



# CL40S

## 4 Channel *Universal* Line Level Adapter/Driver & Cell Audio Switch

- ▶ **Fully Isolated** inputs & outputs break ground loops, cancel induced interference, and eliminate shared impedance effects with Current Balanced™ isolation to achieve the ultimate in clean & transparent sound.
- ▶ **Dual Mode Differential or Single Ended I/O** works with balanced/differential/XLR or with unbalanced/single ended/RCA type signals for universal application without any interface compromises.
- ▶ **25Vp-p/ 9+Vrms** single ended input & output levels for the ultimate level matching capability<sup>1</sup>.
- ▶ **Extremely Low Output Impedance DC coupled drivers** achieve extremely accurate signal delivery over all types of cables and signal loading conditions, including multiple parallel amplifiers.

The CL40S is a four channel line level adapter and cell signal switch with universal inputs and outputs. Each input and output circuit is able to interface to either unbalanced/single ended/RCA or to balanced/differential/XLR type signals without any interference artifacts due to ground loops or common mode interference.

The product features Current Balanced isolation to breaks ground loops and so eliminates extraneous ground currents that cause engine noise and signal corruption. Induced interference and shared impedance effects are also eliminated with this isolation.

In addition to functioning as a cell phone signal switch for most OEM car stereo systems, the CL40S also includes provisions for programming the attenuation/gain of its low noise, high fidelity input circuits with high accuracy and high fidelity. As a result, the CL40S can be used as a very high fidelity differential or single ended line level adapter. Because it provides differential outputs, it can be used to drive differential OEM systems, such as Ford and Bose manufacture, even from signals supplied by conventional single ended aftermarket head units such as Kenwood and Eclipse's RCA outputs provide.

The interface versatility of its input and output circuits, together with its ability to handle the largest signal levels used in any automotive sound system insures the highest level of audio fidelity possible in line level matching.

The CL40S's unique<sup>2</sup> interface capabilities are also

able to actually improve system fidelity. For example, Crystal-Line current balancing circuitry in combination with extraordinarily low DC coupled output impedance literally shorts out all sources of distortion and interference related to the cables and circuits it drives. Ground loop and magnetic field interference noises related to its input cables are eliminated too. This means that when used in an existing automotive audio system, the CL40S can make the vehicle wiring harness achieve levels of fidelity that surpass even the most expensive high end audio cables.

The Crystal-Line current balancing is even effective through most signal processing products that feature isolated power supplies. This is useful in complex aftermarket systems that apply multiple signal processors because benefits of the Crystal-Line current balanced circuits can actually extend throughout a component audio system.

The CL40S's DC coupled receiver and driver circuits result in extremely accurate signal handling and driving functions with a minimum of frequency or phase response aberrations. Overall, only one capacitor blocks the signal path between input and output circuits in the CL40S. This capacitor is necessary to eliminate signal switching pops that would otherwise result from switching different bias voltages between the input & cell phone signals.

All in all the CL40S is the most versatile and high fidelity automotive line level adapter available.

Note<sup>1</sup>: 50 Vp-p/ 18+ Vrms when configured differentially

Note<sup>2</sup>: Crystal-Line innovations protected by U.S. pat. nos. 5386148 & RE37130.

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