

Sound Control Technologies provides complete voice enhancement, Distance Learning, Tele-Medicine and Teleconferencing interface systems for the conference room, boardroom, classroom and room combining systems.

ASP-8x8 Audio Matrix™ enables mix-minus audio processing, gain structured signal processing, distributed signal delay and multiple system profiles (presets) to be stored in non-volatile memory and recalled via the RS-232 serial port. This flexible DSP system design tool greatly simplifies complex audio applications.

VOICELIFT™ Audio Systems are based on the VF-1 Card Frame with a Programmable Input/Output Matrix and VF1-8x8 FEATURECARD™. A variety of input, output and throughput cards may be used to create custom voice enhancement systems using standard "off the shelf" components. Using patented cancellation techniques VOICELIFT™ Systems free the users (and conference room tables) of all microphones and speakers by placing these components out of the way, in the room ceiling. Alternatively, VOICELIFT™ technology can also be applied to tabletop microphone systems.

Teleconferencing Systems, built around the Series II AVT-24™ and AVT-44™, full duplex teleconference interfaces, provide a universal, fully adaptive interface between any room audio system (such as the SCT VOICELIFT™) and telephone lines or video conferencing units (CODEC). Teleconferencing Systems are FULL DUPLEX for natural, uninterrupted two-way voice communications.

Sound Control Technologies offers extensive room analysis and system-engineering assistance in conjunction with the hardware listed in this Product Guide. Please call us, your local SCT representative or visit our web site at www.soundcontrol.net for specific information. Prices and Specifications may change without notice.

Please check with SCT or your local Representative for terms, conditions and delivery. All prices are F.O.B. Norwalk CT.

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Teleconferencing Systems

SERIES II AVT-24™ Audio Teleconference Interface

The *SERIES II AVT-24™* Teleconferencing Interface is specifically designed for integration into higher level Audio and Video teleconferencing systems. The “muscle” of the unit is the fully adaptive acoustic echo canceller. This echo canceller is specifically designed to provide high quality and stability in integrated environments. To maximize system integration capabilities, the *Series II AVT-24™* has balanced line level audio interfaces for all audio connections. There is a selectable acoustic echo canceller “window” of 170ms. or 275ms. this allows systems to be optimized to individual room acoustics.

Features of the *SERIES II AVT-24™*

- Selectable Echo Cancellation “Window” 170ms. or 275ms.
- Variable Input Highpass filter for ambient noise control on transmission signal
- 2 Wire, Analog telephone line interface (fully adaptive)
- 4 Wire, Video Codec interface (fully adaptive)
- Simultaneous 2 Wire and 4 Wire operation
- Auxiliary Input, Balanced Line Level Audio Input with level control
- Record Output, Balanced Line Level Output with level control
- 2 RS-232D Serial Ports
- DTMF Dialing, Auto-Answer¹ and Auto Disconnect²
- All Input and Output Levels are Independently Digitally Controlled.
- 2 x 16 LCD Status Display
- All Level and system settings are stored in non-volatile memory
- Firmware upgrade via Serial Port

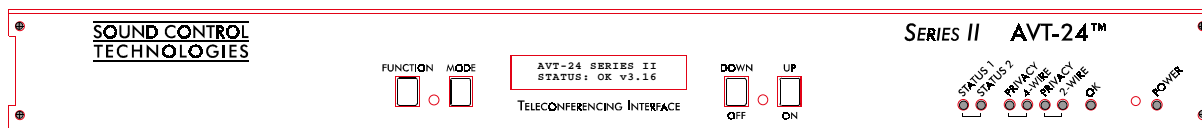
Available Option:

- RT-3P remote control, wired, interface for the Series II AVT-24™ and AVT-44™.

Recommended Room Audio Interfaces (Amplifier/Mixer):

1. AUDIOLINK™, for ceiling mounted audio applications.
2. AUDIOLINK PLUS™, for table microphone applications.

Series II AVT-24™ Front and Rear



¹ Auto Answer is activated by a programmable number of “rings”

² Telephone system must support “wink” for Auto Disconnect

Teleconferencing Systems

Series II AVT-44™ Integrated Teleconference Interface

The highly integrated *Series II AVT-44™* enables FULL DUPLEX audio teleconferencing. The *Series II AVT-44™* has all of the features of the Series II AVT-24™¹ plus integrates four microphone inputs and a 10-watt power amplifier for high quality, quick, simple and economical teleconference systems.

