signalling that provides support for these devices originates in the current eSeries network time master device. The eTBU-MI supports numerous Analog Clock correction formats used by clocks manufactured by Telecor and other manufacturers.

The eTBU-MI is equipped with an integrated 25-watt, dual-purpose intercom/paging amplifier. It provides amplification for two-way intercom communications to call devices and amplification for paging and audio programs to speaker devices. If the paging audio level is greater than 25 watts, a line level output provides for the connection of an external power amplifier.



All speakers connected to the eTBU-MI reside on an "Off Bus". This ensures failsafe operation where, in the event that network connectivity is lost, a redundant audio source can be connected to the "Off Bus" and emergency paging announcements can be transmitted to all speakers connected to the eTBU-MI unit.

The eTBU-MI mounts in a standard rack panel measuring 19" W x 1.75" H and occupies a single rack unit. The eTBU-MI is ideally suited to be used with the Telecor C5PPL patch panel. Alternatively, two 50-pin RJ-21 connectors provide termination facilities to a pair of TM-2X25 terminal blocks for connecting field devices. The unit is powered from an external 24 VDC Power Supply.

eTBU-MI SPECIFICATIONS

Power Source: 24 VDC
 Current Consumption: 2 Amps max @ Full audio output
 Port Capacity: 25 Speaker Stations, with or without Call Stations
 Station Apparatus: 25 or 70 Volt Speakers, TX balanced
 CS5-1-MA, CS5-2-MA, CS5-3-MA, CS5-6-MA, and CS5-8-MA Call Stations
 CS-1 and CS-3 Call Switches
 Station Field Wiring: Cat 5
 Terminations: 2 x RJ-21, 50 pin connectors
 Network Interface: RJ-45 10/100 Mbit Ethernet
 IP Assignment: Static or Dynamic
 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
 Intercom/Program Amplifier:
 Off Bus Input: 25 V or 70 V
 Audio Output: 25 V or 70 V
 1 V, 10 kOhm (Line Level)
 Output Power: 25 W RMS Maximum
 Freq. Response: Speech-Filtered, 170 Hz - 15 kHz (+0/-3 dB)
 Distortion: <1% THD @ 1 kHz
 Indicators:
 Front Panel: Power, eTBU-MI Status
 Rear Panel: Network Speed, Network Activity
 Clock Synch: Telecor Analog Secondary Clocks, Telecor Digital Secondary Clocks, Telecor Electronic Message Displays

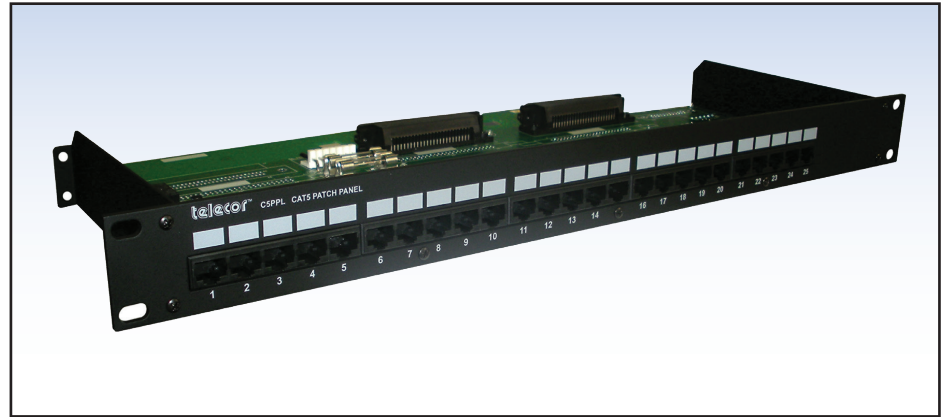
Station Devices: Speaker Stations
 25 or 70 Volt, TX balanced
 Audio Load: Single Port - 10 watts
 Total Ports - 100 watts
 Momentary contact closure
 Call Initiation:
 Terminations:
 Station Wiring: 2 x RJ-21 (female)
 Ancillary: IDC @ 0.156" centers
 Finish:
 Front Panel: Black Textured Semi-Gloss Enamel
 Chassis: Zinc-Electroplated
 Dimensions: 1.72" H x 19.0" W x 10" D
 (4.37 cm H x 48.3 cm W x 25.4 cm D)
 Weight: 6.7 lbs (3.04 kg)
 Environmental Req's: 50-104°F/10-40°C, 0-90% relative humidity, non-condensing
 Compliance: TUV-SUD Listed to UL62368-1 Standard



PARTIAL LIST OF ASSOCIATED EQUIPMENT

C5PPL
 TCH-(5)(15)(25)
 TM-2X25
 CS5-1-MA, CS5-2-MA,
 CS5-3-MA, CS5-6-MA,
 CS5-8-MA
 CS-1, CS-3
 Patch Panel
 Cable Assemblies
 Terminal Blocks
 Supervised Call Stations
 Call Switches

All product information subject to change without notice.



C5PPL PATCH PANEL



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



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 LOGGING INTERFACE

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.

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:	50-104°F/10-40°C, 0-90% relative humidity, non-condensing
Compliance:	TUV-SUD Listed to UL62368-1 Standard, CE Compliances, FCC Part 15

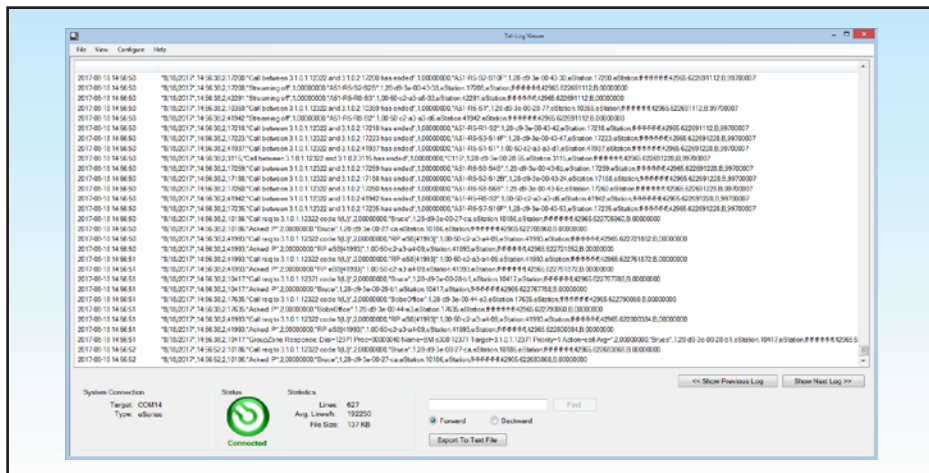


eSERIES MANAGER SOFTWARE SPECIFICATIONS

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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TEL-LOG VIEWER



eMH eSeries Master Clock & Message Host
eDSKT-1.1 eDesktop Software
eVC V1.3 Visual Console for eSeries

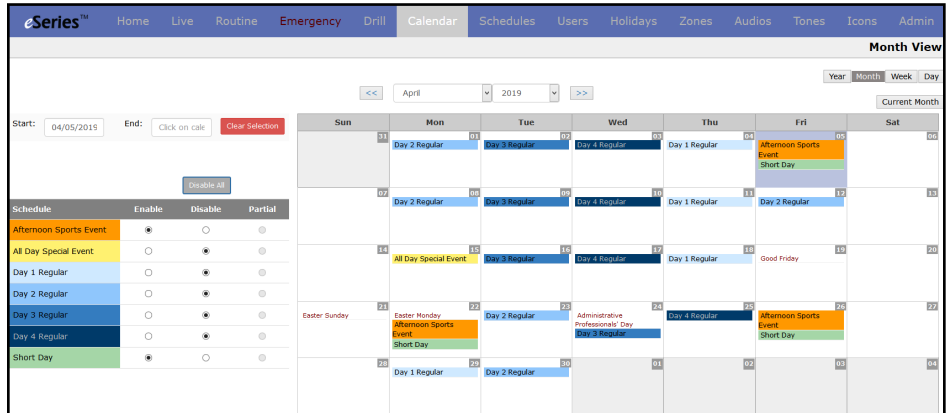


FEATURES

- 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 also enables configuration and activation of eSeries operations from a web-based graphical user interface (GUI). An unlimited number of operations



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).

can be managed for activation by schedules or users.

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.

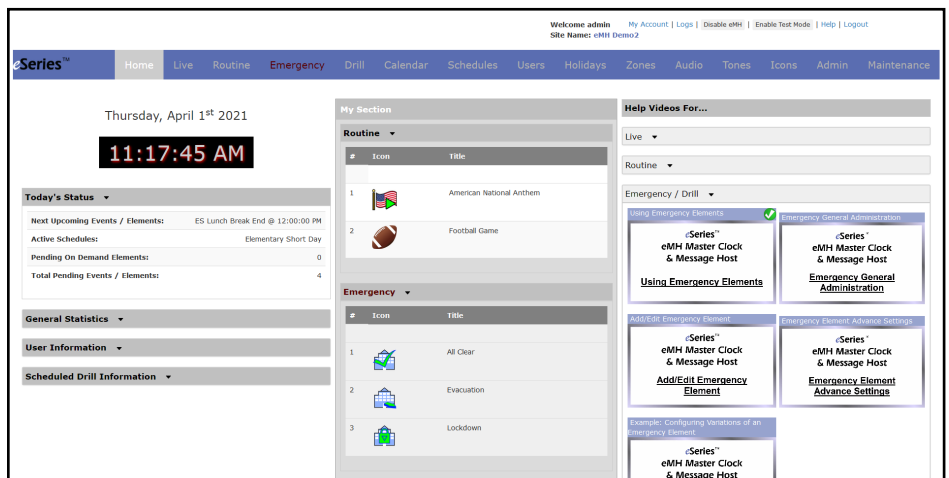
Schedules can be viewed, enabled or disabled in a calendar. The calendar can display schedules on a daily, weekly, monthly or yearly basis. The eMH supports scheduling operations up to 10 years into the future.

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



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.

Status	Name	Icon	Time	Audio	Source	Start Time
Playing	Playing Mass Cantina	Yes	Yes	Yes	admin	08:42:41 AM
✓	Day 1 Welcome & Class 1 Warning	Yes	Yes	Yes	Day 1 Regular	08:50:00 AM
✓	Day 1 Class 1 Start	Yes	Yes	Yes	Day 1 Regular	09:00:00 AM
✓	Day 1 Class 1 End	Yes	Yes	Yes	Day 1 Regular	10:00:00 AM
✓	Day 1 Class 2 Warning	Yes	Yes	Yes	Day 1 Regular	10:05:00 AM
✓	Day 1 Class 2 Start	Yes	Yes	Yes	Day 1 Regular	10:10:00 AM

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.

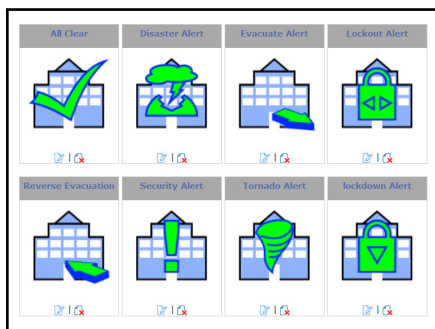
eMH operations can target one or more eSeries zones. For simpler zone selection the eMH supports an unlimited number of Named Zones that easily identify different parts of a school in plain text.

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	Bell	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	Bell	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	Bell	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	Bell	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	Bell	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	Bell	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	Bell	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	Bell	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	Bell	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	Icon	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.



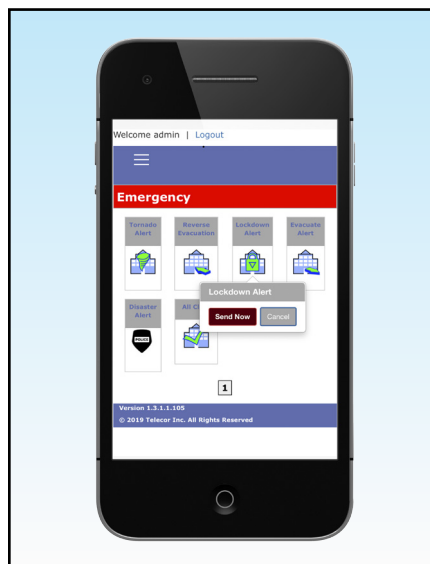
eMH EMERGENCY OPERATIONS

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.



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

Dial Number	Device Type	Room Name	Call-In Destination (Primary)	Zone Membership	Volume Level
101	e355TB	Computer Lab	320	+ 1	2
102	e365TB	Music Room	310	+ 1	5
103	e5TN3	Mr. Stephenson's Classroom	310	+ 1	0
104	e5TN3	Ms. Isley's Classroom	310	+ 1	0
105	e5TN3	Ms. Quanzel's Classroom	310	+ 1	0
106	e5TN3	Mr. Gibson's Classroom	310	+ 1	0
201	e5B	1F West Hallway	310	+ 1	5
202	e5B	1F East Hallway	310	+ 1	5
203	e5B	2F West Hallway	310	+ 1	5
204	e5B	2F East Hallway	310	+ 1	5
310	e300	Reception	Not Applicable	+ 1	Not Applicable

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

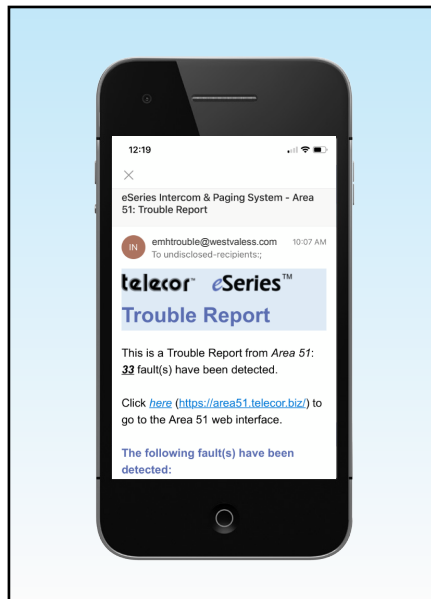
The following fault(s) have been detected:

- Device A51-R6-S8-S6B with dial number 17260 is experiencing fault: "Device version control file does not match network version control file"
- 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"
- Device eSIP.0 A51 with dial number N/A is experiencing fault: "Software not compatible with the network"
- Device e5TN-1 with dial number 17197 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R5-S1-S15 with dial number 17205 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S8-S12 with dial number 20975 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S8-S12 with dial number 41944 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R5-S3-S12F with dial number 17213 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S1 with dial number 10350 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-eTBU #9 with dial number 17970 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S4-S14 with dial number 17646 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R5-S3-S4 with dial number 16822 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R5-S3-S4B with dial number 17220 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S2 with dial number 10358 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S6-S6 with dial number 17654 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S3 with dial number 16830 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R5-R8-S3 with dial number 42291 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S7-S18F with dial number 17236 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R5-R2-S1 with dial number 10247 is experiencing fault: "Device version control file does not match network version control file"
- 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/) (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:
50-104°F/10-40°C,
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



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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 Interface¹ is required to connect the computer running eDesktop to the eSeries network.

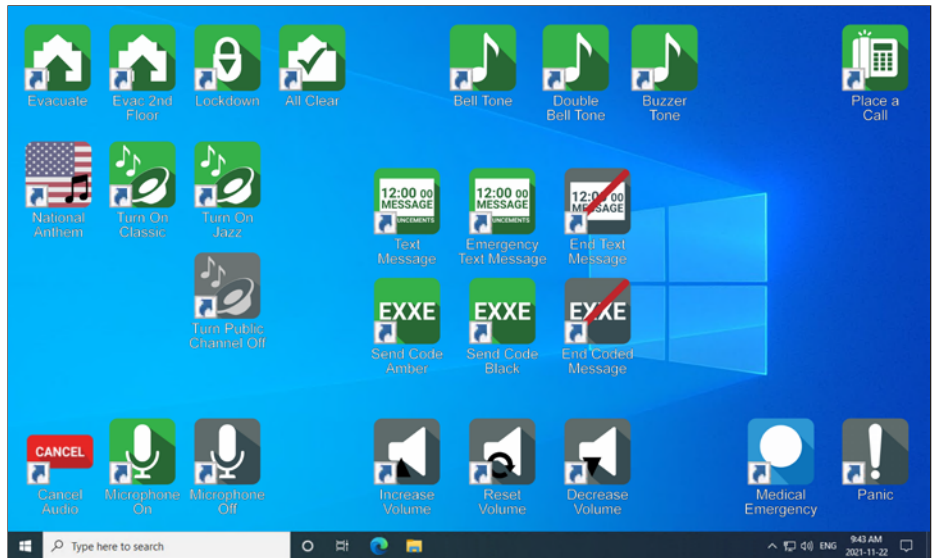
A number of default scripts are used to generate customized shortcuts according to the needs of a facility. These shortcuts are then placed directly on the Windows desktop or another desired file folder or network location. Shortcuts can activate virtually any eSeries function by simply clicking on the shortcut 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

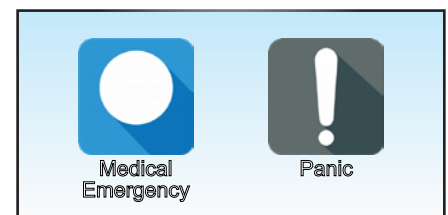
These operations can include preset textual messages that are sent to any zone(s) of e365-TB-MA Message Display/Calendar Clocks and/or e300-MA eConsoles (or even specific displays). Simultaneously, coded messages can also be independently sent to provide additional context for staff, informing them about 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.

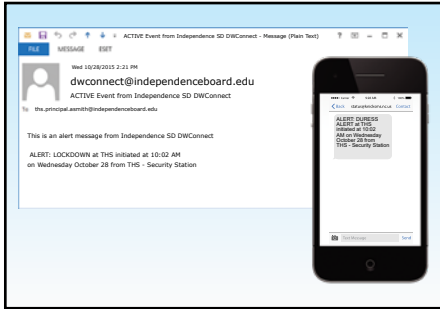


SOFT KEY AND PANIC BUTTON ICONS

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

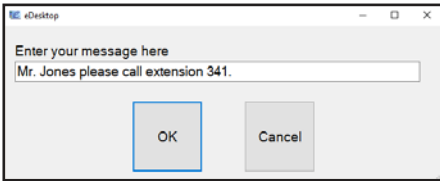


eDesktop can also use Telecor's DWConnect to activate SMS text messages and email distributions in conjunction with any eDesktop script. For example, activation of the Panic Button could also send SMS notifications to a crisis team, advance warning to building occupants to heighten the level of awareness, 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.



