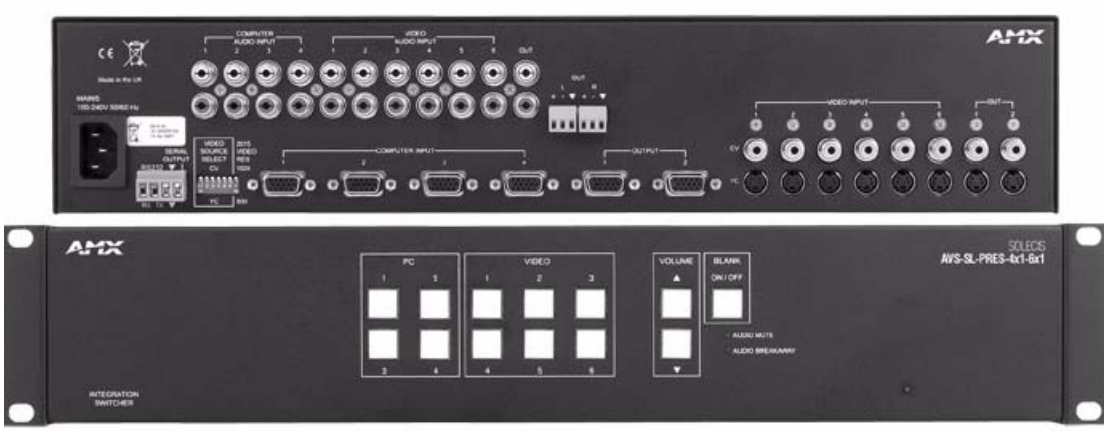
Operation/Reference Guide

AVS-SL-PR-0401-0601

Solecis Presentation Switcher

4x1 RGBHV, 6x1 SVID, 10x1 Stereo, CP



Solecis Switchers

Last Revised: 9/29/2009

AMX Limited Warranty and Disclaimer

This Limited Warranty and Disclaimer extends only to products purchased directly from AMX or an AMX Authorized Partner which include AMX Dealers, Distributors, VIP's or other AMX authorized entity.

AMX warrants its products to be free of defects in material and workmanship under normal use for three (3) years from the date of purchase, with the following exceptions:

- Electroluminescent and LCD Control Panels are warranted for three (3) years, except for the display and touch overlay components are warranted for a period of one (1) year.
- Disk drive mechanisms, pan/tilt heads, power supplies, and MX Series products are warranted for a period of one (1) year.
- AMX lighting products are guaranteed to switch on and off any load that is properly connected to our lighting products, as long as the AMX lighting products are under warranty. AMX also guarantees the control of dimmable loads that are properly connected to our lighting products. The dimming performance or quality there of is not guaranteed, impart due to the random combinations of dimmers, lamps and ballasts or transformers.
- AMX software is warranted for a period of ninety (90) days.
- Batteries and incandescent lamps are not covered under the warranty.
- AMX AutoPatch Epica, Modula, Modula Series4, Modula CatPro Series and 8Y-3000 product models will be free of defects in materials and manufacture at the time of sale and will remain in good working order for a period of three (3) years following the date of the original sales invoice from AMX. The three-year warranty period will be extended to the life of the product (Limited Lifetime Warranty) if the warranty card is filled out by the dealer and/or end user and returned to AMX so that AMX receives it within thirty (30) days of the installation of equipment but no later than six (6) months from original AMX sales invoice date. The life of the product extends until five (5) years after AMX ceases manufacturing the product model. The Limited Lifetime Warranty applies to products in their original installation only. If a product is moved to a different installation, the Limited Lifetime Warranty will no longer apply, and the product warranty will instead be the three (3) year Limited Warranty.

All products returned to AMX require a Return Material Authorization (RMA) number. The RMA number is obtained from the AMX RMA Department. The RMA number must be clearly marked on the outside of each box. The RMA is valid for a 30-day period. After the 30-day period the RMA will be cancelled. Any shipments received not consistent with the RMA, or after the RMA is cancelled, will be refused. AMX is not responsible for products returned without a valid RMA number.

