

HRM-4X Remote Station

Digital Partyline Solutions

Linking
People
Together



HRM-4X

Key Features and Benefits

Remote Station

- Easy to use front panel with OLED displays
- Headset or hands-free support with speaker and mic
- 4 Keysets freely assignable to system channels
- All Talk, Stage Announce, RMK and Program Audio level controls
- Expansion mode for 8-24 channel user stations

Connectivity

- Powerline loop-through on XLR
- Ethernet Network port with PoE
- Program Audio input and Stage Announce output
- Contact closure input and output

HelixNet System

- Networked Intercom System
- Flexible cabling
- 12 partyline channels; expandable to 24 channels via optional license
- Program Audio distribution with independent level controls

Effortless Management

- Easy to use CCM browser configuration
- Fast front panel control and configuration
- Plug-and-go with auto discovery
- Central upgrades from main station

HelixNet[®] is a fully networked partyline intercom, supporting up to 24 channels and independent Program Audio over XLR, LAN and WAN.

Description

The HelixNet HRM-4X remote station is a 1RU 4-channel intercom user station with utility connections for Program Audio input and Stage Announce output, supported by the HMS-4X main station.

User Station

The innovative front panel user station provides four keysets assignable to any intercom channel. The user station is provisioned with a headset connection, gooseneck mic connector and a loudspeaker in addition to All Call, Stage Announce, Remote Mic Kill and Program Audio level controls.

Expansion mode allows up to six HMS or HRM user stations to be combined, for a unified user station with up to 24 channels.

Local and Central Management Options

HRM-4X can be added to a HelixNet system without central configuration or interruption. Front panel keysets form unique waterfall menus allowing tactile device configuration and channel assignments.

Roles can be created and applied to one or multiple HRM-4X remotely or locally. Roles can be edited locally or centrally managed from the Core Configuration Manager (CCM*).

Connectivity and Power Options

HRM-4X connects to HMS-4X main station over XLR Powerline or network to HMS-4X with HLI-ET2 Ethernet module. Power can be supplied to the HRM-4X over the XLR Powerline, locally with a supplied power supply or PoE when connected over Ethernet.

Technical Specifications

Channels

System provides 12 or 24 intercom channels. Four Channels can be assigned to station keysets. Program Audio can be associated with any channel with independent endpoint level control.

Connectors

XLR Powerline: 3-pin XLR-M/F

Ethernet/PoE: EtherCON RJ45

Headset: 4-pin XLR-M

Gooseneck Mic: 3-pin Tuchel

Program Audio: 3-pin XLR-F

Stage Announce: 3-pin XLR-M

Hot Mic/IFB Interface: 1/4" (0.64 cm) TRS jack

GPIO: 9-pin D-type male (1xGPI, 1xGPO)

USB: Type A

DC Power: 3-pin KPJX-PM-3-S

Microphone Pre-amplifier

Headset Mic Impedance: 200Ω (Dynamic)

Headset Mic Voltage: 1.7V (Electret selectable)

Limiter: +23dB

Route to 4-wire output at 0dB out:

Mic Gain: 60dB (Dynamic), 45dB (Electret)

Frequency Response: 300Hz - 10 kHz ±3dB, contoured for intelligibility

Distortion: <0.2% THD @ 1kHz

Noise: <-55dBu (Dynamic), <-65dBu (Electret)

Headphone Amplifier

Load Impedance: >32Ω

Output Level: +12dBu before clipping

Sidetone: -12dB (selectable)

Route from a 4-wire input at 0dBu in:

Max Gain: 0dB

Frequency Response: 180Hz - 10kHz +3dB

Distortion: <0.1% THD @ 1kHz

Noise: <-65dBu

Headphone Limiter: 0dB (selectable)

Loudspeaker Amplifier

Load Impedance: 8Ω

Output Level: +18dBu before clipping

Route from a 4-wire input at 0dBu in:

Max Gain: 18dB

Frequency Response: 200Hz - 10kHz ±3dB

Distortion: <0.1% THD @ 1kHz

Noise: <-50dBu

Program Audio Line Input

Maximum Level Before Clipping: +18dBu

Nominal Input Level: 0dBu (selectable)

Input Impedance: ≥ 10KΩ

Route to 4-wire output at 0dBu out:

Frequency Response: 20Hz - 10kHz ±3dB

Distortion: <0.2% THD @ 1kHz

Noise: <-65dBu

Stage Announce Output

Maximum Level Before Clipping: 18dBu

Nominal Output Level: 0dBu (selectable)

Output Impedance: ≤ 100Ω

Route from a dynamic headset:

Frequency Response: 300Hz - 12kHz ±3dB

Distortion: <0.1% THD @ 1kHz

Noise: <-55dBu

Hot Mic Output

Maximum Level Before Clipping: +12dBu

Nominal Output Level: 0dBu (selectable)

Output Impedance: ≤ 100Ω

Route from a dynamic headset:

Frequency Response: 300Hz - 12kHz ±3dB

Distortion: <0.2% THD @ 1kHz

Noise: <-55dBu

Power

Voltage: 48V DC

Current (Max): 0.3A

Power (Max): 14.4W

BTU (Max): 49BTU/hr

Input Power Connector: KPJX-PM-3-S

This unit can be powered via:

Powerline:

Input Voltage: ±29.5V DC

Input Current (Speaker Off): 0.3A

Input Current (Max): 0.5A

Powerline Utilization:

HRM (Local Power) = 1 beltpack

HRM (Speaker Off) = 2 beltpacks

HRM (Speaker On) = 3 beltpacks

Note the maximum Powerline capacity of the HMS-4X.

