

## KB-111A Two-Channel Speaker Station



KB-111A

### FEATURES

- *Allows selectable two-channel communications*
- *Wide frequency response speaker with on/off switch*
- *Intercom volume control*
- *Operates with carbon or dynamic headsets*
- *Mic on/off switch and adjustable sidetone*
- *Visual Call Signaling*
- *Portable or permanent installation*
- *Solid 3/16" machined aluminum front panel*

### DESCRIPTION

The KB-111A is a high-quality remote speaker station that allows talking and/or listening on one of any two channels in a Clear-Com system (not both simultaneously).

Compatible with all Clear-Com intercoms, this station features excellent speech intelligibility in high- and low-noise environments. The wide frequency response speaker delivers crisp sound quality at levels high enough to be heard in the noisiest surroundings.

The KB-111A operates with a carbon headset, dynamic headset, or a telephone-style handset. It drives a standard Clear-Com headset to levels greater than 110 dB SPL. The station's speaker can be turned off when private conversation via the headset is desired; alternately, a mic on/off switch is provided to let the station function as a "listen only" or "remote page" station.

The station contains a recessed sidetone control, which allows the operator to vary the level of his/her own voice as heard in the headset/speaker. Sidetone control also suppresses acoustic feedback when the mic and speaker at that station are on simultaneously.

The KB-111A features Visual Call Signaling; the Call button allows you to attract the attention of operators who have removed their headsets or turned off their speakers. The Call lamp illuminates when another operator presses the Call button.

The station is designed to be custom-mounted. It can be installed on a wall or console, or inside a standard 6" x 8" NEMA electrical box. Clear-Com provides optional portable boxes (see accessories).

Standard mic cable connects the KB-111A to the intercom system. The station provides a clearly labelled screw-terminal block for interconnection behind the front panel.

High-impedance current sourcing and low current drain allow as many as 20 KB-111A stations to be connected along one mile of wire with no significant loss of signal level or audio quality.

The circuit design virtually eliminates all hum and noise pick-up from SCR dimmer and AC power sources.

## KB-112 Programmable Push-to-Talk Speaker Station



KB-112

### FEATURES

- *Built-in electret mic with adjustable sensitivity*
- *Wide frequency response speaker*
- *Adjustable speaker volume control*
- *Programmable operation allows local or remote hands-free control of speaker and mic*
- *"Mic On" LED indicator*
- *Visual Call Signaling; also activates remote control*
- *External audio input allows for audio monitoring*
- *Portable or permanent installation*
- *Interconnects with standard mic cable*
- *Solid 3/16" machined aluminum front panel*

### DESCRIPTION

The KB-112 is a versatile, high-quality remote speaker station that provides programmable push-to-talk two-way communications. It is almost identical to the KB-111A except that it is a single-channel, has a built-in electret mic, and operates in the half-duplex mode – similar to a walkie-talkie. Compatible with all Clear-Com intercoms, the KB-112 is ideal in applications where a headset is inconvenient (such as dressing rooms, front lobbies, etc).

This station features excellent speech intelligibility in all high- and low-noise environments. Mic sensitivity is selectable for talking close or at a distance. The speaker delivers crisp sound quality at levels high enough to be heard in the noisiest surroundings.

The station has four programming modes that are set with dip switches on the PC board. The remote-control features of this station are activated using the call signaling function of another station(s). This allows for individual control of the speaker and microphone. The programming modes are as follows:

1. **Default:** Speaker is normally on, mic normally off, push-to-talk active on the front panel.

2. **Remote Page:** Mic is activated locally. Speaker is off except when turned on by another station.

3. **Remote PTT:** Speaker is normally on and mic is normally off. Mic is turned on by another station.

4. **Talk-back Remote Page:** Mic on for hands-free talking. Speaker normally off. Another station can turn off the microphone and turn on the speaker for paging to the KB-112.

The station's front panel contains a red LED that illuminates whenever the microphone is active.

Other station features are the Intercom Volume Control, Visual Call Signal button, and Call lamp. Signaling is the same as the KB-111A.

The KB-112 provides for an input from an external audio source. It will accept an unbalanced, line-level signal from audio equipment such as mic mixers or portable amps, and mix it with the intercom output into the speaker.

The station is designed to be custom-mounted. It can be installed on a wall or console, or inside a standard 6" x 8" NEMA electrical box. Clear-Com provides optional portable boxes (see accessories).