AMX is not liable for any damages caused by its products or for the failure of its products to perform. This includes any lost profits, lost savings, incidental damages, or consequential damages. AMX is not liable for any claim made by a third party or by an AMX Authorized Partner for a third party.

This Limited Warranty does not apply to (a) any AMX product that has been modified, altered or repaired by an unauthorized agent or improperly transported, stored, installed, used, or maintained; (b) damage caused by acts of nature, including flood, erosion, or earthquake; (c) damage caused by a sustained low or high voltage situation or by a low or high voltage disturbance, including brownouts, sags, spikes, or power outages; or (d) damage caused by war, vandalism, theft, depletion, or obsolescence.

This limitation of liability applies whether damages are sought, or a claim is made, under this warranty or as a tort claim (including negligence and strict product liability), a contract claim, or any other claim. This limitation of liability cannot be waived or amended by any person. This limitation of liability will be effective even if AMX or an authorized representative of AMX has been advised of the possibility of any such damages. This limitation of liability, however, will not apply to claims for personal injury.

Some states do not allow a limitation of how long an implied warranty last. Some states do not allow the limitation or exclusion of incidental or consequential damages for consumer products. In such states, the limitation or exclusion of the Limited Warranty may not apply. This Limited Warranty gives the owner specific legal rights. The owner may also have other rights that vary from state to state. The owner is advised to consult applicable state laws for full determination of rights.

EXCEPT AS EXPRESSLY SET FORTH IN THIS WARRANTY, AMX MAKES NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. AMX EXPRESSLY DISCLAIMS ALL WARRANTIES NOT STATED IN THIS LIMITED WARRANTY. ANY IMPLIED WARRANTIES THAT MAY BE IMPOSED BY LAW ARE LIMITED TO THE TERMS OF THIS LIMITED WARRANTY. EXCEPT AS OTHERWISE LIMITED BY APPLICABLE LAW, AMX RESERVES THE RIGHT TO MODIFY OR DISCONTINUE DESIGNS, SPECIFICATIONS, WARRANTIES, PRICES, AND POLICIES WITHOUT NOTICE.

Safety Instructions

Overview

Please read these instructions before using your Procon switcher. Failure to comply with these instructions could result in fire, electrical shock, personal injury, death, or damage to the equipment.

Power Source

Use only a three-wire grounding type source. The power source should not exceed 264VAC. Do not remove under any circumstances the ground wire.

Power Cord

Use only the cord shipped with the unit. Do not use the cord if it has become damaged or frayed. Contact your Procon dealer or call Procon if you need to replace the power cord.

Grounding

The interface is grounded through the grounding conductor on the power cord. To avoid electric shock plug the power cord into a properly wired receptacle. Do not defeat the purpose of the grounding-type plug.

Fuse

For protection against the risk of fire use only a fuse of the same rating and type.

Liquid Spills

Do not set drinks on top of the unit or immerse the unit in liquid.

Do Not Disassemble

The switcher contains no user serviceable parts. All servicing must be performed by a qualified service technician.

For Safety Reasons

- Do not place the unit on an unstable surface.
- Do not use near water or sources of heat.
- Use only recommended attachments.
- Use the correct power supply as indicated on the unit.
- Unplug the unit from the mains before and refer to a qualified technician if:
  - the power cord has become damaged
  - liquid has been spilled or it has been exposed to rain or water
  - it does not operate correctly
  - it has been dropped or the cabinet damaged.

Table of Contents

Overview

The Solecis AVS-SL-PR-0401-0601 Presentation Switcher (FG1330-2011-01) combines switching of PC, computer, video and audio for presentation and conference rooms, home cinema, AV Rental Companies and any environment where a number of mixed source types need to be displayed.

The AVS-SL-PR-0401-0601 features a total of ten inputs and a programmable serial output for controlling projectors, plasma displays and other display devices.

