

AXA – VC1218

12 Input x 18 Output Video Switcher



Product Operation Manual

Table of Contents

| | | |
|-----|--|----|
| 1.0 | Device Overview | 3 |
| 3.0 | System Requirements | 4 |
| 4.0 | System Setup | 4 |
| 4.1 | Factory Setup | 4 |
| 4.2 | Setup using AXA Configuration Software | 5 |
| 5.0 | Specifications | 8 |
| 6.0 | DyNet Messages | 9 |
| 7.0 | Contact Details..... | 10 |
| 8.0 | Disclaimer | 10 |

1.0 Device Overview

The AXA-VC1218 is a flexible video distribution switch matrix providing 12 inputs, each of which may be switched to any/multiple of 18 available outputs. The AXA-VC1218 can switch Composite, S-Video and Component sources, provides AC or DC output coupling as well as selectable 6, 7, or 8dB integrated cable drivers capable of driving dual video loads. The AXA-VC1218 is controlled using a RS485 Dynalite network (DyNet).



Input selection is achieved by sending DyNet 'preset' messages via the RS-485 network. An area number is assigned to each video output type and preset 1, 2,.,18 selects video input 1,.,.,18 for each area. The VC1218 is powered by the supplied 9V AC plug pack.



TYPICAL APPLICATION

Video distribution to 4 devices controlled via the Dynalite network



2.0 System Connections

DyNet Connections

| | |
|---------|-----------|
| (1) +12 | – 12 Volt |
| (2) D- | – Data - |
| (3) D+ | – Data + |
| (4) GND | – Ground |
| (5) SH | – Shield |

Video Inputs and Outputs

The video inputs are numbered from 1 – 12 and the video outputs are numbered from 1 – 18. These input/output numbers correspond to the AXA Configuration Video Switch setup.

3.0 System Requirements

1. Connection to a Dynalite network.
2. 9V AC 1A Power Supply

4.0 System Setup

1. Make sure the system requirements have been met.
2. Connect DyNet as shown in **System Connections**.
3. Connect video inputs and outputs.
4. Follow the **Setup using AXA Configuration** instructions.

