KB-702

These versatile stations may be wall or console mounted in a standard U.S. 4-gang electrical box, or may be mounted in the optional V-Box for desktop, surface-mount, or portable applications.

Either of the stations may be used with the optional 4-wire or TW (two channels on a single mic cable) daughter boards. On the TW board, the stations become plug in compatible with a Clear Com TW system. The 4-wire board creates separate send and receive circuits, so that the station may be attached to fiber-optic lines or other audio routing systems with 4-wire connections. The stations are powered by the intercom line or by a local power supply when used with the optional 4-wire daughter board.

The KB-702 remote speaker station permits the user to select between two channels of party-line communications, with the ability to talk and/or listen on the selected channel. The user can listen via the integral speaker, or may use a headset or telephone-style handset - and can talk via a headset mic, a telephone handset, or a push-to-talk microphone.

The KB-702GM adds a gooseneck-mic connector and VOX circuitry, for hands-free full-duplex communications without a headset. A switch allows the user to choose between the optional GM-9 or GM-18 microphone and the headset connector. The adjustable-sensitivity, close-in VOX feature automatically detects the user's voice at the mic and dips the level of the integral speaker while increasing the gain of the microphone, performing in the opposite manner when listening. The potential for acoustic feedback is minimized while permitting natural conversation levels and dynamics.

Microprocessor-controlled logic and switching yields a feature-rich intercom station in a compact format. Electronic switching for the talk button, blue-color LED (on), amber color LED (off), permits momentary or latching operation. For call signaling, a bright LED lights when a call is activated on a connected intercom channel. A defeatable audible call signal, with level control, is also provided. Separate level controls are provided for intercom level and for balanced program input. A local program source may be fed to the station, allowing the user to monitor that source while remaining in contact on the intercom system. The balanced program input can also be used in conjunction with the stage-announce output of a main station to provide a paging interrupt, allowing paging at the KB station even if the intercom volume control is turned down.

A set of option dip switches is located at the top of the circuit board. Switches are provided for mic-latch disable (momentary-only talk), long-line operation, channel selection, call signal tracking, and audible call signaling.

Features:

- Selectable two-channel, full-duplex operation
- Microprocessor-controlled logic and switching
- Momentary/latching talk button
- Visual and audible call signaling, with bright LED indicator
- Balanced local program input with separate level control
- Internal controls for call signal tracking, mic latch disable, and other functions
- Use with headset or handset, with integral speaker for monitoring
- KB-702GM adds mic jack for gooseneck mic plus VOX circuitry
- Optional TW and 4-Wire daughter boards provided additional flexibility
- Wall or console mount, or optional V-Box for portable or desktop use
- LED buttons for talk, listen, call, announce, link, all talk, or mic on.

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KB-701

The KB-701 may be wall or console mounted in a standard 4-gang electrical box, or may be mounted in the optional V-Box for desktop, surface-mount, or portable applications. It may be used with the optional 4-wire or TW (two channels on a single mic cable) daughter boards. The station is powered by the intercom line or by a local power supply when used with the optional 4-Wire daughter board.

The KB-701 remote speaker station connects to a single channel of party-line intercom, and operates in half-duplex mode, similar to a walkie-talkie. It features both an integral speaker and a flush-mount electret microphone with mic limiter and a push-to-talk button. The station may be programmed via two internal dip switches to operate in four different modes, activated by other stations within the intercom system. The different operating modes are activated using the call signaling function of another station, which allows for individual control of the speaker and microphone.

Microprocessor-controlled logic and switching yields a feature-rich intercom station in a compact format. An electronic momentary-only talk button activates the talk function. Use the talk button or the reomote control from another station to activate the mic. A blue-colour LED indicates that the mic is on, while an amber-color LED indicates the mic is off. Mic sensitivity is selectable for either close or distant voice pickup.