The *Series II AVT-44™* includes:

- Selectable Echo Cancellation "Window" 170ms. or 275ms.
- Variable Input Highpass filter for ambient noise control on transmission signal
- 4-Wire Interface to CODEC or Transmission Circuit
- 2-Wire Interface to Telephone Line
- 4-XLR Microphone Inputs
- Expansion Line level input with level control
- 10-watt power amplifier
- Expansion Line level output
- Simultaneous 2 and 4 Wire Operation
- 2 RS-232D Serial Ports
- DTMF Dialing, Auto-Answer² and Auto Disconnect³
- All Input and Output Levels are Independently Digitally Controlled.
- All Level and system settings are stored in non-volatile memory
- Firmware upgrade via Serial Port

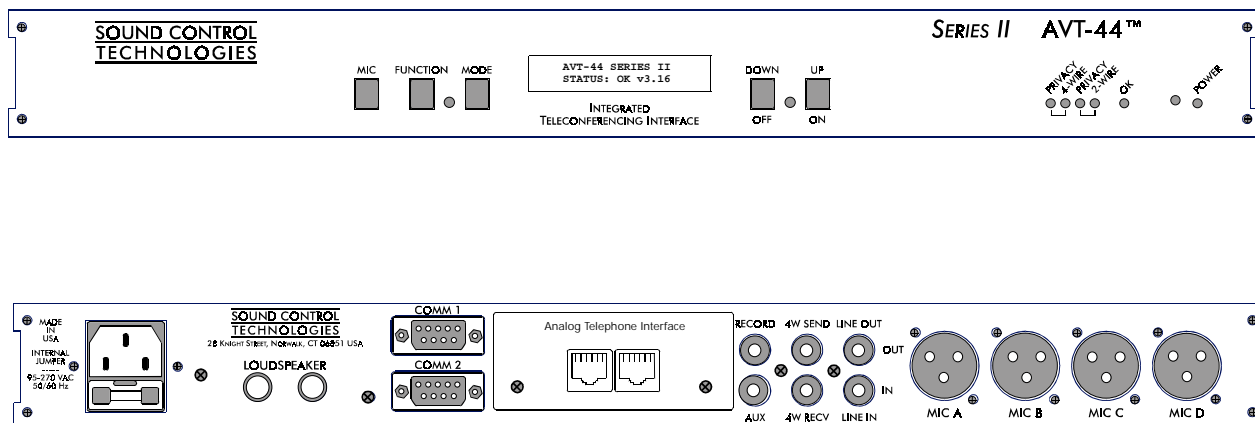
Available Option:

- RT-3P remote control, wired, interface for the *Series II AVT-24™* and AVT-44™.

Recommended Additional Room Audio Interfaces (Amplifier/Mixer):

1. AUDIOLINK™, for ceiling mounted audio applications.
2. AUDIOLINK PLUS™, for table microphone applications.

Series II AVT-44™ Front and Rear



¹ Series II AVT-44™ has un-balanced audio connections vs. balanced for Series II AVT-24™

² Auto Answer is activated by a programmable number of "rings"

