

# HKB-2X Speaker Station

Digital Partyline Solutions

Linking  
People  
Together



HKB-2X

## Key Features and Benefits

### Speaker Station

- Easy to use front panel with OLED displays & backlit keys
- Headset or hands free support with speaker and mic
- 2 Keysets assignable to channels
- Shift page for 4-channel operation
- Program Audio level control
- Display swivels for optimal viewing angles

### Connectivity

- Ethernet Network port with PoE\*
- Powerline terminal plug to HMS-4X\*\*/\*\*

### Mechanical

- 4-gang for flush mounting
- Optional S-MOUNT for desktop use

### HelixNet System

- Wired Partyline - Networked
- Hosted by Arcadia or HMS-4X\*\*\*
- Up to 24 Channels - Licensed
- Up to 64 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 to HMS-4X\*\*/\*\*
- Central firmware upgrades from host

HelixNet® is a networked partyline intercom with up to 24 channels and Program Audio over XLR, LAN or WAN.

## Description

The HelixNet HKB-2X speaker station is a 4-gang flush-mountable user station with four channels over two shift pages hosted by the Arcadia® Central Station or HelixNet HMS-4X main station.

## User Station

This innovative front panel user station provides two keysets assignable to any intercom channel to each of the two pages, which the user can toggle between for a total of four channels. The station's displays can be swiveled for optimal viewing angle. The user station is provided with a headset connection, gooseneck mic connector, loudspeaker and Program Audio level controls.

HKB-2X can be mounted in a standard 4-gang electrical enclosure or the optional S-MOUNT multipurpose enclosure for portable and desktop applications.

The HKB-2X-X7 has seven-pin headset connection with additional PTT GPI, assignable to user station keys.

## Local and Central Management Options

HKB-2X can be added to an Arcadia or HelixNet system host without central configuration or interruption. Front panel keysets form unique waterfall menu allowing tactile device configuration and channel assignments. Roles can be created and applied to one or multiple HKB-2X remotely or locally.

Roles can be edited locally or centrally managed from the Core Configuration Manager™ (CCM\*).

## Connectivity and Power Options

HKB-2X connects to the Arcadia Central Station or HelixNet HMS-4X\*\*\* main station with HLI-ET2 Ethernet module over network. Power can be supplied to the HKB-2X locally with a supplied power supply or Power over Ethernet (PoE) from 3rd party devices.

Alternatively, HKB-2X can connect to HelixNet HMS-4X\*\*\* main stations over XLR Powerline with power or locally powered. \*\* Powerline and local DC inputs connections are on Terminal Block Connectors for ease of installation.

\*CCM and Endpoint network connection to HMS-4X requires HLI-ET2

\*\*XLR Powerline connections is not available for Arcadia. Contact Clear-Com for further information.

\*\*\*HMS-4X is a legacy product as of 2022

## Technical Specifications

### HelixNet System Hosts

**Arcadia:** Supports up to 64 HelixNet endpoints (HRM-4X, HKB-2X & HXII-BP) over Ethernet. Up to 24 Channels can be HelixNet Enabled using a Licensed Port for assignment to any HelixNet endpoints keyset.

**HMS-4X\*\*\* :** Supports up to 64 endpoints (HRM-4X, HKB-2X, HBP-2X, HXII-BP, HLI-2W2, HLI-4W2, LQ port). User stations can connect via HMS's 2 Powerlines (see datasheet for limits) or over Ethernet via optional HLI-ET2 module. HMS allows use of 12 channels which can be expanded to 24 using optional license.

### Connectors

**Powerline \*\*:** Powerline, Terminal Block 5 pole, 5mm pitch

**Ethernet/PoE \*:** RJ45

**Headset:** 4-pin XLR-M or 7-pin XLR-M with (2) PTT GPI (-X7)

**Gooseneck Mic:** 3-pin Tuchel

**Power Connector:** Terminal Block 2 Pole, 5mm

### Microphone Pre-amplifier

**Headset Mic Impedance:** 200Ω (Dynamic)

**Headset Mic Voltage:** 1.7V (Electret selectable)

**Limiter:** +23dB

Route to four-wire output at 0dBu out:

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

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

**Distortion:** <0.1% THD @ 1kHz

**Noise:** <-65dBu

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

### Headphone Amplifier

**Load Impedance:** >32Ω

**Output Level:** +12dBu before clipping

**Sidetone:** -12dB (selectable)

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

**Max Gain:** 0dB

**Frequency Response:** 40Hz - 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

### Logic Inputs - PTT/GPI (-X7 only)

Assignable to talk, call, mic and headset keys

**Input:** 2

**Style:** Powered input, close contact to ground

**Detection Voltage (Min):** 3V

**Input Voltage (Max):** 5V

**Output Voltage:** 5V

**Output Current (Max):** 1mA

### Device Power

**Voltage:** 48V DC

**Current (Max):** 0.3A

**Power (Max):** 14.4W

**BTU (Max):** 49BTU/hr

**Input Power Connector:** Terminal Block 2 Pole, 5mm

This unit can be powered via:

### AC Adapter - Wall (not included)

**Input Voltage Range:** 100 - 240V AC

**Input Frequency Range:** 50 - 60Hz

**Input Power Connector:** Universal

**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

### Powerline \*\*:

**Input Voltage:** ±29.5V DC

**Input Current (Speaker Off):** 0.3A

**Input Current (Max):** 0.5A

**Powerline Utilization:**

HKB (Local Power) = 1 beltpack

HKB (Speaker Off) = 2 beltpacks

HKB (Speaker On) = 3 beltpacks

Note the maximum Powerline capacity of the HMS-4X\*\*\*

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

### Environmental

32° - +113°F (0 - +45°C)

