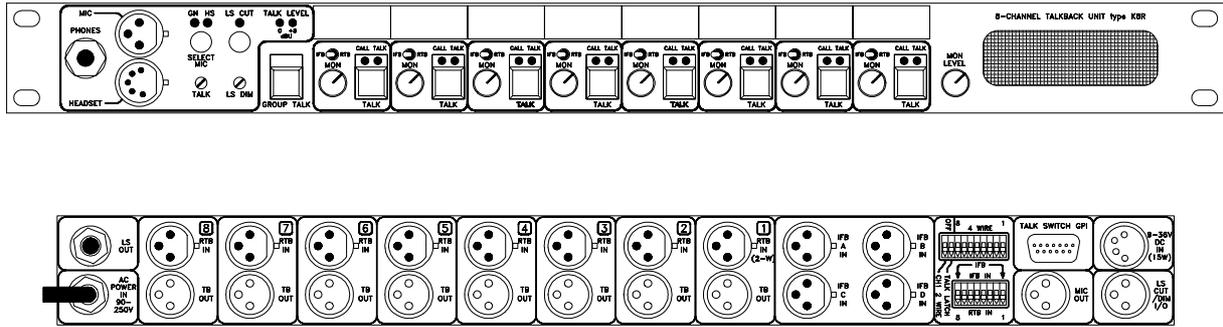


K-SERIES TALKBACK UNITS

The K-series range of 1U, rack-mount talkback units provides up to eight channels of 4-wire communications for a small studio or outside broadcast vehicle. The range includes several models, each of which enables the user to configure each channel independently to provide different routing, monitoring and control functions to suit the application.

Front & rear-panel views of model No. K8R



FEATURES

- * Six and eight-channel versions, each channel selectable to 4-wire co-ord or IFB operation.
- * Shared control option allows two units to be linked to enable simultaneous operation from two positions.
- * Four IFB bus inputs plus input loop-through IFB selectable on each channel.
- * Monitoring of IFB and reverse talkback inputs on each channel.
- * 2-wire mode selectable on one channel, with or without IFB feed.
- * Independent gain setting for headset and stalk microphones with LED indication of talkback output level.
- * Headset or stalk microphone selectable manually and by default at power-up.
- * External I/O control for LS CUT & DIM.
- * Power output to external LS.
- * Universal mains power input.
- * Optional wide-range DC power input.
- * Optional TALK-switch GPI outputs.
- * Independent configuration of each channel to select the required routing, monitoring and control functions.

K-SERIES TALKBACK UNITS

VARIANTS AND OPTIONS.

The modular design of the “K” series provides the choice of two, four six or eight-channel units, each having a corresponding “KD” version, which allows two units to share the same 4-wire circuits. All six and eight-channel units are stock items, but two and four-channel units are only made to order

K8R	8-channel 4-wire/IFB talkback unit.
KD8R	8-channel 4-wire/IFB talkback unit with provision for linked operation of two units
K6R	6-channel 4-wire/IFB talkback unit.
KD6R	6-channel 4-wire/IFB talkback unit with provision for linked operation of two units

All units are provided with a universal-input AC mains input, although provision for DC power can also be included to most models as a cost option. A GPI output on a 9-way “D” connector, which provides a closing relay contact to a floating common connection for each TALK switch, can also be included as a cost option.

DESCRIPTION (6 and 8-channel units)

In addition to providing standard 4-wire operation on each channel, all models offer great flexibility in applications requiring signal-interrupt or IFB operation. Four IFB inputs are provided, which are bus-connected to a 4-position rotary selector switch on each channel and are accessible through the top panel of the unit. Each channel can be independently configured on rear-panel switches to enable the microphone signal either to be routed to the channel output without interrupting a standing signal; to interrupt the pre-selected IFB input to the channel; or to interrupt the channel’s own reverse talkback input. A front-panel IFB/RTB MON switch on each channel enables either the IFB or RTB signal to be monitored on LS and headphones. Six internal configuration switches on each channel also enable these and other functions to be independently controlled as follows:

- 1 The IFB/RTB MON switch can be disabled, ensuring that only the RTB input is monitored.
- 2 The signal driving the CALL LED can be set to be either the RTB input signal or the signal being monitored, as selected by the IFB/RTB MON switch.
- 3 The selected IFB or RTB signal can be set to mix with the TALK signal, without being interrupted.
- 4 The LS DIM function can be disabled when not required on that channel.
- 5 The GROUP TALK function can be enabled or disabled, as required.
- 6 When two “KD” units are used in linked mode, the channel can be switched to local control only.

