485 bus Video Switcher Installation Guide

16 Machine input with 16 keyboard
switched monitor outputs

VS16

DEDICATED MICROS

Introduction

The 485 bus video switcher allows switching of Main (Mon A), Spot (Mon B) or Main & Spot monitors for independent keyboards using multiple 485 bus Multiplexers (Not for use with Sprite Lite product).

The video switcher by default is supplied as an 8 (Main) x 8 (Spot) unit, in this configuration each keyboard position has a dedicated switched main and spot monitor output. This means that the video switcher has facilities to switch up to eight multiplexer monitor outputs to a total of eight keyboard positions.

The video switcher can also be configured to be a 16 (Main or Spot) input unit, in this configuration each keyboard will have a dedicated main or spot monitor output. This will allow up to sixteen multiplexer monitor outputs and a total of sixteen keyboard positions.

Connection Details

Video connection is via industry standard BNC connectors at the rear of the unit. The 485 Video Switcher has to be connected to the 485 bus multiplexers by the supplied MMJ lead. This is via either of the 485 bus ports at the rear of the unit.

Power connection is provided by the supplied, external 9V d.c power supply via a 5 pin mini DIN connected to the rear of the unit.

Video Inputs (8 x 8 Configuration)
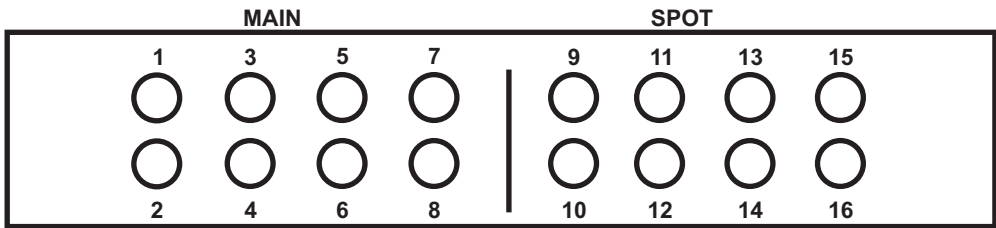
The above diagram shows the connections for the unit when configured as an 8 x 8 device (default). Connect Unit 1's Main monitor video to Input 1 and the Spot monitor video to Input 9. Unit 2's Main monitor video is connected to Input 2 and the Spot monitor is connected to Input 10, etc.
Note: Please refer to multiplexer documentation on how to set the Unit number.

Video Inputs (16 x 16 Configuration)
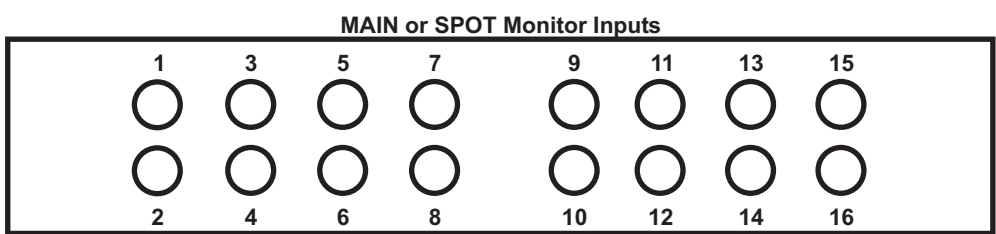
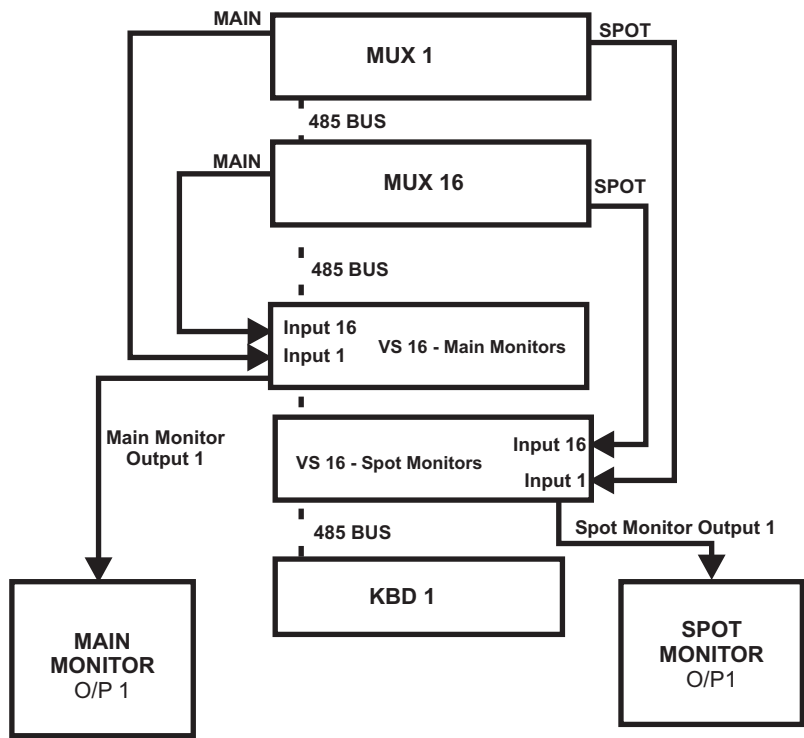The above shows the option to switch sixteen main or spot monitors from sixteen individual multiplexers. If it is necessary to switch both main and spot then two video switchers will be required. Connect the main or spot monitor outputs of each unit to each of the inputs on the video switcher, connecting unit 1 to input 1, unit 2 to input 2, etc.
Note: Please refer to the multiplexer documentation on how to set the Unit number.

