

User Report

by Stephen Murphy



Studio Technologies M742 Audio Mixer

Despite their deceptively simple user interfaces, both mixers feature a healthy set of ENG or general broadcast features.

FEATURES

The Model 742, reviewed here, is designed for quick setup and simple front-panel operation; a set of internal jumpers can further customize its operations. The unit is designed for balanced +4 dBu systems.

The mixer features eight mono inputs, the first four of which are mic/line-selectable and the remaining four are linelevel only. Individual inputs can be assigned to either or both of its two mono output busses.

All the 742's external controls are located on the front panel and all input/output connections are on the back.



On the front panel, each of the eight input sections features a gain knob, output bus assignment toggle switch (1, 1+2, 2) and a dual-color LED signalpresent/peak-level indicator. Channels 1 through 4 are mic- or line-level selectable by pushbutton.

The four mic/line inputs provide a linelevel gain range of -32 to +28 dBu, and a mic-level gain range of -76 to -8 dBu; the line-level only inputs range from -14 to +28 dBu. The status LED lights green when a signal is at least 18 dB below the nominal internal operating level, and the LED lights red when the input signal is within 6 dB of the input circuitry's maximum level. A global 12 V phantom power circuit can be activated for the four mic inputs using an internal jumper.

The front-panel output section features dual-channel concentric knobs for setting master and monitor output levels. Dual 10-segment LED meters display the levels at the main outputs. The 742 features a studio-grade twochannel output compressor circuit.

Though the compressor has no external controls, it can be internally configured to engage when the main outputs reach +10 dBu (factory default) or +6 dBu, or it can be bypassed; two yellow LEDs on the front panel indicate when the compression circuit is active.

The 742 also has a built-in tone generator for level calibration. A front-panel switch sends the tone generator to the main output busses. In addition, Studio Technologies provides a dedicated tone output on the rear panel that is always active. The tone generator produces +4 dBu sine wave at 400 Hz or 1 kHz (jumper-selectable).

On the back panel are eight female XLRs for signal input, two male XLRs for main outputs, two 1/4-inch TRS jacks for monitor outputs, a 1/4-inch TRS tone output and a stereo headphone jack.

IN USE

The Studio Technologies Model 742 is principally designed for ENG truck use. In this application, the 742's streamlined set of controls and rock-solid build quality are just what the chief engineer ordered. In addition to the front-panel controls, Studio Technologies endowed the 742 with a useful range of critical calibration controls and global operational settings, and wisely put them inside the box.

In most studio applications, having those controls locked away might prove frustrating. In the fast-paced, turn-it-up-and-go world of newsgathering, however, the unit will already be set up and calibrated for the truck's normal operations. The end user is presented only with a near-infallible set of controls; in a pinch, anyone should be able to operate this device. The 742 suits this purpose perfectly, and provides an impressively clean signal path to boot.

The thing I liked best about the 742 compared to other single-space mixers I have used is that it achieves a dualbus configuration in a useful and thoughtful manner.

Though it could be used for stereo applications, the 742 is really built as a dual-mono bus mixer. Since most ENG trucks are working with mono signals, Studio Technologies installed toggle switches (as opposed to panpots) to assign channels to the output busses. This allows the engineer to create two independent feeds without worrying about unwanted leakage due to improperly set or uncalibrated panpots.

If not used for sending two feeds, the second bus can also be used to monitor external audio sources within the truck, completely independent of the broadcast feed. Alternately, if the second bus is not being used at all, flipping an input channel's toggle switch to the dead bus acts like a channel mute switch.

I want to compliment Studio Technologies on the physical build and circuit component quality of the 742.

Looking inside the unit reveals a number of high-end design elements (including sealed relays for the mic/line switch and the same compressor VCA as used by dbx and others), a high-quality toroidal power transformer and clearly labeled jumpers and trim pots. Likewise, the operational manual is well-written and technically comprehensive.

During my testing of the 742, I did find some problem areas and a few items for my wish list.

The biggest problem I had was with the concentric output knobs. I found that adjusting the center pot (Channel 1) would occasionally move the outside pot (Channel 2) as well. Depending upon where the initial levels were set, I could get a change of 3 dB or more on the outside knob when quickly fading up or down the inside knob; this occurred on both the main and monitor output knobs. The obvious workaround is to hold the outside knob while turning the inside knob.

The other problem I had with the 742 is that it has no LED indicating the unit is powered up. This could give the uninitiated operator a minor heart attack and/or send troubleshooting in the wrong direction if audio problems arise.

Also on my wish list would be center detents at unity gain for the main and monitor output knobs, or even fully detented knobs across the range (which may also prevent the earlier slippage problem). A front-panel headphone jack would also be nice, but it is clear there just isn't room to spare.

In talking with Gordon Kapes at Studio Technologies, he informed me that the company has addressed my concerns by modifying the design of the dual rotary level control (potentiometer) to minimize the chance that the two sections could mechanically rub together. Also revised was the circuitry associated with one of the front-panel LEDs to provide a power present indication and a mechanical detent was added to assist users in quickly setting the default levels. Due to long lead times for custom parts, these changes will become part of production Model 742 units over the next several months, Gordon said.

SUMMARY

Studio Technologies designed the 742 for ENG vehicle use, with all essential controls at your fingertips; critical controls that may impede its quick and foolproof operation are relegated to the inside of the unit. From its dual-mono bus architecture to its high-quality output compressor section, the rock-solid, single-rack 742 provides a great deal of flexibility and an impressively clean output signal.