Milestone™

PRESENTATION MATRIX SWITCHER'S MANUAL

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A unit whereby multiple VGA & COMPOSITE VIDEO inputs along with their respective AUDIO can be switched to individual respective gain controlled outputs along with their AUDIO.

Models Available :		
Model	Input	Output
ML 440PSM	4 VGA + 4 AUDIO, & 4 C-VIDEO + 4 AUDIO	1 VGA + 1 AUDIO, & 2 C-VIDEO & ITS 2 AUDIO MATRIX

Features :	
Installation	Easy to Install 100% Plug and Play Unit
Sharing	2/4/8CPU > 2 Projectors or Monitors output
Compatibility	100 % compatible to VGA, SVGA, XGA, EVGA, SXGA, PC audio and standard C-Video & Audio input
Selection	Channels Selectable from: • Individual front panel local key pad • Individual Remote key pad *(optional)* • RF Remote Controller *(optional)* • RS232C Interface • RS485 / 422 Interface *(optional)* • Active PCs selected or scanned in Auto / Scan Mode
Indication	LED Indication for working channel
VGA Output	Gain Control output for it's optimal viewing
Video Output	Gain Control output for it's optimal viewing
Output Distance	100 Meter on good quality cable
Cables	Can use Standard VGA Cables for I/P and O/P (Male to Male D-15) Standard Video cables (RCA) and Captive Screw connecter for easy Audio connectivity.
Mode	(1) Auto, (2) Scan, & (3) Manual (Only for VGA)

Technical Details:		
Model		440PSM
Input Connecters		
VGA	D Type 15 Pin Female	4
Video	Standard RCA	4
Audio	3 pin Captive Screw	8
Output Connecters		1 to 8
VGA	D Type 15 Pin Female	1
Video	Standard RCA	2
Audio	3 pin Captive Screw	3
LED Indication		
Power		1
VGA – Audio		1 to 4
C.Video – Audio O/P 1		1 to 4
C.Video – Audio O/P 2		1 to 4
TR (for Video Audio)		1
Keypad Selection		
VGA Audio		1 to 4
C-Video Audio		1 to 4
RF Remote Keypad / Contact Closure through cable (30M)		D9 Male x 1
RS232 Interface (RS422 / RS485 *)		D9 Female x 1
Gain Controlled VGA & Video Outputs		Yes
Power		230 V AC
Size		19” 2U
Weight		2.9 KG

REAR PANNEL CONNECTORS DETAILS

1. 3 Pin Captive screw for Audio
   a) Left pin – Right Audio
   b) Center pin – Ground
   c) Right pin – Left Audio
2. Standard RCA for C-Video
3. Standard D15 Female for VGA.

HOW TO USE THE UNIT

a) Keep the switch (at the rear panel) in the required mode as described in output.(for VGA/AUDIO only)
b) Connect VGA along with Audio inputs to Laptops or Computers.
c) Connect C-Video along with Audio to CD or DVD player or Camera.
d) Connect one VGA output & one Audio output to the VGA and its Audio input of the Projector.
e) Select the required channel using various selection methods [Front panel keypad, Remote (Wired or Wireless) Keypads, RS232C, etc.]

OPERATION

I. FOR VGA AND ITS AUDIO

A. MANUAL MODE & RS232C MODE

Keep slide-switch to manual position

- **Local Keypad**
  Select the required channel from the front panel keypad.

- **Remote contact closure/ remote keypad**
  Rear panel has one D9 male connector, operational at a distance of 50 meters. Milestone's remote keypad or any other remote contact closure can be connected at this connector.
  The connector diagram for D9 male connector is as follows:

D-9 Male –1 (Back panel Select port of unit)	Channels (1 – 4)
1	VGA AUDIO 1
2	VGA AUDIO 2
3	VGA AUDIO 3
4	VGA AUDIO 4
9	GRD

Note: 1. To select VGA Audio1, short 1and 9 through contact switch or use Milestone's remote keypad.

B. RS232 interface

D9 female connector from rear panel is used for selecting the switcher through RS232C Interface.

The pin configuration is as follows:

D-9 Female RS232 Port on Unit	Signal
3	Rx
5	GRD

The simple command used for selecting the channels is as follows:

Channel	Decimal	ASCII
VGA AUDIO 1	1$	31, 23
VGA AUDIO 2	2$	32, 23
VGA AUDIO 3	3$	33, 23
VGA AUDIO 4	4$	34, 23

Communication parameters are 9600 baud, no parity, 8-bit and 1 stop bit.

C. SCANNING MODE

For scanning mode, keep slide-switch in scan position. Scanning time for each channel is 5 seconds.
Scan mode operates in two ways:

- **Scanning for the activated PCs or laptops only (only for VGA)**: In this mode, scanning will be done for activated PCs only.

- **Scanning of all the PCs or laptops regardless of the activated PCs:**
  Short all the pins of D9 pin male connector designated as **'SELECT'** (using another D9 Female Connector i.e.1 to 9 pins) at the rear panel. In this mode scanning of all PCs is done regardless of the PC's status (ON or OFF)

D. AUTO MODE (Only for VGA)

For Auto mode, keep slide-switch in Auto position.

Auto mode works on priority basis. First priority is given to Channel 1, 2nd priority to channel 2 and so on.

For example if Sync signal is detected on channel 2 and channel simultaneously, only channel 2 will get selected on priority basis. Channel 3 can be selected only when channel 1 and channel 2 are deactivated.

II. FOR VIDEO AUDIO MATRIX

A. LOCAL KEYPAD

Select the required channel from the front panel keypad as per the procedure given below.

Required Output On	Select / Press	LED
VIDEO 1 → OP 1	1 & 1	LED ON Output - 1
VIDEO 2 → OP 1	2 & 1	
VIDEO 3 → OP 1	3 & 1	
VIDEO 4 → OP 1	4 & 1	
VIDEO 1 → OP 2	1 & 2	LED ON Output - 2
VIDEO 2 → OP 2	2 & 2	
VIDEO 3 → OP 2	3 & 2	
VIDEO 4 → OP 2	4 & 2	

When the 1st key is pressed, TR LED (Transition LED) gets ON and after 2nd key is pressed the respective channel gets selected and TR LED goes OFF. If TR LED is ON it means it is waiting for 2nd key to be pressed. If 2nd key is not pressed for 5 Secs. TR gets OFF and waits for 1st key to be pressed again (Normal Condition).

B. RS232 interface (RS232)

D9 female connector from rear panel is used for selecting the switcher through RS232C Interface.

The pin configurations are

D-9 Female RS232 Port on Unit	Signal
3	Rx
5	GRD

The simple command used for selecting the channels are:

Required Output On	Decimal	ASCII
VIDEO 1→ O/P 1	1*1!	312A3121
VIDEO 2→ O/P 1	2*1!	322A3121
VIDEO 3→ O/P 1	3*1!	332A3121
VIDEO 4→ O/P 1	4*1!	342A3121
VIDEO 1→ O/P 2	1*2!	312A3221
VIDEO 2→ O/P 2	2*2!	322A3221
VIDEO 3→ O/P 2	3*2!	332A3221
VIDEO 4→ O/P 2	4*2!	342A3221

The serial interface and baud rate is same as of VGA AUDIO