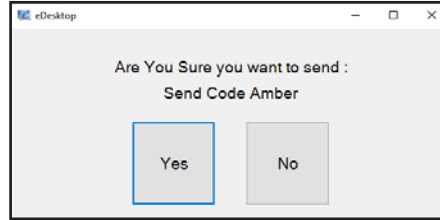
ON-THE-FLY CUSTOM MESSAGE PROMPT

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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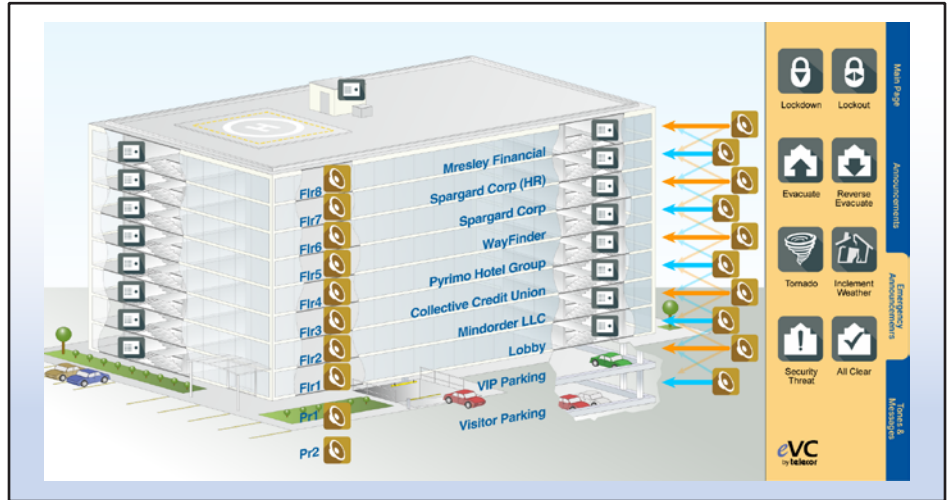


FEATURES

- 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.

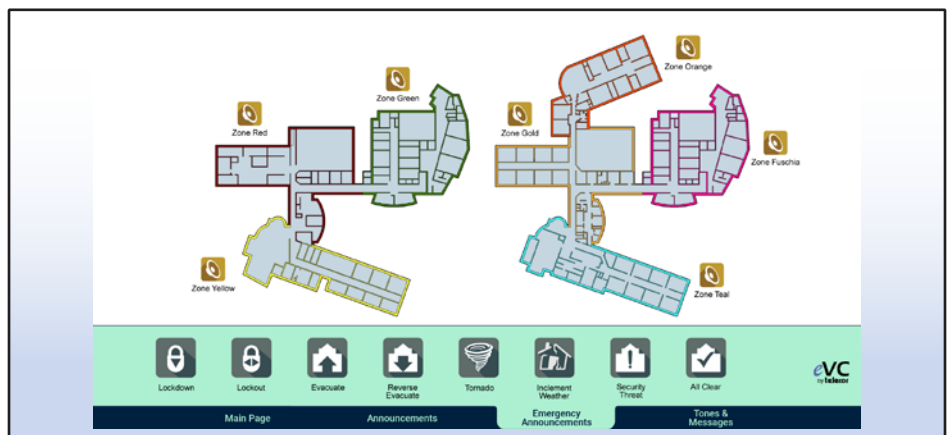
Alternatively, the standard page templates can be customized using bitmap images of the building floor plan as the background. Further customization is achieved by placing elements from the Element Library representing intercom stations, other eSeries devices, SIP phones, and paging zones onto the GUI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



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.

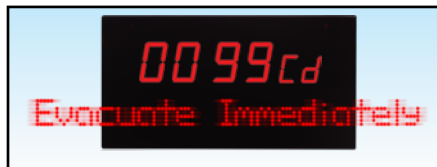
Message waiting notifications can also be activated at specific stations by activating the message waiting element associated with the room. Similarly, Do Not Disturb mode can also be activated at a station that supports the feature even if the location is not equipped with an eCS-2 Do Not Disturb Call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

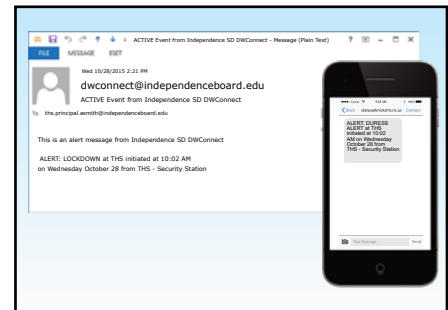
eVC provides an efficient and reliable method of notifying the facility occupants of emergency events. An Emergency Announcements page is dedicated to managing emergency operations with specific emergency elements. The activation of an emergency element will distribute a combination of an audio file 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



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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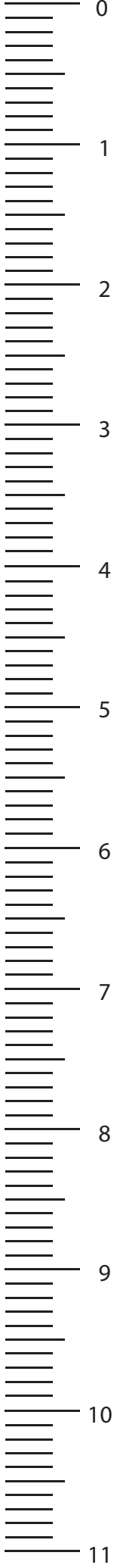
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Printed in Canada

REV: 1.1
ETS-2853



Master Stations



e300-MA Console
MCC-PM-MA Desktop Microphone Console

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



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

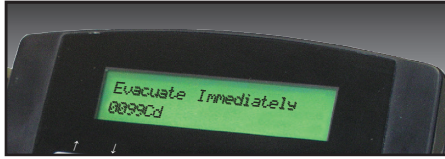


DIGITAL VOLUME CONTROL

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 Desktop 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 Typical 0.1 s
Audio Latency:	
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 Black-textured
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



c us



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



MCC-PM-MA PARTIAL LIST OF ASSOCIATED EQUIPMENT

e300-MA eConsole

All product information subject to change without notice.



- CS5-1-MA Push to Call w/ Privacy Call Station
- CS5-2-MA Push to Call w/ Do Not Disturb Call Station
- CS5-3-MA Emergency Call Switch
- CS5-6-MA Push to Call Station
- CS5-8-MA Emergency Call Switch
- ICS-2 Intercom Station, 2-gang
- ICS-2A Intercom Station w/ Call Button, 2-gang
- ICS-2M Intercom Station w/ Mushroom Button, 2-gang
- ICS-3 Intercom Station, 3-gang
- ICS-3A Intercom Station w/ Call Button, 3-gang
- ICS-3M Intercom Station w/ Mushroom Button, 3-gang
- eCall Virtual Call Station

FEATURES

- Call Assurance LED indication
- Message Waiting LED indication
- Privacy/Do Not Disturb models
- Call Line Supervision
- Mounts on 1 gang electrical box
- Waterproof faceplate
- Consistent with NEMA SB 40-2008 Communications Systems for Life Safety in Schools

DESCRIPTION

The CS5-1-MA, CS5-2-MA, CS5-3-MA, CS5-6-MA, and CS5-8-MA call stations are designed to be used in conjunction with Telecor's Multi Input Buffer Unit (MIBU), IP Termination Unit (Multi-Input) (TBU-IP-MI-MA), or the eSeries eTBU-MI Ethernet Termination Unit on a single pair of wires.

The CS5-1-MA, CS5-2-MA, and CS5-6-MA have a "PUSH TO CALL" momentary contact touchpoint that initiates a normal priority level call from a remote location. A Call Assurance LED provides call confirmation. When a call is placed, the LED flashes, confirming call placement. The LED continues to flash until the call is answered by the console operator.

The CS5-1-MA is equipped with an additional "PRIVACY" button that, when pressed, places the room into privacy mode, preventing monitoring of audio activity in the classroom. When in privacy mode, the LED on the station illuminates, indicating privacy status. When a call-in is initiated from the room, the privacy status is automatically suspended for the duration of the call and automatically re-enabled afterwards. If a console calls a room that is in Privacy, the 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 CS5-2-MA is equipped with an additional "DO NOT DISTURB" (DND) button that, when pressed, places the room into DND mode. When enabled, the LED on the station illuminates, indicating DND, and scheduled events, zone pages and normal priority audio programs will not sound in the room. However, emergency pages, manual tones and high priority audio distributions will continue to be broadcast into the room. When a call-in is initiated from the room, the DND status is automatically suspended for the duration of the call, and automatically re-enabled afterwards. If a console calls a room that is in DND, the 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 rooms occupants in the event of an emergency.

Telecor CS5-1-MA, CS5-2-MA, and CS5-6-MA call stations can indicate waiting messages 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 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 be automatically deactivated.



CS5-1-MA



CS5-2-MA



CS5-3-MA/CS5-8-MA



CS5-6-MA

The CS5-3-MA is paired with CS5-1-MA, CS5-2-MA, or CS5-6-MA. It is equipped with an "EMERGENCY" contact touchpoint that initiates an emergency priority level call-in from a remote location. A Call Assurance LED provides call confirmation. When a call is placed, the LED flashes to confirm call placement. The LED continues to flash until the call is answered by the console operator. Consistent with the NEMA SB 40-2008 Communications Systems for Life Safety in Schools standard, the CS5-3-MA allows the establishment of multiple call-in locations per room and a separate emergency call-in, without the investment in additional wiring infrastructure. The CS5-3-MA is connected with a pair of wires from the associated CS5-1-MA, CS5-2-MA, or CS5-6-MA call station.

The CS5-8-MA Emergency call station is similar to the CS5-3-MA but does not need to be paired with another call station, allowing it to stand alone and be installed in locations that do not require any other call options.

All CS5-series call stations are monitored for call line failure. In the event of an open circuit, short circuit, or short to ground, the Telecor System detects the fault and notifies a designated console operator automatically. The type of fault and its identity on the system are displayed on a designated console screen.

The call station surface consists of a laminated mylar membrane that is waterproof 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.

CALL STATION SPECIFICATIONS

CS5-1-MA PRIVACY CALL STATION

Controls: Push-to-Call touchpoint
Privacy touchpoint
Action: Momentary Action
Indicators: Station Status
(call placed/privacy/message waiting)
Terminations: 110 IDC 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 Req.: 1-gang 2-1/2" min. depth

CS5-2-MA DO NOT DISTURB CALL STATION

Controls: Push-to-Call touchpoint
Do Not Disturb touchpoint
Action: Momentary Action
Indicators: Station Status
(call placed/do not disturb/
message waiting)
Terminations: 110 IDC 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 Req.: 1-gang 2-1/2" min. depth

CS5-3-MA EMERGENCY CALL STATION

Controls: Emergency Call touchpoint
Action: Momentary Action
Indicators: Station Status (call placed)
Terminations: 110 IDC 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 Req.: 1-gang 2-1/2" min. depth

CS5-6-MA CALL STATION

Controls: Push-to-Call touchpoint
Action: Momentary Action
Indicators: Station Status (call
placed/message waiting)
Terminations: 110 IDC 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 Req.: 1-gang 2-1/2" min. depth

CS5-8-MA EMERGENCY (STAND ALONE) CALL STATION

Controls: Emergency Call touchpoint
Action: Momentary Action
Indicators: Station Status (call placed)
Terminations: 110 IDC 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 Req.: 1-gang 2-1/2" min. depth

PARTIAL LIST OF ASSOCIATED EQUIPMENT

Telecor II/XL	Communication System
MIBU-(T2) (XL)	Multi-Input Buffer Unit
TBU-IP-MI-MA	IP Termination Unit (Multi-Input)
eTBU-MI	Ethernet Termination Unit

All product information subject to change without notice.



FEATURES

- Virtually Indestructible
- Tamper-proof Call Switch
- Vandal-proof Speaker Assembly
- Three Protection Barriers
- 11 Gauge Stainless Steel Faceplate
- Tamper-proof Hardware
- Mushroom Style Actuator

DESCRIPTION

The Telecor ICS-2 Security Intercom Station is designed for use in hostile institutional environments where a rugged, tamper-proof device is required. The unit can be used with all Telecor and many competing communication systems where two-way intercom communications are required.

The face plate is fabricated from 11 gauge stainless steel with a brushed, mar-resistant finish. The speaker assembly is mounted internally to the faceplate by a set of welded studs, and protected from access by any foreign objects by three barriers. The speaker cone is fabricated from mylar, making it impervious to damage by liquids.

The ICS-2 is available as an ICS-2A version which is identical to the ICS-2, with the addition of a call switch assembly, used to initiate calls to the Control Console. The call switch assembly is connected to the face plate by a set of welded studs. A rugged metal actuator activates a momentary contact switch whose movement is limited by a mechanical stop in order to prevent damage to the switch mechanism.

The ICS-2A is available with a standard 1/2" flush mounted actuator (as previously described) or can be supplied with a large 1-1/2" mushroom style actuator (model ICS-2M). Both are machined from solid metal, maximizing strength and durability.

For existing intercom systems with only 2 conductors running back to the headend, there is the ICS-2A-2/4, which allows connections to the Telecor T3-SC Security Communications System.

The ICS-2 series of security intercom stations mount onto standard two-gang electrical boxes. Tamper-proof hardware is provided for mounting purposes.

ARCHITECT'S & ENGINEER'S SPECIFICATIONS

The Intercom Station shall be a Telecor model (_____) or approved equal. The Station shall be tamper-proof in design and construction and shall provide for two-way communications as well as call-in capabilities.

The face plate 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 face plate and the speaker cone. A mylar speaker cone shall be used in order to prevent damage to the speaker from liquids.



For the ICS-2A / ICS-2A-2/4 version, include:

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 face plate. The actuator shall activate a momentary contact switch whose movement shall be limited by a mechanical stop to prevent damage caused by heavy impact.

For the ICS-2M version, include:

The switch actuator shall be fabricated from solid metal, and connected to the faceplate by a pair of welded studs. It shall be a large mushroom style unit of no less than 1-1/2" in diameter. The actuator shall activate a momentary contact switch whose movement shall be limited by a mechanical stop to prevent damage caused by heavy impact.

The Security Intercom Stations shall mount onto standard, two-gang electrical boxes, of a depth of no less than 2.875". Mounting hardware shall be tamper-proof.

MODEL ICS-2 SPECIFICATIONS

Speaker: 2-1/2" dynamic, mylar cone speaker, waterproof and puncture resistant.
8 ohm voice coil c/w 25 V matching transformer

Terminations: Wire Pigtails

Size: 4.625" (11.8 cm) W X 4.625" (11.8 cm) H X 2.875" (7.31 cm) D

Weight: 1.27 lb (577 g)

Wiring Req: 1 Pair (Awg 22)

Backbox Req: 2 Gang MBR Series. Minimum Depth 2.875"

MODEL ICS-2A / ICS-2A-2/4 SPECIFICATIONS

Speaker: 2-1/2" dynamic, mylar cone speaker, waterproof and puncture resistant.
8 ohm voice coil c/w 25 V matching transformer

Switch Type: SPST, Normally Open

Actuator: 1/2" Flush Mounted

Terminations: Wire Pigtails

Size: 4.625" (11.8 cm) W X 4.625" (11.8 cm) H X 2.875" (7.31 cm) D

Weight: 1.32 lbs (600 g)

Wiring Req: ICS-2A 2 Pair (Awg 22)
ICS-2A-2/4 1 Pair (Awg 22)

Backbox Req: 2 Gang MBR Series. Minimum Depth 2.875"

MODEL ICS-2M SPECIFICATIONS

Speaker: 2-1/2" dynamic, mylar cone speaker, waterproof and puncture resistant.
8 ohm voice coil c/w 25 V matching transformer

Switch Type: SPST, Normally Open

Actuator: 1-1/2" Mushroom Style

Terminations: Wire Pigtails

Size: 4.625" (11.8 cm) W X 4.625" (11.8 cm) H X 2.875" (7.31 cm) D

Weight: 1.33 lbs (605 g)

Wiring Req: 2 Pair (Awg 22)

Backbox Req: 2 Gang MBR Series. Minimum Depth 2.875"

PARTIAL LIST OF ASSOCIATED EQUIPMENT

Telecor II Communication System
Telecor XL Communication System
T3-SC Security Communication System
Series 100 Communication System
T3-TBU-17-C Two Wire Intercom Termination Board
T3-TBU-16 Intercom Expansion Termination Board

All product information subject to change without notice.

FEATURES

- Virtually Indestructible
- Tamper-proof Call Switch
- Vandal-proof Speaker Assembly
- Three Protection Barriers
- 11 Gauge Stainless Steel Faceplate
- Tamper-proof Hardware
- Mushroom Style Actuator

DESCRIPTION

The Telecor ICS-3 Security Intercom Station is designed for use in hostile institutional environments where a rugged, tamper-proof device is required. The unit can be used with all Telecor and many competing communication systems where two-way intercom communications are required.

The face plate is fabricated from 11 gauge stainless steel with a brushed, mar-resistant finish. The speaker assembly is mounted internally to the faceplate by a set of welded studs, and protected from access by any foreign objects by three barriers. The speaker cone is fabricated from mylar, making it impervious to damage by liquids.

The ICS-3 is available as an ICS-3A version which is identical to the ICS-3, with the addition of a call switch assembly, used to initiate calls to the Control Console. The call switch assembly is connected to the face plate by a set of welded studs. A rugged metal actuator activates a momentary contact switch whose movement is limited by a mechanical stop in order to prevent damage to the switch mechanism.

The ICS-3A is available with a standard 1/2" flush mounted actuator (as previously described) or can be supplied with a large 1-1/2" mushroom style actuator(model ICS-3M). Both are machined from solid metal, maximizing strength and durability.

For existing intercom systems with only 2 conductors running back to the headend, there is the ICS-3A-2/4, which allows connections to the Telecor T3-SC Security Communications System.

Two enclosures are available for the ICS-3 series of intercom stations. The 3-BBS is a square enclosure designed for surface mounting. All seams are welded insuring a weatherproof seal for outdoor applications. The 3-BBS is finished in a black semi-gloss epoxy coating. An optional G3 Weather-seal Gasket is available.

ARCHITECT'S & ENGINEER'S SPECIFICATIONS

The Intercom Station shall be a Telecor model () or approved equal. The Station shall be tamper-proof in design and construction and shall provide for two-way communications as well as call-in capabilities.

The face plate 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 face plate and the speaker cone. A mylar speaker cone shall be used in order to prevent damage to the speaker from liquids.



For the ICS-3A / ICS-3A-2/4 version, include:

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 face plate. The actuator shall activate a momentary contact switch whose movement shall be limited by a mechanical stop to prevent damage caused by heavy impact.

For the ICS-3M version, include:

The switch actuator shall be fabricated from solid metal, and connected to the faceplate by a pair of welded studs. It shall be a large mushroom style unit of no less than 1- 1/2" in diameter. The actuator shall activate a momentary contact switch whose movement shall be limited by a mechanical stop to prevent damage caused by heavy impact.

For surface-mount applications include:

The surface enclosure shall be a Telecor model 3-BBS or approved equal. It shall be constructed of 16 gauge CRS and shall have a black semi-gloss epoxy finish. The seams shall be welded to ensure a proper liquid seal. An optional G3 Weather-seal Gasket shall be available.

