This and all IED LAN-based components are designed to maximize the benefits of a standard 100 Mbps Ethernet LAN based network, using off-the-shelf switches and structured CAT5e or better cabling. The IED 528 Series Digital Communication Stations utilize CobraNet® technology.

The 528 Digital Communication Station elevates the simple and powerful user interface to the next level. With updated software applications and graphics files, the 528 is capable of enhanced system control beyond announcement and paging, such as background music selection, level control, and other future system parameters.

Network Requirements

The IED 528 Series Digital Communication Stations utilize CobraNet® technology licensed from Cirrus Logic®. Live audio on the data network is time sensitive and requires minimal latency through the network to ensure uninterrupted audio. The IED 528 Paging Station and CobraNet operate on Layer 2 (MAC Layer) of the OSI Model. This traffic will not operate on a Layer 3 Router or above. VLAN's may be required for managing traffic as well as Quality of Service (QoS) and Prioritization configuration of network switches. The Ethernet switch connection to the 528 Series Microphone Stations must be set to 10/100 auto-negotiate and the unit will negotiate to 100 Mbps Ethernet.

Description

The IED 528 Series Digital Communication Station is a network device used for initiating audio/visual announcements, messages, and pages with the IED family of Announcement Control Systems. It is a network appliance with its own unique IP address, which simplifies its installation and configuration. The 528 Digital Communication Station is unique in that it provides a 3.6 inch (diagonal) backlit color LCD display for a simple and flexible user interface. The color LCD display is configured using the system software to provide an intuitive human/machine interface (HMI) for making operation-specific announcements using prompts, general purpose announcements, or emergency announcements.

The LCD utilizes menus consisting of function buttons, navigation buttons, pop-up windows, and programmable soft keys. The menu-driven soft keys make the system easier to use when initiating announcements or messages, especially when used in conjunction with optional automated announcement system software that prompts the operator to input variables used to create the announcement. There is no need to memorize any keypad number combinations; however, a full 12 button keypad is also provided for user shortcuts.

The 528 Digital Communication Station uses a single Ethernet interface for audio and control data. The 528 station is fully compatible with IEEE 802.3af standard for Power Over Ethernet (PoE), allowing the 528 to be powered directly from any standard off-the-shelf PoE switch.

The processing power for the IED 528 comes from the onboard 32-bit ARM processor. This powerful ARM processor manages the LCD controller, memory and graphics library, Ethernet interface, audio signal processing, and self-test diagnostics. With these additional user interface capabilities, the IED 528 is much more than a microphone station; it is a full Digital Communication Station.

Available Models

Part	Description
IEDA528VFM-H IEDA528VFME-H *	Ethernet microphone station with color LCD, 20-button vertical w/ 501HH mic
IEDA528HFM-H IEDA528HFME-H *	Ethernet microphone station with color LCD, 20-button horizontal w/ 501HH mic
IEDA528SRM-H	Ethernet microphone station with color LCD, 20-button rack-mount w/ speaker and 501HH mic
IEDA528SRME-H	Ethernet microphone station with color LCD, 20-button rack-mount w/ speaker and 501HH mic (for GLOBALCOM vACS Systems)
IEDA528VDT-H IEDA528VDTE-H *	Ethernet microphone station with color LCD, 20-button vertical desktop w/ 501HH mic
IEDA528VDT-S	Ethernet microphone station with color LCD, 20-button vertical desktop with 2-way telephone-style handset
IEDA528HDT-H IEDA528HDTE-H *	Ethernet microphone station with color LCD, 20-button horizontal desktop w/ 501HH mic
IEDA528HDT-G	Ethernet microphone station with color LCD, 20-button horizontal desktop w/ 500G gooseneck mic
IEDA528LD-H	Ethernet microphone station with color LCD, 20-button locking door w/ 501HH mic

* Designates model number that includes an IEDA528E expansion board to support up to three (3) expansion microphone stations (IEDA528SK-H or IEDA520FME-H)

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Optional Accessories

Part	Description
IEDA528E	Ethernet microphone expansion interface board, 3-port
IEDA528EAO	Ethernet microphone analog output expansion board
IEDA528SK-H	Ethernet microphone expansion station, 4-button w/ 501HH mic
IEDA520FME-H	Ethernet microphone expansion station w/ 501HH mic
HHAP528	Adapter plate to install a 528 mic station in a legacy 508 series backbox

IEDA528VFM-H / IEDA528VFME-H

Dimensions
Height..8.5 in (21.6 cm)
Width ....4.9 in (12.5 cm)
Depth..1.8 in (4.6 cm)
Mounting Depth * ....0.9 in (2.3 cm)
   *Allow a minimum of 2 in (5.1 cm) of additional depth for cable clearance

Mounting Options
• Requires a compatible backbox for installation
• Compatible with IEDA528SBB backbox for surface mounting
• Compatible with IEDA528FBB backbox for flush mounting
• Compatible with IEDA528VBB for horizontal mounting at a 45˚ angle for improved viewing
• Use optional HHAP528 to install a 528VFM into a legacy 508 series backbox for retrofit installations