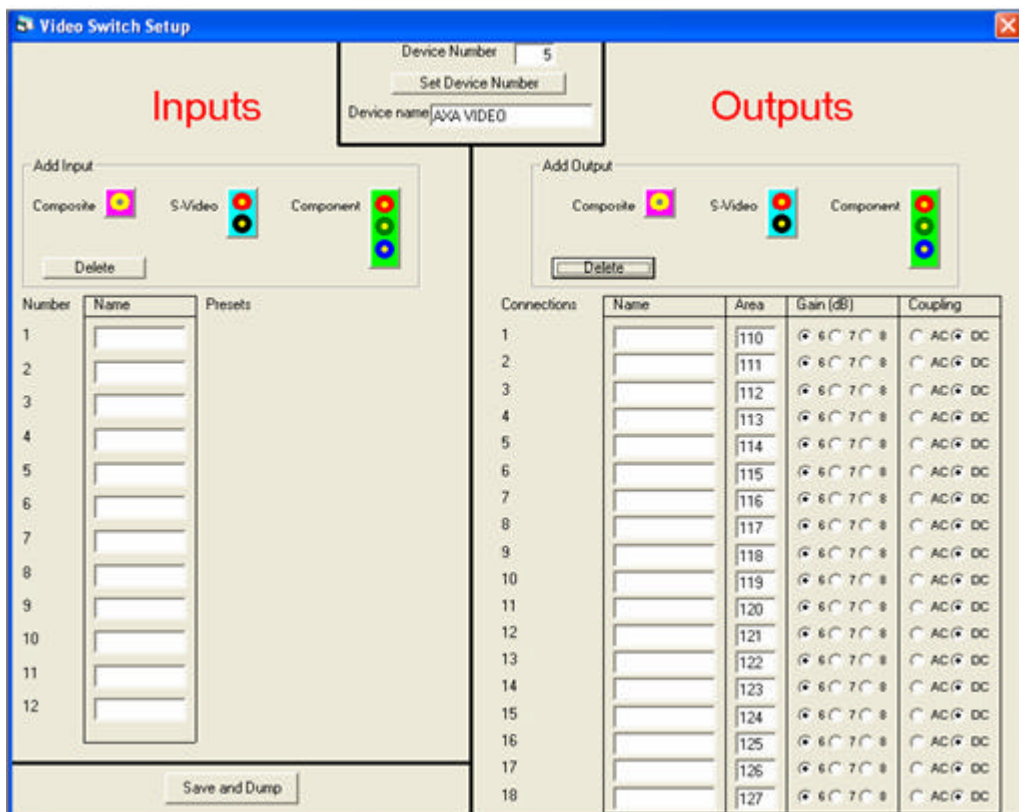
4.1 Factory Setup

The AXA-VC1218 has the following factory default settings:

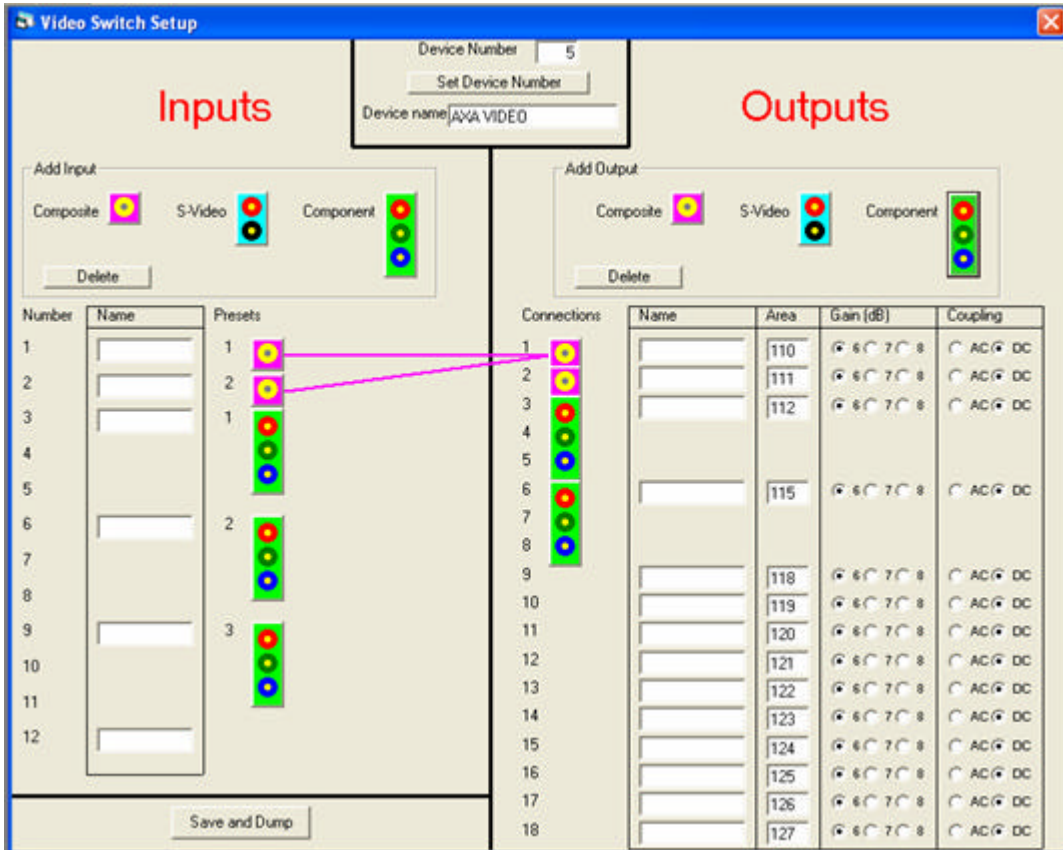
- All inputs and outputs are disabled
- All outputs default to DC coupling with 6 dB gain