³ Telephone system must support "wink" for Auto Disconnect

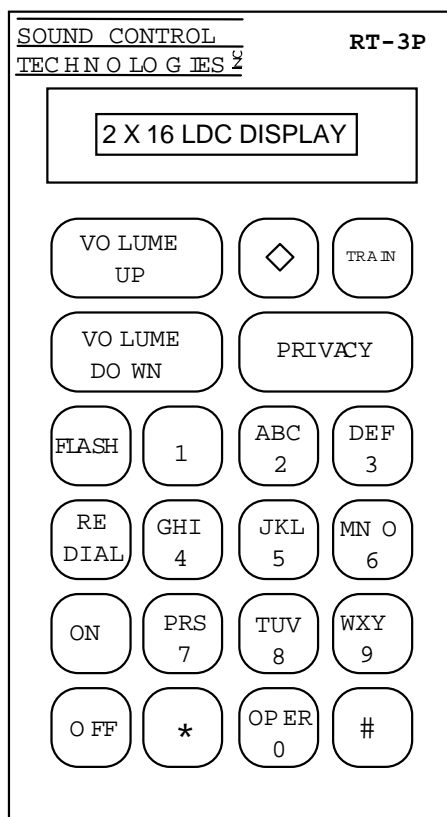
Teleconferencing System Accessories

RT-3P, Remote Control

Application: Used in conjunction with the original *Series I* and *Series II* AVT-24™ and AVT-44™ teleconferencing units, for "telephone" type functions.

For use with the SCT *Series I* and *Series II* AVT-24™ and AVT-44™, the RT-3P provides a membrane switch, full telephone keypad and volume raise and lower for control of incoming 2-wire and 4-wire receive levels. A two-line by 16-character display provides all control information and system status.

The RT-3 is a hand-held wired remote control using a six conductor flat cable, terminating at the RT-3P with a RJ-11/6 type connector. The communications protocol for data transfer between the *Series I* and *Series II* AVT-24™, AVT-44™ and the RT-3P is RS-232 (8, none, 1).



Physical dimensions of the RT-3P: 3.60"W X 5.75"L X 1.15"H

The RT-3P uses the standard RS-232 protocol available to any serial control device. This protocol is published in the AVT-24™, AVT-44™, RT-3P, VoiceLift™ and Systems Overview manuals. These documents are available from your local SCT Representative and on the web site www.soundcontrol.net.

Series I ASP-8x8 Audio Matrix™

The ASP-8x8 Audio Matrix™, DSP Audio Signal Processor, provides up to eight analog inputs and eight analog outputs to and from a central Digital Signal Processing matrix. Inputs signals can vary between many types of Microphones or Line Level devices on a per channel basis. Phantom Power is also selectable on a per channel basis.

The ASP-8x8 Audio Matrix™ allows very flexible and fine adjustments on audio signal gain structure and signal delay within the audio system. In the ASP-8x8 Audio Matrix™ environment any audio input can be routed to any audio output; this includes summing multiple inputs to the same output. The high speed DSPLink™ allows matrix configurations up to 32 x 32 configurations.

Typical applications for the ASP-8x8 Audio Matrix:

- Accurate mix-minus gain structure (0 - -70dB attenuation in 1dB steps)
- VOICELIFT™ distributed gain structure
- Multi-tap signal delay (0 – 500ms. per crosspoint)
- Room combining
- Easy reconfigurability for multiple room set-ups (8 presets)
- Continuous presence mix-minus
- Input level detection with RS-232 output

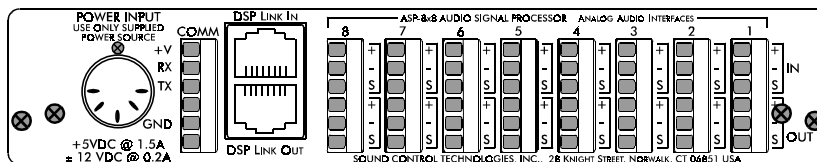
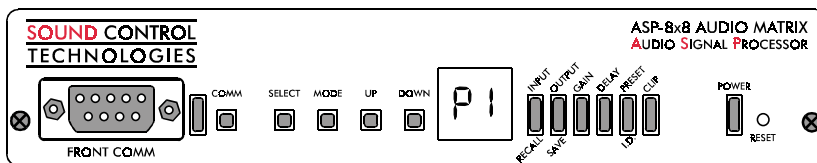
Input 8								
Input 7								
Input 6								
Input 5								
Input 4								
Input 3								
Input 2								
Input 1								
CrossPoint Gain	O u t	O u t	O u t	O u t	O u t	O u t	O u t	O u t
	1	2	3	4	5	6	7	8

Gain setting matrix

Input 8								
Input 7								
Input 6								
Input 5								
Input 4								
Input 3								
Input 2								
Input 1								
CrossPoint Delay	O u t	O u t	O u t	O u t	O u t	O u t	O u t	O u t
	1	2	3	4	5	6	7	8