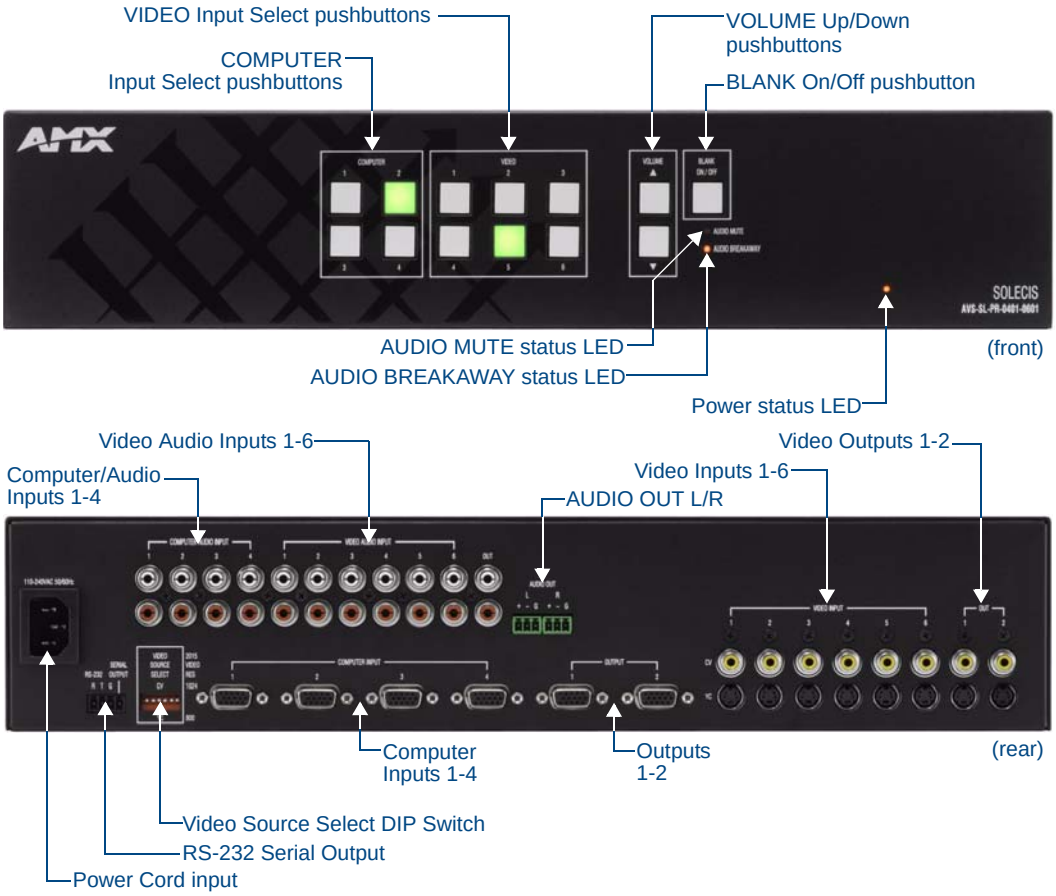


FIG. 1 Solecis AVS-SL-PR-0401-0601 Presentation Switcher

Product Specifications

AVS-SL-PR-0401-0601 Specifications	
RGB Inputs	
Number	4
Connector	HD-15
Level:	Analog
Max Level:	1V p-p
Impedance:	75 ohm
Bandwidth	250MHz -3dB
Return Loss	-38dB@10MHz, -20dB@100MHz
Adjacent Input Crosstalk	-80dB@10MHz, -70dB@100MHz