4.2 Setup using AXA Configuration Software

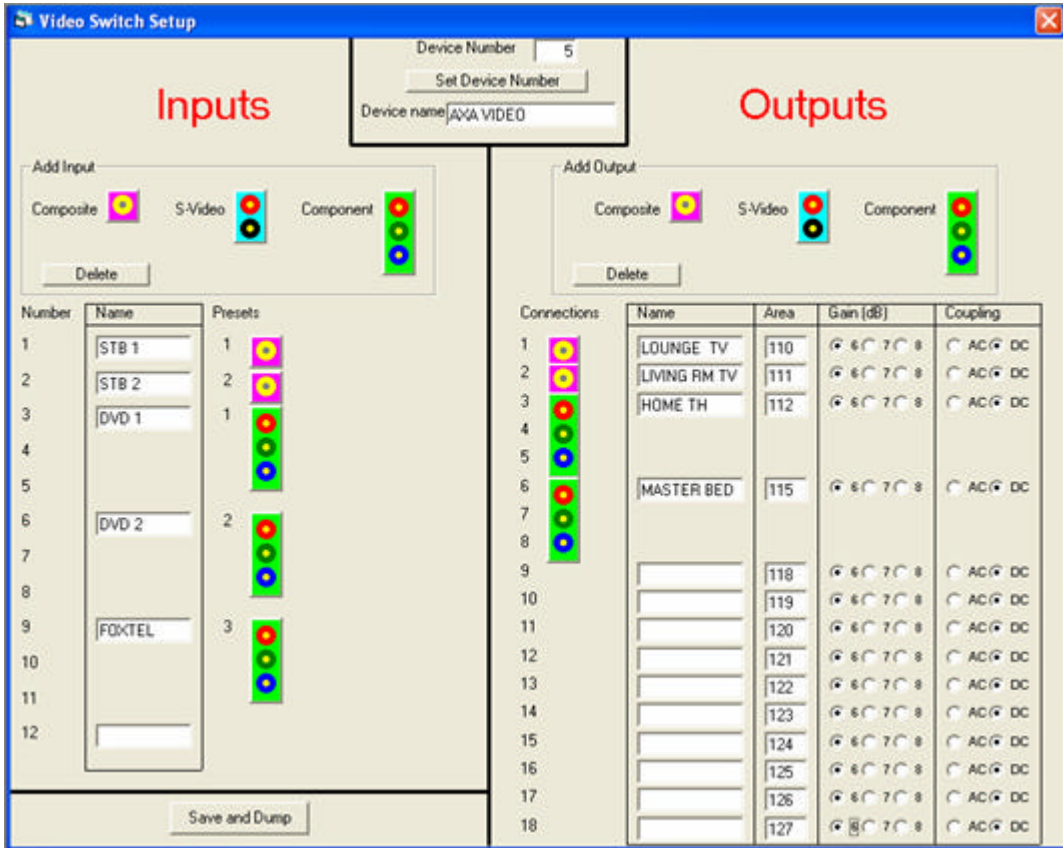
1. In the AXA Design Configuration Utility search for the device
2. Select Video Switch from the AXA Design Device Box
3. Select the desired video input type eg: Composite, S-Video or Component by selecting any of the 3 input images
4. Set the outputs and associated DyNet area values
5. The gain can be set to compensate for cable losses etc.
6. The video coupling can be set to AC or DC as required
7. The device number can be altered in this configuration menu if required.
8. The device name may be entered in for network identification.
9. The video inputs and outputs can be named for identification.
10. Save and Dump to complete the process.



AXA Configuration - Video Switch Setup Screen



This image demonstrates 2 Composite and 3 Component inputs, to 2 Composite and 2 Component Outputs. By clicking on the output image, a wire connection is shown demonstrating the input options for the selected output.