Gooseneck and headset microphones have separate pre-amplifier stages, which allow the gain to be independently adjusted internally. The required input is selected on the front-panel SEL MIC switch. When H/S (headset mode) is selected, the LS CUT switch is automatically activated, although it remains operational, allowing the LS to be switched on while in headset mode. An internal switch enables either microphone to be selected as the default at power-up. When it is necessary to ensure that default settings are not overridden, both the SEL MIC and LS CUT switches can be independently disabled internally.

Both microphone inputs can be independently configured internally to be balanced, phantom powered or unbalanced. The front-panel TALK LEVEL pot adjusts the signal level after the microphone limiter to set the peak output level at all outputs, and two LED’s indicate when this exceeds 0dBu and +8dBu. The TALK switches have a momentary action but will latch in the ON state when pressed briefly, although the latching action can be disabled by means of the rear-panel TALK LATCH switch. The rear-panel MIC OUT connector provides a continuous, line-level output of the microphone signal.

The monitor level of the signal, selected by the “IFB/RTB MON” switch on each channel, is adjusted by the channel MON control; and the LS LEVEL control adjusts the level of the mix of these signals fed to the LS and headphones. The front-panel LS DIM control operates on all channels and can be adjusted between full ON and full OFF. It operates when any TALK switch is pressed, or when enabled externally by linking pins 1&2 on the rear-panel LS CONTROL connector. The connector also provides an active-low output on pin 2 when the internal LS DIM function operates. The loudspeaker is switched off when either the front-panel LS CUT switch is pressed or when disabled externally by linking pins 1&3 on the rear-panel LS CONTROL connector. This also provides an active-low output on pin 3 when the LS CUT mode is on. LS CUT is indicated by a flashing red LED when operated by the switch, and a continuous indication when enabled externally. A rear-panel LS OUT jack is provided to enable an external 8 ohm passive loudspeaker to be connected, which cuts the internal loudspeaker.

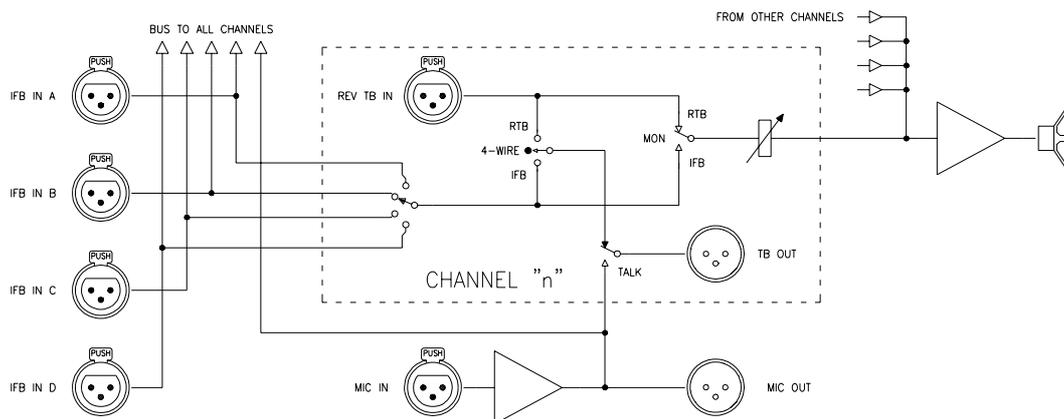
K-SERIES TALKBACK UNITS

Channel 1 can be selected to 2-wire mode by means of the rear-panel CH1 2-WIRE switch. Several units such as the C1B, which use a headset and can operate in 2-wire mode, can then be connected in parallel with each other and with the input or output connector of Channel 1 to provide a 2-wire conference circuit. No sidetone attenuation is provided, so full duplex operation is restricted to headset operation only, half-duplex operation being automatically selected when the loudspeaker is active. If an IFB signal is selected to Channel 1, it will normally be fed to the 2-wire circuit but will also be heard on the loudspeaker or headphones, mixed with the RTB signal. An internal switch is therefore provided to prevent the IFB signal being fed to the 2-wire circuit. This also removes the loading effect of the IFB connection and so increases the level of the RTB signal. If the RTB input on Channel 1 is selected to be the IFB signal, the channel output is automatically disabled, as this is incompatible with duplex 2-wire operation.

