



### Introduction

This is a modular matrix switcher, upto 12 input card slots and 12 output card slots, so it can support maximum 48 inputs and 48 outputs, all the input and output cards are using 1-card 4-port, the signals are including the DVI, HDMI, HDBasT, Fiber Optic, 3G/12G-SDI. Users are able to have mixed signals inputs and mixed signals outputs.

Unique signal links shielding designing technology to make sure the signal completeness, the internal data switch has super strong capacity of resisting disturbance and long continuous and stable working ability. Supports 7\*24 continuously working and with dual LAN and RS232 backup control, it's convenient for users to control via PC, iPad, APP and the 3rd parties central control by the the RS232 control commands.

### Features

- Modular designing chassis, with 12 input slots and 12 output slots, hot swappable.
- 1-card 4-port cards
- True 1080P, 4K30 and 4K60 cards for selections
- Supports DVI-I/ HDMI/ 3G/12G-SDI/ HDBaseT/ Fiber to mix using
- Support Video wall and seamless switching with the 1080P and 4K60 cards
- Support 3.5mm audio embedded and de-embedded function
- Support up/down scaling function via the DIP switch
- Support dual LAN and RS232 ports for backup control
- Supports WEB GUI, APP, touch screen, RS232 commands control
- Support auto saving protection and auto recovery function while power cut
- Backplane bandwidth
- 4:4:4 chroma
- HDR, HDR10, HDR10+

### Specification

|        |   |
|--------|---|
| Name   | MODULAR MATRIX SWITCHER   |
| Models | 8X8, 16X16, 24X24, 32X32, 40X40, 48X48                                    |
| Input  | 1-card 4-port input, including DVI/HDMI/VGA/CVBS/YPbPr/SDI/ HDBaseT/Fiber |

|                            |  |
|----------------------------|--|
| <b>Output</b>              | 1-card 4-port output, including DVI/HDMI/VGA/CVBS/YPbPr/SDI/ HDBaseT/Fiber |
| <b>Protocol Standard</b>   | Support HDMI1.4, HDMI3.0, DVI1.0. HDCP1.4, HDP2.2                          |
| <b>Color Space</b>         | Support RGB444, YUV444, YUV422 , x.v.C standard color extension            |
| <b>Resolution</b>          | 640×480---3840×2160@60Hz(VESA ), 480i---4K@60Hz(HDTV )                     |
| <b>Distance</b>            | HDMI/DVI: 15m/40ft ; HDBaseT: 70m/220ft; Fiber: 2km/6000ft                 |
| <b>Control</b>             | iOS/Android Apps, WEB GUI, RS232 & 10" Color Touchscreen                   |
| <b>Power</b>               | AC: 110V—260V 50/60Hz (Optional Redundant Power Supply)                    |
| <b>Consumption</b>         | 50W(No Cards)  |
| <b>Work Temperature</b>    | 0°C ~50°C  |
| <b>Storage Temperature</b> | -20°C ~55°C  |

