



Production Intercom

Operating Instructions

LS-3 Talkback Loudspeaker Stations

Note: Connection instructions for various LS-3 models are on a separate sheet.

Three Operating Modes

You have purchased the most sophisticated Talkback loudspeaker station available. It can be used, without modification, in any one of three modes. In all modes the signal light button is operative, and the volume control adjusts the level of either the loudspeaker or the headphone/handset earspeaker. The LS-3 detects the mode of operation which you have chosen, and automatically adjusts itself.

1. Press-to-Talk Mode:

As the term implies, the operator merely presses the *Off/Listen/Talk* switch to its *Talk* position to communicate with other stations on the system. The loudspeaker acts as a microphone in this position. The spring-loaded switch will return to the *Listen* position when released. The *Off/Listen/Talk* switch will mute the loudspeaker when placed in the *Off* position. The signal lamp will still operate with this switch turned *Off*.

2. Headset/Handset Mode:

Plugging a headset or telephone handset into the front panel 4-pin XLR will cause the LS-3 to function exactly as a 'belt pack' or headset station. The LS-3 detects the presence of the headset or handset, and automatically disconnects the loudspeaker. The Microphone *On/Off* switch is used to mute the microphone in the headset or handset. The *Off/Listen/Talk* switch should be left in the *Listen* position in this mode.

3. Full Duplex, Hands-free Mode:

When an LSM-1 or 2 gooseneck microphone is plugged into the front panel 4-pin XLR, the LS-3 detects this and shifts to its full duplex, hands-free mode. The gooseneck microphone and the built-in loudspeaker operate simultaneously, with none of the 'clipping off' of initial consonants, as happens in a VOX operated circuit. The operator may speak and listen at the same time, without any switching. The very high 'sidetone rejection' performance of **Production Intercom** systems permits this use without feedback, and at surprisingly high levels. For best performance in this mode, the recessed sidetone control (accessible through the front pane) must be optimized. See the section below on Sidetone Adjustment. Only one LS-3 may be used in this mode within any one acoustic environment. Attempting to use more than one without acoustic isolation may result in serious feedback problems. In a noisy environment, the Microphone *On/Off* switch may be used to mute the output of the microphone to other stations. A hand-held push-to-talk microphone (HH5) may be substituted for the gooseneck microphone to obtain the same results.

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Signal Lamp Operation

The signal lamp button, when pressed, lights itself and all other signal lamps in stations on the same communications circuit. The signal lamp circuit may also be modified to provide audible annunciation, or to activate a relay. A Technical Note is available for these modifications. The signal circuit is not affected by the *Off/Talk/Listen* switch.

‘Sidetone’

Sidetone is simply the sound of your own voice, heard in your own ear, when referring to a headset or telephone handset. When the LS-3 is used in its full duplex mode, we are expanding that definition to include the sound of your own voice, picked up by the gooseneck microphone, and reproduced by the LS-3’s loudspeaker.

Unlike ‘belt packs’ and headset stations, the sidetone control in an LS-3 is automatic when a headset or handset is connected to the unit. The recessed sidetone control (accessible through the front panel) is only active when the station is being used in its full duplex hands-free mode, with an LSM-1 or 3 gooseneck microphone plugged in. In this mode, sidetone adjustment is critical to best performance. It is the reduction of sidetone to near zero which allows the microphone and the loudspeaker to be active simultaneously without producing feedback. Before plugging in the gooseneck microphone, adjust the volume to a comfortable level when listening to other stations. Next turn *Off* or disconnect all the other stations in the system. Do not adjust the volume. Plug in the gooseneck microphone and switch the Mic. switch to *On*. Adjust the sidetone control with a small screwdriver while tapping lightly on the microphone. The quietest position will be a ‘null point’ somewhere near the center of the control’s rotation (near 12 o’clock).

Override Control Feature

LS-3’s are equipped with a receive circuit which responds to a control tone generated elsewhere in the system by an OG904 Override Generator module. An OG904 can be fitted into any Production Intercom station which can be used with a headset, handset, or microphone. This includes ‘belt packs’, headset stations, master stations, or other LS-3’s. The override tone may be triggered by a separate switch added to any of these devices, or by their microphone *On/Off* switch.

When the LS-3 detects the control tone, it will switch to a predetermined mode, regardless of the position of any of its front panel controls. The volume may be raised or lowered. The status may be shunted from *Off* to *Listen*. The *Talk* function may be disabled.

Typical among applications for this feature are: restoring volume in a dressing room where the front panel control has been turned down; muting a station when communications should not be heard at that location, and; muting a second LS-3 in a nearby location while the first is sending.

There are five modes of control, determined by the position of the recessed Override level control accessible through the front panel, and adding or removing links on the rear PC board.

Mode 0: No override function

Mode 1: Switch to preset override volume level

Mode 2: As mode 1, plus shunts *Off/Listen/Talk* from *Off* to *Listen*

Mode 3: As mode 1, plus shunts *Off/Listen/Talk* from any position to *Listen*.

Mode 4: As mode 1, plus shunts *Off/Listen/Talk* from *Talk* to *Listen*

As supplied from the factory, your LS-3 is set for Mode 3.

The mode is established by links on the rear PC board.

Set the mode as follows:

MODE	Link 1	Link 2	Link 3
0	Cut	Cut	Cut
1	Make	Cut	Cut
2	Make	Make	Cut
3	Make	Make	Make
4	Make	Cut	Make

Compatibility with Clear-Com®

Production Intercom stations are compatible with Clear-Com® and other popular systems operating on an unbalanced line. A Production Intercom station added to a Clear-Com® system will operate as its Clear-Com® equivalent. Due to differences in bridging impedances, you may not be able to achieve sufficient sidetone rejection in an LS-3 (connected to a Clear-Com® system) to use the LS-3 in its full duplex hands-free mode.