Use [HelixNet Cable Calculator](#) to validate load and cable distance.

AC Adapter - Inline:

Input Voltage Range: 100 - 240V AC

Input Frequency Range: 50 - 60Hz

Input Power Connector: IEC-C14

Output Voltage: 48V DC

Output Power (Max): 15W

Output Power Connector: KPPX-3-P

PoE - Power over Ethernet

IEEE 802.3af-2003 - Class 0

PSE: 15.4W DC max @ Power Source Req.

PD: 12.95W DC max @ Powered Device Draw

Environmental

32° - +104°F (0 - +40°C)

90% relative humidity

Dimensions

1.75 x 19 x 6.4in (HxWxD)

(44 x 483 x 165mm)

Weight

4lbs (1.8kg)

Network Specifications (Version 4)

Network Protocols

Ethernet IPv4 - Unicast Audio and Control

mDNS - Multicast Device Discovery

Layer 3 routable with mDNS function limitations

WavPack - Audio Codec

Network Ports

Unicast:

Port 80 TCP - System Management, Expansion

Port 6001 TCP - System Management

Port 6001 UDP - Audio Streams

Multicast:

Port 5353 UDP - mDNS, Names, Discovery, Linking, Expansion

Optional for device names and linking

Mandatory for HMS/HRM Expansion

Network Parameters

Endpoint Resource Use: 1-3

Bandwidth:

300-600 (max) kbps from HRM to HMS

1200-2400 (max) kbps from HMS to HRM

Network Jitter Tolerance:

≤ 128ms jitter buffer per audio stream receiver automatically adjusted to network performance

QoS Tags:

DSCP=46, High Priority / Expedited Forwarding (EF)

Link-Local Default IP Address Range:

169.254.0.0/16

System Reserved IP Range:

10.0.0.0/8 for endpoints

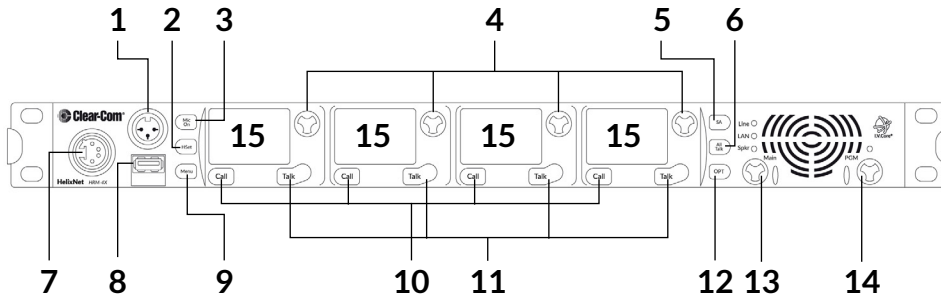
Recommended Ethernet Switches

- Managed Ethernet Switch - Layer 3
- 100/1000 Base-T ports for endpoints
- 1000 Base IP Trunks between switches
- QoS Configuration
- Energy Efficient Ethernet bypass option
- IGMP Snooping bypass option

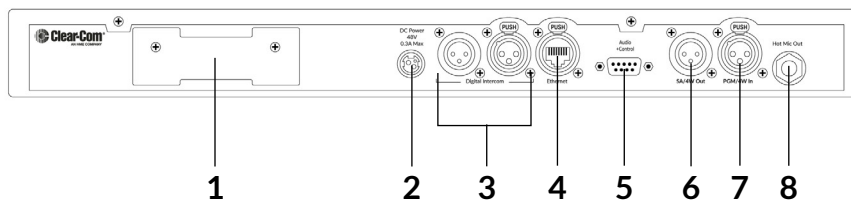
HRM-4X Remote Station

Digital Partyline Solutions

HRM-4X Front Panel



HRM-4X Back Panel



Legend

Front

1. Microphone connector
2. Headset Mic enabled
3. Mic Key enabled
4. Rotary Level/menu key
5. Stage Announce
6. All Talk
7. Headset connector
8. USB 2.0 connector
9. Menu key
10. Call key
11. Talk key
12. Option key
13. Speaker/Headphone volume control
14. Program Volume control
15. Menu Keyset display

Back

1. Power supply holder clip
2. DC power connector
3. XLR Powerline
4. Ethernet connector
5. GPIO DB9, control inputs and outputs
6. Stage Announce line out
7. Program input
8. Hot Mic output - 1/4" TRS

Order Code

HRM-4X (includes):
(1) Inline PSU 15W 48V DC (453G026)