## ACCESSORIES

### P-Box

For portable use, the KB-111A or KB-112 installs in the Clear-Com P-Box, a sturdy, lightweight aluminum enclosure with a sloped front, walnut sides, and carry strap. Provides 3-pin input and extension connectors (allows one channel only).



P-Box

### M-Box

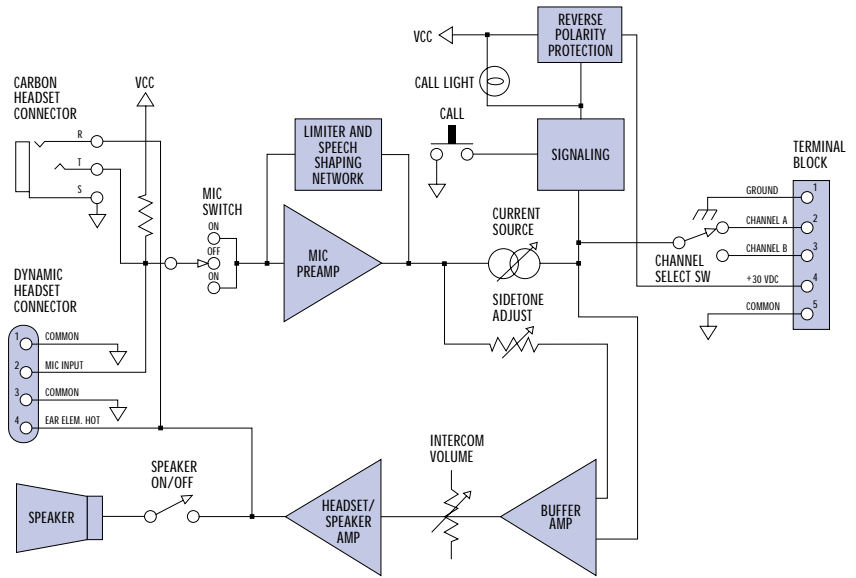
For surface mounting and portable applications the "M-Box" is a rectangular metal enclosure with carry strap. Provides 3-pin input and extension connectors.



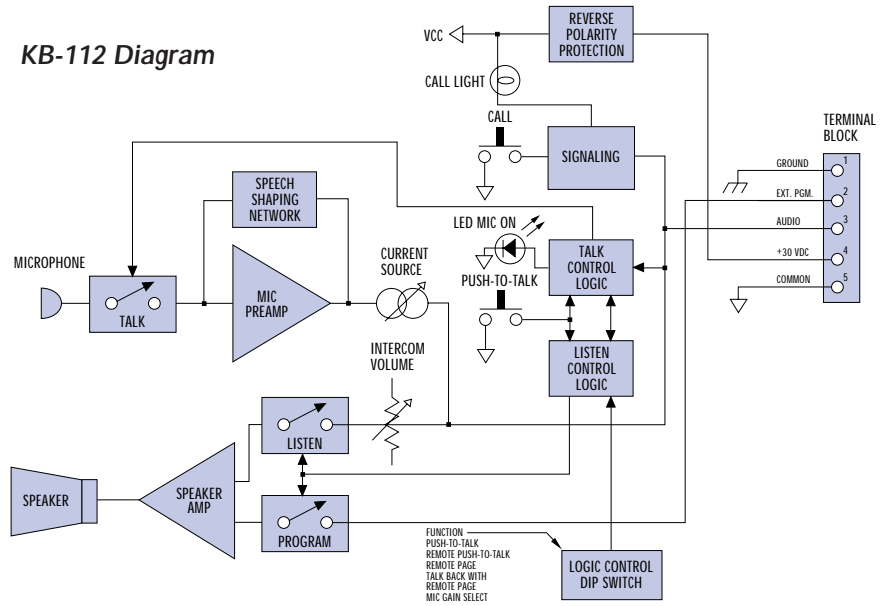
M-Box

## BLOCK DIAGRAMS

### KB-111A Diagram



### KB-112 Diagram



**KB-111A & KB-112 SPECIFICATIONS**

**AMPLIFIER DESIGN**

Solid-state, integrated-circuit amplifiers which include a mic preamp, headset/speaker power amplifier and signaling circuitry. Current limited with short-circuit and reverse-polarity protection.

**MIC PREAMPLIFIER**

Frequency Response: 200 Hz - 12 kHz with contoured response to enhance voice intelligibility.

