



FSII-BASE-II

# FreeSpeak II Base Station

## Wireless Solutions

### Key Features and Benefits

#### FreeSpeak II Base Station

- Wireless Intercom Base Station
- Partyline 2-Wire Integration
- Line-Level 4-Wire Interfacing
- CCM™ browser configuration & monitoring
- Front panel configuration & monitoring
- Plug-and-go transceivers and beltpack pairing

#### Capacity

- FreeSpeak Wireless Intercom  
(10) E1 Transceivers (1.9, 2.4 GHz)  
(5) or (25) Beltpacks (1.9, 2.4 GHz)

#### Configuration

- (12) Channels
- (12) Groups
- (50) Roles for FreeSpeak, with Point-to-Point Key Assignments

#### Connectivity

- (4) 4-Wire - Line-Level
- (4) 2-Wire - 400mA per pair
- (1) Program Audio Input
- (1) Stage Announce Output
- (2) GPI Input
- (4) GPO Relay
- (2) FreeSpeak E1 - RJ45/SFP switchable
- (2) LAN - Pass Through for Management

FreeSpeak II® is a wireless intercom system with beltpacks that seamlessly roam between remote transceivers added for capacity and coverage. FreeSpeak II 1.9 and 2.4GHz frequency bands can be deployed standalone or integrated in a larger intercom deployment.

### Description

The FreeSpeak II Base Station is the foundation of a wireless intercom system with support for either 5 or 25 FreeSpeakII wireless intercom beltpacks and 10 transceivers connecting to the base via optional FSII-SPL splitters using plug-&-play CAT cabling. The base integrates with 2-wire analog partyline intercom systems and provides 4-wire, Program Audio and Stage Announce Line Level audio interfaces in addition to GPIO control. The base's compact 1RU form factor features front panel intercom headset station which can also be used for system configuration and monitoring in addition to the graphical CCM web browser interface.

### Technical Specifications

#### Capacity

**FreeSpeak Wireless Intercom**  
(10) E1 Transceivers (1.9, 2.4 GHz)  
(5) or (25) Beltpacks (1.9, 2.4 GHz)

#### Configuration

- (12) Channels
- (12) Groups
- (50) Roles for FreeSpeak

#### Connectors

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

**2-Wire I/O:** (4) XLR-3F

**4-Wire I/O:** (4) RJ45

**Program Audio Input:** XLR-3F

**Stage Announce Output:** XLR-3M

**GPIO:** (1) DB15F (2 GPI, 4 GPO)

**FreeSpeak II E1 TCVR/SPL Ports:** (2) RJ45, (2) SFP (RJ45 or SFP selectable)

**FSII DECT Synchronization:** (2) RJ45 (Input & Output)

**LAN:** (2) RJ45

**AC Power Connector:** IEC-C14

**DC Power Connector:** KPJX-4S-S

**Grounding Screw:** Terminal

**Note:** While mechanically identical, SFPs are designed with different properties for data rates, power and fiber cable type. Please refer to the Clear-Com SFP Compatibility Chart for compatible SFP transceivers

#### Controls and Indicators

##### Front Panel:

- (4) OLED Displays
- (2) Power Supply Status LED
- (1) Headset Mic Button
- (1) Front Panel Mode Button
- (1) Menu Access Button
- (4) Encoders for Menu & Level Control
- (4) Call & Talk Buttons
- (1) Stage Announce Button
- (1) All Talk Button
- (1) Remote Mic Kill Button
- (2) Status LEDs
- (1) Main Listen Level Encoder
- (1) Program Audio Level Encoder

##### Rear Panel:

- (2) LAN RJ45 Link/Activity LEDs
- (2) FSII E1 TCVR RJ45 Link/Activity LEDs
- (4) 2-Wire Power / Configuration Indicator LEDs

