

EST-CU-11LT

Control Unit (11 control slots)

Overview

EST-CU-11LT Control Unit (CU) is a matrix mixer of input signals which routes to 4 x 100 V internal audio buses, a 45-channel digital system buses or directly to audio outputs in a unit. EST-CU-11LT is designed to work for small PA & VE systems or as an extension unit in more complex systems. It means that the CU can function independently as the central unit of a small system or be part of a large complex system for which it represents another level of either territorial extension (operation in a remote structure) or functional extension (operation of further fire zones and loudspeaker lines in such a structure).

The modular design of the CU and its flexibility enables optimization of equipment and cost efficiency regardless of size / number of structures, their location and connectivity.

In the event of losing connectivity with a networked master unit, EST-CU-11LT is able to perform fire alarm scenarios independently thanks to the configuration recorded locally. While attached to the main communication ring of the system, EST-CU-11LT can control amplifiers and power supply managers as well as receive alarm and digital signals; and send them to other system devices.

EST-CU-11LT Control Unit distributes audio signals to individual zones and ensures that individual zones function properly. It also controls the condition of loudspeaker lines and amplifiers. If a fault is detected, it sends the signal to the system and automatically switches to a backup amplifier.

The CU is equipped with an EST-cAudio-4/12 card offering 4 symmetrical line audio inputs and 12 symmetrical outputs to lead audio signals out to external devices or amplifiers of the EST ENT VES system.



Details

- Compliance with EN54-16
- Network-based system allowing configuration, diagnostics and management via Ethernet
- Managing up to 254 devices on the network
- 11 slots available for any configuration of loudspeaker control cards and control input / output cards
- Built-in audio card with 4 inputs and 12 audio outputs
- Up to 12 messages played simultaneously in different zones
- Up to 32 GB SD flash memory designated for playback and recording messages (48 kHz, 16 bit)
- 1x POE port
- Support of up to 12 secured amplifiers
- Built-in 2 control inputs and outputs
- 2x 1 GB ports available for system extension
- Integrated DSP with implemented 3 band parametric EQ on all inputs on control units, 8 band parametric EQ, delay lines, audio limiter and feedback eliminator on each of the audio outputs
- Comprehensive solution based on RS485 functionality enabling seamless integration of the EST ENT VES system with 3rd party systems thanks to implementation of standard and proprietary communication interfaces

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Technical specifications

Electrical

Power consumption	Up to 100 W (depends on configuration)
Power supply	48 VDC (operating range 40-57 VDC) connector with screw terminals M2.5, the distance between the partitions of 5.08 mm

Input

Quantity and type	4, Differential
Connector type	1x RJ45
Input impedance	$\geq 10 \text{ k}\Omega$
Maximum input voltage	$\geq 3 \text{ Vrms}$

Output

Quantity and type	12, Balanced
Connector type	3x RJ45
Frequency response	40 Hz... 20 kHz (at 1 dB) / 400 Hz... 8 kHz (at 0,1 dB)
Harmonic distortion (THD+IMD)	$\leq 0,05\%$
Headroom	10 dB
SNR	$\geq 90 \text{ dB}$
Channel separation	$\geq 80 \text{ dB}$
Output impedance	600 Ω
Nominal output level	1 Vrms

Physical

Physical dimensions	482 x 85 x 325 mm (W x H x D)
Net weight	Up to 8.4 kg (depends on configuration)
Type of mount	19" rack
Number of control slots	11
Number of function slots	0
Messages	Supported SD card up to 32 GB. The set includes 512 MB SLC SDHC cards which provides more than 20 min of the messages
DSP	Implemented 3 band parametric EQ on all 4 inputs of the control units 8 band parametric EQ, audio limiter, feedback eliminator and delay line on all of the audio outputs
Fiber module - connector type / kind of fiber	Modules type SFP / Connector SC/LC / Multimode or single-mode / E 30 or E 90, OM lub OM2
Communication with PC	PC software: RJ45 connector twisted pair connection TIA / EIA568-B by the Ethernet protocol
Available communication protocols	Modbus, SMS
Finish case material	Steel / The front panel is made of metal plate painted black
Accessories	2 brackets and 4 screws for rack mounting, 9 caps for free slots, 48 VDC power and 100 V buses connectors

Environmental

Operating temperature	0°C to +60°C
Storage temperature	-20°C to +70°C
Operating humidity	15% to 80% non-condensing
Storage humidity	15% to 80% non-condensing

Standards & regulation

Standards	EN54-16
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Data communication

1000BASE-X on the fiber
2 SFP ports provide a redundant connection
1000BASE-TX / RJ45 CAT5E cables - 2 ports including 1 port with POE
100BASE-TX / RJ45 CAT5 cables - LAN/WAN for PC connection