

User Manual

Model 970A-1

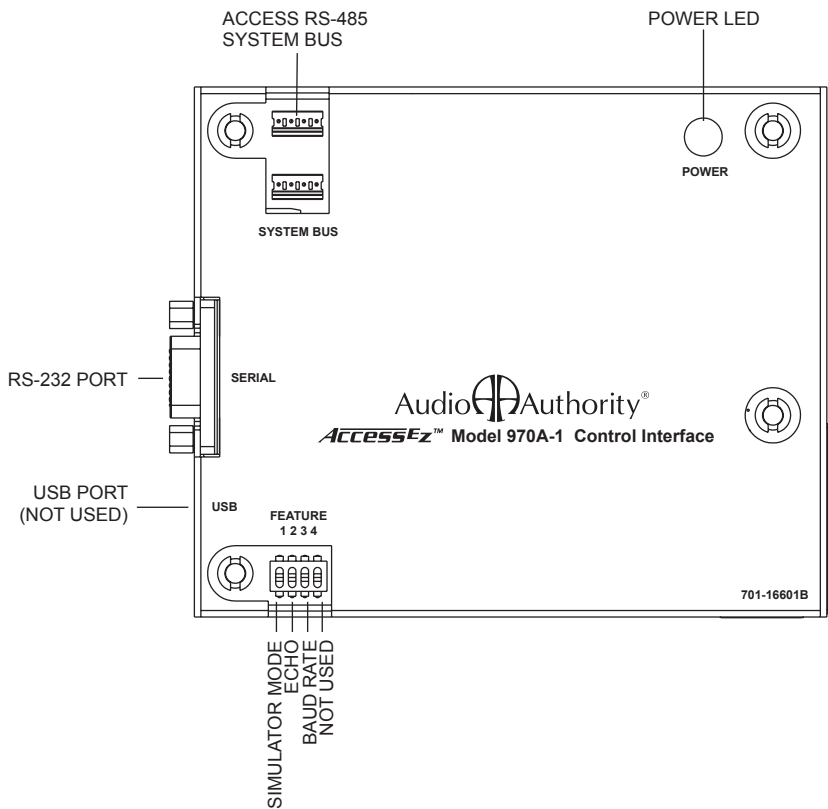


Audio  Authority®

Model 970A-1 Control Interface

The Model 970A-1 is a protocol converter which allows any device capable of receiving and transmitting ASCII characters via an RS-232 port to control product selection on Audio Authority® AccessEZ™ Demonstration Networks.

MODEL 970A-1



GND RX TX 5 4 3 2 1 9 8 7 6		Transfer Rate	Dip 3=OFF 9600 bps Dip 3=ON 19,200 bps
		Data Bits	8
DB9 Pin Out Standard Cable	Pin 2, Tx	Parity	None
	Pin 3, Rx	Stop Bits	1
	Pin 5, Ground	Flow Control	None or Off
	Shell, Ground	Character Type	ASCII

Package Contents

Before installing this product, please check the packaging to make certain the following items are contained in the shipping carton:

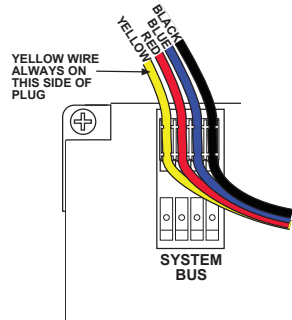
- 970A-1
- DB9 to DB9 serial interface cable
- User Manual

Note: Please retain the original packing material in case the unit must be returned. If you find any items are missing, contact Audio Authority immediately. Have the model number and invoice available for reference when you call.

Installation

1. Connect the 4-pin System Bus header on the 970A-1 to the Access system bus at any unused connector. The system bus wiring is color coded as yellow, red, blue, black (see right).

2. Connect the Serial port on the 970A-1 to the host device with an appropriate serial cable. A DB9 to DB9 serial interface cable is included.



Operation

Default communication parameters for the host port are 19,200 baud, no parity, 8 bits and 1 stop bit. Operation may be verified using a terminal program on the host computer. If you have any questions please contact Audio Authority Technical Support at 800-322-8346.

Command Listing

+Sgg:pp	Connect Speaker group 'gg' product 'pp'
+Egg:pp	Connect Electronic group 'gg' product 'pp'
-Sgg:pp	Disconnect Speaker group 'gg' product 'pp'
-Egg:pp	Disconnect Electronic group 'gg' product 'pp'
DISC Sgg	Disconnect Speaker group 'gg'
DISC Egg	Disconnect Electronic group 'gg'
MUTE	Begin muted multi product switch
END MUTE	End muted multi product switch
SLIMIT n	Set Speaker Limit to n (1..4)
DISCALL	Disconnect everything
DISABLE ALL	Disable PSBs
ENABLE ALL	Enable PSBs
STATUS	Request system info and current state
VOL nnn	Set 988 volume to level 'n' [0...127]
VDN	Decrease volume level by 4 steps
VUP	Increase volume level by 4 steps
SLEEP	Place system in power down mode
WAKE	Exit power down mode
RESET	Reset 970 (Note: This disconnects everything)
HELP	Display this text

Examples

The following text captured from a 970A-1 illustrates its operation. A line by line commentary has been added on the right.