90% relative humidity

### Dimensions

4-Gang NEMA, 4.5 x 8.2 x 2.4in (HxWxD)

(114 x 209 x 61mm)

### Weight

18.8oz (0.53kg)

## Network Specifications

(Firmware Version 4.2+)

### Network Protocols

Ethernet IPv4 - Unicast Audio and Control

mDNS - Multicast Device Discovery

Layer 3-Routable w. mDNS function limitations

HTTP-Management

RTP-Audio Transport

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

**Bandwidth:**

300 (max) kbps from each HKB to HMS

1200 (max) kbps from HMS to HKB

**Network Jitter Tolerance:**

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

**QoS tags:**

DSCP=41, Assured Forwarding (AF)

**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.

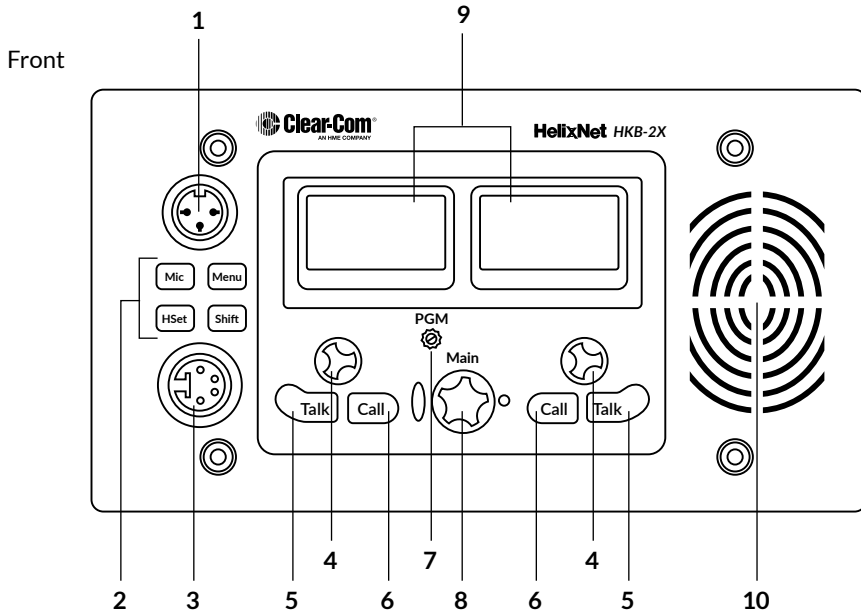
\*Ethernet to HMS-4X requires HLI-ET2

\*\*Not available for Arcadia. Contact Clear-Com

\*\*\*HMS-4X is a legacy product as of 2022

# HKB-2X Speaker Station

Digital Partyline Solutions



## Legend

### Front

1. Gooseneck microphone connector
2. Configuration keys
3. XLR headset jack
  - 4-pin XLR-M (HKB-2X only)
  - 7-pin XLR-F (-X7 only)
4. Rotary volume controls
5. Talk keys
6. Call keys
7. Program Audio level control
8. Speaker/Headphone rotary control and Speaker Mute
9. Tilt-adjustable display screens
10. Loudspeaker

## Order Code

HKB-2X

HKB-2X-X7

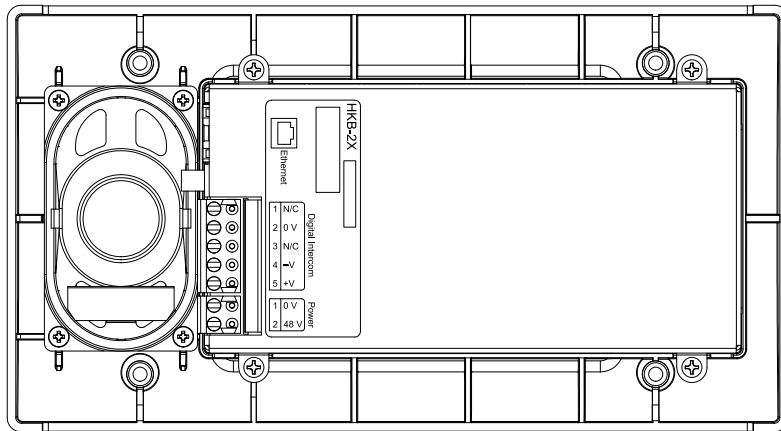
### Includes:

- (4) 6-32 x 1/2" mounting screws (280038Z)
- (4) Screw cover (416G054)
- (1) Terminal block connector for powerline (210085Z)
- (1) Terminal block connector for DC power (210369Z)

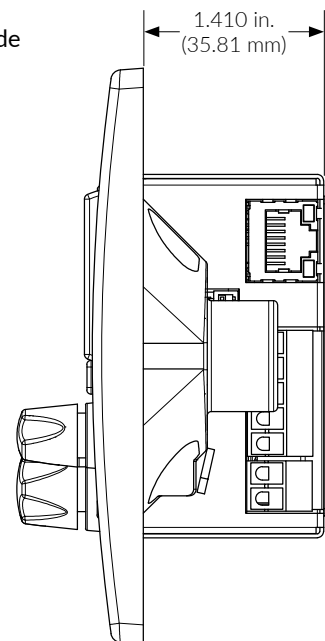
### Optional Accessories (sold separately):

- S-MOUNT enclosure (S-MOUNT)
- Wall adapter PSU 15W 48V DC (453G025)
- Inline PSU 15W 48V DC (453G026)

Back



Side



[www.clearcom.com/helixnet-knowledge-center/](http://www.clearcom.com/helixnet-knowledge-center/)



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**WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.CA.gov](http://www.P65Warnings.CA.gov)