Delay setting matrix

ASP-8x8 Audio Matrix Front & Rear



AUDIOLINK™ Room Audio Teleconferencing Interface

The AUDIOLINK™ is an integrated non-gating microphone mixer and power amplifier and can be used in many conferences or meeting rooms as a complete microphone, speaker and record interface for teleconferencing. Designed for direct interconnection to the *Series II* AVT-24™ and AVT-44™ Teleconferencing Interfaces, the AUDIOLINK™ is housed in a single 1 Rack Unit enclosure and includes the following inputs, outputs and features:

Inputs:

- Four Pair (8 total) of Balanced, non-gating, Microphone Inputs.
- Auxiliary Input (Line Level) feeds Telco Send and Room Speakers with separate adjustable levels for each.
- Line level input for teleconference receive.

Outputs:

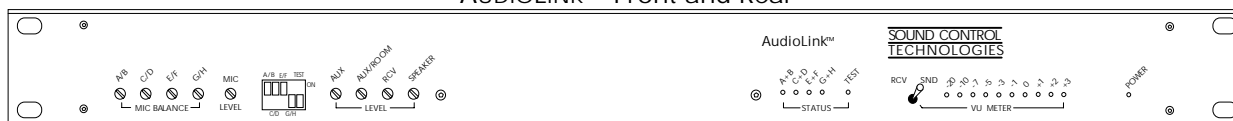
- Record Output (Line Level)
- 10 Watt/8Ω amplified speaker output drives up to eight speakers.
- Line level output for teleconference send.

Features:

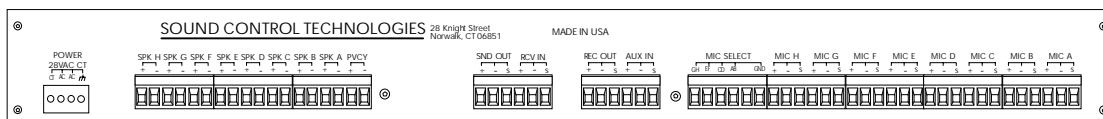
- Adjustable Balance on each microphone pair for null setting.
- Built-in Pink Noise Generator
- Built-in VU Bar Graph Level Meter for microphone balance and Telco Send and Receive level setting.
- DIP Switch control of all microphones (ON/OFF) and Noise Generator operation.
- Simple set up.

Recommended Additional Room Audio Interfaces (Amplifier/Mixer):
 AUDIOLINK PLUS™, for table microphone applications.

AUDIOLINK™ Front and Rear



AudioLink™ FrontView



AudioLink™ Rear View

AUDIOLINK PLUS™ Room Audio Teleconferencing Interface

The AUDIOLINK PLUS™ is a combination six input non-gating microphone mixer and power amplifier. It can be used in many conference or meeting rooms as a complete microphone, speaker and record interface for teleconferencing. Designed for direct interconnection to the AVT-24™ Teleconferencing Interface, the AUDIOLINK PLUS™ is housed in a single 1 Rack Unit enclosure and includes the following inputs, outputs and features:

Inputs:

- Six, Phantom Powered, Non Gating Balanced Microphone Inputs.
- Auxiliary Input (Line Level) feeds Telco Send and Room Speakers with separate adjustable levels for each.
- Line level input for teleconference receive.

Outputs:

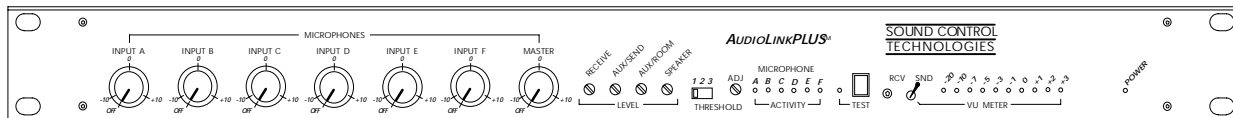
- Record Output (Line Level)
- 10 Watt/8Ω amplified speaker output drives up to eight speakers.
- Line level output for teleconference send.
- Microphone activity/status via TTL logic level output, on a 15-pin D-sub connector. Three levels of microphone activity are selectable:
 1. Any active Microphone
 2. Loudest Microphone
 3. Loudest Microphone above "Average"