<power applied unit boots> 970A-1 Serial Interface unit Polling System Please Standby...	Prints ID message on boot and begins polling the attached system...
Product Groups = 8	After several seconds shows # prod. groups.
E00:00-E00:07 E01:00-E01:03 E02:00-E02:03 S02:00-S02:15 E03:00-E03:03 S03:00-S03:07 E04:00-E04:03 S04:00-S04:07	Prints table showing valid ranges for products in each group. Groups addresses begin with either "E" or "S" to indicate whether the group is "Electronic" modules (911, 922, 940, 942, 945, 952, 956, 958) or "Speaker" modules (932, 934, 939). Two digits follow that correspond to the group address set by the rotary switch on that group's modules. After the colon two additional digits indicate the product number within that group.
>+E00:00	The first line "E00:00-E00:07" indicates that electronic group 0 is present and contains 8 products with addresses ranging from E00:00 up to E00:07. This command was entered from the serial port and echoed by the unit. The "+" preceding the address requests that the product at E00:00 be selected. The command was followed by a carriage return.
> E00:00+	This message was received from the system confirming the request just made. Messages received ending with a plus or minus sign are status messages which indicate a product has been selected or deselected. These messages may result from a command sent by the 970A-1, a PSB press, or a control panel.
>-E00:00 > E00:00-	This command with the "-" preceding an address deselects the product E00:00. This is confirmation of the command issued; notice the "-" appears on the right side.

Deselect

Electronic groups may have only 1 product selected at a time as the following example shows:

>+E00:00 > E00:00+	Turn on E00:00. Confirmed.
>+E00:01 > E00:00- E00:01+	Turn on E00:01 as well. > E00:00 disengages prior to... E00:01 engaging.

Speaker Add

Speaker groups may have up to 4 products simultaneously connected. If a fifth product is added the "Oldest" selected product must disconnect. This is illustrated by the following example.

>+S02:00 > S02:00+	Add S02:00 Confirmed. S02:00 on
>+S02:01 > S02:01+	Add S02:01 Confirmed. S02:00,S02:01 on
>+S02:02 > S02:02+	Add S02:02 Confirmed. S02:00,S02:01,S02:02 on
>+S02:03 > S02:03+	Add S02:03 Confirmed. S02:00,S02:01,S02:02,S02:03 on
>+S02:04 > S02:00- S02:04+	Add S04:00, a fifth product S02:00 disengages to make room prior to S02:04 enagaging

Disconnect All

>DISCALL > S02:04- S02:03- S02:02- S02:01- E00:01-	The 'DISCALL' command disconnects all products S02:04 disengages S02:03 disengages S02:02 disengages S02:01 disengages E00:01 disengages
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Disable All

>DISABLE ALL	DISABLE ALL locks out all product select buttons. It also will prevent the 970 from accessing products.
>ENABLE ALL	ENABLE ALL turns all of the product select buttons back on.

Bus Monitoring

The following messages were generated by the user pressing buttons on the display.

> S03:00+ >	Speaker group 3 prod 0 selected by button; same status message as follows command but no command was sent.
S03:00- S03:01+ >	Speaker group S03:01 was pressed by user causing S03:00 to disconnect and S03:01 to connect. Speaker modules normally behave like electronic modules to the user by only allowing 1 product at time to be selected. The user can select multiple products by pressing and holding a button longer than 1/2 second.
S03:01- S03:02+ S05:01+ >DISC S05 > S05:01-	S03:02 pressed briefly, disconnecting the currently selected product before it is added. Speaker Group 5 product 1 selected via push button attached to module. DISC disconnects all devices in speaker group 5.
> E02:00+ >DISC E02 > E02:00-	Electronic group 2 product 0 selected via push button attached to module. DISC disconnects all devices in electronic group 2.

Mute

>MUTE	Mute is used for selecting multiple products inside of one audio mute/unmute bracket. Prompt changes to '=' as a reminder that mute is on.
=+S05:00 = S05:00+	Select speaker group 5 product 0,
=+E02:01 = E02:01+	and electronic group 2 product 1.
=END MUTE	Then unmute to turn audio back on.

Status

>STATUS Valid groups and product numbers E00:00-03 E02:00-03 E03:00-03 S03:00-07 E04:00-03 S04:00-07 E05:00-03 S05:00-07 Currently selected units E02:01 S05:00 KEYUP xxx Key press KEYDN xxx Key release	STATUS causes the 970 to report the current system geometry and state. This is useful if your program has been off doing something else and might have missed messages. Use STATUS to get your image of what is on or off, synchronized with the actual state. Status messages for switch reporting. Note: xxx is a 3 digit number in range 001..120.
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System Reset

>RESET 970 Serial Interface unit Polling System Please Standby... Product Groups = 8 E00:00-E00:03 E02:00-E02:03 E03:00-E03:03 S03:00-S03:07 E04:00-E04:03 S04:00-S04:07 E05:00-E05:03 S05:00-S05:07	RESET simply resets the 970 and switching system as if power has been cycled.
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