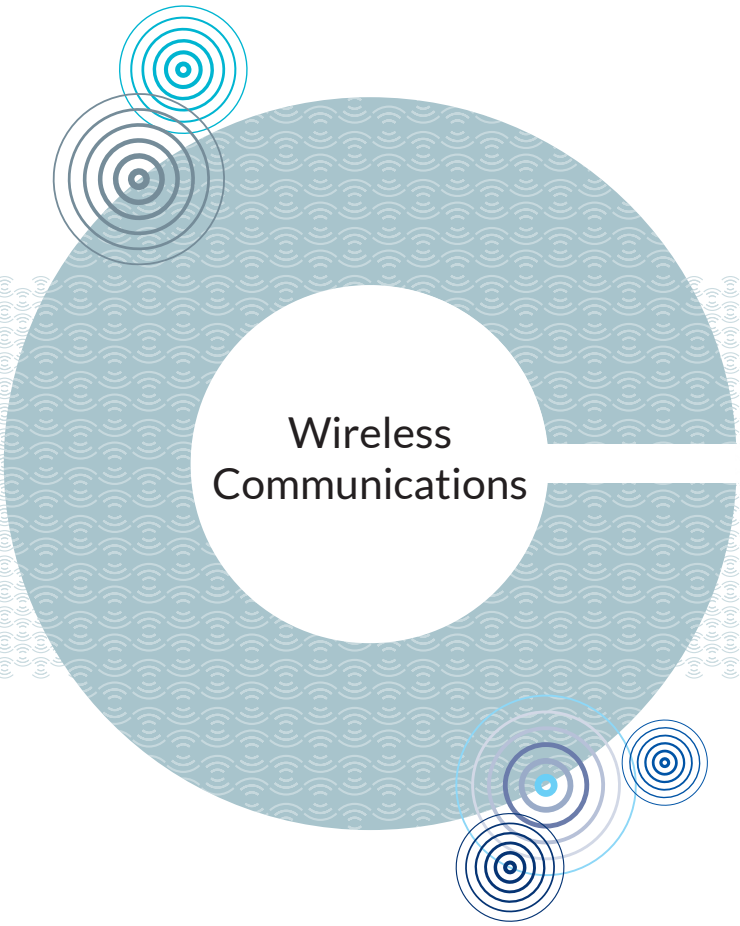
Clear-Com®
AN HME COMPANY

PRODUCT BROCHURE



FreeSpeak II®

About Intercom Technology

An intercom (intercommunication system) is a standalone, closed-circuit system for one-way “simplex” and/or two-way “duplex” communication. The general purpose of a professional intercom system is to facilitate simple to complex communication setups for few to thousands of users who need to be continuously on talk and/or listen mode. Two-way communications systems can operate in half-duplex or full-duplex. With half-duplex systems, one party talks while the other party listens. With full-duplex systems, both parties can talk and listen at the same time as if they are in a natural conversation in person.

Users who have different roles in a particular operation can be in a conference or partyline together. Or they can be sub-divided into a matrix of independent groups in any one or many private intercom channels. In addition to establishing communication points, an intercom system can also be interfaced with third-party devices such as 2-way radios, 4-wire audios, telephone, TV cameras, AES3 digital audio, relay control (for signal light activation or door control), etc.

The core technology of an intercom system could be based on one of the following platforms: 2-wire/analog, 4-wire digital, wireless, or IP networks. The decision to deploy one platform over the other will greatly depend on requirements, environment and budget. These intercom platforms operate independently or can be linked to form a larger system in order to meet specific unique communication workflow needs. Moreover, intercom systems can be bridged together with different communications systems as part of a multi-platform solution.

In certain applications, intercom systems need to be geographically distributed to support the various communication positions in a given workflow. Therefore, they can be connected over 2-wire or 4-wire; MADI for close-distance connections such as floor-to-floor; optical fiber for short to long distances within a building; and IP networks (LAN, WAN, or Internet) for connections across a wide area, across town, or across the country.

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Wireless intercom systems offer the convenience of untethered communication for mobile users, while providing the power, flexibility and audio quality of wired systems.

Clear-Com provides the broadest range of wireless intercom systems for professional users who require a standalone wireless system or an integrated wireless solution to meet virtually any technical requirement, budget, and/or environments.

FREESPEAK II WIRELESS INTERCOM SYSTEMS

When it comes to communication requirements for specialized applications, FreeSpeak II wireless intercom systems are the right solutions. These systems provide exceptional RF performance and reliable connections, giving users the peace of mind even in the most demanding circumstances. They offer high capacity and scalability to meet the needs of complex configurations, greater number of talk groups or users, and expansive coverage areas. Moreover, they work even in challenging environments that exist indoors and outdoors.