System Diagram - Optional 16x16 Configuration

The illustration shows the video switcher configured for 16 x 16 with multiplexer 1 to 16 Main monitor output being connected to one video switch and multiplexer 1 to 16 Spot monitor being connected to a second video switcher.

There are 16 Main monitor outputs and 16 Spot monitor outputs.

```
        MAIN  ┌──────────────────────┐  SPOT
   ┌──────────│        MUX 1         │──────────┐
   │          └──────────────────────┘          │
   │               485 BUS                       │
   │    MAIN  ┌──────────────────────┐           │
   │  ┌───────│        MUX 16        │  SPOT     │
   │  │       └──────────────────────┘───────┐   │
   │  │            485 BUS                    │   │
   │  │   ┌──────────────────────────┐        │   │
   │  └──▶│ Input 16                 │        │   │
   └─────▶│ Input 1   VS 16 - Main Monitors│  │   │
          └──────────────────────────┘        │   │
   │           ┌─────────────────────────┐     │   │
   │           │           Input 16 │◀────────┘   │
   │           │ VS 16 - Spot Monitors      │         │
Main Monitor   │           Input 1  │◀────────────┘
Output 1       └─────────────────────────┘
   │              485 BUS        Spot Monitor Output 1
   │           ┌──────────────────┐
   │           │      KBD 1        │
   │           └──────────────────┘
   ▼                                    ▼
┌────────┐                         ┌────────┐
│  MAIN  │                         │  SPOT  │
│MONITOR │                         │MONITOR │
│  O/P 1 │                         │  O/P1  │
└────────┘                         └────────┘
```

Video Inputs (Continued)

The table below shows the connections for a unit configured as 8 x 8.

Unit number	MAIN MONITOR Video Input Number	SPOT MONITOR Video Input Number
1	1	9
2	2	10
3	3	11
4	4	12
5	5	13
6	6	14
7	7	15
8	8	16

Note: When the unit is configured as a 16 x16 unit the monitor outputs connect one to one on the video switcher, i.e. 1 - 1, 2 - 2, 3 - 3, 16 - 16.

Video Outputs (8 x 8 Configuration)

