

Model 44 *Interface*

Highlights

- Standard RJ45 connectors
- Individual current-limited DC outputs
- Redundant internal power supplies
- Universal mains input powering
- Single (1U) rack-space mounting
- Six independent circuits

Introduction

The Model 44 is designed to work with 200-series announcer's console products from Studio Technologies. The unit serves as an interconnection "hub," providing power and signal routing for up to six announcer's consoles. The Model 44 is appropriate for in-studio as well as field broadcast applications. Of special note is its applicability for use in the live television sports industry. The compact, one-rack-space (1U) enclosure is constructed using heavy-gauge steel components.

For installation simplicity the Model 44 connects to the announcer's consoles using Ethernet-type twisted-pair cable assemblies. Each of the Model 44's six channels connects to its associated announcer's console using an RJ45 jack. Of the four pairs in the jack, two are intended for transmission of digital audio signals. A third pair can be used to carry digital or analog audio signals, as well as being used for special installation-specific applications.

The fourth pair is used to carry 24 volt DC, 150 milliamperes nominal maximum, to the announcer's console. The power provided by each of the Model 44's six channels is individually over-current and short-circuit protected. This minimizes the chance that an error on one channel will impact the others.

A second set of six RJ45 jacks provides access to two pairs from the announcer's consoles' RJ45 jacks. These jacks are normally used to connect the digital audio input and output signals to the main broadcast system equipment, such as a digital matrix intercom system, an audio console, or a routing switcher. The Model 44 also provides a 25-pin D-subminiature connector that is used to provide access to a third cable pair from the announcer's consoles' RJ45 jacks.

The unit's mains power input can be in the range of 100 to 230 volts, 50/60 hertz. This "universal input" ensures correct operation virtually anywhere in the world. Two 24 volt nominal, 30 watt internal power supplies provide redundancy for critical broadcast applications. For special applications an external source of 24 volts DC can also be connected. This allows, for example, battery operation of the Model 44 and associated announcer's consoles. Three LED indicators, located on the unit's front panel, provide status indication of the two internal and one external power sources. For special applications the Model 44 provides a nominal 24 volt, 70 milliamperes nominal maximum power source. This source could be useful when connecting devices such as "tally" status indicators.



Typical Application

A typical application would be to use the Model 44 Interface with up to six of the Model 212 Announcer's Consoles. The Model 212 features digital audio inputs and outputs with support for both AES3id (75 ohm unbalanced) and AES3 (110 ohm balanced) signals. To provide RJ45 interfacing capability, EtherCon® interface connector kits, available from Studio Technologies, would be installed in one of the spare connector locations on the back of the Model 212. Using jumper wire assemblies three of the four cable pairs are assigned to Model 212 functions. One pair carries nominal 24 volt DC power from the Model 44 to the Model 212's circuitry. Two other pairs are used to carry AES3 (110 ohm balanced) digital audio signals to and from the Model 212. The fourth pair can remain unused, or be used to implement a special function such as a remote microphone on/off switch.

Installing and wiring the Model 44 in our typical application is very simple. Standard unshielded twisted-pair cable assemblies, ubiquitous to the computer industry, can be used to connect the Model 212 units to the RJ45 jacks on the back panel of the Model 44. Alternately, ruggedized cable assemblies can be fabricated using Neutrik® EtherCon connectors. A second set of six RJ45 jacks, also located on the Model 44's back panel, are used to link the digital audio input and output signals with other equipment. For example, to interface with the Riedel® Artist® intercom system would require only the use of standard 4-pair cable assemblies. If the fourth pair of the interconnecting cables has been implemented with a Model 212 function, its signals are accessible using a 25-pin D-subminiature connector. The "D-sub" connector, located on the Model 44's back panel, is also used for connecting to the auxiliary 24 volt DC output and the external 24 volt DC input. To complete the installation requires only the power cord to be connected to the designated source of AC mains power.

Model 44 Specifications

Applications: designed to work with up to six Model 200-series announcer's consoles from Studio Technologies

Announcer's Console Power Sources: 6

24 volts DC nominal (26 volts actual with internal power supplies active), 150 milliamperes nominal maximum; over-current and short-circuit protected

Interconnection Cable Limit: designed to correctly support 200-series announcer's consoles located up to 100 meters from Model 44 when using standard computer-type unshielded twisted-pair cabling

Auxiliary 24 Volt DC Output: 24 volts DC nominal (26 volts actual with internal power supplies active), 70 milliamperes nominal maximum; over-current and short circuit protected

External 24 Volt DC Input: 24 volts nominal (24-28 volts acceptable), 1.2 amperes minimum

Connectors:

Announcer's Console: 6, RJ45 (8-position modular)

System: 6, RJ45 (8-position modular)

Aux In/Out, Aux 24 Volt DC Output, External 24 Volt DC Input: 25-pin D-subminiature female, 4-40 threads

AC Mains: 3-blade, IEC 320 C14-compatible (mates with IEC 320 C13)

AC Mains Requirement: 100-230 volts, 50/60 Hz, 0.8 A maximum @ 100 volts, 0.5 A maximum @ 230 volts

Dimensions (Overall):

19.00 inches wide (48.3 cm)

1.72 inches high (4.4 cm)

9.58 inches deep (24.3 cm)

Mounting: one space (1U) in a standard 19-inch rack

Weight: 6.3 pounds (2.9 kg)

Specifications subject to change without notice.

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