#### Microphone Input

**Input Type:** Dynamic/Electret - Selectable

**Headset Mic Voltage:** 5V

**Input Level (Nominal):** -58dBu

**Input Level (Max):** -10dBu

**Frequency Response:** 300Hz to 22kHz ± 3dB

**Mic Limiter Threshold:** -35dBu ± 3dB

**Mic Limiter Range:** ≥ 20dB

# FreeSpeak II Base Station

## Wireless Solutions

### Technical Specifications (Continued)

#### 4-Wire Line Level Interfaces

Transformer balanced input and output

**Input - Nominal Level:** 0dBu (adjustable -12dB to 12dB)

**Maximum Level:** +18dBu

**Frequency Response:** 80Hz to 22kHz  $\pm$  3dB

**Impedance:**  $\geq$  10K $\Omega$

**Output - Nominal Level:** 0dBu (adjustable -12dB + 12dB)

**Maximum Level:** +18dBu

**Frequency Response:** 80Hz to 22kHz  $\pm$  3dB

**Impedance:** 120 $\Omega$  + 10%

#### 2-Wire Partyline Interfaces

Unbalanced High-Impedance bridging

**Compatibility:** Clear-Com, RTS-TW with Call and Remote Mic Kill

**Termination:** Optional per pair (A/B or C/D)

**Nulling:** User initiated Auto-Calibration

**Null Depth:**  $>$ 60dB at 12kHz

**Nominal Level:** CC: -18dBu, RTS-TW: -12dBu (adjustable -3dB to +3dB)

**Headroom:** 18dB

**Frequency Response:** 80Hz to 12kHz  $\pm$  3dB

**Impedance:**  $\geq$  10K $\Omega$  bridging

**Total Harmonic Distortion (THD):**  $<$  0.1% THD @ 1 kHz

**Power:** 400mA optional per pair (A/B or C/D)

**Voltage:** 26-28V DC

Use [Encore Partyline Power Calculator](#) to validate power requirements of the analog partyline intercom system

#### Frequency Response

**Headset Mic:** 300Hz to 22kHz

**Headset Speaker:** 50Hz to 18kHz

**FreeSpeak II:** 200Hz to 7.1kHz

**4-Wire:** 80Hz to 22kHz

**2-Wire:** 80Hz to 12kHz

#### Logic Inputs - GPI

Assignable to activation of audio crosspoints

**Input:** 2

**Style:** Opto-Isolated. Powered input, close contact to ground

**Input Voltage Range:** 0 - 12V DC or AC

**Input Current:**  $\geq$ 1mA required

#### Logic Outputs - GPO/Relay

Assignable to talk, call keys, audio crosspoints or call

**Style:** SPDT / Power Relay

**Normalized:** Open or Closed, separate pins

**Switching Voltage (Max):** 60V DC

**Switching Current (Max):** 2A

#### Power

**AC Internal Power Supply:**

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

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

**Input Power (Max):** 48W

**BTU (Max):** 164 BTU/h

**Input Power Connector:** IEC-C14

**DC Power Input:**

**Voltage:** 12V DC  $\pm$  5%

**Current (Max):** 4A

**Power (Max):** 48W

**BTU (Max):** 164BTU/hr

**Input Power Connector:** KPJX-4S-S

This unit can be powered via DC input using:

**AC Adapter - Inline:**

**Type:** PSU-EXT-002 (supplied)

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

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

**Input Power Connector:** IEC-C14

**Output Voltage:** 12V DC  $\pm$  5%

**Output Current (Max):** 5A

**Output Power (Max):** 60W

**Output Power Connector:** KPPX-4-P

#### Environmental

**Operating:** 32° to 113°F (0° to 45°C)

**Storage:** -22° to 158°F (-30° to 70°C)

**Humidity:** 20-90% Non-Condensing

#### Dimensions

1RU

19 x 1.7 x 10.2in (WxHxD)

(482.6 x 43.2 x 259.0mm)

#### Weight

5.57lbs (2.5kg)

# FreeSpeak II Base Station

## Wireless Solutions

### Network Specifications | Firmware Release 1.5+

#### Administration

For CCM Management & Control

#### Network Protocols

Ethernet IPv4–Unicast Control

HTTP–Management

#### Network Ports

##### Unicast:

Port 80 TCP–Web Interface, System Management

#### Network Parameters

**MAC Address Prefix:** 00:0e:98:....

**Link-Local Default IP Address Range:** 169.254.0.0/16

**Restrictions:** Do not plug the two physical LAN ports on FSII-BASE-II into the same network/ VLAN. This can create a network loop affecting IP stability