With the unit configured as default (8 x 8) keyboard 1 has a dedicated pair of monitor outputs, main & spot connected to outputs 1 and 9. The outputs will change over to display the relative multiplexers monitor outputs. If the user at keyboard 1 changes Control (Unit Select or MPC) to Multiplexer 2 then the video on KBD1 output will change to show the correct multiplexers monitors. Keyboard 2 monitor outputs are connected to main & spot monitor outputs 2 and 10, etc. up to keyboard number 8.
NOTE: Please refer to keyboard documentation on how to set the Keyboard number..

```
          MAIN                      SPOT
┌──────────────────────────────────────────────────┐
│     1      3      5      7      9     11     13    15│
│     ○      ○      ○      ○  |   ○      ○      ○     ○ │
│                                                     │
│     ○      ○      ○      ○  |   ○      ○      ○     ○ │
│     2      4      6      8     10     12     14    16│
└──────────────────────────────────────────────────┘
```
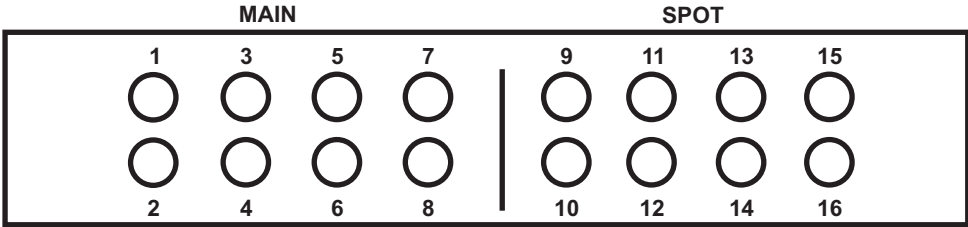
Video Outputs (16 x 16 Configuration)

With the unit configured as 16 x 16, each keyboard will have a dedicated Main or Spot monitor (depending on the system configuration) therefore a keyboard is required for each monitor output connected on the unit.

Keyboard number	MAIN MONITOR Video Output Number	SPOT MONITOR Video Output Number
1	1	9
2	2	10
3	3	11
4	4	12
5	5	13
6	6	14
7	7	15
8	8	16

The table above shows the monitor and keyboard association for an 8 x 8 unit. The keyboard for a 16 x 16 unit would be one-to-one; 1 -1, 2 - 2,...... 16 - 16.

Mode Select Link Settings

There are four links at J17. These are used to select the modes of operation in the video switcher. The default settings for an 8 x 8 configuration are as follows.

Link	Setting	Function
J17 D	Not Fitted	Keyboard Association Mode
J17 C	Fitted	Banked Switching (Ganged)
J17 B	Not Fitted	Non-Matrix mode
J17 A	Not Fitted	16 input 16 output build
DEFAULT SETTINGS		

D C B A
J17
Mode Select
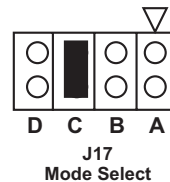
To configure the unit as a 16 x 16 video switcher the jumper settings are as follows:

Link	Setting	Function
J17 D	Not Fitted	Keyboard Association Mode
J17 C	Not Fitted	Banked Switching (Ganged)
J17 B	Not Fitted	Non-Matrix mode
J17 A	Not Fitted	16 input 16 output build

D C B A
J17
Mode Select
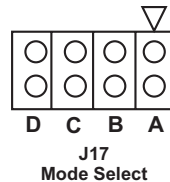
Address Link Settings

The video switcher has to be addresses to the first 485 bus keyboard address (default 032). The link settings are J20 & J21.

Link								Function
A	B	C	D	E	F	G	H	Keyboard Address
Not Fitted	Not Fitted	Not Fitted	Not Fitted	Not Fitted	Fitted	Not Fitted	Not Fitted	32 (Keyboard 1)
DEFAULT SETTINGS								

J20   J21
A   B   C   D   E   F   G   H
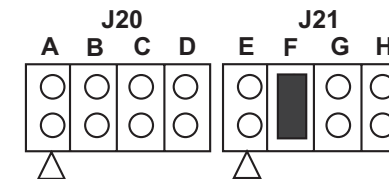
If any other video switcher configuration is required please contact your nearest DM Technical Support Department.

System Diagram - Default Configuration (8 x 8 Configuration)

The illustration shows the default configuration which is two units being controlled by a single keyboard with switch monitor outputs.

The video will switch over from unit one to unit two when the user presses <unit select> then relevant <cam> (or <MPC>) key on the keyboard. See the multiplexer documentation for further information on selecting different units.

MAIN
SPOT

MUX 1

485 BUS

MUX 2

MAIN
SPOT

485 BUS

Input 9   **VS 16**   Input 10
Input 1   Input 2

MAIN MONITOR
Connected to Output 1

SPOT MONITOR
Connected to Output 9

485 BUS

KBD 1