IEDA528SRM-H / IEDA528SRME-H *

* *The IEDA528SRME-H includes an IEDA528EAO analog output expansion board for use with a GLOBALCOM system. The IEDA528SRM-H is for use with a legacy 500/510/520 Series ACS where an analog output for the monitor speaker is present on the mainframe.*

Dimensions
Height.. (5 RU) 8.75 in (22.2 cm)
Width ....19.0 in (48.3 cm)
Depth..8.46 in (21.5 cm)
Mounting Depth ....7.56 in (19.2 cm)

Mounting Options
• Standard 19" equipment rack (5 Rack Units)

IEDA528HFM-H / IEDA528HFME-H

Dimensions
Height..4.9 in (12.5 cm)
Width ....8.5 in (21.6 cm)
Depth..1.8 in (4.6 cm)
Mounting Depth * ....0.9 in (2.3 cm)
   *Allow a minimum of 2 in (5.1 cm) of additional depth for cable clearance

Mounting Options
• Requires a compatible backbox for installation
• Compatible with IEDA528SBB backbox for surface mounting
• Compatible with IEDA528FBB backbox for flush mounting
• Compatible with IEDA528HBB for horizontal mounting at a 45˚ angle for improved viewing
• Use optional HHAP528 to install a 528HFM into a legacy 508 series backbox for retrofit installations

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IEDA528HDT-G

Dimensions

Height (without microphone)...5.1 in (13.0 cm)
Width ....8.5 in (21.6 cm)
Depth...5.1 in (13.0 cm)
Microphone Length (maximum) ....17.0 in (43.2 cm)

Mounting Options
- Rubber feet attached to base for desktop mounting

IEDA528HDT-H / IEDA528HDTE-H

Dimensions

Height...5.1 in (13.0 cm)
Width ....8.5 in (21.6 cm)
Depth..5.1 in (13.0 cm)

Mounting Options
- Rubber feet attached to base for desktop mounting

IEDA528VDT-H / IEDA528VDTE-H

Dimensions

Height..7.6 in (19.3 cm)
Width ....4.9 in (12.4 cm)
Depth...6.5 in (16.5 cm)

Mounting Options
- Rubber feet attached to base for desktop mounting

IEDA528VDT-S *

* The IEDA528VDT-S uses a 2-way telephone-style handset that includes a speaker in the earpiece. This microphone station is used in systems that supply a side-tone or in systems that feature 2-way intercom. Additional hardware may be required to implement these features.

Dimensions

Height..7.6 in (19.3 cm)
Width ....7.3 in (18.5 cm)
Depth...6.5 in (16.5 cm)

Mounting Options
- Rubber feet attached to base for desktop mounting

IEDA528LD-H

Dimensions

Height...12.0 in (30.5 cm)
Width..13.7 in (34.8 cm)
Depth...3.6 in (9.1 cm)

Mounting Options

- Flush mount in wall or cabinet
- Mounting cutout dimensions
    Height...10.0 in (25.4 cm)
    Width...12.0 in (30.5 cm)

SPECIFICATIONS

Electrical

The following electrical specifications are measured from the microphone station input to the amplifier input in the T9160 Power Amplifier Mainframe, and include the performance of both the microphone station and the T9160 Power Amplifier Mainframe.

Frequency Response...+0, −1.0 dB
    22 Hz - 22 kHz, Input Level = −20 dBu
Total Harmonic Distortion, THD .... <0.1 %
    22 Hz - 22 kHz, Input Level = −20 dBu
Signal-to-Noise Ratio, S/N .... >85 dB
    22 Hz - 22 kHz, Input Level = −20 dBu
Compressor
    Compression Threshold ....−15 dBu
    Ratio 6:1
    Attack Time, 10 dB Step ....5 mSec
    Release Time @ 40 dB ....15 Sec
    Release Time @ 10 dB ....3 Sec
Maximum Input .... +6 dBu
Maximum Output .... +7 dBu
Nominal Output (10dB into compression) .... +5 dBu
Gain.. 23 dB
Analog-to-Digital Converter, A/D.....................................24 bit
Internal Processing ....32 bit, Floating Point
Sample Rate...48 kHz

Standards Utilized

Full-Duplex Operations .... IEEE 802.3x
Fast Ethernet, 100Mbps..IEEE 802.3u
    The 528 Series specifically uses 100Base-TX
Data Terminal Equipment Power .... IEEE 802.3af
    via Media Dependent Interface (PoE)

Connecting Cable

Digital Audio/Power/Control .... CAT5e or better
    For distances to a maximum of 100 Meters (approximately 300 feet) to the connected switch. Cable installed and tested in accordance with ANSI/TIA/EIA 568B Standards.

Environmental

Operating Temperature Range .... +32 °F - +104 °F (0 °C - +40 °C)
Storage Temperature Range .... −40 °F - +158 °F (−40 °C - +70 °C)

Power Consumption

Supply Power...<11 W
    Supply Voltage = 48 VDC