AVS-SL-PR-0401-0601 Specifications (Cont.)	
Sync Input	
Type:	Analog or TTL
Max Level:	5V p-p
Impedance:	75 ohm
Video Input	
Number	6
Connectors	Phono/RCA/Captive-wire 4Pin Din S-Video
Type	YC or Composite
Level:	Analog
Max Input:	1V P-P
Impedance:	75 Ohm
Bandwidth	50MHz -3dB
Return Loss:	-30dB@1MHz, -22dB@5MHz
Differential Phase Error	0.05%
Differential Gain Error	0.03%
Crosstalk	-60dB@1MHz
Audio Input	
Number	10
Connectors	Phono/RCA
Type	Stereo Unbalanced Analog
Max Level	2V P-P
Impedance	47K
Audio Response	20-50 KHz
RGB Output	
Number:	2
Connector:	HD-15
Level:	Analog
Gain:	Unity
Impedance:	75 ohm
Sync Level:	TTL
Sync Impedance:	75 ohm
Video Output	
Number	2
Type	YC or Composite
Connectors	Phono/RCA/Captive-wire 4Pin Din S-Video
Level:	Analog
Gain:	Unity
Audio Output	
Number	2
Connector	Captive-wire
Type	Stereo Unbalanced and Balanced Analog
Attenuation:	0 to -78dB
Impedance	600 Ohm
Control	
Type:	RS232 Send and Receive, Front Panel
Connector:	Captive-Wire
Protocol:	Baud Rate-9600, Data Bits-8, No Parity, Stop Bits-1
Address:	00 – FF software programmable
Input:	RS232
Serial Output:	Programmable Protocol
Type:	Power On/Off, RGB Input, Composite Input and YC Input
Audio Breakaway:	Available through RS232 command

AVS-SL-PR-0401-0601 Specifications (Cont.)	
Power:	• 110 to 240V auto-switching • Power Connector: IEC
Dimensions:	2U Rack Mounting x 160mm
Weight:	4.22 lb (1.916 kg)
Included Accessories:	• IEC Mains Lead • Programming Software (available from amx.com)
Certifications:	• CE • UL60950 • FCC class B, part 15 • RoHS/WEEE compliant

Connections

Typical Installation For Use With a Projector

Connect the RGB, Video and Audio sources to the Input sockets on the rear panel of the unit.

- The RGB/Video inputs are 75 ohm terminated and the audio inputs 47Kohm terminated.
- The RGB/Video and audio outputs are fully 75 ohm and 600 ohm driven respectively for connection to long cable runs.
- It is imperative that the input sources are fully compatible with the display and sound devices.

Video Connections

There are 4 PC inputs and 6 video inputs.

Two outputs are available for PC and two outputs for Composite Video and S-video. The Video Inputs maybe either Composite Video, S-Video, or a combination of both.

Since the switcher now auto-senses between the Composite and S-Video inputs, the dip switches have no effect unless you are using the Device Serial Output. If you are using the Device Serial Output, DIP switches 1 to 6 must be set to match the incoming source type on their corresponding inputs.
The projector or display device should be switched to match the Source type outputted.
If you are using the serial output, it is also necessary to configure the unit with Solecis DCS. Consult the Solecis DCS Quick Start Guide for more information.

Audio Connections

One unbalanced output is available on Phono (RCA) connectors and one balanced output is available on phoenix connectors.

Power Up

Connect a Mains Source (110 to 240V) to the 2010 switcher.

- The Blank Button will illuminate.
- If any Source is connected to Inputs 1 of the PC and Video groups then Sync only will be present on the output.

Solecis Device Configuration Software

Overview

This software (downloadable from www.amx.com) is used for configuring the AVS-SL-PR-0401-0601 to control external display devices.

Connection

1. Connect the serial port of the PC as follows:

PC (D9)	2011
Pin 5	GND
Pin 2	TX
Pin 3	RX

2. Launch the Solecis Device Configuration Software application. If the connection is correct, the software will automatically detect the AVS-SL-PR-0401-0601.
3. Click on the AVS-SL-PR-0401-0601to access the virtual panel (FIG. 2):

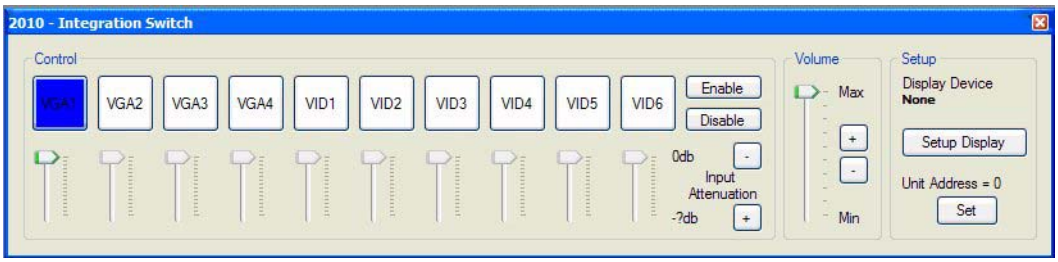


FIG. 2 Device Manager - Virtual Panel

Operation

- Inputs can be selected and their respective attenuation levels can be set.
- The Master volume level can be adjusted and the front panel can be enabled/disabled.
- If several units are to be externally controlled from one serial port, the address of each unit can be changed.

