



Preliminary

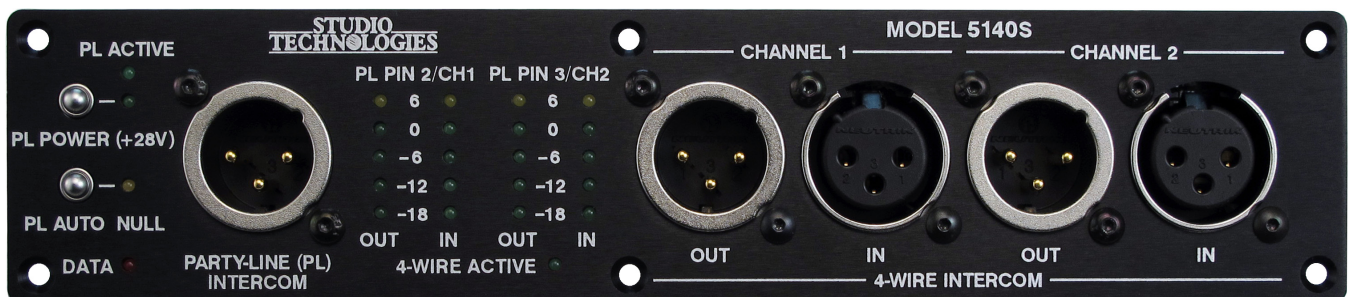
**STUDIO
TECHNOLOGIES
INC.**

Model 5140 Intercom Interface Module

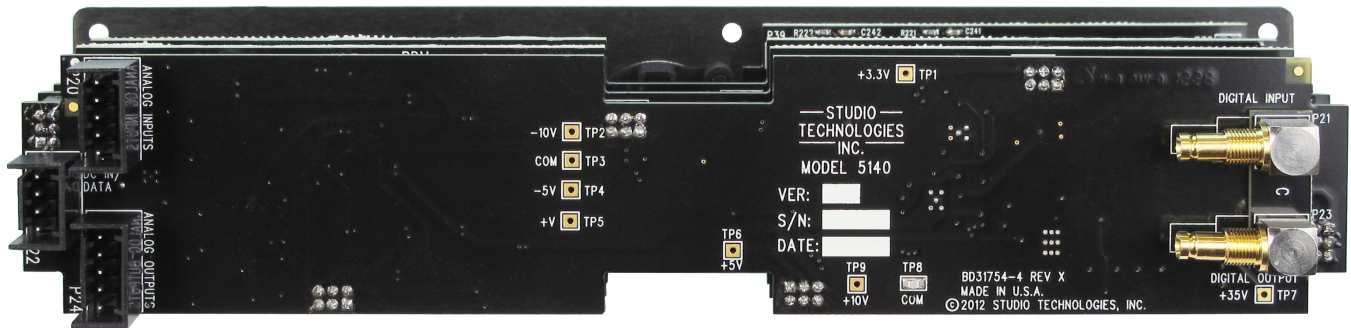
The Model 5140 Intercom Interface Module provides a unified connection interface for both party-line (PL) and 4-wire (line-level) intercom systems, offering a reliable and easy-to-use “I/O” panel for remote broadcast and infrastructure applications. The Model 5140 was specifically designed to allow “guest” users, including media crews, production or uplink trucks, and temporary equipment, to be quickly and efficiently linked to ports on a host intercom system. By providing both party-line and 4-wire connections a fixed or mobile facility can offer user’s maximum flexibility in their system interconnect. This can reduce the effort required to “link” systems, help to ensure excellent audio quality, and minimize the involvement of senior engineers and technicians.

On the Model 5140’s back panel are two sets of audio input and audio output signals, one balanced analog and the other unbalanced AES3-compliant digital. Depending on the requirements of an application, one or the other can be connected, as an example, to ports on a facility’s matrix intercom or a fiber-optic-based signal transport system. These signals are presented, by way of the Model 5140’s circuitry, to users in both party-line and 4-wire (standard balanced audio) formats. Two versions of the Model 5140 will be available. The Model 5140S supports the SMPTE®-recommended levels for analog and digital audio signals. The Model 5140E is compatible with the signal levels as recommended by the EBU.

The Model 5140 contains 4-wire to 2-wire converter and intercom power supply circuitry to provide a 2-channel broadcast-standard party-line (PL) intercom interface. This allows users to connect a limited number of standard PL beltpack devices, as well as interconnecting with existing powered and unpowered party-line circuits. A button on the front panel selects the module’s operating mode. Party-line power (+28 volts DC) and impedance termination can be enabled to create a “stand-alone” 2-channel intercom circuit. User beltpacks, including up to three of the popular RTS® BP325 units, can be directly connected. Alternately, the module’s mode can be selected to allow compatibility with existing single- and dual-channel intercom circuits. Two sophisticated auto-nulling circuits provide excellent audio performance, isolating the talk and listen paths of the party-line circuits. A second button on the Model 5140’s front panel activates the audio null function, matching the module’s audio performance with the connected party-line environment. The auto-null circuitry, developed by Studio Technologies and used in a number of their highly-regarded products, allows simply excellent audio performance.



Model 5140S Intercom Interface Module Front Panel



Model 5140 Intercom Interface Module Back View

Also located on the Model 5140's front panel are two sets of analog "4-wire" inputs and outputs on standard 3-pin XLR connectors. These balanced, line-level signals are provided so that ports on a "guest" intercom system can be directly connected, as well as being compatible with a wide variety of application-specific equipment. The inputs and outputs offer extensive protection from failure due to ESD (static) discharge, connection to powered PL or IFB circuits, and other "real-world" circuitry stresses.

To maintain optimal audio performance the Model 5140's audio signals are automatically routed to the active user ports. The party-line interface has priority, automatically disabling the 4-wire connections whenever the party-line interface is active. Two LED status indicators are used display which interface, party-line or 4-wire, is currently active. Four audio level meters help to ensure that optimal performance is maintained. This can be especially useful in applications where the audio sources are being remotely provided.

The Model 5140 is compatible with the upcoming Model 5190 Remote Access Module. A local RS-485 data bus allows up to 16 of the 5100-Series modules to be connected to a Model 5190. Accessed via Ethernet, the Model 5190 will allow monitoring and control of many Model 5140 functions.

The Model 5140 requires only a source of 12-volt power for operation and can be mounted in a variety of custom enclosures. The 5140 should find use in applications including remote sports and entertainment broadcasting, stadium and arena input/output locations, and corporate video infrastructure environments. It is designed for standalone use, as well as for connecting directly with other 5100-Series modules for video transport, audio input, audio output, IFB, and intercom applications.

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