

Linking  
People  
Together



HelixNet Beltpack (HXII-BP)

### Key Features and Benefits

#### Beltpack

- Easy to use front panel with OLED display & backlit keys
- 2 Keysets assignable to channels
- Stacked keys allow unique combination of channels
- Independent Program Audio control
- USB call signal flasher
- Binaural controls on HXII-BP-X5

#### Connectivity

- Ethernet Network port with PoE<sup>1</sup>
- Powerline via XLR cable

#### Mechanical

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

#### HelixNet System

- Wired Partyline - Networked
- Hosted by Arcadia or 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<sup>®</sup> is a networked partyline intercom, with up to 24 channels and independent Program Audio over XLR, LAN and WAN.

### Description

The HelixNet beltpack (HXII-BP) is a two-channel intercom user station hosted by Arcadia<sup>®</sup> Central Station or HelixNet HMS-4X<sup>2</sup> main station.

### Beltpack

The beltpack provides two keysets assignable to any intercom channel and allows multiple channels to be uniquely stacked onto a keyset. The beltpack comes with a headset connection, independent Program Audio level control and a micro-USB Flasher connection to a third-party USB light.

The X5 variant of the beltpack includes a connection to dual ear five-pin headsets for split-ear binaural operation, allowing the user to pan the keysets channels between left and right ears.

### Local and Central Management Options

HelixNet Beltpack can be added to an Arcadia or legacy HelixNet system without central configuration or interruption. Front panel allows tactile device configuration and channel assignment.

Roles can be created and applied to one or multiple beltpacks remotely or locally. Roles can be edited locally or centrally managed from the Core Configuration Manager<sup>™</sup> (CCM<sup>1</sup>).

### Connectivity and Power Options

The HelixNet beltpack connects to Arcadia Central Station or HMS-4X main stations with HLI-ET2 Ethernet module over network. Power is supplied to the HXII-BP over the XLR Powerline (PoE) from 3rd party devices.

Alternatively, the HelixNet Beltpack can connect via XLR Powerline with power to the Arcadia Central Station via HXII-DPL Powerline Device or to HelixNet HMS-4X main stations.

<sup>1</sup>CCM and Endpoint network connection to legacy HMS-4X requires HLI-ET2

<sup>2</sup>HMS-4X is a legacy product

## Technical Specifications

### HelixNet System Hosts

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

**HMS-4X<sup>2</sup>:** 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 Powerlines or via optional HLI-ET2 module using HXII-DPL Powerline Device or 3rd party network switch connection. HMS-4X allows use of 12 channels which can be expanded to 24 using optional license.

### Connectors

**XLR Powerline:** 3-pin XLR-F

**LAN/PoE<sup>1</sup>:** 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 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:** 40Hz - 10kHz ±3dB

**Distortion:** <0.2% THD @ 1kHz

**Noise:** -65dBu

**Headphone Limiter:** 0dB (selectable)

### Device Power

**Voltage:** 48V 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 = 1 beltpack**

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

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

### Environmental

32° to +104°F (0° to +40°C)

0 - 90% relative humidity

IP53 rated

### Dimensions

3.9 x 5.3 x 1.7in (WxHxD)

99 x 135 x 43mm (WxHxD)

### Weight

12.2oz (0.35kg)

## Network Specifications

(Firmware Version 4.5+)

### Network Protocols

Ethernet IPv4-Unicast Audio and 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:

10.0.0.0/8 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

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

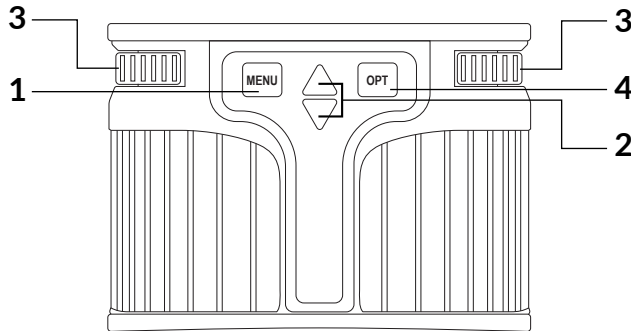
<sup>1</sup>Ethernet to legacy HMS-4X requires HLI-ET2

<sup>2</sup>HMS-4X is a legacy product

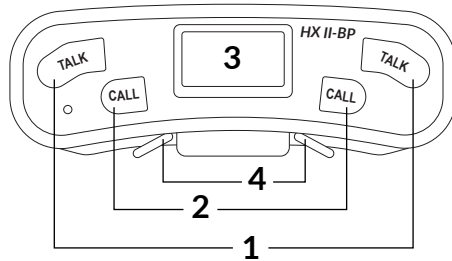
# HelixNet Beltpack

Digital Partyline Solutions

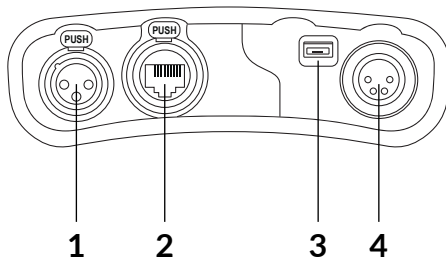
Front



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  
4-pin M (X4 only)  
5-pin F (X5 only)

## Order Code

HXII-BP-X4

HXII-BP-X5

*For Powerline splitting, the following may be ordered:*

**SP-2 (for daisy chaining)**

**SP-3 (for splitting)**