MODEL ICS-3 SPECIFICATIONS

Speaker:	2-1/2" dynamic, mylar cone speaker, waterproof and puncture resistant. 8 ohm voice coil c/w 25 V matching transformer
Terminations:	Wire Pigtails
Size:	6-3/8" (16.20 cm) W X 4-5/8" (11.75 cm) H X 2-1/2" (6.35 cm) D
Weight:	1 lb (.45 kg)
Wiring Req:	1 Pair (Awg 22)
Backbox Req:	3-BBS surface enclosures

MODEL ICS-3A / ICS-3A-2/4 SPECIFICATIONS

Speaker:	2-1/2" dynamic, mylar cone speaker, waterproof and puncture resistant. 8 ohm voice coil c/w 25 V matching transformer
Switch Type:	SPST, Normally Open
Actuator:	1/2" Flush Mounted
Terminations:	Wire Pigtails
Size:	6-3/8" (16.20 cm) W X 4-5/8" (11.8 cm) H X 2-1/2" (6.35 cm) D
Weight:	1.1 lbs (.495 kg)
Wiring Req:	ICS-3A 2 Pair (Awg 22) ICS-3A-2/4 1 Pair (Awg 22)
Backbox Req:	3 Gang MBR Series. Minimum Depth 2.875" 3-BBS surface enclosures

MODEL ICS-3M SPECIFICATIONS

Speaker:	2-1/2" dynamic, mylar cone speaker, waterproof and puncture resistant. 8 ohm voice coil c/w 25 V matching transformer
Switch Type:	SPST, Normally Open
Actuator:	1-1/2" Mushroom Style
Terminations:	Wire Pigtails
Size:	6-3/8" (16.20 cm) W X 4-5/8" (11.8 cm) H X 2-1/2" (6.35 cm) D
Weight:	1.1 lbs (.495 kg)
Wiring Req:	2 Pair (Awg 22)
Backbox Req:	3 Gang MBR Series. Minimum Depth 2.875" 3-BBS Surface Enclosures

PARTIAL LIST OF ASSOCIATED EQUIPMENT

Telecor II Communication System
 Telecor XL Communication System
 T3-SC Communication System
 Series 100 Communication System
 3-BBS Backbox
 G3 Weatherproof Gasket
 T3-TBU-17-C Two Wire Intercom Termination Board
 T3-TBU-16 Intercom Expansion Termination Board

All product information subject to change without notice.

FEATURES

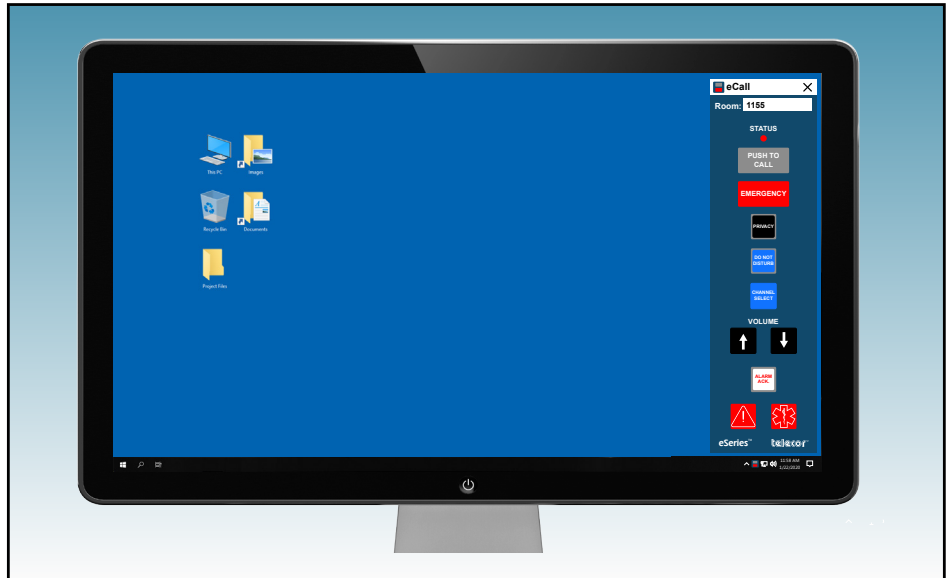
- eCS series call station software for Windows computers
- Compatible with eSeries V1.2.9, V1.3.4, and later systems
- Interactive and animated graphical user interface (GUI)
- Displays room number
- Mix features of different eCS series call stations onto a single interface
- Minimizes to and resides 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.



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

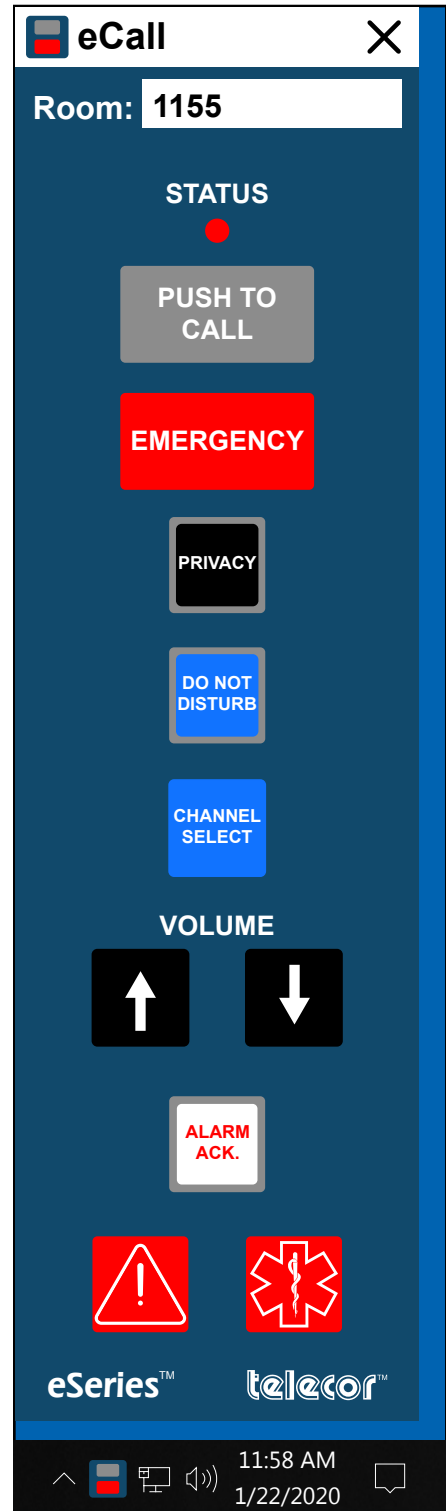
eSERIES SYSTEM SPECIFICATIONS:

- 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 Station
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



eSBM-TB Speaker Breakout Module

eSTB-12 Speaker/Baffle Assembly

STB-5 1X2 Lay-In Tile Speaker Assembly

STB-10 Speaker/xfmr/Baffle Assembly

H7 Enclosure

T7 Support Bridge

STB-12 2X2 Lay-In Tile Speaker Assembly

S8 8" Loudspeaker

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

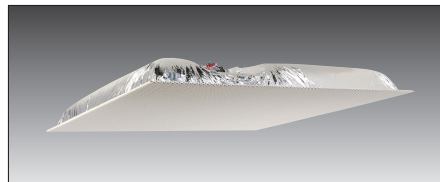
Just Plug It In!
HD Audio™



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 be 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.

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.



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:

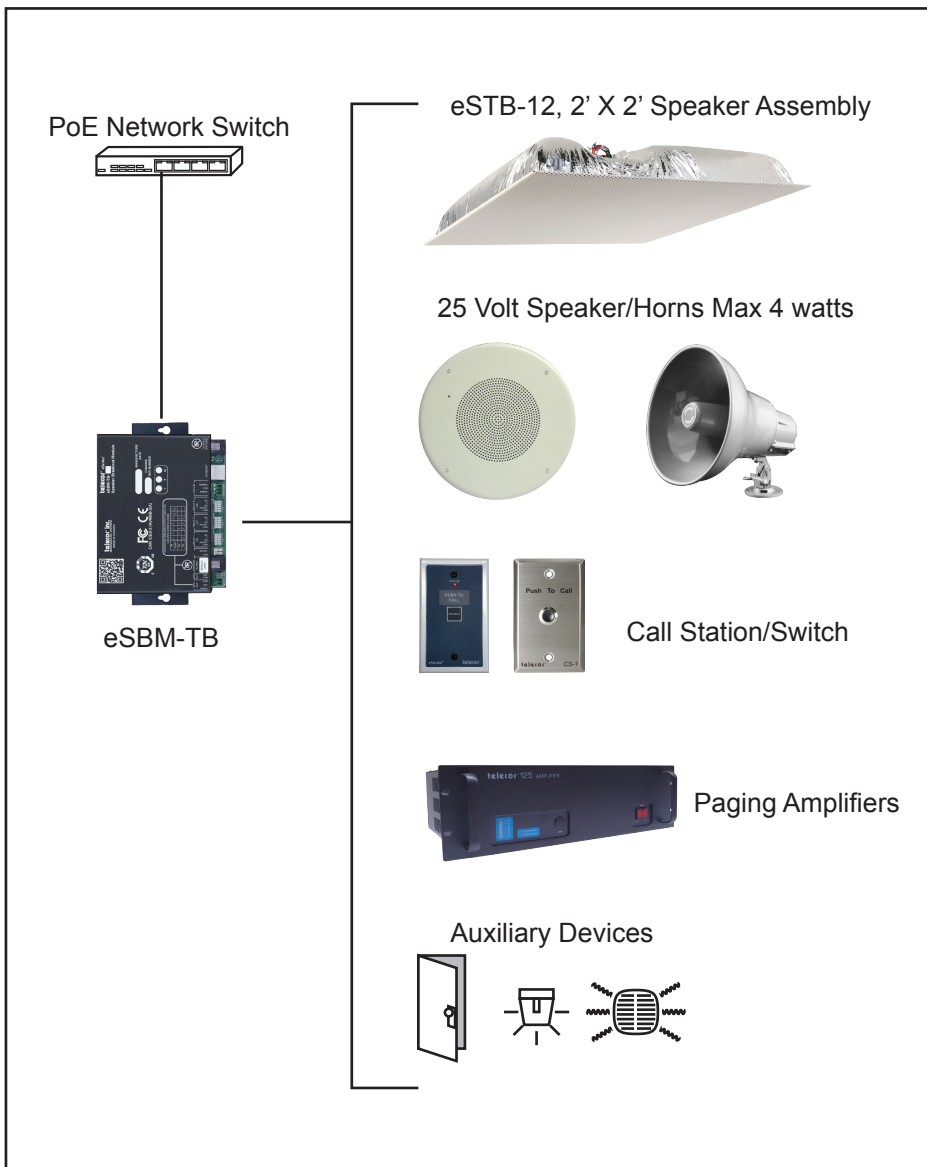
Relay 2 activates when an Emergency level Call is initiated from the Module and deactivates when the call is answered.

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:	50-104°F/10-40°C, 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

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

All product information subject to change without notice.



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

DESCRIPTION

The Telecor eSTB-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, pre-assembled into a 24" x 24" square perforated steel baffle and combination backbox. The baffle is finished in a mar-resistant, white epoxy coating.

The eSTB-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.

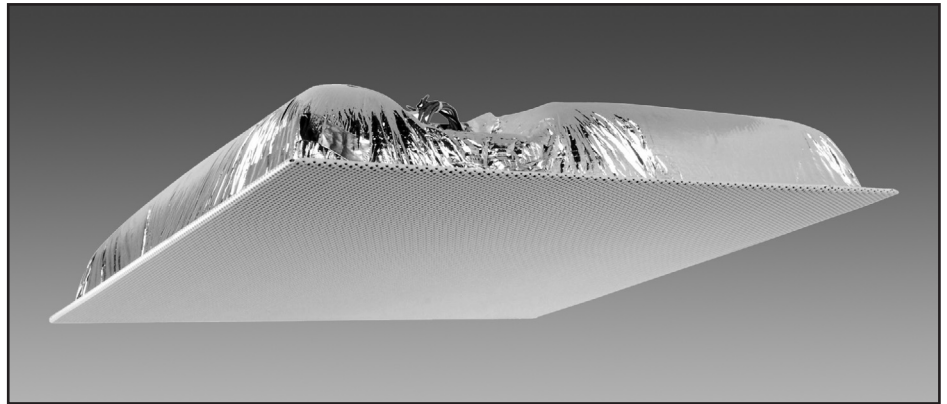
eSTB-12 SPEAKER ASSEMBLY SPECIFICATIONS

BAFFLE:

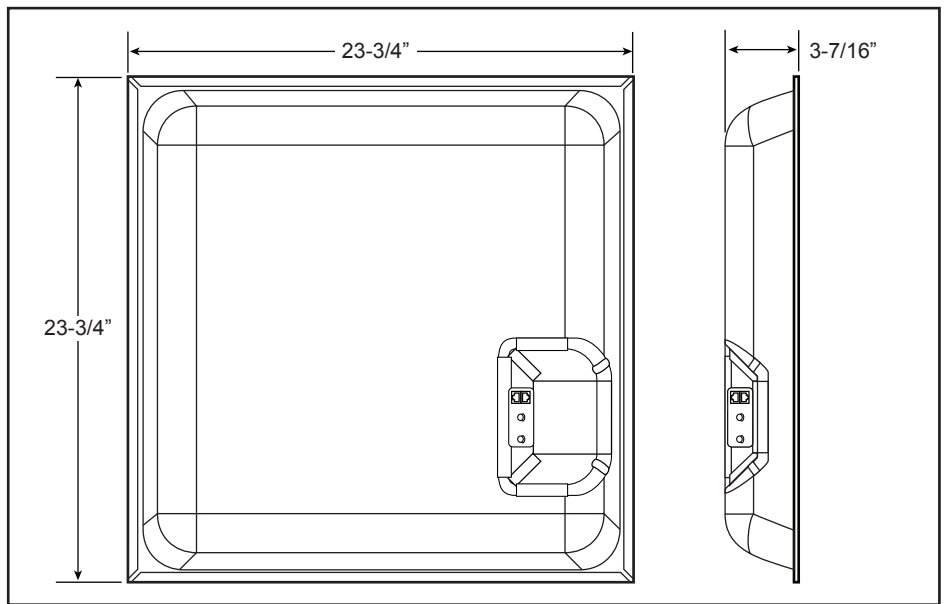
Type:	Square
Finish:	White, epoxy
Material:	22 gauge cold-rolled steel
Size:	23-3/4" W x 23-3/4" L x 3-3/8" D (60.3 cm x 60.3 cm x 8.6 cm)
Weight:	6 lbs, 14 oz (2.8 kg)
Termination:	RJ45 Connector
Wiring Req.:	CAT 5 or higher

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)
Impedance:	8 ohms



eSTB-12 Speaker/Baffle Assembly



eSTB-12 Dimensions

PARTIAL LIST OF ASSOCIATED EQUIPMENT

eSBM-TB Speaker Breakout Module

All product information subject to change without notice.



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:

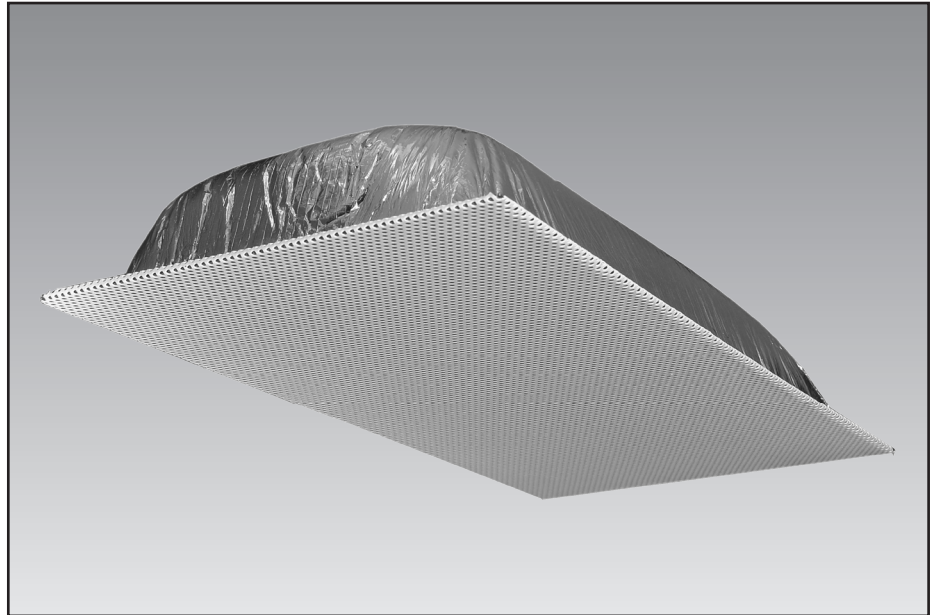
Type: Rectangular
 Finish: White, epoxy
 Material: 22 gauge cold-rolled steel
 Size: 23-3/4" W x 11-3/4" L x 3-3/8" D
 60.6 cm x 29.8 cm x 8.6 cm
 Weight: 4 lbs, 14oz (2.2 kg)

CONE SPEAKER:

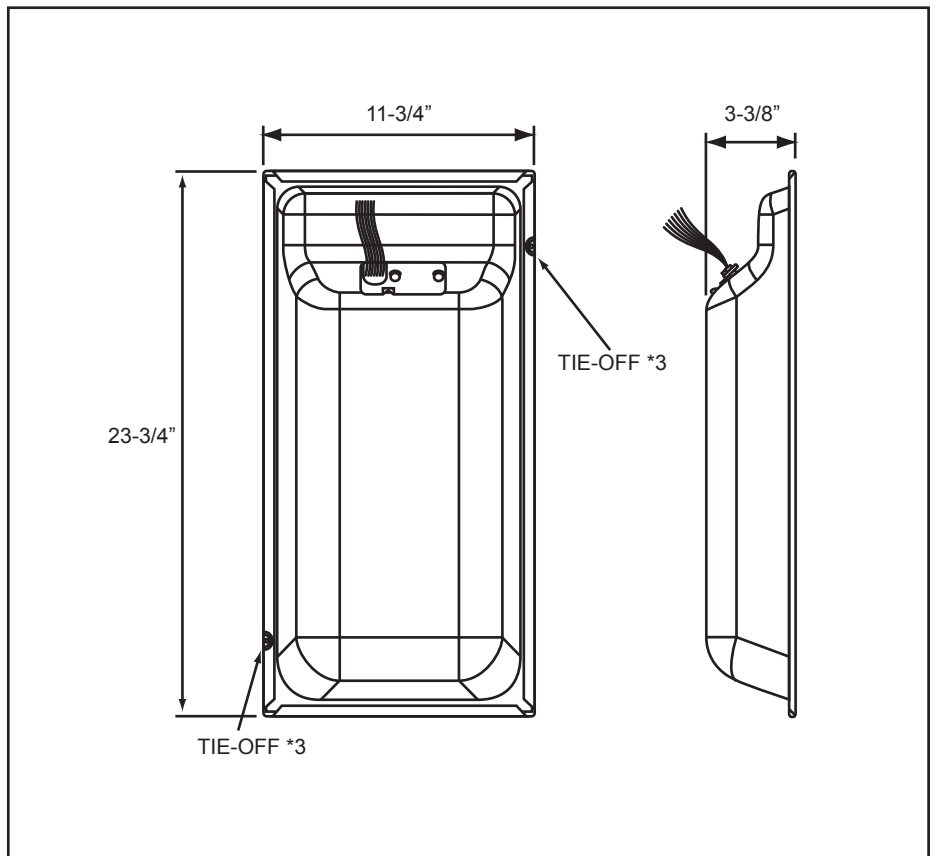
Speaker Diameter: 8"
 Power Rating: 12 watts
 Frequency Range: 65 to 17,000 Hz
 Magnet: 5 oz
 Axial Sensitivity: 92 db @ 1 m (1 watt input)

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

All product information subject to change without notice.