Each input and output should be named for easy identification.

Note – DyNet Preset Messages are used to control the input selection
(Explained in DyNet Message section).

5.0 Specifications

The AXA VC1218 is a 12 input, 18 output, video switcher with the ability to switch Composite (CVBS), S-Video (Y-C) and Component(Y-Cr-Cb) sources to the same type outputs. The VC1218 **DOES NOT** have the ability to convert between different source types (eg S Video to Component).

AC/DC Coupling

The VC1218 can accommodate either AC or DC coupled outputs. If a particular video output channel is being used to drive multiple loads AC coupling should be considered to reduce thermal stress on the video output channel.

Power Saving

The VC1218 powers down all unused video output channels to conserve power and minimise heat dissipation. The powered down video channels will be left in a high impedance state until the output is selected in the AXA Configuration Utility.

AXA-VC1218 System Specifications

| Parameter | Min | Typ | Max | Unit |
|-----------------------------|-----|-----|-----|------|
| Power Supply | | 9 | | V AC |
| | | 1 | | A |
| Video Output Range | | 1 | | V pp |
| Video Output Current | | | 40 | mA |
| Input Impedance | | 75 | | Ohm |
| Output Impedance | | 75 | | Ohm |
| Operating Temperature Range | 0 | | 85 | °C |

6.0 DyNet Messages

The DyNet messages used to control AXA-VC1218 are listed with examples to simplify system setup.

Interface Use RS485, 9600, 8 bit data, 1 start bit, 1 stop bit, no parity. Idle between bytes to be < 1ms. Delay between Packets to be > 10ms.

Logical Message Protocol 8 byte packet, Checksum = Negative 8 bit 2's complement sum of bytes 1-7. All numbers in hexadecimal:

Example Preset Message

Byte 0: 1C hex Logical Message
Byte 1: 01 Area Number (1 for this example)
Byte 2: 00 hex
Byte 3: 00 Preset 1=0x00, Preset 2 = 0x01, Preset 3 = 0x02, and Preset 4 = 0x03
Byte 4: 00 hex
Byte 5: 00 Bank (bank 1 presets 5-8, bank 2 presets 9-12, etc)
Byte 6: FF Join usually FF
Byte 7: Checksum
Example: Select Input 1 to go to Area 1
[1C] [01] [00] [00] [00] [00] [FF] [CHECKSUM]

Example Preset Request

Byte 0: 1C hex Logical Message
Byte 1: 01 Area Number (1 for this example)
Byte 2: 00 hex
Byte 3: 63 OpCode
Byte 4: 00 hex
Byte 5: 00 hex
Byte 6: FF Join usually FF
Byte 7: Checksum
Example: Request the current preset in Area 1
[1C] [01] [00] [63] [00] [00] [FF] [CHECKSUM]

Example Preset Report

Byte 0: 1C hex Logical Message
Byte 1: 01 Area Number (1 for this example)
Byte 2: 01 Preset
Byte 3: 62 OpCode
Byte 4: 00 hex
Byte 5: 00 hex
Byte 6: FF Join usually FF
Byte 7: Checksum
Example: Input 1, Area 1 Report
[1C] [01] [01] [62] [00] [00] [FF] [CHECKSUM]

7.0 Contact Details

Postal and Delivery Address

AXA Design Pty. Ltd.

Unit 5/121 Newmarket Rd.

Windsor Qld. 4030

Australia

Phone – (617) 3357 1922

Fax - (617) 3357 9189

Website - <http://www.axadesign.com.au>

Email - admin@axadesign.com.au

8.0 Disclaimer

AXA Design Pty. Ltd. reserves the right to alter specifications and design without further notice. AXA Design Pty. Ltd. will not be held responsible for the misinterpretation of printed material contained in this manual. Further enquiries should be directed to AXA Design Pty. Ltd. using the listed contact details.