Controlling External Display Devices

To program the AVS-SL-PR-0401-0601 to control external display devices:

1. Click **Setup Display**. .

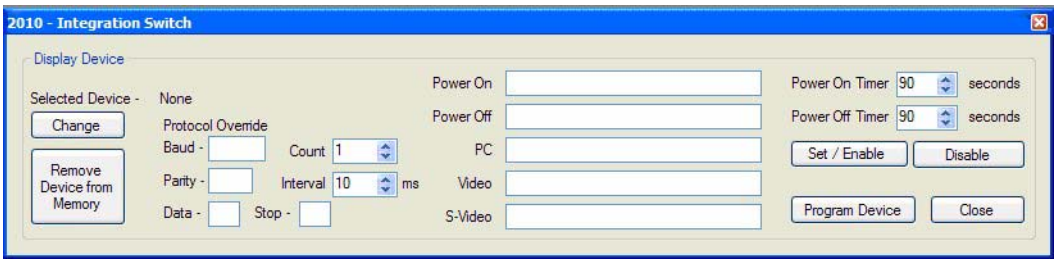


FIG. 3 Device Manager - Setup Display

2. Click **Change** and select the required *Manufacturer*, *Display Type* and *Model*. The protocol and command strings will appear in the relevant fields.

   - If the required device is not in the library, then it can be added by selecting **Library** from the menu bar and following the instructions.

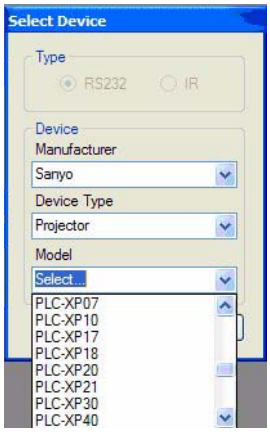


FIG. 4 Device Manager - Adding a Device to the Library

The device manufacturer's data sheet will be required.

   - If the string needs to be transmitted more than once, select the number of times from the **Count** drop-down list and set a suitable interval period.

3. If the Power ON/OFF function is to be enabled, set a warm up and cool down time via the **Power On Timer** and **Power Off Timer** settings, and click on **Set / Enable**.

FIG. 5 Set warm up/cool down times via the Power On Timer and Power Off Timer settings

If the warm up/cool down times are not enabled, Power ON/OFF will not work!

4. Click on **Program Device** to download the information.

Operation (Front Panel Pushbuttons)

Source Selection

To select a Source, press the pushbutton corresponding to the numbered Input.

- The pushbutton will illuminate. A PC input will be routed to the PC output sockets.
- A selected Video Input will also be routed to its respective Composite or S-Video output.
- If a PC input is selected, the last selected video input will remain on its respective output and vice versa.
- The Audio Channel will switch to the highlighted input, unless the unit is controlled by RS232, in which case the Audio can be switched independently.

The front panel displays the status of the PC / Video Inputs.

Blank / Mute

Press the **Blank** pushbutton to blank and mute the outputs.

- The Blank button will illuminate and the Input buttons will extinguish.
- The Sync of the last selected PC and Video Inputs (only) will be present on the outputs.

Blank and Mute are disabled when a source is selected.

Volume

The master volume control adjusts the level of all inputs (via the **Up** and **Down** pushbuttons).

The volume level for the selected audio input is permanently stored, even after switch off.

Attenuation

The initial attenuation level of all the Inputs is set to **0dB**. If some sources are louder than others then they can be adjusted to match.

- To change the attenuation level of an input, press and hold the **Input Select** pushbutton, and press the **Up** and **Down** pushbuttons to set the level.
- Release the pushbuttons to store the new attenuation level.