Dual operation of two "KD" units is provided by means of a single control cable, plugged into the rear-panel 25-way "D" connectors, which extend the microphone bus and TALK switch controls from one unit to the other. Either unit can then provide the combined talkback output to each of the outgoing circuits, but split feeds of the corresponding reverse talkback inputs must be connected separately to both units, if they are to operate identically. The TALK LED's provide a low intensity indication of TALK switches being operated on the other unit and the unswitched MIC OUT signal on each unit can be set internally to provide an output of either the local or remote microphone signal or a mix of both.

Dual operation is incompatible with 2-wire operation and is automatically disabled when Channel 1 on either unit is switched to 2-wire mode. However, local control of 2-wire mode is unaffected, enabling an audio connection to be made from each unit to a single 2-wire circuit.

SIMPLIFIED BLOCK DIAGRAM



INTERNAL SWITCH SETTINGS (CHANNEL MODULES)

Switch no.	ON position	OFF position
1 (Brn)	Enable remote TALK (dual control only)	Disable remote TALK (dual control only)
2 (Red)	CALL LED follows IFB/RTB MON switch	CALL LED shows RTB signal only
3 (Org)	Talkback mixed with IFB signal at O/P	Talkback cuts IFB signal at O/P
4 (Yel)	LS DIM enabled	LS DIM disabled
5 (Grn)	GROUP TALK enabled	GROUP TALK disabled
6 (Blu)	IFB/RTB MON switch enabled	Monitor RTB signal only

Other internal configuration switches are individually labeled.

K-SERIES TALKBACK UNITS

SPECIFICATIONS

MICROPHONE INPUTS:

GOOSENECK MIC

CONNECTOR
INPUT IMPEDANCE

XLR3 socket
Transformer coupled for 200 ohm dynamic microphone,
switchable balanced on pins 2 & 3 (pin 1 screen), with or without
24V phantom power for electret microphone
or unbalanced (pins 1 & 3 screen)

SENSITIVITY

Adjustable -65dBu to -45dBu for limiting at output

HEADSET MIC

CONNECTOR
INPUT IMPEDANCE

XLR5 socket
Transformer coupled for 200 ohm dynamic microphone,
switchable balanced on pins 1 & 2 (pin 3 screen), with or without
24V phantom power for electret microphone
or unbalanced on pin 2 (pin 1 screen)

SENSITIVITY

Adjustable -65dBu to -45dBu for limiting at output

TALK SWITCHES

OPERATION
GPI OUTPUT (OPTIONAL)

Momentary or latching when pressed briefly (if enabled)
Relay closures to floating common connection on 9-way "D" plug

LINE OUTPUTS

CONNECTORS
OUTPUT IMPEDANCE
PEAK OUTPUT LEVEL

XLR3 plug
200 ohms, transformer coupled
+14dBu

LINE INPUTS

CONNECTORS
INPUT IMPEDANCE
INPUT SENSITIVITY (MON)
INPUT GAIN (IFB)
CALL LED THRESHOLD
CALL LED HOLD TIME

XLR3 socket
10k ohms, transformer coupled
-10dBu for maximum undistorted LS output
0dB
-12dBu, 300Hz < f < 3kHz
3-4S after signal ends

2-WIRE OPERATION (CHANNEL 1)

CONNECTORS
MODE
I/O IMPEDANCE

Channel 1 input, output or both
Full-duplex with headphones, half-duplex with LS
10k ohm (listen only), 600 ohm (when TALK or IFB enabled)

L.S. AMPLIFIER

CONNECTOR
OUTPUT POWER

6.4mm mono jack
Peak 6W, continuous 3W into 8 ohms load (internal or external LS)

PHONES OUTPUT

CONNECTORS
OUTPUT LEVEL
OUTPUT IMPEDANCE

6.35mm stereo jack - output on both tip & ring, sleeve to ground
XLR5 socket - output on pins 4 & 5, pin 3 to ground
7.5V rms (max), 100 ohms impedance
100 + 100 ohms

POWER INPUT:

STANDARD MAINS POWER

CONNECTOR
SUPPLY VOLTAGE

IEC plug (panel-mount on K6R & KD6R; fixed lead on K8R & KD8R)
100 to 240V AC, 47 to 63Hz, 15W

DC POWER (OPTIONAL)

CONNECTOR
SUPPLY VOLTAGE

XLR4 plug - 0V & ground on pins 1 & 2, +ve supply on pins 3 & 4
+9V to +36V DC, 15W

PHYSICAL

DIMENSIONS
WEIGHT
FINISH

W 482mm D 350mm H 44mm (1U)
4kg
Dark grey front panel