



RS-501, RS-502 & RS-522

FEATURES

- **Exceptionally lightweight and compact**
- **Virtually indestructible, powder-coated, aircraft-grade aluminum and HDS composite material construction**
- **Remote Mic Kill function**
- **One or two-channel operation on one or two mic cables**
- **Two-channel operation on one standard mic cable (see RS-522-TW)**
- **Monaural and binaural headset models**
- **Programmable, digitally controlled switching functions**
- **Visual “call” signaling with high-intensity LED indicators**
- **Non-metallic belt clip with included mounting adapter**
- **Loop-through connectors**

DESCRIPTION

The Clear-Com Series 500 intercom stations incorporate the most advanced beltpack design available. They are incredibly rugged (will survive a drop of 60 feet) with excellent audio quality. Designed for maximum speech intelligibility in high-noise environments these beltpacks are ideal for live performance, television, industrial, aerospace, school and rental applications.

In high-noise environments, the beltpack mic gain can be switched to a low setting to reduce overload and distortion.

These beltpacks feature noiseless, digital electronic switching of all audio circuits, controlled by a custom integrated circuit. The high-quality “touch” controls on the beltpacks are virtually indestructible. Their size and location on the beltpack allows operation by touch, so the operator doesn’t have to see the beltpack to use it.

The audio headphone circuitry features push-pull power output, allowing the beltpack to drive a headset to very high listen levels. In addition, the limiter compensates for variances in individual voices and eliminates distortion due to overloading of the mic preamp.

If an intercom user removes his headset near a loudspeaker or monitor and forgets to turn off the mic, the high noise may overwhelm normal communications. The problem is the open microphone cannot be easily found. The Remote Mic Kill function in the beltpack solves this problem by enabling the beltpacks’ microphones to be shut off from the Main Station or any other location (using optional RMK-1).

In addition, when any beltpack is disconnected from the intercom line, the beltpack’s microphone circuit is instantly shut off, preventing any squeals or “pops” in the headset.

Visual “call” signaling is used to attract the attention of operators who have removed their headsets. All beltpacks include visual call signaling with very high-intensity, multi-segment LEDs as standard features.



Bottom of RS-501, RS-502 & RS-522

CUSTOM DIGITAL LOGIC CIRCUITRY

The innovative Series 500 incorporates a custom-designed, digital integrated circuit that provides special programmable functions, options, and “power-up” default settings for the beltpack’s circuits. These include:

Dual-Function Microphone Switching: The user simply presses and holds the talk button for momentary mic use, or taps the button twice to lock the circuit on. The need to “double-press” virtually eliminates the possibility of a user accidentally latching on the microphone when a momentary talk function is desired.

Programmable Channel Select: On two-channel belt-packs, the user can communicate on either or both channels. The user can program the talk buttons to select Channel A or Channel B, or program the station to talk on Channels A + B together.

“Bounce-Back”: This programmable priority feature lets the user talk to someone on a “secondary” channel, and upon releasing the talk button, automatically returns the microphone to the “primary” channel.

HIGH-QUALITY CONSTRUCTION

Constructed of powder-coated aircraft-grade aluminum and ultra-durable HDS composite material, this beltpack is scratch-resistant and virtually indestructible. The beltpack’s compact size and light weight provide for comfortable wear even over extended periods of time.

The beltpack is equipped with a rugged belt clip, which is also designed to clip into the surface-mounting adapter (supplied with beltpack). This adapter lets the beltpack be used while attached to a control console, desk, equipment rack, etc., providing access to all controls and indicators.

The beltpacks are completely field serviceable. And the headset and intercom connector inserts can be replaced quickly and easily. A custom-designed release button for the female intercom connector is integrated into the side of the beltpack for quick release.

BELTPACK CONFIGURATIONS

RS-501: Single-channel. Includes volume control, mic on/off button, call signal button and indicator, sidetone adjust, 4-pin headset connector, 3-pin intercom and loop-through connectors. A 4-pin headset connector accommodates dynamic microphone.

RS-502: Two-channel, dual-listen, with monaural output. Programmable switching lets user listen to both channels simultaneously, and select which channel to talk on. Includes individual volume control and mic on/off button for each channel, call signal button and indicators, sidetone adjust, 4-pin headset connector, 6-pin intercom loop-through connectors. A 4-pin headset connector accommodates dynamic microphone.

RS-502-TW: Identical to RS-502, except it has 3-pin intercom loop-through connectors. Call signaling on one channel only. Requires Model TWC-10A or TWC-104 Adapter to connect to Clear-Com 2-channel system (see "Accessories").

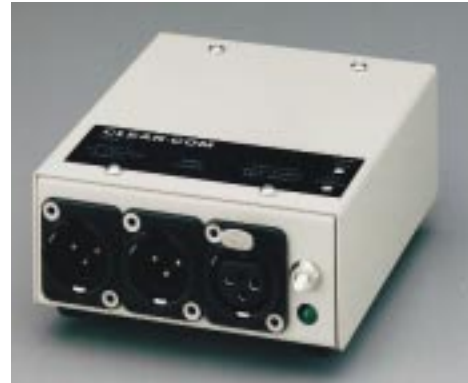
RS-522: Two-channel unit with binaural headset output. Allows simultaneous listening and talking in any combination on two intercom channels. Headphone output operates in a "split feed" stereo mode, feeding each channel into a separate ear of a double-muff headset, or can be combined for use with a single-muff headset. Includes individual volume control for each channel, mic on/off, call signal button and indicators, sidetone adjust, 6-pin headset connector, and 6-pin intercom connector. Headset connector accommodates dynamic microphone.

