

HXII-BP-4K Beltpack

Digital Partyline



HelixNet 4-Channel Beltpack

Key Features and Benefits

Beltpack

- Easy to use front panel with OLED display & backlit keys
- 4 Keysets assignable to channels
- Stacked keys allow unique combination of channels
- Independent Program Audio control
- USB call signal flasher
- Binaural controls on HXII-BP-4K
- 2 Keyset mode for use with legacy HMS-4X

Connectivity

- Ethernet Network port with PoE
- Powerline via XLR cable

Mechanical

- Multiple mounting options
- Rugged, lightweight polycarbonate enclosure
- IP53 environmental rating

HelixNet System

- Wired Partyline - Networked
- Hosted by Arcadia or legacy HMS-4X
- Up to 24 Channels - Licensed
- Up to 64-128 HelixNet Endpoints
- Program Audio user level control

Effortless Management

- Easy to use CCM browser configuration
- Fast front panel control & configuration
- Central discovery & pairing on Arcadia
- Plug-and-go powerline option
- Central firmware upgrades from host

HelixNet® is a networked partyline intercom, with up to 24 channels of full-duplex audio and program audio over any shielded twisted-pair or CAT-5/6 cable.

Description

The HelixNet beltpack (HXII-BP-4K) is a four-channel and program audio intercom user station hosted by Arcadia® Central Station or legacy HelixNet HMS-4X main station in a two-channel compatibility mode. The beltpack connects to the intercom system and via PoE Ethernet or XLR Powerline.

Technical Specifications

HelixNet System Hosts

Arcadia: Supports up to 128 HelixNet User Stations over Ethernet or Powerline via HXII-DPL. Up to 24 channels can be HelixNet enabled using a Licensed Port for assignment to any HelixNet User Station keyset.

HMS-4X: Supports up to 64 endpoints (Remote Stations, Speaker Stations, Beltpacks, HLI-2W2, HLI-4W2, LQ port). User stations can connect directly to the 2 HMS-4X or via optional HLI-ET2 module using HXII-DPL or 3rd party network switch connection. HMS-4X allows use of 12 channels which can be expanded to 24 using optional license.

Connectors

Intercom Line: 3-pin XLR-F

LAN/PoE: RJ45 etherCON

Headset: 4-pin XLR-M (-X4) or 5-pin XLR-F (-X5)

USB: Micro AB

Microphone Pre-Amplifier

Headset Mic Impedance: 200Ω (Dynamic)

Headset Mic Voltage: 1.7V (Electret selectable)

Limiter: +23dB

Route to 4-wire output at 0dBu 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: 40Hz - 10kHz ±3dB

Distortion: <0.2% THD @ 1kHz

Noise: -65dBu

Headphone Limiter: 0dB (selectable)

Device Power

Voltage: 30-60V DC

Current (Max): 0.09A

Power (Max): 4W

BTU (Max): 13BTU/hr

This unit can be powered via:

PoE - Power over Ethernet:

IEEE 802.3af-2003 - Class 1

PSE: 4.0W DC max @ Power Source Req.

PD: 3.84W DC max @ Powered Device Draw

Powerline:

Input Voltage: ±29.5V DC

Input Current (Max): 0.13A

Powerline Utilization:

HXII-BP-4K = 1 beltpack

Note the maximum Powerline capacity of the HXII-DPL & HMS-4X

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

Environmental

IP53 water and dust resistance

Operating: 32°-104°F (0°-40°C)

Humidity: Between 0-90%, Non-Condensing

Dimensions

3.9 x 5.3 x 1.7in (WxHxD)

(99 x 135 x 43mm)

Weight

12.2oz (0.35kg)

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Network Specifications | Firmware Release 4.5+

Network Protocols

Ethernet IPv4–Unicast Control
mDNS–Multicast Device Discovery
Layer 3 routable with mDNS function limitations
HTTP–Management
I.V. Core-Decentralized Network Routing & Mixing
IVP-Proprietary Intercom Audio and Control
WavPack-Audio Codec

Network Ports

Unicast:

Port 80 TCP–System Management
Port 6001 TCP–System Management
Port 6001 UDP-Audio Streams

Multicast:

Port 5353 UDP–mDNS, Names, Discovery, Linking
Optional for device names and linking

Network Parameters

HMS-4X Endpoint Resource Use: 1 (-X4)

HMS-4X Endpoint Resource Use: 2 (-X5)

Bandwidth:

300 (max) kbps from each beltpack to Arcadia/HMS-4X
1200 - 2400 (max) kbps from Arcadia/HMS-4X to each beltpack

Network Jitter Tolerance:

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

QoS Tags:

DSCP=34, Assured Forwarding (AF=41)

Link-Local Default IP Address Range: 169.254.0.0/16

System Reserved IP Range:

10.0.0.0/24 for endpoints on HMS-4X
10.0.0.0-7 for Arcadia

Recommended Ethernet Switches:

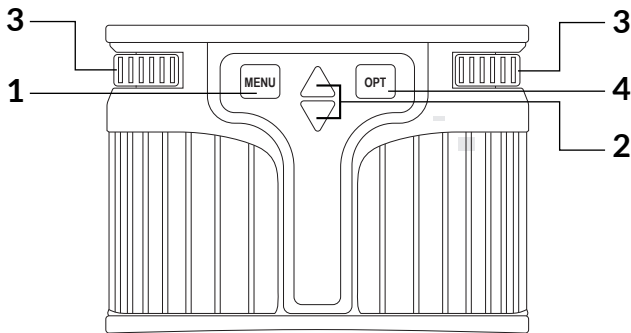
- Managed Ethernet Switch
- 100/1000 Base-T Ports
- 1000 Base IP Switch Trunks
- QoS Configuration
- Energy Efficient Ethernet bypass option
- IGMP Snooping options

Please refer to the [Clear-Com HelixNet Network Guide](#) for additional switch settings and network characteristics.

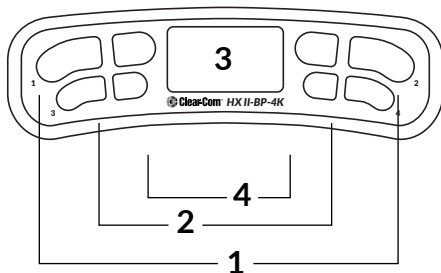
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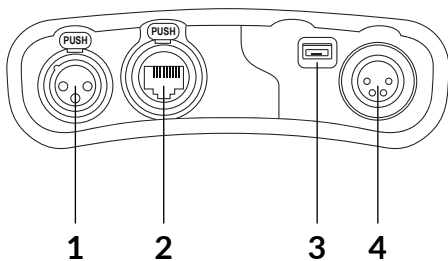
Front



Top



Bottom



Legend

Front

1. Menu access
2. Program level
3. Volume level
4. Option button for Binaural Balance Adjustment (X5 only)

Top

1. Talk key
2. Channel call
3. OLED display screen
4. Desktop feet/belt clips

Bottom

1. T3-pin XLR powerline in
2. Power-over-Ethernet (PoE) line in
3. USB Micro AB connector
4. XLR headset jack

Order Codes

HXII-BP-4K-X4
HXII-BP-4K-X5

For Powerline splitting, the following may be ordered:
SP-2 (for daisy chaining)
SP-3 (for splitting)