FEATURES

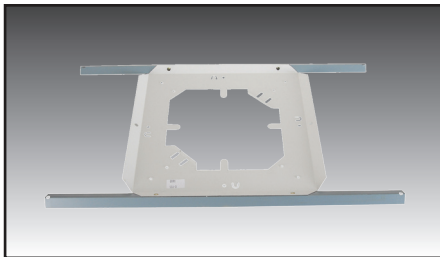
- Factory Preassembled
- Reduces Installation Time
- Dual 25/70 volt Transformer
- Accessory Support Bridge Available

DESCRIPTION

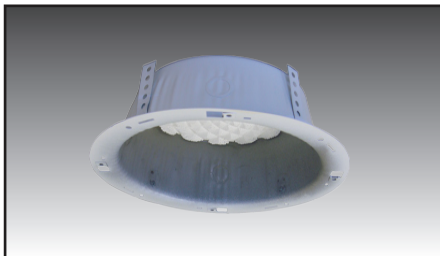
The Telecor STB-10 is a cost-effective 8" speaker/transformer/baffle control assembly that has a wide frequency response for general purpose voice and music reproduction.

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

All product information subject to change without notice.



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)

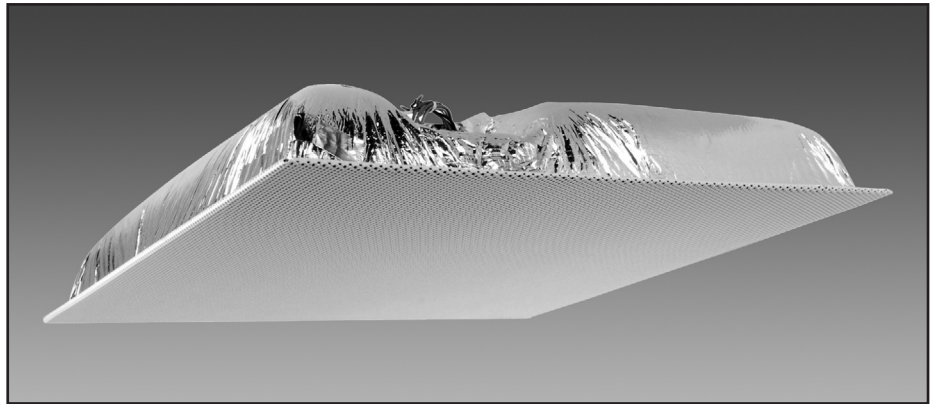
CONE SPEAKER:

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)

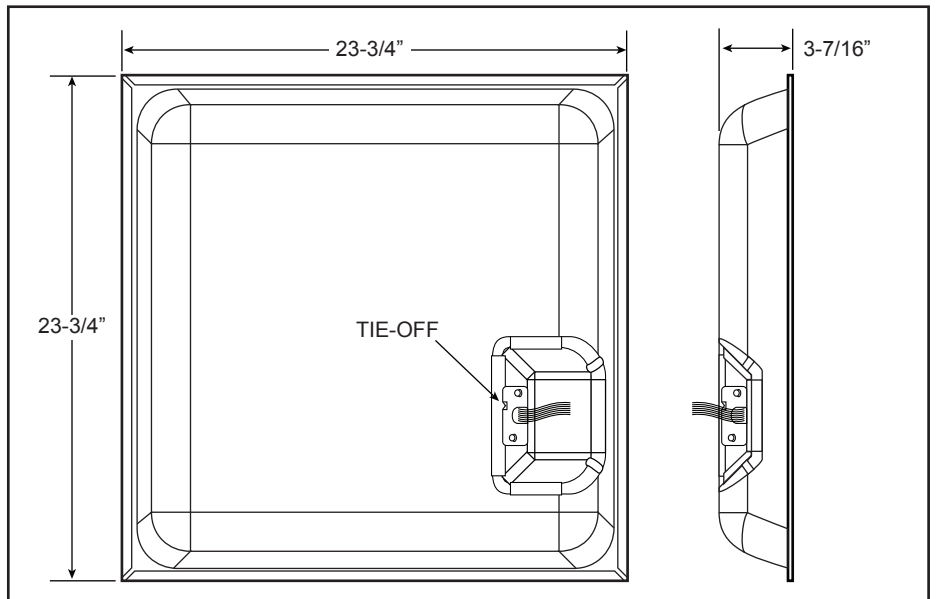
TRANSFORMER:

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

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

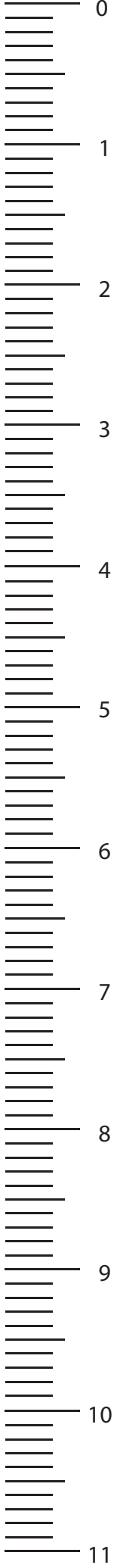
Speaker Diameter:	8" (203 mm)
Power Rating:	10 watts
Frequency Range:	50 Hz to 17 KHz
Magnet:	5 oz
Voice Coil Impedance:	8 ohms
Axial Sensitivity:	95 db @ 4ft (1 watt input)
Depth:	2 3/4" (70 mm)
Mounting holes:	4 holes @ 90 degrees 7 5/8" d (19.4 cm)

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

All product information subject to change without notice.





STB-16 Vandal Resistant Horn

H16 Recessed Back Box

SH-16 Surface Back Box

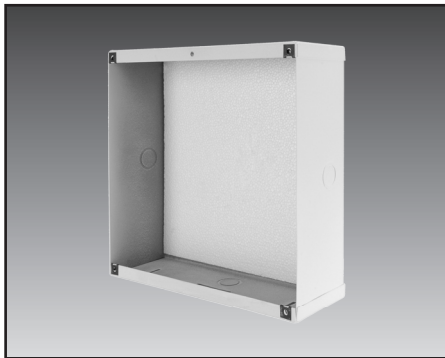
A-15T, A-30T Re-Entrant Horn Loudspeaker

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).



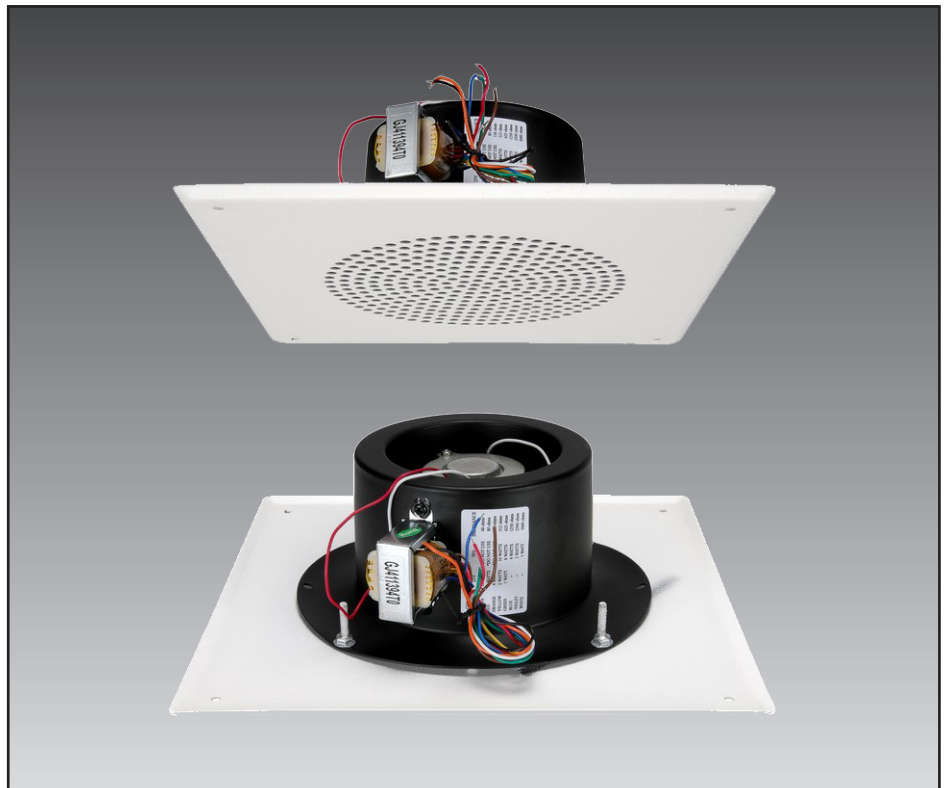
H16 Recessed Back Box

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)

All product information subject to change without notice.

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 continuous 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

All product information subject to change without notice.

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 continuous 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 1/2" 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 1/2" 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

All product information subject to change without notice.

Paging Amplifiers and Accessories

eAMP Ethernet 25W Amplifier

TTM-RMK Rack Mount Kit

SI-60 60 Watt Amplifier

SI-125 125 Watt Amplifier

SI-250 250 Watt Amplifier



FEATURES

- Adds conventional speaker paging and public address to eSeries Intercom System
- Receives Audio Signals Over LAN
- Features Just Plug It In!TM 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 AudioTM 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



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!TM 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!TM 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 to 16 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

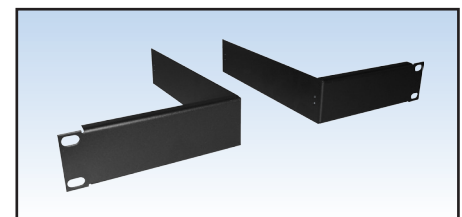
eSeries system. The eConsole and eStations can act as paging sources for the eAMP(-MA) and can also be included in the eAMP(-MA)'s paging zone, so that a mix of traditional speakers and PoE speakers can be broadcast to simultaneously.

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



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, Input, 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

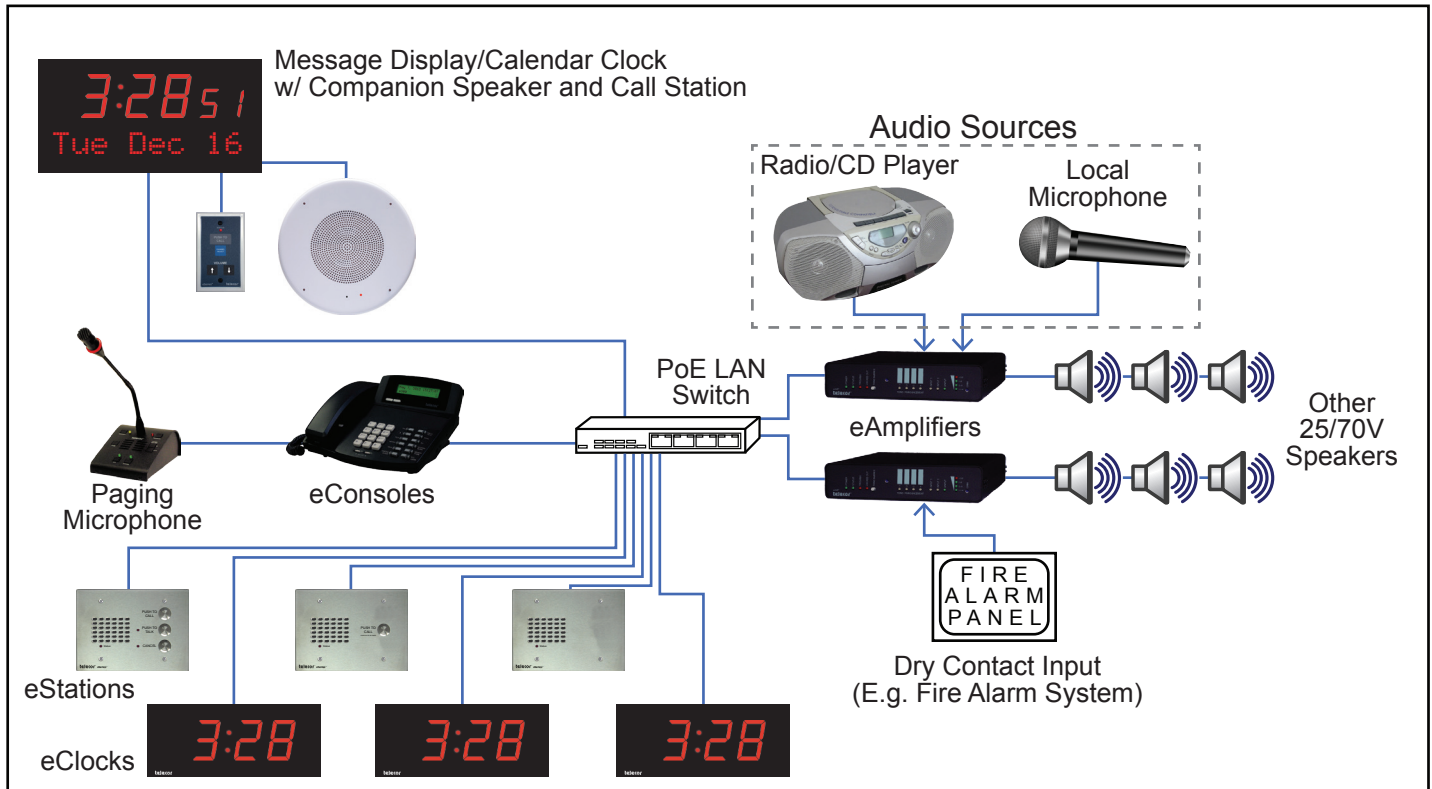
Compliance: TUV-SUD Listed UL62368-1 Standard



PARTIAL LIST OF ASSOCIATED EQUIPMENT

TTM-RMK e2443-MA	Rack Mount Kit Message Display/Calendar Clock/Speaker Console
e300-MA e365-TB-MA eCI-MA eCS-4	Message Display/Calendar Clock Control Interface Volume Control and Channel Select Call Station
eCS-5	Volume Control and Channel Select Station Logging Interface
eLOG ePORT-MC eS8 eS8-TB-MA eS8-TB4-MA eSIP	Management Interface Ethernet 8" Ceiling Speaker Talkback Speaker Talkback Master Speaker SIP Interface eStations
eSTN-0, eSTN-1, eSTN-2, eSTN-3 BA24025	24V, 2.5A AC Adapter

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Example of typical eSeries network with eAmplifiers





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

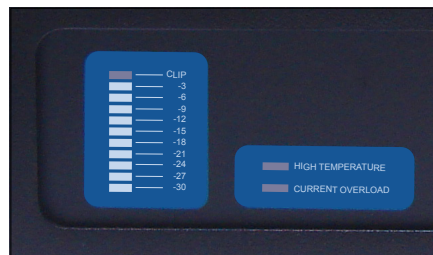


DESCRIPTION

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.

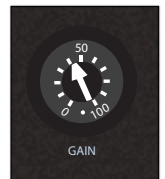


A calibrated LED level meter indicates the amount of signal present in 3 dB steps, from - 30 dB to -3 dB. The clip LED lights whenever the output stage is about to clip from either an overdriven input or an overloaded output.

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.

SPECIFICATIONS

Input Level:	1 V or 100 mV (switchable)
Input Impedance:	10 k Ω (balanced)
Output:	60 watts RMS into balanced 4 Ω , 8 Ω , 25 V, or 70 V lines
Frequency Response:	50 to 15,000 Hz (\pm 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:	-10°C to +35°C (14°F to 95°F)
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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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

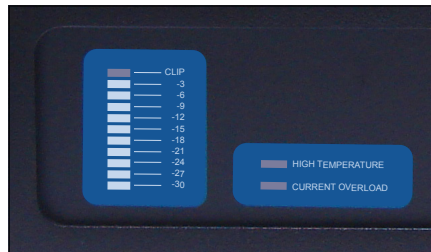


DESCRIPTION

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.

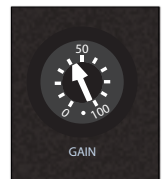


A calibrated LED level meter indicates the amount of signal present in 3 dB steps, from - 30 dB to -3 dB. The clip LED lights whenever the output stage is about to clip from either an overdriven input or an overloaded output.

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.

SPECIFICATIONS

Input Level:	1 V or 100 mV (switchable)
Input Impedance:	10 k Ω (balanced)
Output:	125 watts RMS into balanced 4 Ω , 8 Ω , 25 V, or 70 V lines
Frequency Response:	50 to 15,000 Hz (\pm 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:	-10°C to +35°C (14°F to 95°F)
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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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

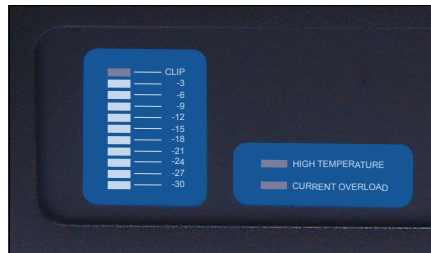


DESCRIPTION

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.

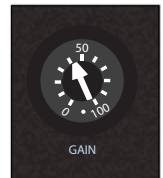


A calibrated LED level meter indicates the amount of signal present in 3 dB steps, from -30 dB to -3 dB. The clip LED lights whenever the output stage is about to clip from either an overdriven input or an overloaded output.

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.

SPECIFICATIONS

Input Level:	1 V or 100 mV (switchable)
Input Impedance:	10 k Ω (balanced)
Output:	250 watts RMS into balanced 4 Ω , 8 Ω , 25 V, or 70 V lines
Frequency Response:	50 to 15,000 Hz (\pm 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:	-10°C to +35°C (14°F to 95°F)
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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Rev: 0.1
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Clocks



Master Clock
Messaging Display/Clocks
Digital Clocks
Analog Clocks

Master Clock



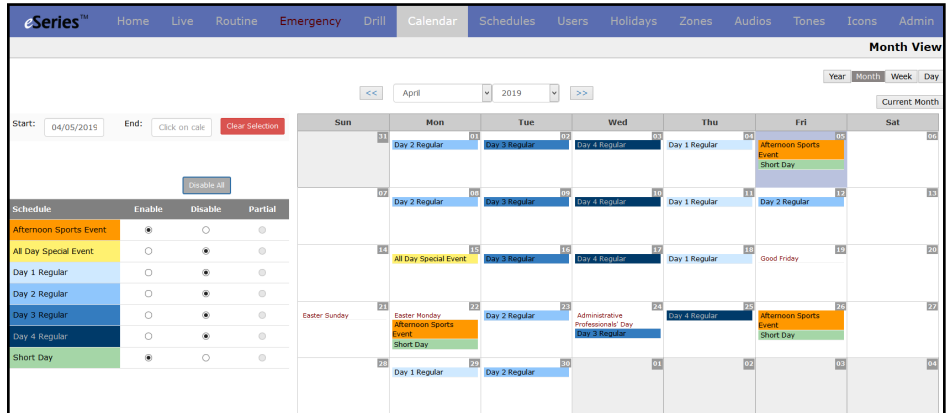
eMH eSeries Master Clock & Message Host

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 also enables configuration and activation of eSeries operations from a web-based graphical user interface (GUI). An unlimited number of operations



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).

can be managed for activation by schedules or users.