The KB-701 offers both visual and audible call signaling, gaining the attention of the user when not at the station. A red-color LED lights when a call is activated on a connected intercom channel. A defeatable audible call signal, with level control, is also provided. Separate level controls are provided for intercom level and for balanced program input. A local program source may be fed to the station, allowing the user to monitor that source while remaining in contact on the intercom system. The balanced program input can also be used in conjunction with the stage-announce output of a main station to provide a paging interrupt. This would allow paging at the station even if the intercom volume control is turned down. In addition, the intercom volume control of the KB-701 can be internally set so that an incoming message would still be audible, even if the control was turned all the way down.
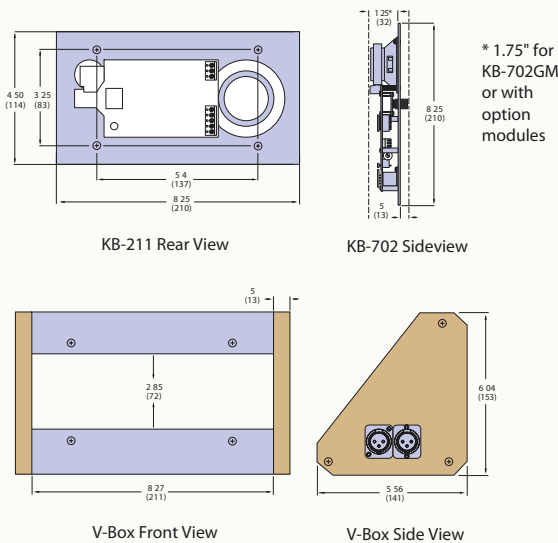
Features:

- Single-channel, push-to-talk speaker station
- Four different modes of operation, internally programmable
- Microprocessor- controlled logic and switching
- Flush-mounted internal microphone
- Visual and audible call signaling, with bright LED indicator
- Balanced local program input with separate level control
- Optional TW and 4-Wire daughter boards provide additional flexibility
- Wall or console mount, or optional V-Box for portable or desktop use
- LED buttons for talk, listen, call, announce, link, all talk, or mic on.

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KB-702 in a V-Box

Dimensional Drawings

KB-211 Rear View

KB-702 Sideview

* 1.75" for KB-702GM or with option modules

V-Box Front View

V-Box Side View

Accessories

4-wire Option Module
The 4-wire option module plugs into pins on the KB- 702, KB- 702GM, and KB-701 speaker stations. It consists of the necessary circuitry and connectors to convert any of these stations to 4-wire operation, and can accept two 4-wire connections. This option allows the speaker station to be used at much longer distances than are possible with a standard two-wire intercom line, and also permits the station to operate via fiber optic cable and other devices with 4-wire connections. The module provides a transformer- isolated audio connection, and does not transfer the call signal. A station using this option module must be locally powered.

TW Option Module
The option module plugs into pins on the KB-702, KB-702GM, and KB-701 speaker stations. This option allows the station to send and receive two channels of audio on a single 3-pin micro-phone cable. With the TW module in place, the station can become a part of a Clear-Com TW system, and is compatible with TW beltpacks and other components.

V-Box Desktop/Wall-Mount Enclosure
The V-Box converts any of the KB speaker stations into a desktop, portable, or wall-mount unit. The station panel may be secured with four screws in one of the two mounting spaces, for either an angled or a vertical panel orientation. A blank plate with mounting keyholes is provided to cover the second mounting space. 3-pin XLR male and female connectors are mounted on the side panel, wired to a connector block for easy connection to the speaker station. The rugged metal and stained-wood enclosure is both durable and attractive for long-term professional use.

Technical Specifications, KB-702/KB-702GM Two-channel Speaker Stations:

dBu is an absolute measurement. 0 dBu is referenced to 0.775 volts RMS

Panel Microphone Input (KB-702GM)
Input Type:	Electret
Input Impedance:	>=2KΩ
Mic Limiter Threshold:	-2dBu ±3dB
Mic Limiter Range:	>= 15dB

Headset Microphone Input
Input Type:	Dynamic
Input Impedance:	>= 1KΩ
Mic Limiter Threshold:	-2dBu ± 3dB
Mic Limiter Range:	>= 15dB

Program Line Input
Maximum Level before Clipping:	>= 20dBu
Input Impedance:	>= 5KΩ

Headset Output
Load Impedance:	>= 8Ω
Output Impedance:	<= 25Ω
Output Limiter Threshold:	+5dBu ± 3dB
Maximum Output Level before Distortion:	>= 17dBu

Speaker Output
Load Impedance:	>= 4Ω
Max Output Level before 1% Distortion:	20dBu ± 2dBu

Party Line Output
Off Noise:	< -74dBu
Output Impedance:	>10KΩ

Party Line Input
Crosstalk:	< -60dB
Max level before Clipping :	>= 12dBu
Sidetone Null Capability (KB-702GM only):	> 25dB

Frequency Response
Panel Mic - Party Line (KB-702GM only):	300 - 16KHz ± 3dB
Headset Mic - Party Line:	300 - 15KHz ± 3dB
Program Input - Headset Out:	200 - 18KHz ± 3dB
Program Input - Speaker Out:	200 - 18KHz ± 3dB
Party Line - Headset Out:	200 - 18KHz ± 3dB
Party Line - Speaker Out:	200 - 18KHz ± 3dB