> 1.9 GHz

> 2.4 GHz

FreeSpeak II® 1.9GHz and 2.4GHz Digital Wireless Intercom Systems

FreeSpeak II is a powerful and reliable distributed wireless intercom platform for sophisticated and expansive communication needs. FreeSpeak II comes in a 1.9GHz version for operations in the 1.880-1.930GHz band and 2.4GHz for environments or geographies where either or both frequencies are available for use*. The system can freely use a mix of both bands.

The FreeSpeak II system comprises of the base station, beltpacks, transceiver modules, and transceiver splitter. FreeSpeak II can be implemented as a standalone base station system or as an integrated wireless solution within Eclipse HX matrices. The splitter can connect to base stations and/or Eclipse HX matrices via fiber to extend the transceiver coverage out over long distances.

Flexible cellular roaming technologies allow users to move freely about in large, multi-site environments without the worry of fading or losing connection. The system provides point-to-point and group communication capabilities.

FreeSpeak II Base Station

*Frequency bands are allocated and approved for use by country. Check the price list for supported countries and appropriate model numbers.

Wireless Beltpacks

The five-channel, full-duplex FreeSpeak II digital beltpacks are uniquely designed for the rigorous demands of large-scale operations and continuous communication use. Ergonomic form factor, intuitive operation, and rugged housing make the beltpacks ideal for extended use.

Full-duplex 7kHz bandwidth offers high audio quality and reduces the strain on the user's ears after extended usage.

Four push-to-talk, one reply key and two rotary encoders allow up to five communication routes to be assigned to each beltpack. These can be any desired combination of group and point-to-point communication assignments.

Large OLED display provides extensive information, including the names of beltpacks, assigned users and groups of each beltpack, battery level, and signal strength.

A variety of beltpack menus are accessible via the OLED display including headset levels, microphone levels, audible alert at low battery level, and adjustable local sidetone.

FreeSpeak II 1.9GHz

FreeSpeak II 2.4GHz

FreeSpeak II O2 beltpacks
(available in 1.9GHz and 2.4GHz)

Beltpack Feature Highlights

- Up to five communication routes per beltpack, with selective access to more channels
- Four programmable pushbuttons, two rotary encoders and a reply button
- Menu driven display, which can be partially or completely restricted
- Secure system – beltpacks are registered to a particular base station or Matrix or can have secure access to multiple control functions
- Internal antennas – no antenna breakage or damage
- Long battery usage – typically 18 hours of continuous talk time
- Two battery options – rechargeable Li-Ion cells or disposable Alkaline AA Batteries
- Drop-in charging port with built-in USB battery and beltpack charging capability
- Strong metallic belt-clip and shoulder strap points
- Over-the-air beltpack registration
- Real-time statistics, beltpack and transceiver diagnostics, and functionality like Remote Mic Kill
- GPIO logic configuration to trigger call lights, tally or radios
- "Listen Again" audio memory to replay last 15 seconds of audio
- Technician's flash light
- Works at high pressure environments – atmospheric pressure up to 75 psi (O2 beltpacks only)

Drop-in battery and beltpack charger

USB Port for local DC powering

18+ hours of battery operation (door shown open)

Ergonomic design for beltpack controls

Transceiver Modules

FreeSpeak II users can roam thousands of feet from the base station or matrix frame while staying connected. This is achieved through the Cellular Roaming capability between distributed transceiver modules. The transceiver splitter extends the base station to create an expansive coverage area with multiple transceivers, which provide connections to the wireless beltpacks.

FreeSpeak II Transceiver - E1 (1.9GHz & 2.4GHz)

FreeSpeak II transceivers are available in 1.9GHz and 2.4GHz versions that can be deployed within the same system (either the base station or integrated matrix solution), thus increasing both the quantity of wireless users and cell roaming area. Each FSII-TCVR can support up to five 1.9GHz beltpacks or up to four 2.4GHz beltpacks.

When using the base station, up to 25 full-duplex wireless beltpacks using either or both 1.9GHz and 2.4GHz bands can be connected. In an integrated Eclipse HX matrix setup via E-QUE-HX card, as many as 25 1.9GHz wireless beltpacks (in North America or 50 1.9GHz in EU countries) and 40 2.4GHz wireless beltpacks (in all regions) can be used at the same time. These beltpack users are then able to directly communicate with any other remote or local matrix panel or other wireless or wired beltpack user who is on the Eclipse HX Matrix System network.