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.

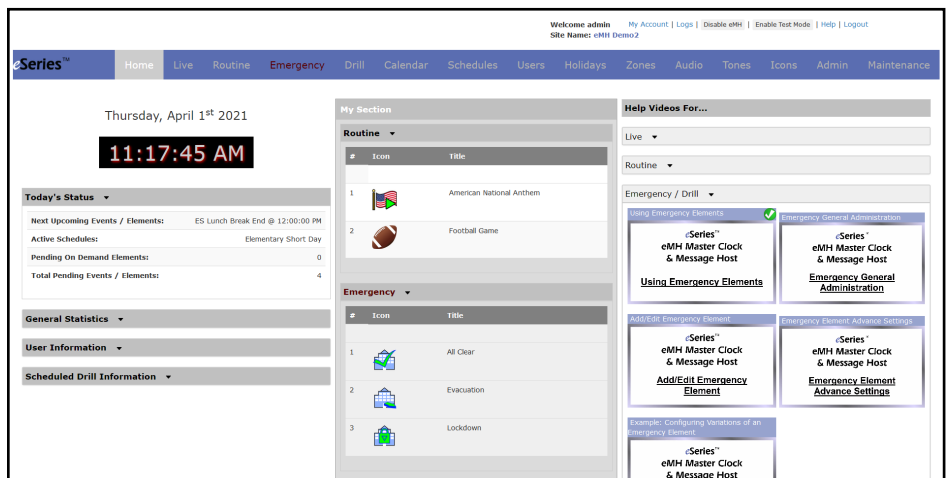
Schedules can be viewed, enabled or disabled in a calendar. The calendar can display schedules on a daily, weekly, monthly or yearly basis. The eMH supports scheduling operations up to 10 years into the future.

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



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.

Status	Name	Icon	Time	Audio	Source	Start Time
Playing	Playing Mass Camina	Yes	Yes	Yes	admin	08:42:41 AM
✓	Day 1 Welcome & Class 1 Warning	Yes	Yes	Yes	Day 1 Regular	08:50:00 AM
✓	Day 1 Class 1 Start	Yes	Yes	Yes	Day 1 Regular	09:00:00 AM
✓	Day 1 Class 1 End	Yes	Yes	Yes	Day 1 Regular	10:00:00 AM
✓	Day 1 Class 2 Warning	Yes	Yes	Yes	Day 1 Regular	10:05:00 AM
✓	Day 1 Class 2 Start	Yes	Yes	Yes	Day 1 Regular	10:10:00 AM

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.

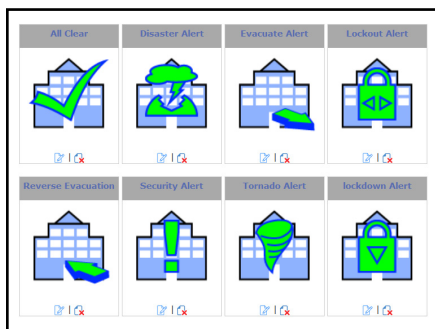
eMH operations can target one or more eSeries zones. For simpler zone selection the eMH supports an unlimited number of Named Zones that easily identify different parts of a school in plain text.

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	Bell	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	Bell	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	Bell	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	Bell	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	Bell	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	Bell	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	Bell	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	Bell	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	Bell	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	Icon	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.



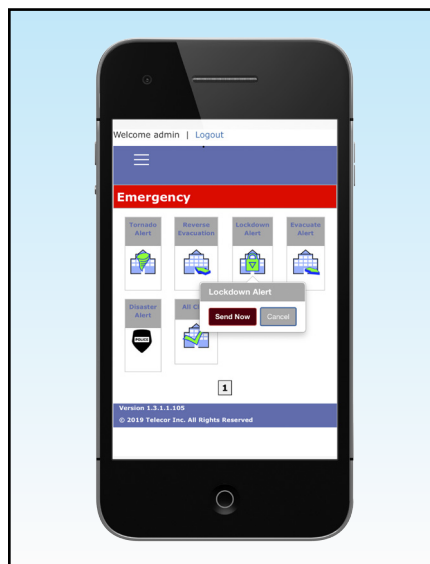
eMH EMERGENCY OPERATIONS

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.



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

Dial Number	Device Type	Room Name	Call-In Destination (Primary)	Zone Membership	Volume Level
101	e355TB	Computer Lab	320	+ 1	2
102	e365TB	Music Room	310	+ 1	5
103	e5TN3	Mr. Stephenson's Classroom	310	+ 1	0
104	e5TN3	Ms. Isley's Classroom	310	+ 1	0
105	e5TN3	Ms. Quanzel's Classroom	310	+ 1	0
106	e5TN3	Mr. Gibson's Classroom	310	+ 1	0
201	e5B	1F West Hallway	310	+ 1	5
202	e5B	1F East Hallway	310	+ 1	5
203	e5B	2F West Hallway	310	+ 1	5
204	e5B	2F East Hallway	310	+ 1	5
310	e300	Reception	Not Applicable	+ 1	Not Applicable

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

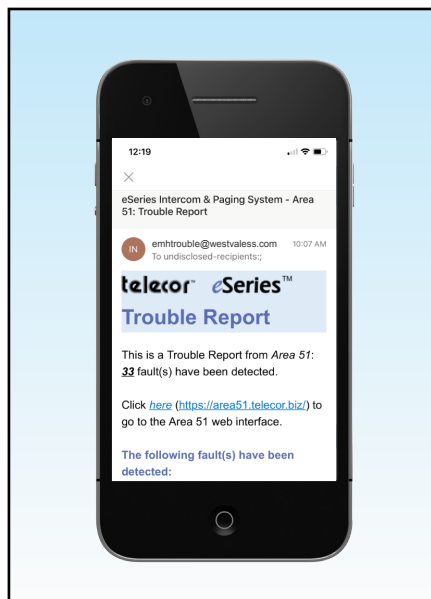
The following fault(s) have been detected:

- Device A51-R6-S8-S6B with dial number 17260 is experiencing fault: "Device version control file does not match network version control file"
- 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"
- Device eSIP.0 A51 with dial number N/A is experiencing fault: "Software not compatible with the network"
- Device e5TN-1 with dial number 17197 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R5-S1-S15 with dial number 17205 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S8-S12 with dial number 20975 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S8-S12 with dial number 41944 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R5-S3-S12F with dial number 17213 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S1 with dial number 10350 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-eTBU #9 with dial number 17970 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S4-S14 with dial number 17646 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R5-S3-S4 with dial number 16822 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R5-S3-S4B with dial number 17220 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S2 with dial number 10358 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S6-S6 with dial number 17654 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S3 with dial number 16830 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-S3-S4B with dial number 42291 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R5-R8-S3 with dial number 17236 is experiencing fault: "Device version control file does not match network version control file"
- Device A51-R6-R2-S1 with dial number 10247 is experiencing fault: "Device version control file does not match network version control file"
- 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/) (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:
50-104°F/10-40°C,
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



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

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Messaging Display/Clocks

e365-TB-MA Message Display/Calendar Clock

2484 Digital Messaging/Calendar Clock/Speaker

2484-24

2484-120

2431-BBS Surface Backbox

2431-BBF Flushmount Backbox

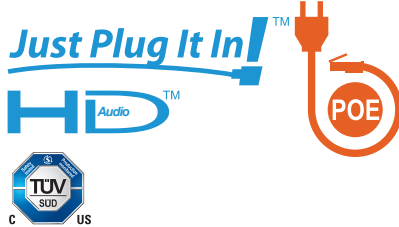
2423 Dual Mounting Kit

2433 Clock Guard

VuAlert Dynamic Display

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!TM 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



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!TM 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!TM design means the e365-TB-MA does not require any network



e365-TB-MA

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 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 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 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 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 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.

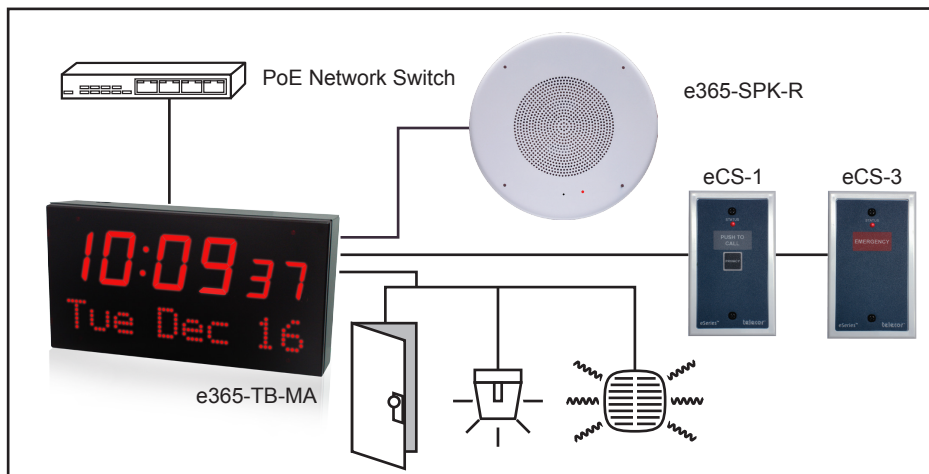
All e365-TB-MAs on the LAN are continuously synchronized to a Time Master connected anywhere on the same network. Examples of Time Masters include: the Telecor ePort Management Interface, eCI Control Interface, eLOG Logging Interface, eSIP Interface, or a PC running the Telecor Ethernet Time Server Software. Time corrections are performed instantaneously so that all 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: 1.0"
 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: 50-104°F/10-40°C, 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



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	eConsole
ePORT	Management Interface

All product information subject to change without notice.



FEATURES

- Current time displayed in six-digit format (HH:MM:ss)
- Date displayed in day of the week/month/date format
- Enhanced message display capabilities
- Elapsed time capabilities, count up/down
- Synchronizes with Master Clock using digital protocol
- Single or dual face configuration
- Flush, surface or wall/ceiling mounting
- Anti-reflective cover optimizes readability
- Wide viewing angle

DESCRIPTION

The Telecor 2484 Digital Calendar Clock simultaneously displays 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. These clocks are designed for use in conjunction with Telecor's TII/XL Communication Systems and/or the 2400 Master Clock. They are ideal for school and institutional applications.

All secondary clocks are continuously synchronized with the Master; corrections are done instantaneously and all clocks display the identical time and date. In the event of a power failure, the Telecor system maintains proper timekeeping during the outage. Once power is restored, all clocks are immediately updated with the correct time and date.

The 2484 utilizes AIGaAS "Super-Bright" LED displays which have exceptional visibility characteristics and can be viewed from up to 120 feet away.

Enhanced Clock Messaging

In addition to displaying the time, the 2484 can be directly engaged by the Telecor software to display messages in the dot matrix section of the display. These messages can be used to alert personnel of an emergency or a situation of concern. This is ideal for communicating visual messages to hearing-impaired persons during critical situations.



Scrolling Messages

When the messaging feature is used in conjunction with the Telecor II/XL System, messages are programmed using Telecor's TII/XL Editor software. The software utilizes a user-friendly web interface designed for programming the Telecor II/XL System. Message data is then transmitted from the system to all 2484 clocks on the network.



Messages can be activated by the Telecor II/XL Event Scheduler, allowing text to be displayed at specific times and days of the week. Messages can 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 2484 can also be used as an ancillary visual annunciator to display emergency calls placed on the Telecor II/XL Communications System. When an emergency call is placed, it is shown in the messaging area of the display until the call is cleared from the system. The dot matrix display defaults back to the date when not displaying messages.



Display of Active Emergency Call Location

Elapsed Timer Operation

The 2484 can be used as an elapsed digital timer, providing stopwatch functionality, indicating elapsed time on the six-digit display.

Elapsed timer functions include the ability to count upwards from zero to 24 hours, as well as counting down to zero from a specified value. The elapsed timer is controlled using the Telecor 2481-TBP Timer Button Panel, providing start, stop, and reset functionality. When not operating as an elapsed timer, the 2484 defaults back to displaying the current time.



Elapsed Timer Operation

The 2484 is available in 24, 117, or 220 VAC models. The clocks can operate from 24, 115, or 220 VAC power sources.

Model	Power Source
2484-24	24 VAC (+/- 10%), 50/60 Hz
2484-120	117 VAC (+/- 10%), 60Hz
2484-220	220 VAC (+/- 10%), 50 Hz

Installation Options

The 2484 Digital Calendar Clock is 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.



Wall Mounted

Two surface-mount enclosures can be mounted back-to-back with a 2423 Dual Mounting Kit, creating a double-faced version of the 2484. The Dual Mounting Kit is supplied with a bracket that allows the clocks to be mounted on either a wall or ceiling, at a distance of 4" from either surface.



Ceiling Mounted

An optional 2433 Clock Guard is available for the surface mount models of the 2484 Digital Clocks. The guards are sturdily constructed from heavy gauge steel with a plexiglass window providing both protection and optimum visibility of the clock display.



2484 Digital Calendar Clock with 2433 Guard

2484 DIGITAL 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"

Current Consumption:
 2484-24: 165 mA @ 24 VAC
 2484-120: 70 mA
 2484-220: 35 mA

* nominal current consumption with 24 VAC source

Calendar Clock Dimensions:
 15" W x 8" H x 3.25" D
 (38.4 cm x 20.5 cm x 8.3 cm)

2431-BBF Recessed Enclosure Dimensions:
 14.13" W x 7.06" H x 3.13" D
 (36.2 cm x 18.1 cm x 8.0 cm)

2431-BBS Surface Enclosure Dimensions:
 15.06" W x 8.06" H x 4.5" D
 (38.6 cm x 20.6 cm x 11.5 cm)

Weight:
 3.196 lb
 1.45 kg

PARTIAL LIST OF ASSOCIATED EQUIPMENT

Telecor II/XL Administrative Communication Systems

2400 Master Clock
 2404 Pwr. Transformer 220/24 VAC, 10 A. 50Hz
 2405 Pwr. Transformer 117/24 VAC, 5 A. 60 Hz
 2406 Pwr. Transformer 117/24 VAC, 10 A. 60 Hz
 2481-TBP Timer Button Panel
 2431-BBS Surface Enclosure
 2431-BBF Recessed Enclosure
 2423 Dual Mounting Kit
 2433 Protective Guard



Surface and Recessed Enclosures for 2484 Digital Calendar Clock

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

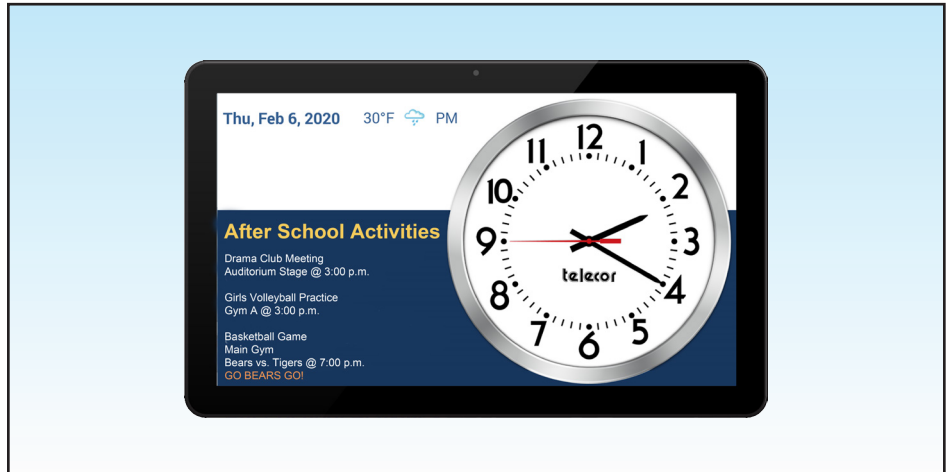
- Allows eSeries and T2/XL Systems to activate VuAlert emergency alarms/messages

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 facility'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



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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2484 Digital Messaging/Calendar Clock/Speaker

2431-BBS Surface Backbox

2431-BBF Flushmount Backbox

2423 Dual Mounting Kit

2433 Guard

2421 2.5" Digital Clock

2421-BBS Surface Backbox

2421-BBF Flushmount Backbox

2431 4" Digital Clock

2431-BBS Surface Backbox

2431-BBF Flushmount Backbox

2433 Clock Guard

FEATURES

- Current time displayed in six-digit format (HH:MM:ss)
- Date displayed in day of the week/month/date format
- Enhanced message display capabilities
- Elapsed time capabilities, count up/down
- Synchronizes with Master Clock using digital protocol
- Single or dual face configuration
- Flush, surface or wall/ceiling mounting
- Anti-reflective cover optimizes readability
- Wide viewing angle

DESCRIPTION

The Telecor 2484 Digital Calendar Clock simultaneously displays 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. These clocks are designed for use in conjunction with Telecor's TII/XL Communication Systems and/or the 2400 Master Clock. They are ideal for school and institutional applications.

All secondary clocks are continuously synchronized with the Master; corrections are done instantaneously and all clocks display the identical time and date. In the event of a power failure, the Telecor system maintains proper timekeeping during the outage. Once power is restored, all clocks are immediately updated with the correct time and date.

The 2484 utilizes AIGaAS "Super-Bright" LED displays which have exceptional visibility characteristics and can be viewed from up to 120 feet away.

Enhanced Clock Messaging

In addition to displaying the time, the 2484 can be directly engaged by the Telecor software to display messages in the dot matrix section of the display. These messages can be used to alert personnel of an emergency or a situation of concern. This is ideal for communicating visual messages to hearing-impaired persons during critical situations.



Scrolling Messages

When the messaging feature is used in conjunction with the Telecor II/XL System, messages are programmed using Telecor's TII/XL Editor software. The software utilizes a user-friendly web interface designed for programming the Telecor II/XL System. Message data is then transmitted from the system to all 2484 clocks on the network.



Messages can be activated by the Telecor II/XL Event Scheduler, allowing text to be displayed at specific times and days of the week. Messages can 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 2484 can also be used as an ancillary visual annunciator to display emergency calls placed on the Telecor II/XL Communications System. When an emergency call is placed, it is shown in the messaging area of the display until the call is cleared from the system. The dot matrix display defaults back to the date when not displaying messages.



Display of Active Emergency Call Location

Elapsed Timer Operation

The 2484 can be used as an elapsed digital timer, providing stopwatch functionality, indicating elapsed time on the six-digit display.