Max Distortion
Panel Mic - Party Line (KB-702GM only):	<= 0.5%
Headset Mic - Party Line:	<= 0.5%
Program Input - Headset Out:	<= 0.2%
Program Input - Speaker Out:	<= 0.5%
Party Line - Headset Out:	<= 0.2%
Party Line - Speaker Out:	<= 0.5%

Noise
Panel Mic - Party Line (KB-702GM only):	< -65dBu
Headset Mic - Party Line:	< -70dBu
Program Input - Headset Out:	< -60dBu
Program Input - Speaker Out:	< -60dBu
Party Line - Headset Out:	< -50dBu
Party Line - Speaker Out:	< -50dBu

Max Gain
Panel Mic - Party Line (KB-702GM only):	>= 37dB
Headset Mic - Party Line:	41dB ± 2dB
Program Input - Headset Out:	>= 18dB
Program Input - Speaker Out:	>= 24dB
Party Line - Headset Out:	>= 34dB
Party Line - Speaker Out:	>= 40dB

Power
Input Voltage Range:	20-30 VDC
Input Current (Idle):	<= 90mA
Input Current (Max):	<=110mA

Internal Adjustments and Connections
Intercom:	Line Five terminal connector
Program Input	Three terminal connector
Option Switches:	Three DIP switches
Call Signal Jumper3:	Three sets of options jumpers
Call Alert Tone Level Control:	Level adjustment control

Front Panel Connectors
Panel Mic (KB-702GM only):	(1) 1/4 in. (0.64 cm) panel mounting jack
Headset:	(1) XLR-4M

Front Panel Controls & Indicators (KB-702GM)
(1) Panel /headset mic switch
(1) Program monitor level control
(1) Sidetone null control
(1) Talk button
(1) Call button
(1) Speaker ON-OFF switch
(1) Channel select switch
(1) Speaker volume control
(1) VOX control
(1) VOX indicator

Front Panel Controls & Indicators (KB-702)
(1) Program monitor level control
(1) Sidetone null control
(1) Talk button
(1) Call button
(1) Speaker ON-OFF switch
(1) Channel select switch
(1) Speaker volume control

Environmental
32 - 122˚F (0 - 50˚C)

Dimensions
8.25 in. W x 4.5 in. H x 1.75 in. D
(210 mm x 114 mm x 44 mm)

Weight
KB-702 0.99 lbs. (0.45 Kg)
KB-702GM 1.1 lbs. (0.50 Kg)

Technical Specifications, KB-701 Speaker Station

Program Line Input
Maximum Level before Clipping:	>= 20dBu
Input Impedance:	>= 5KΩ

Speaker Output
Load Impedance:	>= 4Ω
Max Output Level before 1% Distortion:	20dBu ± 2dBu

Party Line Output
Off Noise:	< -74dBu
Output Impedance:	>10KΩ

Party Line Input
Crosstalk:	< -60dB
Max level before Clipping:	>= 12dBu

Frequency Response
Program Input - Speaker Out:	200 - 18KHz ± 3dB
Party Line - Speaker Out:	200 - 18KHz ± 3dB

Max Distortion
Program Input - Speaker Out:	<= 0.5%
Party Line - Speaker Out:	<= 0.5%

Noise
Program Input - Speaker Out:	< -60dBu
Party Line - Speaker Out:	< -50dBu

Max Gain
Program Input - Speaker Out:	>= 24dB
Party Line - Speaker Out:	>= 40dB

Power
Input Voltage Range:	20-30 VDC
Input Current (Idle):	<= 90mA
Input Current (Max):	<=110mA

Internal Connectors and Jumpers
Intercom:	Line Five terminal connector
Program Input:	Three terminal connector
Option Switches:	Three DIP switches

Front Panel Controls & Indicators
(1) Program level control
(1) Intercom level control
(1) Talk button
(1) Call button
(1) Integral microphone

Environmental
32 - 122o F (0 - 50o C)

Dimensions
8.5 in. W x 4.5 in. H x 1.75 in. D
(210 mm x 114 mm x 44 mm)

Weight
1.04 lbs. (0.47 Kg)

Notice About Specifications
While Clear-Com makes every attempt to maintain the accuracy of the information contained in its product manuals, that information is subject to change without notice. Performance specifications included in this manual are design-center specifications and are included for customer guidance and to facilitate system installation. Actual operating performance may vary.

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