**KB-111A**

Mic Input: 200 Ω  
Mic Preamp Gain: 37 dB

**KB-112**

Mic Type: electret  
Gain: adjustable 11 dB

**HEADPHONE AMPLIFIER**

Frequency Response:  
100 Hz - 18 kHz, ±2 dB  
Headset Impedance: 8 - 2,000 Ω  
Output Level: +20 dB @ 600 Ω  
Amp Gain: 37dB

**SPEAKER AMPLIFIER**

Speaker Type: 3" square  
Power Output: 2 watts  
Frequency Response:  
100 Hz - 15 kHz  
Distortion: 0.5% THD at 1 kHz  
Speaker Level: 98 dB SPL at 3 feet

**GENERAL**

Signal-to-Noise: 75 dB  
Line-to-Speaker Gain: 30.5 dB  
Headset Level: >110 dB SPL with standard ClearCom headsets  
Line Level: -15 dBv nom\*, 0 dBv max  
Sidetone Adjustment: 35 dB null to full on  
Signaling Voltage: 11 volts DC on audio line  
Call Light Sensitivity: 4 volts  
Station Bridging Impedance: >15 kΩ

**PROGRAM INPUT**

Impedance: 500 kΩ  
Level: .7v for max output  
**POWER REQUIREMENTS**  
20 mA quiescent,  
60 mA average talk or signaling,  
150 mA maximum load.

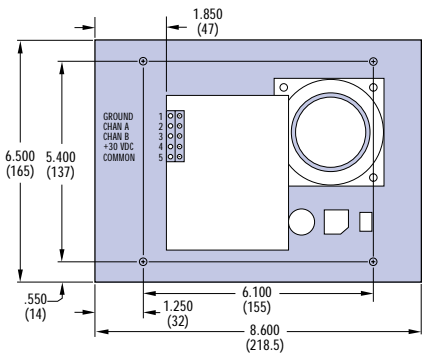
Voltage Range: 12 - 32 volts, 28 volts nominal

**CONNECTORS**

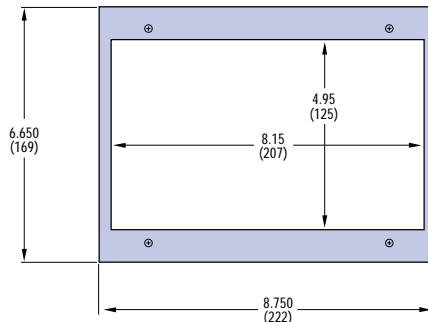
Headset: 4-pin male XLR  
Line: 5-screw terminal block  
**DIMENSIONS:** 8.6" x 6.5" x 1.43"  
(218mm x 165mm x 36mm)  
**WEIGHT:** 1.6 lbs. (.73kg)

*Specifications subject to change without notice  
\*0 dBv is referenced to 0.775 volts rms.*

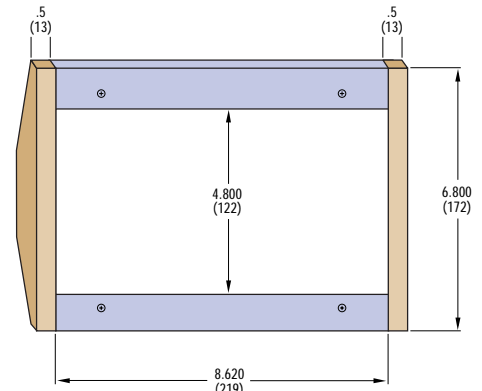
**DIMENSIONAL DRAWINGS**



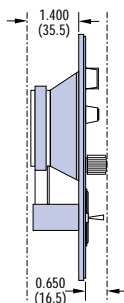
**KB-111A REAR VIEW**



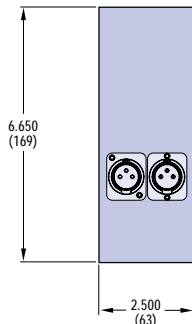
**M-BOX FRONT VIEW**



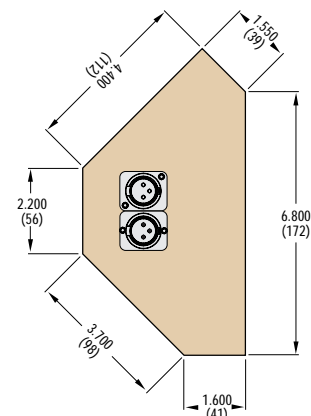
**P-BOX FRONT VIEW**



**KB-111A SIDE VIEW**



**M-BOX SIDE VIEW**



**P-BOX SIDE VIEW**