### Input and output cards:

| 1080P cards           |   |                    |   |   |
|-----------------------|---|--------------------|---|---|
| 1080p SVM input cards | 4-port 1080P MAV(DVI-I) input card                              | FM-IN-SVM-MAV      |  | 4-port MAV inputs, can support CVBS/YPBPR/VGA/HDMI with different adapters<br>HDCP compliant  |
|                       | 4-port 1080P HDMI input with audio in                           | FM-IN-SVM-HD       |  | 4-port HDMI inputs, HDCP compliant<br>Support up to 1080P60hz and backwards<br>Support 3.5mm audio embedded   |
|                       | 4-port 1080P VGA input with audio in                            | FM-IN-SVM-VGA      |  | 4-port VGA inputs<br>Support up to 1080P60hz and backwards<br>Support 3-PIN phoenix audio embedded  |
|                       | 4-port 1080P CVBS input with audio in                           | FM-IN-SVM-CVBS     |  | 4-port SVBS(BNC) inputs<br>Support up to 1080P60hz and backwards<br>Support 3-PIN phoenix audio embedded  |
|                       | 4-port 1080P SDI input with loop outs                           | FM-IN-SVM-3GSDI-TW |  | 4-port SD/HD/3G-SDI input and 4 loop outs<br>Resolution up to 1080P60, 720/1080P key<br>Seamless switch<br>SDI cable distance can up to 20m/60ft  |
|                       | 2-port SDI+2-port HDMI input card                               | FM-IN-SVM-2S2H     |  | 2-port SD/HD/3G-SDI inputs with loop outs+2-port HDMI inputs<br>Support up to 1080P60hz and backwards<br>Support 3-PIN phoenix audio embedded   |
|                       | 4-port 1080P 70m/220ft HDBaseT input card with RS232/audio out  | FM-IN-SVM-HDBT-70  |  | 4port HDBaseT inputs<br>Support bi-directional IR, RS232/Audio out<br>Supports POC function<br>Can work with any HDBaseT products<br>Resolution up to 1080P60Hz, distance up to 70m/220ft over single STP CAT6  |
|                       | 4-port 1080P 100m/330ft HDBaseT input card with RS232/audio out | FM-IN-SVM-HDBT-100 |  | 4port HDBaseT inputs<br>Support bi-directional IR, RS232/Audio out<br>Supports POC function<br>Can work with any HDBaseT products<br>Resolution up to 1080P60Hz, distance up to 100m/330ft over single STP CAT6 |

|   |  |                     |   |  |
|---|--|---------------------|---|--|
| 1080p SVM Output cards                          | 4-port 1080P HDMI output card with audio out               | FM-OUT-SVM-HD       |   | 4-port HDMI outputs<br>Support up to 1080P60hz and backwards, scaling function by DIP switch<br>Supports seamless switching and Video Wall function<br>Supports 3.5mm audio de-embedded                                |
|   | 4-port 1080P DVI output card                               | FM-OUT-SVM-DVI      |   | 4-port DVI outputs<br>Support up to 1080P60hz and backwards<br>Supports seamless switching   |
|   | 4-port 1080P VGA output card with audio out                | FM-OUT-SVM-VGA      |   | 4-port VGA outputs<br>Support up to 1080P60hz and backwards, scaling function by DIP switch<br>Supports seamless switching and Video Wall function<br>Supports 3-PIN phoenix audio de-embedded                         |
|   | 4-port 1080P CVBS output card with audio out               | FM-OUT-SVM-CVBS     |   | 4-port CVBS outputs<br>Support up to 1080P60hz and backwards, scaling function by DIP switch<br>Supports seamless switching and Video Wall function<br>Supports 3-PIN phoenix audio de-embedded                        |
|   | 4-port 1080P SDI output card with audio out                | FM-OUT-SVM-3GSDI    |   | 4-port 3G/HD/SD-SDI outputs with loop outs<br>Support up to 1080P60hz and backwards, scaling function by DIP switch<br>Supports seamless switching and Video Wall function<br>Supports 3-PIN phoenix audio de-embedded |
|   | 4-port 1080P 70m/220ft HDBaseT Output card with audio out  | FM-OUT-SVM-HDBT-70  |   | 4port HDBaseT Outputs<br>Support bi-directional IR, RS232/Audio out<br>Supports POC function<br>Can work with any HDBaseT products<br>Resolution up to 1080P60Hz, distance up to 70m/220ft over single STP             |
|   | 4-port 1080P 100m/330ft HDBaseT output card with audio out | FM-OUT-SVM-HDBT-100 |   | 4port HDBaseT outputs<br>Support bi-directional IR, RS232/Audio out<br>Supports POC function<br>Can work with any HDBaseT products<br>Resolution up to 1080P60Hz, distance up to 100m/330ft over single STP<br>CAT6    |
| FM HDMI+LAN output card with seamless switching | FM-OUT-SVM-LHDT-150  |                     | 1-card 8-port output card<br>Support 4*HDMI+ 4*LAN outputs<br>Distance up to 150m/450ft for 1080P over LAN with POC<br>Only works with the LHDT Extender Receiver |  |