Elapsed timer functions include the ability to count upwards from zero to 24 hours, as well as counting down to zero from a specified value. The elapsed timer is controlled using the Telecor 2481-TBP Timer Button Panel, providing start, stop, and reset functionality. When not operating as an elapsed timer, the 2484 defaults back to displaying the current time.



Elapsed Timer Operation

The 2484 is available in 24, 117, or 220 VAC models. The clocks can operate from 24, 115, or 220 VAC power sources.

Model	Power Source
2484-24	24 VAC (+/- 10%), 50/60 Hz
2484-120	117 VAC (+/- 10%), 60Hz
2484-220	220 VAC (+/- 10%), 50 Hz

Installation Options

The 2484 Digital Calendar Clock is 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.



Wall Mounted

Two surface-mount enclosures can be mounted back-to-back with a 2423 Dual Mounting Kit, creating a double-faced version of the 2484. The Dual Mounting Kit is supplied with a bracket that allows the clocks to be mounted on either a wall or ceiling, at a distance of 4" from either surface.



Ceiling Mounted

An optional 2433 Clock Guard is available for the surface mount models of the 2484 Digital Clocks. The guards are sturdily constructed from heavy gauge steel with a plexiglass window providing both protection and optimum visibility of the clock display.



2484 Digital Calendar Clock with 2433 Guard

2484 DIGITAL 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"

Current Consumption:
 2484-24: 165 mA @ 24 VAC
 2484-120: 70 mA
 2484-220: 35 mA

* nominal current consumption with 24 VAC source

Calendar Clock Dimensions:
 15" W x 8" H x 3.25" D
 (38.4 cm x 20.5 cm x 8.3 cm)

2431-BBF Recessed Enclosure Dimensions:
 14.13" W x 7.06" H x 3.13" D
 (36.2 cm x 18.1 cm x 8.0 cm)

2431-BBS Surface Enclosure Dimensions:
 15.06" W x 8.06" H x 4.5" D
 (38.6 cm x 20.6 cm x 11.5 cm)

Weight:
 3.196 lb
 1.45 kg

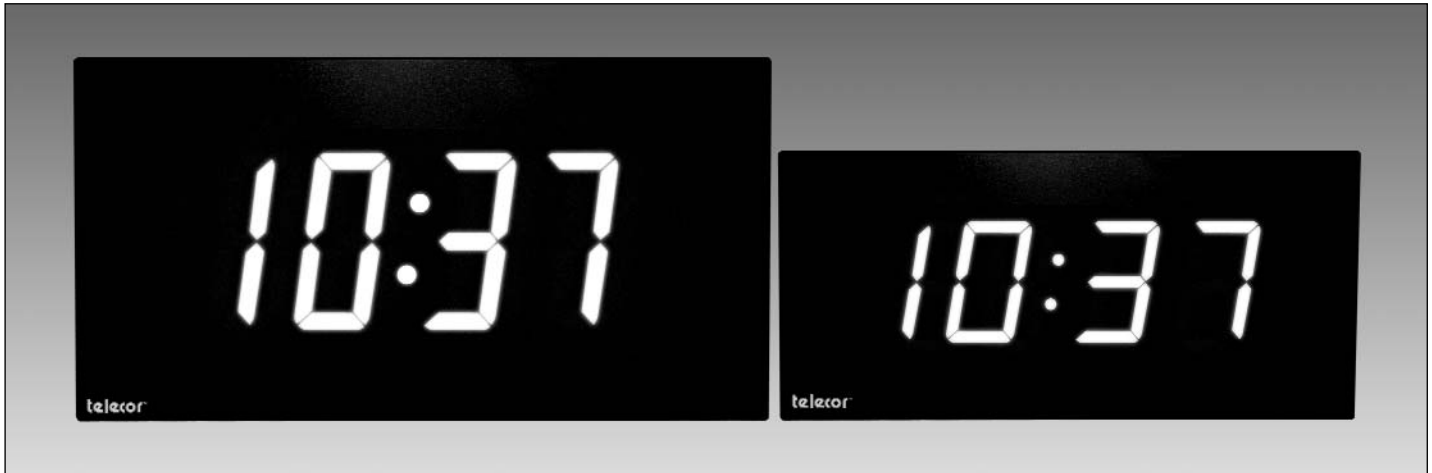
PARTIAL LIST OF ASSOCIATED EQUIPMENT

Telecor II/XL Administrative Communication Systems

2400 Master Clock
 2404 Pwr. Transformer 220/24 VAC, 10 A. 50Hz
 2405 Pwr. Transformer 117/24 VAC, 5 A. 60 Hz
 2406 Pwr. Transformer 117/24 VAC, 10 A. 60 Hz
 2481-TBP Timer Button Panel
 2431-BBS Surface Enclosure
 2431-BBF Recessed Enclosure
 2423 Dual Mounting Kit
 2433 Protective Guard



Surface and Recessed Enclosures for 2484 Digital Calendar Clock



2431 and 2421 Digital Clocks

FEATURES

- 2.5" and 4" LED Displays
- AlGaAs "Super-Bright" LEDs for Exceptional Visibility
- Automatic Time Correction
- Time and Message Display

DESCRIPTION

The Telecor 2421/2431 Digital Secondary Clocks indicate the current time in hours and minutes with a four-digit display. These clocks are designed for use in conjunction with Telecor Administrative Communication Systems and/or the Telecor 2400 Master Clock. They are ideal for school and institutional applications.

The clock design incorporates a single piece front cover that is free of grooves and gaps. This keeps infectious contaminants out of the clock. The cover's non-porous surface allows for easy, comprehensive, hygienic cleaning with anti-bacterial agents making this clock ideal for hospital environments.

All secondary clocks are continuously synchronized with the Master; corrections are done instantaneously and all clocks maintain identical time. In the event of a power failure, the Telecor system maintains proper timekeeping during the outage. Once power is restored, all clocks are immediately updated with the correct time.

In addition to providing the current time, the clock's display can be directly engaged by the Telecor software. This provides the ability to display alpha



Message Display

and numeric codes on the clock display to alert personnel of an emergency or a situation of concern. Messages can be initiated from an administrative console, a 2400 Master Clock or from a remote contact closure. This is ideal for displaying visual messages for the hearing impaired during emergency situations.

The 2421 offers a 2.5" display while the 2431 provides a large 4" display which makes it an ideal clock for gymnasium and corridor locations. Both clocks utilize AlGaAs "Super-Bright" LED displays which have exceptional visibility characteristics: the 2421 can be viewed from up to 120 feet, while the 2431 can be viewed from up to 210 feet.

The 2421 is available in 24, 117 or 220 VAC models. The clocks can operate from 24, 115 or 220 VAC power sources.

Model	Power Source
2421-24	24 VAC (+/- 10%), 50/60 Hz
2431-24	
2421-120	117 VAC (+/- 10%), 60Hz
2431-120	
2421-220	220 VAC (+/- 10%), 50 Hz
2431-220	



Wall Mounted

The 2421 and the 2431 are suitable for surface or recessed installations using the appropriate enclosure.

Model	Surface Enclosure	Recessed Enclosure
2421	2421-BBS	2421-BBF
2431	2431-BBS	2431-BBF

Two surface mount clocks can be mounted back-to-back with a 2423 Dual Mounting Kit, creating a double-faced version of the 2421 or 2431. The Dual Mounting Kit is supplied with a bracket that allows the clocks to be mounted on either a wall or ceiling at a distance of 4" from either surface.



Ceiling Mounted



2431-S Digital Clock with 2433 Guard

An optional 2433 Clock Guard is available for the surface mount models of the 2421/2431 Digital Clocks. The guards are sturdily constructed from heavy gauge steel with a plexiglass window providing both protection and optimum visibility of the clock's display.

2421/2431 DIGITAL CLOCK SPECIFICATIONS

Type: Surface and Flush Mount
 Display: 4-digit, 7-segment, red AlGaAs "Super-Bright" LEDs

Character Height:

2421 2.5"
 2431 4.0"

Current Consumption:

2421-24 250 mA
 2421-120 100 mA
 2421-220 65 mA
 2431-24 380 mA
 2431-120 100 mA
 2431-220 65 mA

Clock Dimensions:

2421: 11.13" W x 5.25" H x 3" D
 28.5 cm W x 13.5 cm H x 7.7 cm D
 2431: 15" W x 8" H x 3.25" D
 38.4 cm W x 20.5 cm H x 8.3 cm D

Recessed Enclosure Dimensions:

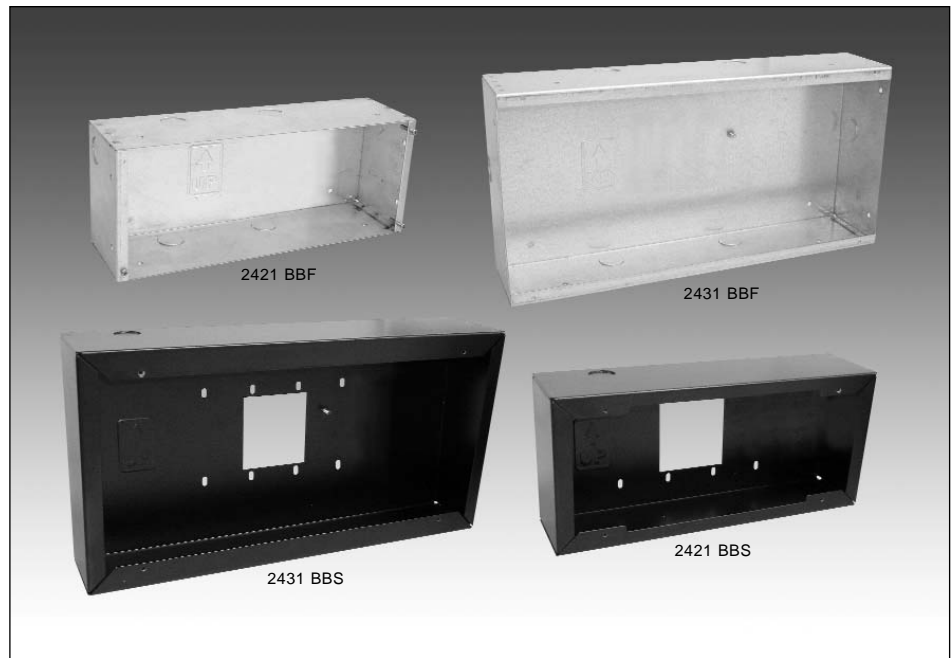
2421-BBF: 10.5" W x 4.25" H x 3.13" D
 27.9 cm W x 10.9 cm H x 8.0 cm D
 2431-BBF: 14.13" W x 7.06" H x 3.13" D
 36.2 cm W x 18.1 cm H x 8.0 cm D

Surface Enclosure Dimensions:

2421-BBS: 11.25" W x 5.25" H x 3.5" D
 28.8 cm W x 13.5 cm H x 8.3 cm D
 2431-BBS: 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:

2421 1.673 lb
 0.759 kg
 2431 2.617 lb
 1.187 kg



Surface and Recessed Enclosures for 2421 and 2431 Digital Clocks

PARTIAL LIST OF ASSOCIATED EQUIPMENT

Telecor II/XL Administrative Communication Systems

2400 Master Clock
 2404 220/24 VAC, 10 A. Power TX
 2405 117/24 VAC, 5 A. Power TX
 2406 117/24 VAC, 10 A. Power TX
 2421-BBS Surface Enclosure
 2421-BBF Recessed Enclosure
 2431-BBS Surface Enclosure
 2431-BBF Recessed Enclosure
 2423 Dual Mounting Kit
 2433 Protective Guard

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Analog Clocks

2461-A 12" Single-Faced Analog Secondary Clocks

2463-A 16" Single-Faced Analog Secondary Clocks

2474-12-M 12" Dual-Mount Housing for 12"

2474-16-M Dual-Mount Housing for 16"

2473 Wireguard

FEATURES

- Semi-Flush Mounting
- Low Profile Metal Case
- Single and Double Face Models
- Multiple Power Options: 24 AC/DC, 120 VAC, 230 VAC
- Silent Operation
- Automatic Time Correction
- Low Power Consumption
- Available in 12" and 16" Dial Sizes
- Microprocessor Based Movement

DESCRIPTION

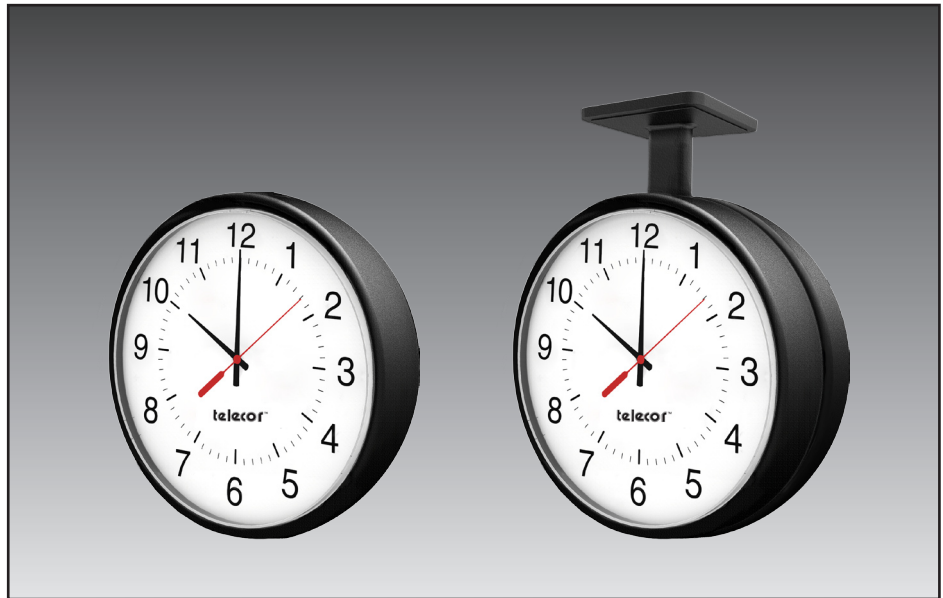
The Telecor 2461-A and 2463-A Analog Secondary Clocks are designed for use in conjunction with the Telecor 2400 Master Clocks as well as Telecor's microprocessor-based Administrative Communication Systems. They are ideal for school and institutional applications.

The Analog Secondary Clocks are synchronous 3-wired units with a second hand to mark the fractions of a minute. The precision timekeeping is furnished by a microprocessor based movement and correction coil. The microprocessor-based movement is extremely energy efficient, requiring an average of only 25 mA for operation. In the event of a power failure, either the Telecor Administrative Communication System or Telecor Master Clock will maintain proper timekeeping during the outage. Once power is restored, all Analog Clocks will respond to the corrective signal transmitted by the Telecor time base.

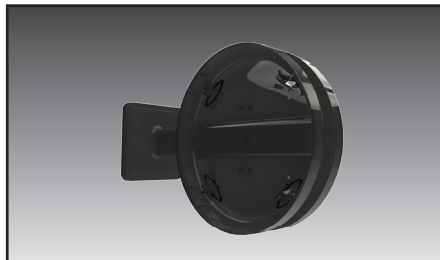
The clocks are available in two sizes: the 2461-A has a 12" diameter dial face, while the 2463-A has a 16" diameter dial face. Both models are housed in a low-profile semi-flush metal case designed for wall mounting.

Clocks are available in 24 Volt AC/DC, 120 VAC and 230 VAC.

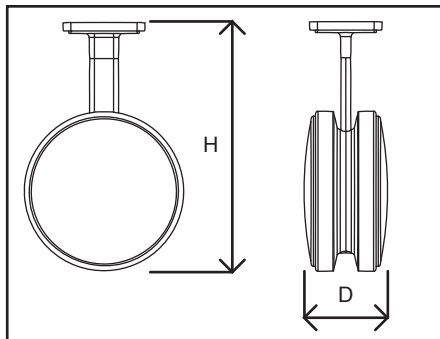
Model	Operating Voltage
2461-A-24	24 Volts AC/DC
2463-A-24	24 Volts AC/DC
2461-A-120	120 VAC
2463-A-120	120 VAC
2461-A-230	230 VAC
2463-A-230	230 VAC



The 2474-12-M and 2474-16-M double mount housings allow a pair of single face clocks to be assembled onto the housing to provide dual face clock versions. These are suitable for ceiling or wall mounting.



2474 STYLE DOUBLE MOUNT HOUSING



DUAL FACE CLOCK DIMENSIONS

Dual Face Model	Dimensions	
	H	D
2474-12-M	19.7" (50.2 cm)	7.0" (17.8 cm)
2474-16-M	21.7" (55.3 cm)	8.0" (20.3 cm)

ANALOG CLOCK SPECIFICATIONS

Power Source:	24, 120, 230 VAC 50/60 Hz. 24 VDC
Power Consumption	35 mA @ 24 VAC, 24 VDC 25 mA @ 115 VAC 15 mA @ 230 VAC
Wiring Required:	3 Conductors
Display:	12 Hour Format, White Face Black Hour and Minute Hands; Red Second Hand
Crystal:	Shatter Proof Polycarbonate
Case:	Shallow Profile Metal Case Black Enamel Finish

2461-A	
Type:	Semi-Flush
Dimensions:	
Dial:	12" diameter
Outside:	13" diameter
Projection from wall:	1.3"
Backbox:	1 Gang, 1" Deep

2463-A	
Type:	Semi-Flush
Dimensions:	
Dial:	16" diameter
Outside:	17" diameter
Projection from wall:	2.0"
Backbox:	1 Gang, 1" Deep

PARTIAL LIST OF ASSOCIATED EQUIPMENT

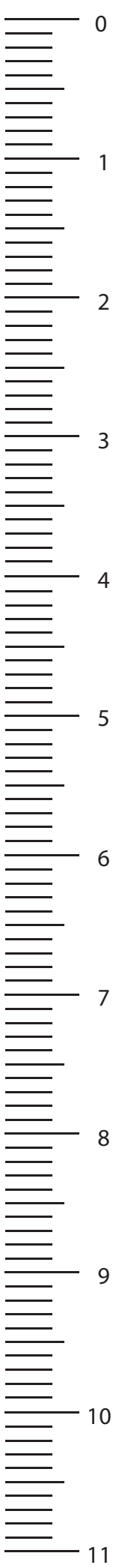
Telecor II/XL	Administrative Communication System
2400	Master Clock
2404	230/24 VAC 10 A Transformer
2474-12-M	Double Mount Housing for 2461-A
2474-16-M	Double Mount Housing for 2463-A
2473	Wireguard

All product information subject to change without notice.