### Product Line System Capacity

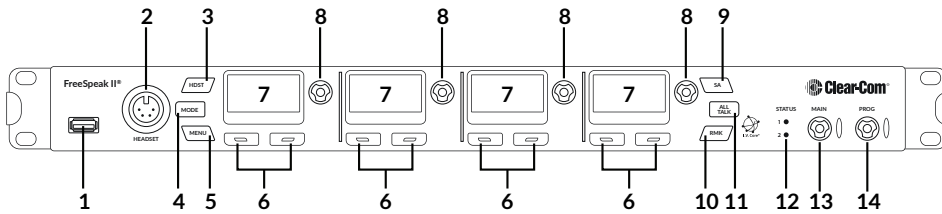
	Max Number of Supported Beltpacks	Max Number of Supported TCVRs	Max Number of BP's per TCVR
FreeSpeak II Base II-5	5	2 (E1) 10 (via 2 FSII-SPL)	5 (E1: 1.9GHz) 4 (E1: 2.4GHz)
FreeSpeak II Base II	25	2 (E1) 10 (via 2 FSII-SPL)	5 (E1: 1.9GHz) 4 (E1: 2.4GHz)
FreeSpeak Edge Base Station	16	2 (E1) 10 (via 2 FSII-SPL) 6 (IP)	5 (E1: 1.9 GHz) 4 (E1: 2.4 GHz) 10 (IP)
Arcadia Central Station	64	2 (E1) 10 (via 2 FSII-SPL) 32 (IP)	5 (E1: 1.9 GHz) 4 (E1: 2.4 GHz) 10 (IP)
Eclipse HX (via E-IPA Cards)	192 Delta 200 Median/Omega	192 Delta (IP) or 30 (via 6 FSII-SPL) 256 Median (IP) or 40 (via 8 FSII-SPL) 320 Omega (IP) or 50 (via 10 FSII-SPL)	5 (E1: 1.9 GHz) 4 (E1: 2.4 GHz) 10 (IP)

Note: Each E-IPA Card supports either a) up to 64 beltpacks with 64 IP transceivers or b) up to 50 beltpacks with 10 E1 Transceivers using 2 Splitters

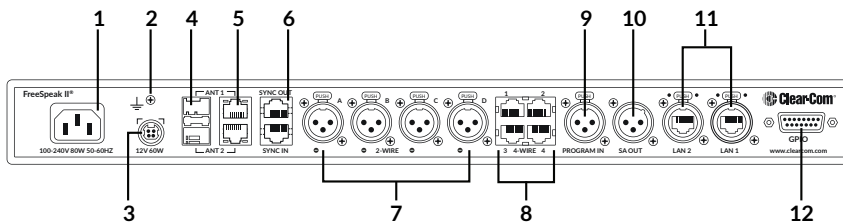
# FreeSpeak II Base Station

## Wireless Solutions

Front



Rear



## Legend

### Front

1. USB A
2. XLR Headset Connector
  - 4-pin XLR-M (Arcadia-X4 only)
  - 5-pin XLR-F (Arcadia-X5 only)
3. Headset Mic Button
4. Front Panel Mode Button
5. Menu Access Button
6. Call & Talk Buttons
7. Displays
8. Encoders for Menu & Level Control
9. Stage Announce Button
10. Remote Mic Kill Button
11. All Talk Button
12. Status LEDs
13. Main Listen Level Encoder
14. Program Audio Level Encoder

### Rear

1. Power Input - AC
2. Grounding Screw
3. Power Input - DC
4. FSII E1 SPL Fiber SFP
5. FSII E1 TCVR/SPL RJ45
6. DECT sync in & out
7. 2-Wire ports
8. 4-Wire ports
9. Program Audio Input
10. Stage Announce Output
11. LAN ports
12. GPIO

## Order Codes

### With 4-pin Headset Connector

FSII-BASE-II: For 25 beltpacks

FSII-BASE-II-5: For 5 beltpacks

### With 5-pin Headset Connector

FSII-BASE-II-X5: For 25 beltpacks

FSII-BASE-II-5-X5: For 5 beltpacks

### Includes:

(1) External PSU (PSU-EXT-002)

### Upgrade License Option"

FSII-BASE-II-25BP-License: Upgrade from 5 to 25 beltpacks

### Optional Parts

FSII-SPL: Transceiver Splitter

SFP-MMFO-100M-FX: Multi-mode E1 SFP

SFP-SMFO-100M-LX: Single-mode E1 SFP

HLI-MMFO: Multi-mode E1 SFP - Legacy

HLI-SMFO: Single-mode E1 SFP - Legacy