RS-522-TW: Identical to RS-522, except it has 3-pin loop-through intercom connectors. Call signaling on one channel only. Requires Model TWC-10A or TWC-104 Adapter to connect to Clear-Com 2-channel system (see "Accessories").

ACCESSORIES

RMK-1 Control Unit: Remote Mic Kill

The RMK-1 Control Unit allows microphones to be shut off from a location other than the Main Station. The mic kill can be activated by pressing a call signal button for more than five seconds or by using an external push-button. The compact device can support up to 60 Series 500 beltpacks.



RMK-1

TWC-10A Adapter: Two Channels on One 3-Pin Cable

The adapter allows the connection of Series 500-"TW" beltpacks to a 2-channel Clear-Com intercom system. The TWC-10A Adapter combines Channel A and Channel B (on two separate cables) onto a single, standard 3-pin microphone cable. The stand-alone Adapter drives up to 18 "TW" beltpacks.



TWC-10A



TWC-104

TWC-104:

Four TWC-10A Adapters in a 1 RU rack unit.

YC-36 Adapter Cable: One 6-Pin to Two 3-Pins

Plugs into the 6-pin XLR intercom connector on a RS-502 or RS-522 beltpack. The other end provides two 3-pin XLR connectors, for separate line connection to channels A and B.



YC-36

Rack-mount kits for beltpacks are available upon request. Call Clear-Com for ordering information.

SPECIFICATIONS

GENERAL

Amplifier Design: I.C. amplifiers including solid-state digital switching and signaling circuits. Current-limited and short-circuit protected
 Signal to Noise: >75 dB
 Bridging Impedance: > 15k Ω
 Line Level: -14 dB, +5 dB max.
 Sidetone Adjust: >35 dB
 EMI and RFI rejection: >60 dB

MICROPHONE PREAMP

Headset Mic Impedance: 200 Ω
 Gain, mic to line: switchable 35 dB, 41 dB
 Limiter Range: 26 dB
 Frequency Response: 200 Hz - 12 kHz, contoured for maximum intelligibility.

HEADPHONE AMPLIFIER

Load Impedance: 50 - 2,000 Ω
 Output Level: +20 dBv before clipping (drives standard Clear-Com headsets to more than 110 dB SPL)
 Distortion: <0.1% THD @ 1 kHz
 Gain, line to output: +35 dB
 Frequency Response: 100 Hz - 18 kHz, ± 2 dB

CONNECTORS

Intercom Line:

- RS-501: (2) 3-pin XLR-M-F
- RS-502: (2) 6-pin XLR-M-F
- RS-522: (1) 6-pin XLR-F
- RS-502/522 TW: (2) 3-pin XLR-M-F

Headset:

- RS-501: 4-pin XLR-M
- RS-502: 4-pin XLR-M
- RS-522: 6-pin XLR-M

POWER REQUIREMENT

25mA quiescent
 35mA average talk
 50mA with signaling
 DC Voltage Range: 12-32 volts

ENVIRONMENTAL

Operating Temp. Range: 0° - 70°C (32° - 158°F)
 Humidity: 0 - 90% relative humidity

DIMENSIONS

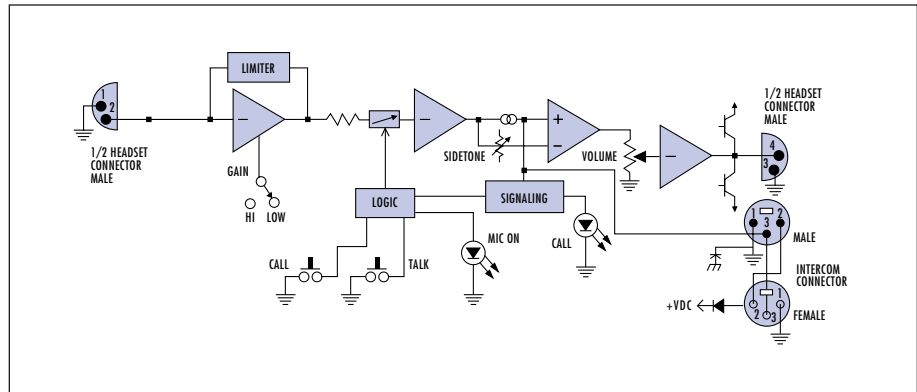
RS-501: 3.25"H x 3.8"W x 1.5"D
 (91 x 96.9 x 37.5 mm)
 RS-502/522: 4.1"H x 3.8"W x 1.5"D
 (103 x 96.9 x 37.5 mm)

WEIGHT

RS-501: 8oz. (0.22kg)
 RS-502/522: 11oz. (0.3kg)

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

RS-501 BLOCK DIAGRAM



RS-522 BLOCK DIAGRAM