Key Features:

- 1.9GHz and 2.4GHz models available
- Operates over a CAT5 connection
- Supports up to 5 FSII 1.9GHz beltpacks or up to 4 FSII 2.4GHz beltpacks per transceiver
- IP rated for water and dust resistance
- LED power indicator light
- EtherCon rugged connection

1.9GHz Transceiver

2.4GHz Transceiver

Transceiver Splitter

FreeSpeak II Transceiver - IP (1.9GHz Only)

The FreeSpeak II IPT transceivers can be deployed via internet protocol (IP), allowing users to leverage AES67 compatible IP networks to expand their wireless intercom. Operating in the 1.9GHz frequency band, each transceiver can support up to 10 1.9GHz beltpacks.

In an integrated Eclipse HX matrix setup via E-IPA64-HX card, as many as 50 1.9GHz wireless beltpacks (in North America or 64 1.9GHz in EU countries) can be used at the same time, and up to 64 transceivers can be supported on one Eclipse HX Matrix System. These beltpack users are then able to directly communicate with any other remote or local matrix panel or other wireless or wired beltpack user who is on the Eclipse HX Matrix System network.

Key Features:

- Requires E-IPA-HX card and an Eclipse HX Frame (not available for FSII-BASE-II)
- For use with 1.9GHz only
- Operates over IP on an AES67 compatible network
- Supports up to 10 FSII beltpacks per transceiver
- Up to 64 transceivers supported on Eclipse HX Matrix System
- IP rated for water and dust resistance
- Powered over Ethernet from PoE switch

1.9GHz Transceiver

Integrated Wireless

FreeSpeak II is the only wireless system on the market that can seamlessly integrate its wireless beltpacks with Clear-Com's Eclipse HX Digital Matrix Intercom System.

With FreeSpeak II, wireless beltpack users can communicate with any Eclipse HX panel user on a one-to-one or group basis. This unique capability is achieved with the E-QUE-HX cellular controller card or the E-IPA-HX IP card, which fit directly in the matrix frames.

Each E-QUE-HX card connects up to 10 transceivers (with splitter) to provide beltpack connections to any number of ports within the Eclipse HX System. Up to 50 wireless beltpacks per Matrix (depending on region and environment) can roam between 60 transceivers and communicate on the Matrix system. Up to six E-QUE-HX cards can be used in a Matrix frame.

Each E-IPA64-HX card connects up to 64 transceivers to provide beltpack connections to any number of ports within the Eclipse HX System. Up to 64 wireless beltpacks per Matrix (depending on region and environment) can roam between 64 transceivers and communicate on the Matrix system. Only one E-IPA64-HX card can be used for wireless in a Matrix frame.

Integrated FreeSpeak II has the ability to individually address each beltpack and then connect that beltpack to one or many users on the Matrix.

Patented Dynamic Port Allocation technology allows the beltpacks to roam between transceivers without breaking connections.

FreeSpeak II 1.9 GHz Beltpacks	
Part #	**Countries Approved For Use**
FSII-BP19-X4-US FSII-BP19-X5-US FSII-BP19-X7-US	United States, Canada
FSII-BP19-X4-EU FSII-BP19-X5-EU FSII-BP19-X7-EU	Europe Union Countries (CE), Australia, New Zealand, Hong Kong, Singapore
FSII-BP19-X4-J FSII-BP19-X5-J FSII-BP19-X7-J	Japan
FSII-BP19-X4-LA FSII-BP19-X5-LA FSII-BP19-X7-LA	Argentina
FSII-BP19-X4-B FSII-BP19-X5-B FSII-BP19-X7-B	Brazil

FreeSpeak II 2.4 GHz Beltpacks	
Part #	**Countries Approved For Use**
FSII-BP24-X4 FSII-BP24-X5 FSII-BP24-X7	United States, Canada, Mexico
FSII-BP24-X4-EU* FSII-BP24-X5-EU* FSII-BP24-X7-EU*	Europe Union Countries (CE), Argentina, Brazil, China, Japan, New Zealand, S. Korea, Australia, Singapore

*For use worldwide

FreeSpeak II 1.9 GHz Transceivers	
Part #	**Countries Approved For Use**
FSII-TCVR-19	United States, Canada
FSII-TCVR-19-EU	Europe Union Countries (CE), Australia, New Zealand, Hong Kong, Singapore
FSII-TCVR-19-J	Japan
FSII-TCVR-19-LA	Argentina
FSII-TCVR-19-B	Brazil
FSII-TCVR-IP-EU	Europe Union Countries (CE)
FSII-TCVR-IP-J	Japan
FSII-TCVR-IP-US	United States, Canada

FreeSpeak II 2.4 GHz Transceivers	
Part #	**Countries Approved For Use**
FSII-TCVR-24-US	United States, Canada, Mexico
FSII-TCVR-24-EU*	Europe Union Countries (CE), Argentina, Brazil, China, Japan, New Zealand, S. Korea, Australia, Singapore

*For use worldwide