Features:

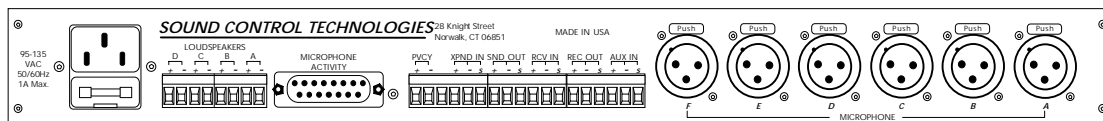
- Adjustable microphone setting with center detent and positive "OFF".
- Built-in Pink Noise Generator
- Built-in VU Bar Graph Level Meter for microphone and Telco Send and Receive level setting.
- Simple set up.

Recommended Additional Room Audio Interfaces (Amplifier/Mixer):
 AUDIOLINK™, for ceiling mounted audio applications.

AUDIOLINK PLUS™ Front and Rear



AudioLink PLUS™ Front View



AudioLink PLUS™ Rear View

Audio Systems

Card Frame and A Series Input Devices

VF-1 Audio Matrix Signal Processing Card Frame

CONTACT FACTORY FOR PRICING

VF-1 Audio Matrix Frame includes a standard EIA 3 RU chassis, motherboard, preconfigured matrix board and 16 available card slots. Utilizing the unique signal routing capabilities of the card frame system allows multiple frames to be used in a system.

Each slot can accept any one of the "A", "B" or "C" Series boards listed below to customize an audio system with full input/output, routing, delay, equalization and amplification options. All external audio and control connections are made via "captive wire" polarized connections on the rear panel. The 32 X 16 matrix may be factory programmed for any input/output relationship.

In conjunction with the matrix card, the **VF1-8x8 FEATURECARD™** allows full crosspoint level and signal delay adjustments at all 64 crosspoints. Gain adjustments are in 1-dB attenuation and signal delay is in 1-ms. increments from 0 to 150 ms. per crosspoint.

The VF1-8x8 FEATURECARD™ directly connects to the C2-2 Power amp card and the A7 two channel line level I/O card.

Control over the VF1-8x8 FEATURECARD™ is through the rear RS-232 port. Additionally there are eight onboard presets for quick and easy control interfacing.

"A" Series Input Devices

A-2: Dual Channel Microphone Level Input Board

Mic level input board used for routing two microphone signals into the matrix. Provides 12-volt phantom power. Inputs are always ON.

A-5: Dual Channel Line Level Input Board with remote switching

Dual channel line level I/O board used for any two balanced or unbalanced signals into the routing matrix. Signals are selectable by N.O. or N.C. maintained closures.

A-6: Single Channel Line Level I/O Board with switched signal

Line level board used for any balanced or unbalanced I/O signal through the routing matrix. A jumper selectable maintained closure will turn the signal OFF or ON.

A-7: Dual Channel Line Level I/O Board w/ FEATURE CONNECTOR™

Dual channel line level I/O board used for interfacing with the VF1-8x8 FEATURECARD™.

Audio Systems

"B" & "C" Series Input Devices

"B" Series Throughput Devices

B-2: Universal Relay Board

Externally controllable relay can be used to switch any input (or matrix output) to any one or more outputs or matrix inputs. The relay board can be used to simply re-route signals in or out of the card frame or to resistors in the matrix for preset audio levels via externally control dry closures.

B-6: Single Channel, Automatic, Nine-Filter Notch Filter

Nine automatic, 1/5 octave, 20 dB cut notch filters can be used for room or line level equalization. The filter set can be routed via the matrix from any input (or matrix output) to any one or more frame outputs (or matrix inputs). The notch filters are programmed for six "fixed" filters and three adaptive filters.

"C" Series Output Devices

C2-2: Amplified Output Board with FEATURE CONNECTOR™

Speaker level output (20 watts @ 8 ohm) can be used to directly power voice enhancement speakers. Direct access to/from the VF1-8x8 FEATURECARD™ allows for precise gain structure and signal delay adjustments throughout the system.