Display Device Serial Output

This can be used for direct control of any device with RS232 control (i.e: a projector).

The AVS-SL-PR-0401-0601 can be programmed to transmit Power On/Off as well as RGB, Composite and S-Video mode commands to a display device using the *Solecis Device Configuration Software* application (downloadable from www.amx.com).

- Dip switches 1-6 must be set to match the incoming source type on their corresponding inputs.
- The projector or display device should be switched to match the Source type output.
- The commands are transmitted from the Display Serial terminal.

Input mode only

When the AVS-SL-PR-0401-0601 is powered up a mode command will be sent to a display on the first press of any Input select button. The command will either be RGB, Composite or S-Video depending on the button pressed. This will ensure a display device is set to the correct mode to display the input selected. Each time a different source type is selected then a mode command will be sent to the display device. For this function to work the Display must be ON.

Power On/Off mode

When the AVS-SL-PR-0401-0601 is powered up, a Power On command is sent to a display on the first press of any input button.

If the Power ON/OFF function is to be enabled, set a warm up/cool down time via the Power On Timer and Power Off Timer settings, and click on Set / Enable - see Controlling External Display Devices.

- The button will flash for a programmed set time and the unit will disable. This allows a projector to warm up.
- At the end of the warm up period an RGB, Composite or S-Video command is sent to the display, the AVS-SL-PR-0401-0601 enables and the system is ready for use.
- To turn the controlled display (projector) off, press and hold the “Blank ON/OFF” pushbutton (on the front panel) *for 5 seconds*.

Programming Cable Connections

PC Serial Port (D9)	2011
Pin2	TX
Pin3	RX
Pin5	GND

Display Connections

Display device	2011
RX	Display serial o/p
GND	GND

RS232 Control

The unit may be controlled using an RS232 outputting system as follows.

Connection

Controller	2011
GND	GND
TX	RX
RX	TX (if feedback information required)

Protocol

- Baud Rate = 9600
- Data Bits = 8
- Parity = None
- Stop Bit = 1

The default address of the 2011 is **0**.

All commands are hexadecimal. Refer to the SET Commands section on page 13 *and the GET Commands* section on page 15 *for details.*

SET Commands

Input Switching

The following command switches input sources.

Byte 1 (Header)	Byte 2 (Address)	Byte 3 (Video Input)	Byte 4 (Audio Input)	Byte 5(optional) RGB Delay (see note)
E8	00 to FF	00 to 0A	0 to OA	01 to FF

The Audio Inputs can be switched independently from the Video.

Bytes 3 and 4

- 01 to 04 correspond to PC inputs 1 to 4
- 05 to 0A correspond to video inputs 1 to 6
- 00 for Blank
- 1F no change

Byte 5

This switches the input sync but holds the RGB in blank for the time period set by the byte. This allows for a clean switch between inputs.

- The value is in seconds (e.g. 03 = 3 seconds).
- If RGB delay is not required then ignore the 5th byte.

Master Volume (Changes all Input Levels)

The overall Volume level increases 0.5db each time the following command is sent:

Byte 1 (Header)	Byte 2 (Address)	Byte 3 (Increase)
E8	00 to FF	10

The overall Volume level decreases 0.5db each time the following command is sent:

Byte 1 (Header)	Byte 2 (Address)	Byte 3 (Decrease)
E8	00 to FF	20

Absolute Volume Level

A Volume value can be set directly using the following command:

Byte 1 (Header)	Byte 2 (Address)	Byte 3	Byte 4 (Volume Value)
E8	00 to FF	0F	00 to 5A

with **00** as the loudest (0dB)

Attenuation (Changes Level on selected Input only)

The Volume level increases 0.5db each time the following command is sent:

Byte 1	Byte 2	Byte 3
(Header)	(Address)	(Increase)
E8	00 to FF	0D

The Volume level decreases 0.5db each time the following command is sent:

Byte 1	Byte 2	Byte 3
(Header)	(Address)	(Decrease)
E8	00 to FF	0E

Absolute Attenuation Level

An attenuation value can be set directly using the following command:

Byte 1	Byte 2	Byte 3	Byte 4
(Header)	(Address)		(Volume Value)
E8	00 to FF	0F	00 to 1F

with 00 as (0dB)

Mute ON

Byte 1	Byte 2	Byte 3
(Header)	(Address)	
E8	00 to FF	0B

Mute OFF

Byte 1	Byte 2	Byte 3
(Header)	(Address)	
E8	00 to FF	0C

Front Panel Disable

Byte 1	Byte 2	Byte 3
(Header)	(Address)	
E8	00 to FF	40

Front Panel Enable

Byte 1	Byte 2	Byte 3
(Header)	(Address)	
E8	00 to FF	41

Memory Reset (sets 2011 to Default Factory Settings)

Byte 1	Byte 2	Byte 3
38	62	DC

Change Address (Sets 2011 to New Address)

Byte 1	Byte 2	Byte 3	Byte 4
			(Address number)
38	62	D9	00 - FF

GET Commands

Switch and Volume Status Feedback

Transmit

Byte 1 (Header)	Byte 2 (Address)	Byte 3
EF	00 to FF	80

Receive

Byte 1 (Header)	Byte 2 (Address)	Byte 3	Byte 4	Byte 5
C8	00 to FF	PC or Video Input 0= Blank 1 to 4 = PC I/P 5 to 0A= Vid I/P	Audio input	Input volume level

The same string will be transmitted each time an input is selected.

Request Address

Transmit

Byte 1 (Header)	Byte 2 (Address)	Byte 3
38	62	DA

Receive

Byte 1 (Header)	Byte 2 (Address)
C8	00 to FF

Request Attenuation Levels

Transmit

Byte 1 (Header)	Byte 2 (Address)	Byte 3
EF	00 - FF	40

Receive

Byte 1 (Header)	Byte 2 (Address)	Byte 3	4	5	6	7	8	9	10	11	12
C8	00 - FF	40	X	X	X	X	X	X	X	X	X

Where x is a value between 00 and 1F.

Identity Command

Sending this command:

Byte 1	Byte 2	Byte 3	Byte 4
F2	09	EA	80

The unit will return:

Byte 1	Byte 2
6E	04 =2010

Troubleshooting

Q. Device Installer can't find my switch.

- *Make sure that the serial connections are wired correctly, tx to rx, rx to tx and ground to ground.*
- *If using a USB adapter, try removing it and plugging it in to a different USB port on the PC.*
- *Make sure the PC is connected to the PC communications port and not the display's communication port.*

Q. My display device does not respond to button presses.

- *Make sure the system is configured for the correct display device.*
- *Make sure the serial connections to the display device are correct, tx to rx, rx to tx and ground to ground.*
- *If the display power buttons flash for a second after pressing one then there is no display device configured for use with the switch. See section 3 on configuring the switch.*
- *Make sure the communication settings are correct, have a look in the library files to do this.*
- *Make sure there is power to the display device and that there is no internal settings to allow serial communications which must first be turned on.*

Q. Can I control multiple display devices.

A. Yes as long as they are all the same command set then you can connect the tx line from the switch to as many display device as required. The rx however should only be connect to a single display device, leave the rest of the displays detached.

Q. The front panel says the switch is set to PC1 but the audio is coming from Video 1.

A. Check that the switch is in AV mode, if not press the mode button until it is in AV mode and select the input again.

Q. Can I mix the microphone onto the RCA audio output?

A. No, but you can connect the left and right hot (L+ & R+) from the balanced output to the amplifier, then select mic mix and both sources will be present at equivalent to line levels.

Q. How do I reset the switch?

A. Disconnect the power to the device, hold in the display power on & off buttons and reconnect power to the switch. All 3 mode lights should be illuminated to acknowledge the reset. Reset the power once more to resume normal operation. If necessary attach a computer and reprogram the device.

It's Your World - Take Control™

3000 RESEARCH DRIVE, RICHARDSON, TX 75082 USA • 800.222.0193 • 469.624.8000 • 469-624-7153 fax • 800.932.6993 technical support • www.amx.com