System Components

C5PPL CAT-5 Patch Panels



FEATURES

- Utilizes CAT-5/5e Cabling Topology
- Single CAT-5 Cable Per Classroom Supports Speaker, Call Switch, and Clock
- Reduces Cable Costs
- Simplifies Cable Management
- Eliminates Terminal Block Cross Connections
- RJ-45 Field Wiring Terminations

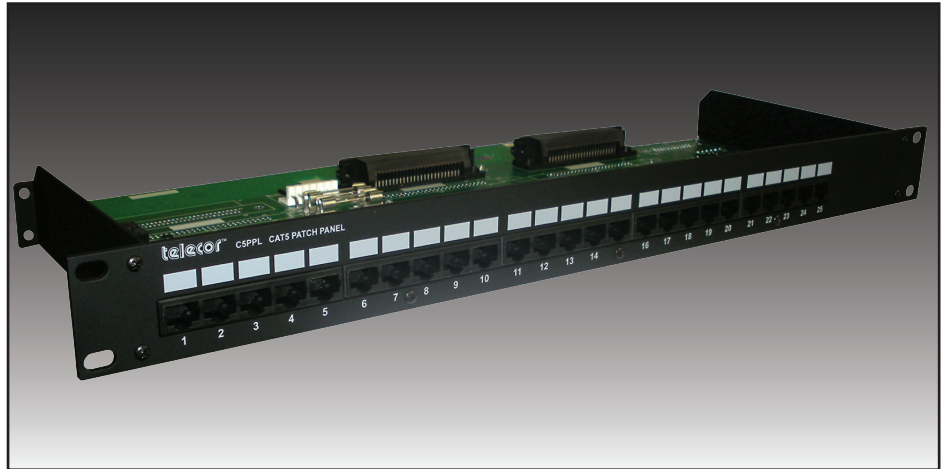
DESCRIPTION

The C5PPL CAT-5 Patch Panel is designed for use with the Telecor II and XL systems. The panel provides termination facilities for 25 classrooms, utilizing a single CAT-5 cable per classroom location.

The panel simplifies cable management by providing both cable termination and signal distribution facilities for classroom wiring. The panel contains circuitry to minimize noise, capacitive coupling, and crosstalk from clock data and 24 volt clock power. This enables a single CAT-5 cable to be used to distribute intercom audio to classroom speakers as well as support call-in signalling from call switches and provide signalling for synchronization and correction of digital and analog secondary classroom clocks. The panel can also supply 24 volts to power classroom clocks on the same CAT-5 cable.

All field cabling from classroom locations is terminated onto the panel with individual RJ-45 connectors. The C5PPL connects to the Telecor XL and to TBU-IP Termination Units via 25-pair RJ-21 connectors.

The panel is designed to be mounted in a standard 19" equipment cabinet and occupies 1U of vertical rack space.



CAT-5 PATCH PANEL SPECIFICATIONS

Model C5PPL

Clock Power Source: 24 VAC

Terminations:

Classroom: 25 x RJ-45 connectors
 Central Equipment: 2 x RJ-21 connectors
 24 VAC: IDC connectors @ 0.156" centers

Clock Correction: IDC connectors @ 0.156" centers

Finish: Black, Textured, Semi-Gloss Enamel

Dimensions: 1.72" H x 19.0" W x 8" D
 (4.4 cm H x 48.3 cm W x 20.3 cm D)

Weight: 2.5 lbs (1.1 kg)

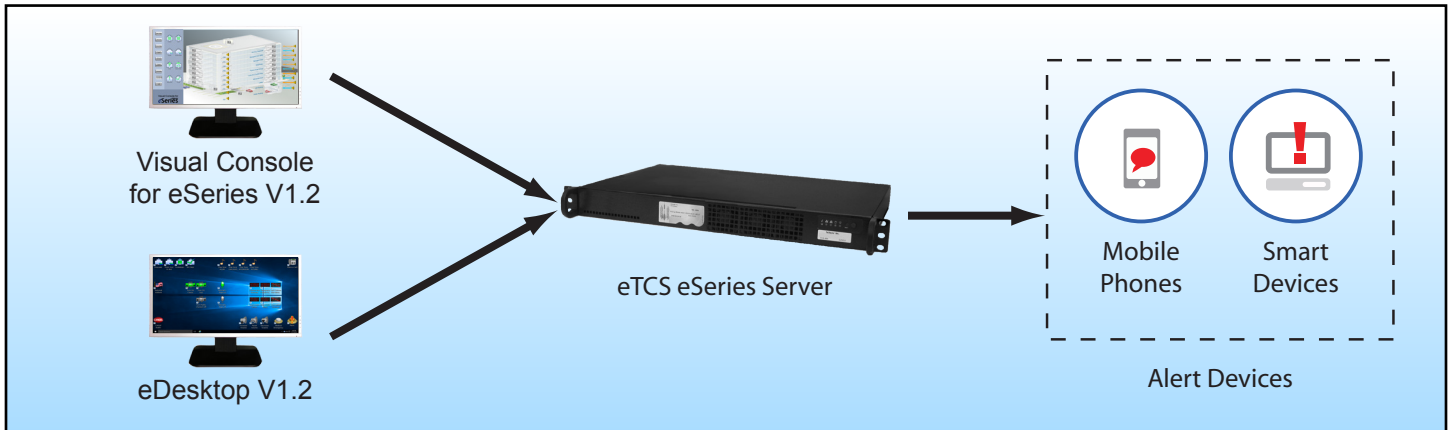
PARTIAL LIST OF ASSOCIATED EQUIPMENT

Telecor II and XL Communication System
 Telecor Digital and Analog Clocks
 TBU-IP IP Termination Unit

All product information subject to change without notice.

Mass Notification





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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Bulletins

Application Bulletin





Migrating a Legacy T2/XL System to eSeries

This application bulletin describes migrating a traditionally wired T2/XL legacy communications system to a network-based eSeries system while maintaining existing wiring and field devices.

Overview

The eTBU-MI Ethernet Termination Unit provides a simple way of integrating eSeries hardware with Telecor legacy paging and intercom system components. The eTBU-MI supports traditionally wired 25-volt intercom speakers and call switches, which provides two-way intercom communications to classrooms, all call and zone paging, and time tone signaling for class changes. In addition, traditional analog clocks and Telecor's 2400 Series of digital secondary clocks are supported.

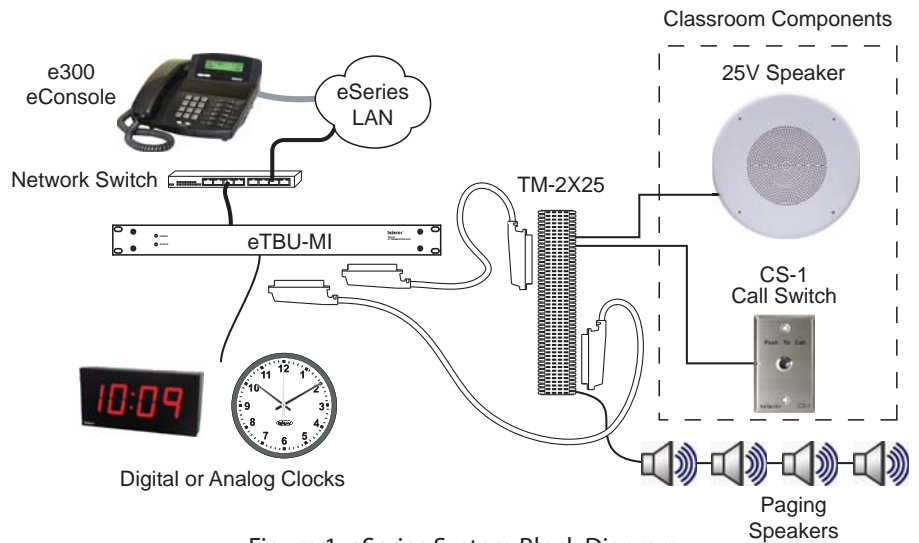


Figure 1: eSeries System Block Diagram

Telecor XL Migration

Shown below in Figure 2 is a Telecor XL system equipment cabinet. The XL card cage and PSU 2B power supply are removed from the equipment cabinet and replaced with eSeries hardware as shown in Figure 3. The eSeries hardware consists of the following:

eTBU-MI Termination Unit

The eTBU-MI replaces the IOP-4 Input/Output Card in the XL system. Note that there are two IOP-4s in the example cabinet in Figure 2. These are replaced with two eTBU-MIs in the new cabinet configuration.

eMH Master Clock and Message Host

This unit is required if the XL system's built in Master Clock was utilized for secondary clock synchronization and class change scheduling.

eSIP SIP Interface

This unit is required if the XL system is interconnected to the facility's phone system. This provided the ability for intercom calls and paging announcements to be initiated from phone instruments connected to the facility's PBX. The eSIP requires a SIP Trunk from the facility's PBX for integration.

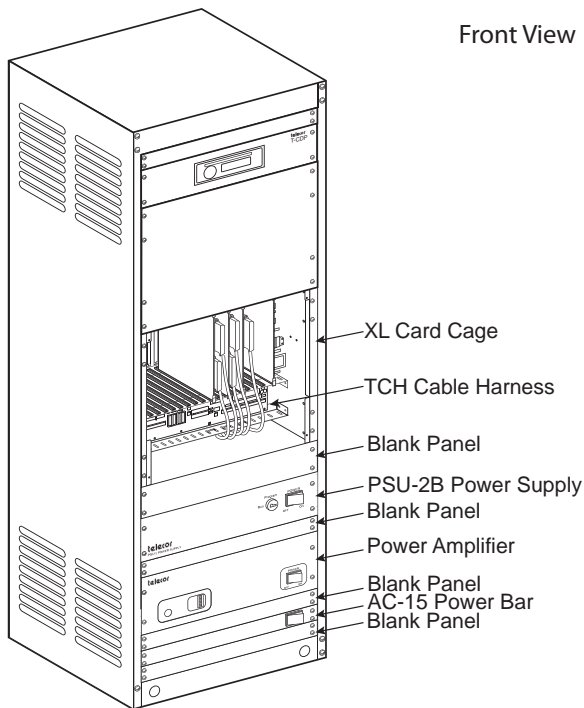


Figure 2: Existing XL Equipment

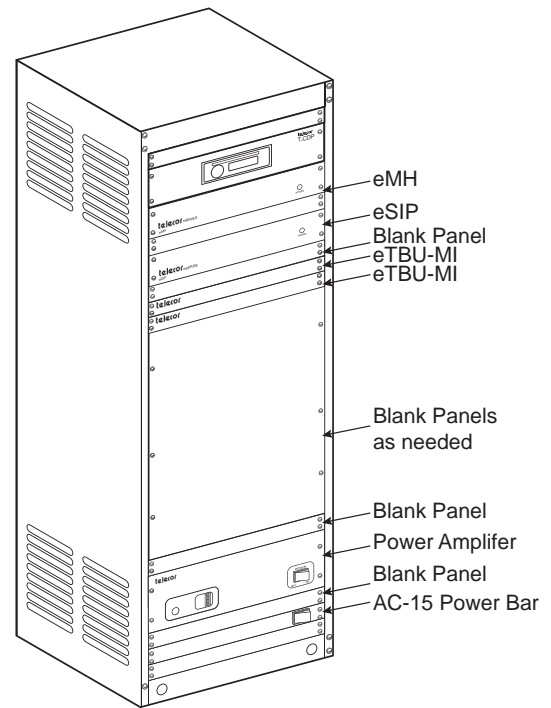


Figure 3: Existing Equipment Cabinet with new eSeries Components

Replacing IOP-4 Input/Output Cards: XL

Replacing IOP-4 Input/Output Cards from an XL System with eTBU-MIs is actually a fairly simple process. The IOPs are housed in the XL Card Cage and connect to field cables that connect to Speakers and Call Switches in the facility via TCH cables and the

TM-2X25 Terminal Block as shown in Figure 4. To change over to the eTBU-MIs, unplug the TCH cables from the IOP and plug them into the designated RJ 21 connectors on the rear of the eTBU MI as shown in Figure 5.

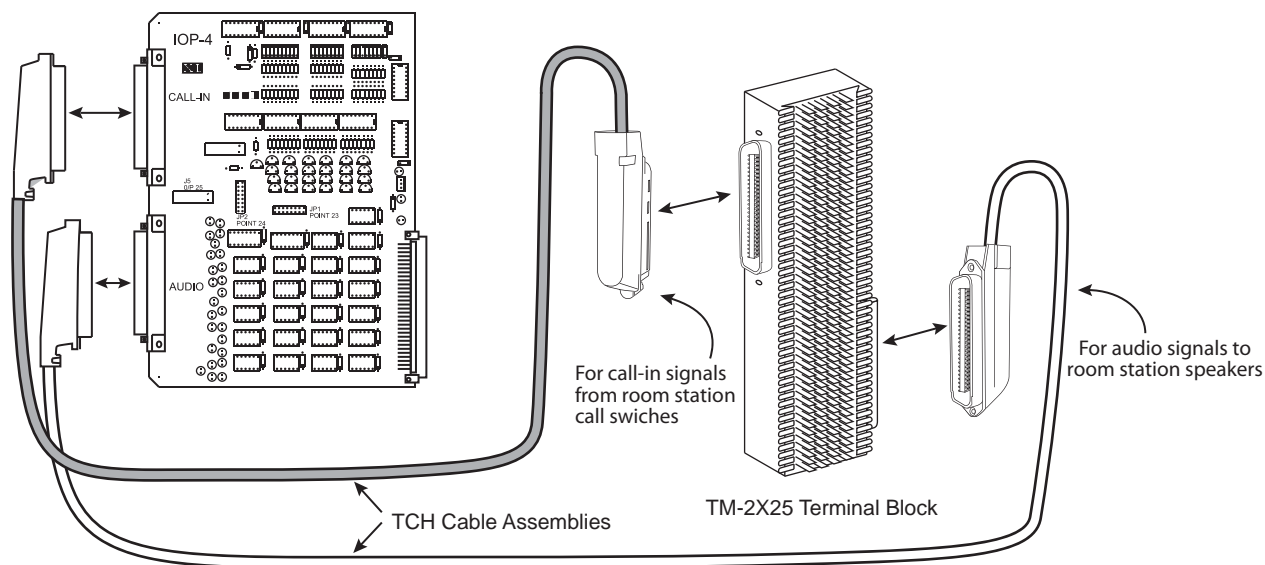


Figure 4: Field Cable Connections to the IOP-4

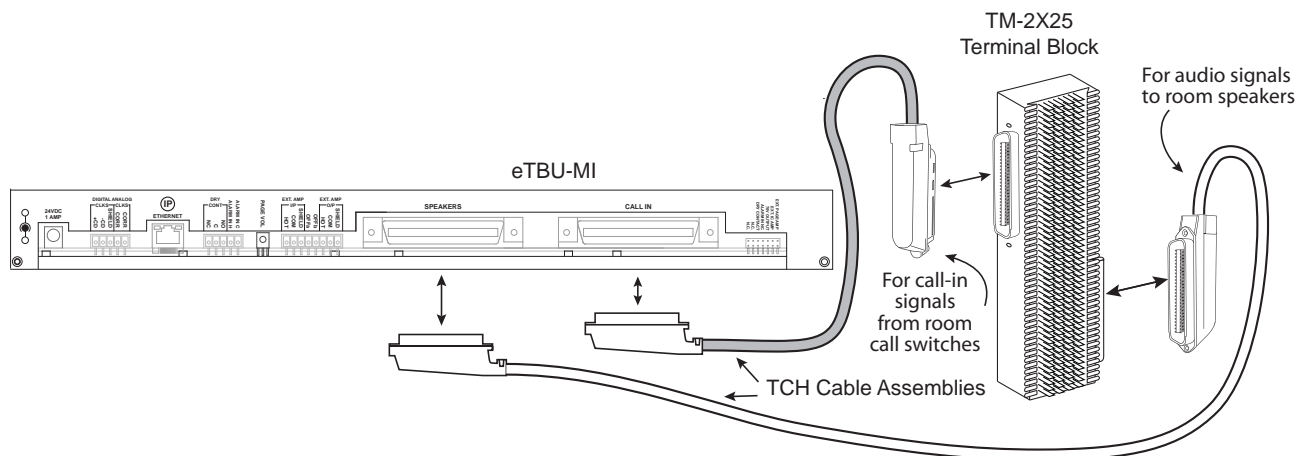


Figure 5: Field Cable Connections to the eTBU

Telecor TII Migration

Shown in Figure 6 is the rear view of a Telecor TII System equipment cabinet showing the internal components. The TII Card cage, PSU-2B Power Supply, along with the ATBU-2, CTBU and the TBU/TBU-4X2 are removed from equipment cabinet card cage. These are replaced with eSeries hardware as shown in Figure 7. The hardware consists of the following:

eTBU-MI Termination Unit

The eTBU-MI replaces the TBU or TBU-4X2s. In this example we will replace two TBUs and the associated OBU-4D/OBU-4X2s with two eTBU-MI's in the new cabinet configuration.

eMH Master Clock and Message Host

This unit is required if the TII system utilized its built in Master Clock was utilized for secondary clock synchronization and class change scheduling.

eSIP SIP Interface

This unit is required if the TII system is interconnected to the facility's phone system. This provided the ability for intercom calls and paging announcements to be initiated from phone instruments connected to the facility's PBX. The eSIP requires a SIP Trunk from the facility's PBX for integration.

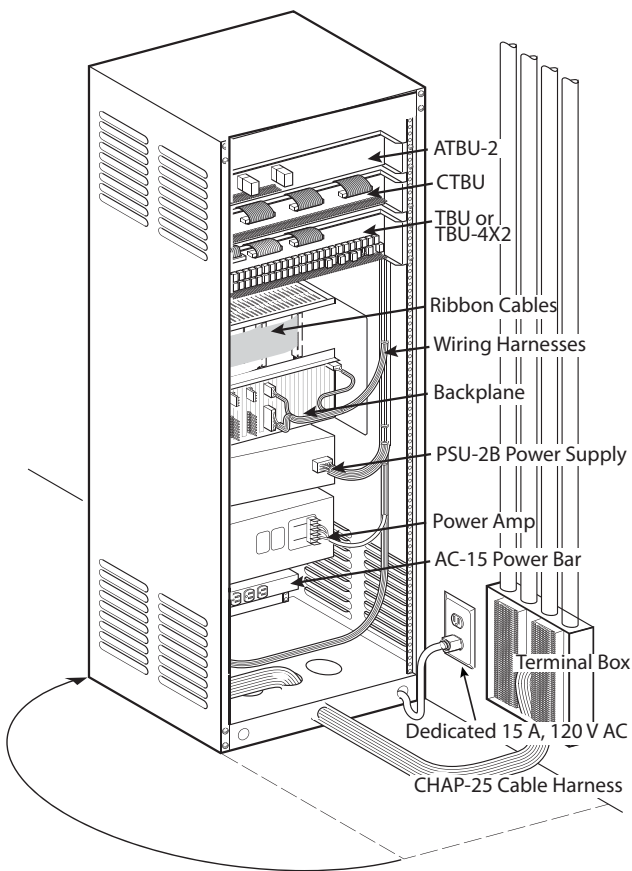


Figure 6: Existing T2 Equipment Cabinet

Rear View

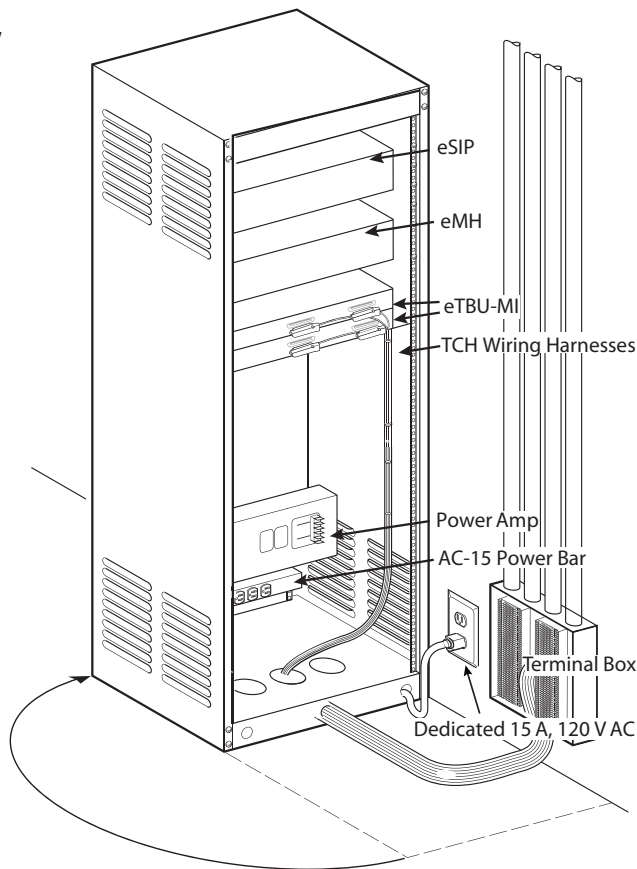


Figure 7: Existing Equipment Cabinet with eSeries Components

Replacing IOP-4 Input/Output Cards: TII

The TBU/TBU-4X2s connect to field cables via CHAP cables and the TM-2X25 Terminal Block. The CHAP Cables along with the TII card cage and other TII components are removed from the equipment cabinet. Figure 8 shows the discarded CHAP cables and the associated TBU, OBU and IBU.

