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

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 ± 3dB
Impedance: >= 10KΩ
Output - Nomimal Level: 0dBu (adjustable -12dB + 12dB)
Maximum Level: +18dBu
Frequency Response: 80Hz to 22kHz ± 3dB
Impedance: 120Ω + 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 ± 3dB
Impedance: >= 10KΩ 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: >=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 ± 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 ± 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

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
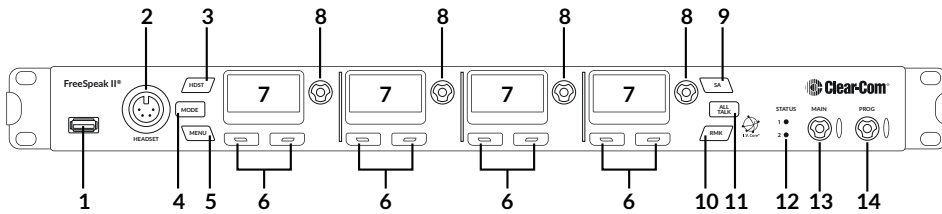stability

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
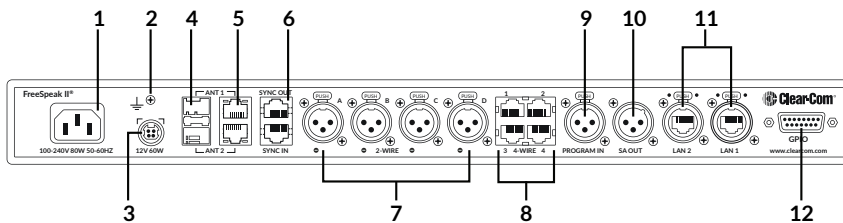50 beltpacks with 10 E1 Transceiers using 2 Splitters

FreeSpeak II Base Station

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

Clear-Com® AN HME COMPANY