VF1-8x8 FEATURECARD™

VF1-8x8 FEATURECARD™:

Provides up to eight analog inputs and eight analog outputs to and from line level FEATURE™ connectors on various signal cards within the VF-1™ card frame.

The VF1-8x8 FEATURECARD™ Audio Matrix allows very flexible and fine adjustments on audio signal gain structure and signal delay within the audio system. In the VF1-8x8 FEATURECARD™ Audio Matrix environment any audio input can be routed to any audio output.

Input signals can be routed, summed, distributed and delayed all within the -8x8 environment. Unique to the VF1-8x8 FEATURECARD™ architecture, multiple inputs can be summed to various outputs at unity gain or each individual input can have a unique gain structure to any (individual or multiple) output. Additionally, any input can have a unique delay setting to any (individual or multiple) output. Each input signal has up to a 150-ms. maximum delay setting to any output.

Typical applications for the VF1-8x8 FEATURECARD™ Audio Matrix:

- Accurate mix-minus gain structure
- Eight preset configurations
- VoiceLift™ distributed gain structure
- Multi-tap signal delay
- Room combining
- Easy reconfigurability for multiple room set-ups
- Continuous presence mix-minus

Input 8								
Input 7								
Input 6								
Input 5								
Input 4								
Input 3								
Input 2								
Input 1								
CrossPoint Gain	O u t	O u t	O u t	O u t	O u t	O u t	O u t	O u t
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Gain setting matrix

Input 8								
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CrossPoint Delay	O u t	O u t	O u t	O u t	O u t	O u t	O u t	O u t
	1	2	3	4	5	6	7	8

Delay setting matrix

DSP settings are stored in non-volatile memory, and can be configured in up to eight preset environments or individual crosspoints may be addressed. Set-up of pre-sets, changing individual settings or recalling pre-sets is accomplished via the RS-232 port. Settings may be changed at any time via the RS-232 port and a PC or a remote control system.