Figure 8 shows the field cabling connected the TBU via CHAP cables. Figure 9 shows the connections to the eTBU-MI.

Figure 9 shows the connection of the new eTBU-MI to the existing TM-2X25 Terminal Block using new TCH cables.

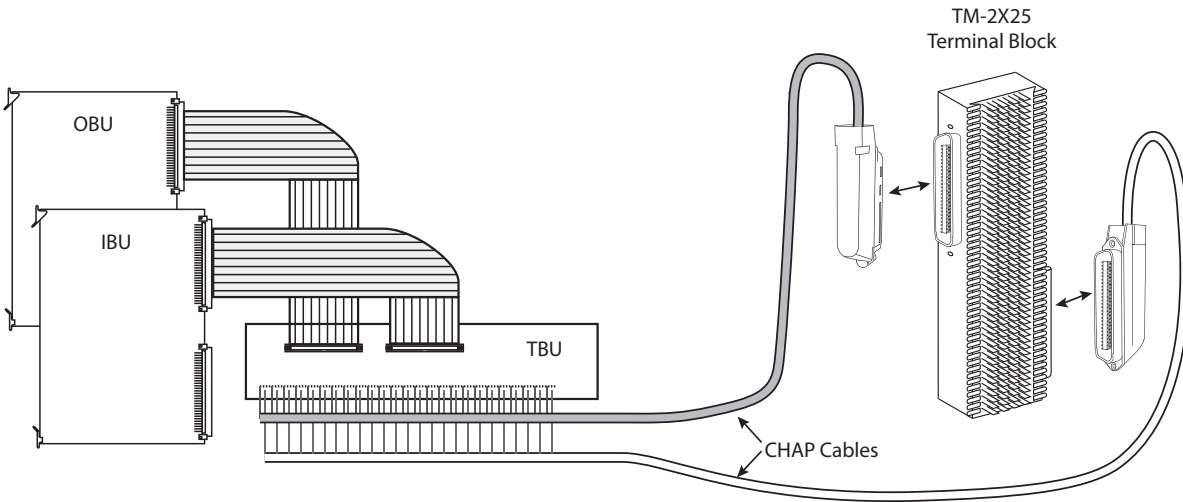


Figure 8: Field Cable Connections to the TBU

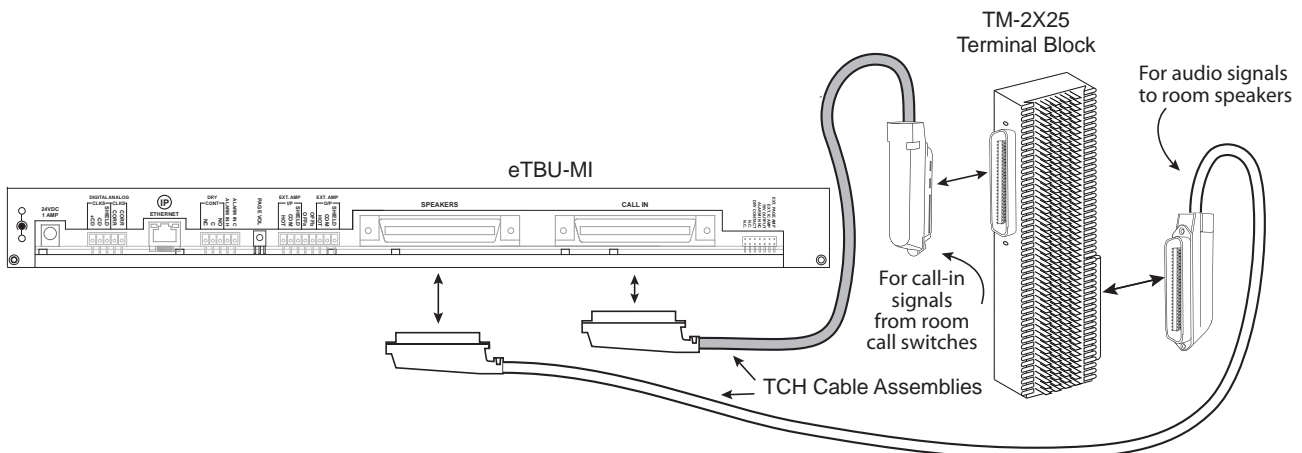


Figure 9: Field Cable Connections to the eTBU-MI

Connecting Legacy System Clocks

The eTBU-MI provides clock correction and synchronization support for analog clocks, digital clocks and electronic message displays such as the 2484 Digital Calendar Clock and scrolling marquee displays connected to the PDD-1.

For analog clocks, the TBU-MI activates the clock correction coil according to a pre-defined correction format. For digital clocks and message displays, the eTBU-MI continuously transmits time and message data from the eSeries network.

Analog Clocks

The eTBU-MI is equipped with a built-in relay contact that is used to switch the 24 VAC to the correction coil inside the secondary clocks. This relay activates according to the clock correction format of the specific clock model. A list of supported clock models and correction formats is provided in the eTBU-MI installation manual.

Figure 10 provides the wiring diagram for the connection of analog clocks to the eTBU-MI.

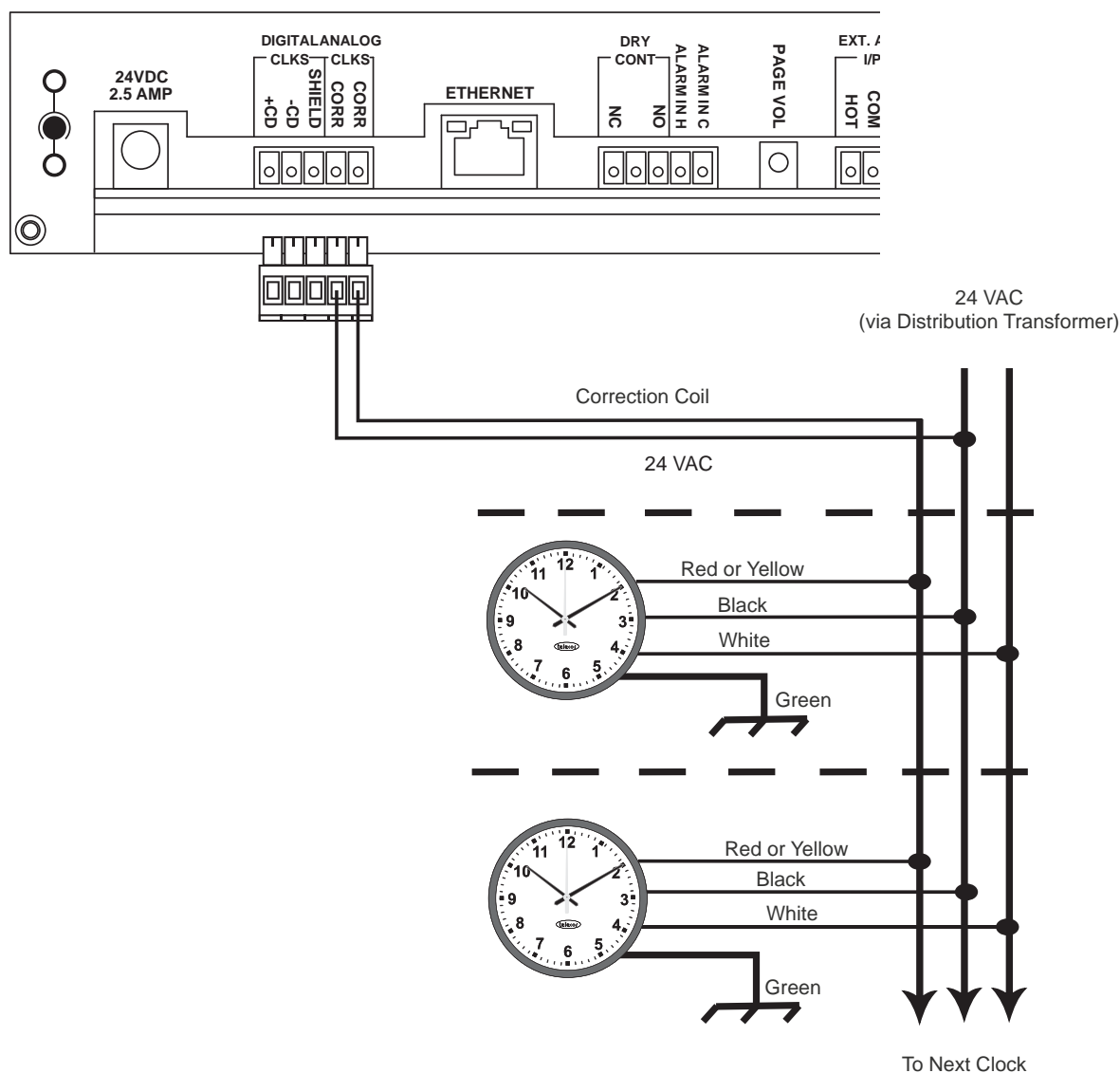


Figure 10: Overview of Analog Clock Wiring

Digital Clocks/Message Displays

The eTBU-MI transmits data containing time and message signals to Telecor's 2400 series of digital clocks. The following Telecor models of clocks are supported: 2421 and 2431 four-digit clocks, 2440 and B2443 clock/speaker/baffle combinations, 2426 six-digit clocks, 2427 six-digit elapsed timers, and 2484 digital calendar clocks.

Figure 11 provides the wiring diagram showing the wiring diagram of the data signal from the eTBU to the clocks. All clocks are 24 VAC powered.

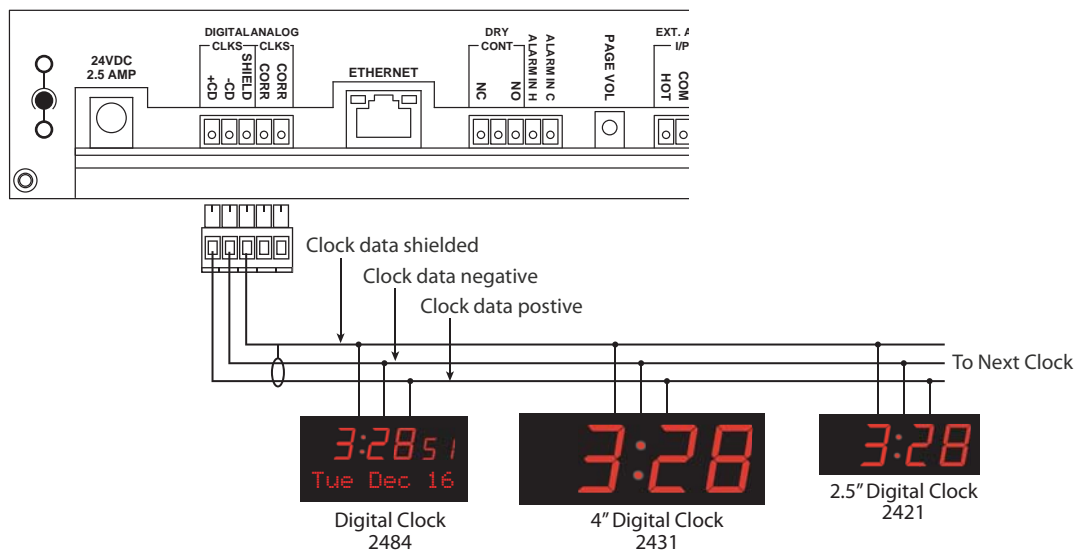


Figure 11: Digital Clock/EMD Wiring

Connecting Facility's IP PBX

The eSIP is used to integrate the eSeries system with a facility's IP PBX system.

A PBX extension can call any classroom speaker to establish two-way communications, make paging announcements to zones of loudspeakers, or make a page to the entire facility on an all call basis. In addition, call-in switches in classrooms can initiate calls to PBX extensions. Bidirectional caller ID support means that calls between eSeries and PBX devices will display the calling device name, device type, and call priority.

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, allowing the eSIP to be interoperable with IP-PBX systems that provide an industry-standard SIP Trunk and are compliant with IETF Request For Comment standard RFC3261 and SIP Forum SIPconnect V1.1 Technical Recommendations.

The eSIP has two network adapters: one connects to the Telecor eSeries network switch and the other connects to the facility's local network to maintain isolation between networks. This is illustrated in Figure 12 below.

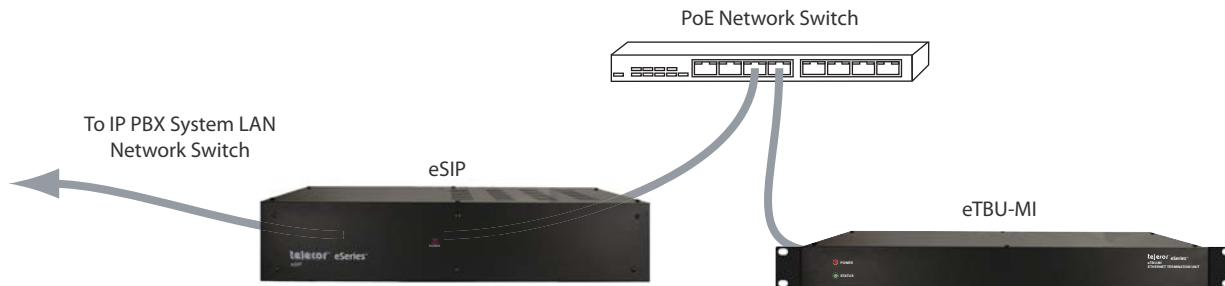
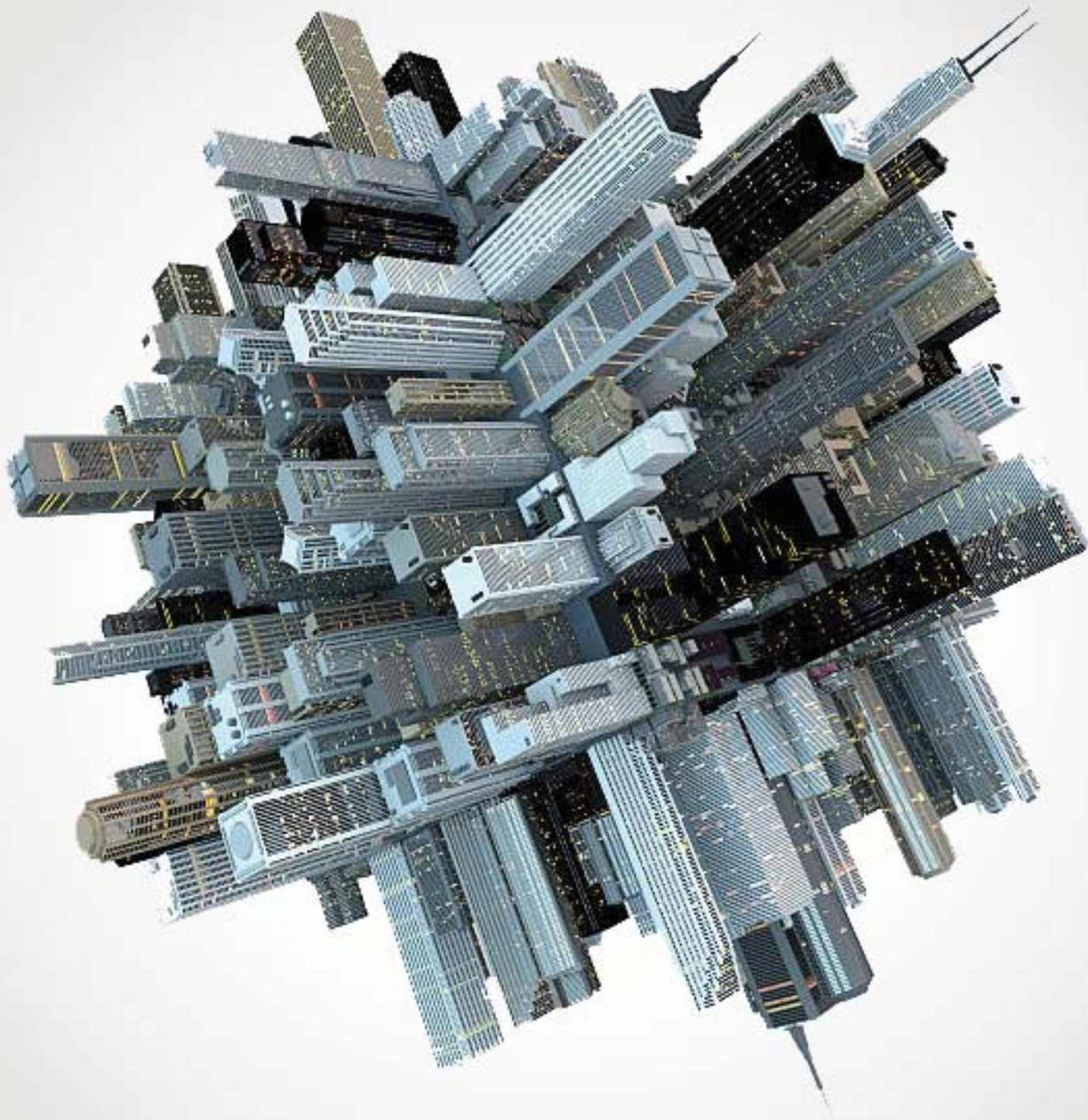


Figure 12: eSIP and eTBU-MI



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