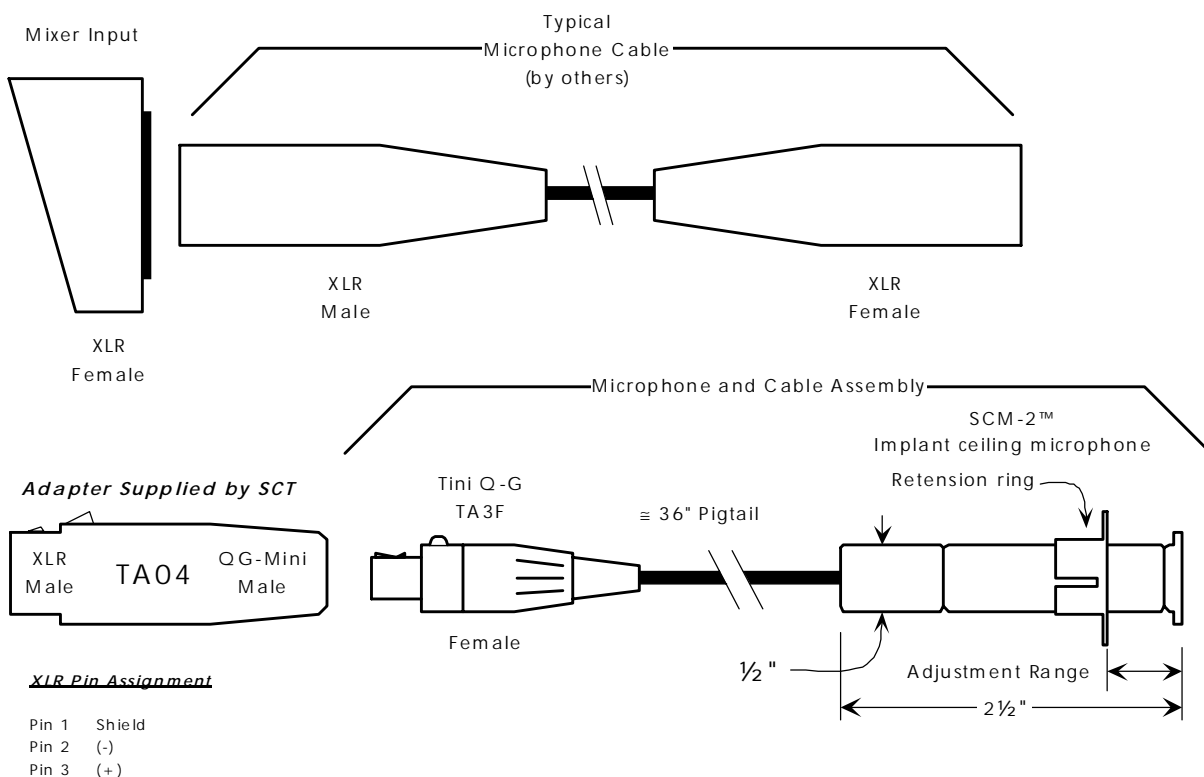
SCM-2 Ceiling Microphone

The SCM-2 microphone is a professional quality condenser microphone designed for easy, flush mount installations in:

- Boardroom/Conference room ceilings
- Stage walls, ceilings
- Lecterns
- Props and set pieces
- Suspended panels

A special pressure-sensitive, tensionless, low mass microphone element provides the required characteristics for this application:

- Ultra-smooth frequency response providing excellent feedback stability for sound reinforcement applications.
- Low vibration sensitivity eliminates the need for custom isolation mounts.
- High temperature stability (typically better than $\pm .02$ dB/ $^{\circ}$ F) assures system stability in fixed gain applications.



System Accessories

Audio System Accessories

- SCM-2 Electret Condenser Microphone
Designed to be installed in any flat surface, the SCM-2 is ideally suited for conference or boardroom sound systems. Features flat response and uniform hemispherical coverage when mounted in ceilings or walls. Complete with mounting flange for a simple, unobtrusive installation.
- SPK-1 Four-Inch Loudspeaker
Designed for flat, uniform speech reproduction when used in a ceiling mounted enhancement system, the SPK-1 is an economical and simple to install sound solution.
- BB-1, 2, 3 Speaker Back Boxes
Intended to be used with the SPK-1 listed above, the back box provides rear sound isolation and easily mounts in acoustic or plaster ceilings. BB-1 is used in 1 x 1 acoustic concealed spline ceilings, BB-2 in 2 x 2 and 2 x 4 drop ceilings and BB-3 in plaster.
- BF-1, 2, 3 Speaker Baffles
Perforated baffle used with speakers and back boxes listed above. May be painted to match any ceiling color. To be used with above matching Back Boxes.
- CP-1, 2, 3 Mounting Templates
Above microphones and loudspeakers are to be mounted in a precise relationship to each other when used with VOICELIFT™ and TELEPLEX™ systems to insure maximum gain before feedback. Templates are provided with each system to be used by the sound contractor during installation in conjunction with above matching Back Boxes and ceiling styles. Additional templates are available from SCT.
- MB-1 Mounting Bar
Can be used when mounting an SPK-1 Speaker in a 2 x 4 ceiling panel when not using the SCM-2 Microphone.
- RK-1 (2) Rack Mount Kit
For Series I ASP-8x8 Audio Matrix™, the RK-1 mounts a single ASP-8x8 centered in one rack space. The RK-2 mounts two ASPs' side by side in one rack space.

System Power Supplies

- SPS-7 Regulated Power Supply
The SPS-7 is a fully regulated and protected DC power supply for up to 3 fully loaded VF-1 card frames. The power supply provides ± 15 VDC at 3.5 Amps. per side. The SPS-7 mounts in 1 Rack Unit of space.
- WPS-1 Plug-In Power Supply
The WPS-1 is an AC power supply used to power the AudioLink™. The power supply provides 28 VAC CT at 1.3 Amps.
- WPS-8/15 Plug-In Power Supply
The WPS-7 is a universal A.C. power supply to power 1 Series II AVT-24™ Unit or ASP-8x8 Audio Matrix™. The power supply provides 5 VDC at 1.2 Amps and ± 15 VDC.