| 4K60 cards |  |                      |  |   |
|------------|--|----------------------|--|---|
| 4K60 HDR   | 4-port HDR 4k60 HDMI input card with audio in              | FM-IN-HD-4K60        |  | 4-port HDMI 4K60 inputs<br>HDCP2.2 compliant<br>Support up to 4K60hz and backwards,<br>Support 3.5mm audio embedded<br>Support DIP switch for EDID management   |
|            | 4-port 4K60 12GSDI input card                              | FM-IN-12GSDI-4K60    |  | 4-port 12GSDI inputs with 4* 12G SDI loopout<br>Support 12GSDI and down compatible with 3GSDI<br>Support 3.5mm audio embedded   |
|            | 4-port 4K60(4:2:0) 35m HDBaseT input card                  | FM-IN-HDBT-4K60-70   |  | 4-port HDBaseT input pass-through card<br>Resolution up to 4K60(4:2:0), distance up to 35m/110ft<br>Support bi-directional IR, RS232 and Audio out<br>Support POC, no video wall, no seamless switch<br>Can work with any of our HDBaseT Transmitters |
|            | 4-port 4K60(4:2:0) 70m HDBaseT input card                  | FM-IN-HDBT-4K60-100  |  | 4-port HDBaseT input pass-through card<br>Resolution up to 4K60(4:2:0), distance up to 70m/220ft<br>Support bi-directional IR, RS232 and Audio out<br>Support POC, no video wall, no seamless switch<br>Can work with any of our HDBaseT Transmitters |
|            | 4-port 4K30 2km LC Fiber input card                        | FM-IN-FIBER-2K-4K60  |  | 4-port Fiber input card<br>Resolution up to 4K30, distance up to 2km over 1-core LC fiber cable<br>Support 3.5mm audio in<br>Can work with our AEL Fiber Transmitter  |
|            | 4-port HDR 4k60 HDMI output card with audio out            | FM-OUT-HD-4K60       |  | 4-port HDMI 4K60 outputs<br>HDCP2.2 compliant<br>Support up to 4K60hz and backwards,<br>Support 3.5mm audio embedded  |
|            | 4-port 4K60(4:2:0) 35m/110ft HDBT pass-through output card | FM-OUT-HDBT-4K60-70  |  | 4-port HDBaseT output pass-through output card<br>Resolution up to 4K60(4:2:0), distance up to 35m/110ft<br>Support bi-directional IR, RS232<br>Support POC, no video wall, no seamless switch<br>Can work with any of our HDBaseT receivers          |
|            | 4-port 4K60(4:2:0) 70m/220ft HDBT pass-through output card | FM-OUT-HDBT-4K60-100 |  | 4-port HDBaseT output pass-through output card<br>Resolution up to 4K60(4:2:0), distance up to 70m/220ft<br>Support bi-directional IR, RS232<br>Support POC, no video wall, no seamless switch<br>Can work with any of our HDBaseT receivers          |

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| 4K60 SVM | 4-port PTP 4k60 HDMI input card with audio in                  | FM-IN-SVM-HD-4K60        |  | 4-port HDMI 4K60 inputs<br>HDCP2.2 compliant<br>Support up to 4K60hz and backwards,<br>Support 3.5mm audio embedded<br>Support seamless switching and scaling by DIP switch   |
|          | 4-port PTP 4k60 HDMI output card with audio out and video wall | FM-OUT-SVM-HD-4K60       |  | 4-port HDMI 4K60 outputs<br>HDCP2.2 compliant<br>Support up to 4K60hz and backwards<br>Support 3.5mm audio de-embedded<br>Support seamless switching, scaling, video wall and image rotation by commands                  |
|          | 4-port SVM 4K60 40m HDB output card                            | FM-OUT-DRS-HDBT-4K60-70  |  | 4-port HDBaseT outputs<br>Displace up to 40m over STP CAT5E/6/7<br>Resolution to 4K60 and down compatible<br>Support IR, RS232/audio out<br>Support POC function, video wall, and seamless switching and scaling function |
|          | 4-port SVM 4K60 70m HDB output card                            | FM-OUT-DRS-HDBT-4K60-100 |  | 4-port HDBaseT outputs<br>Displace up to 70m over STP CAT5E/6/7<br>Resolution to 4K60 and down compatible<br>Support IR, RS232/audio out<br>Support POC function, video wall, and seamless switching and scaling function |
|          | 4-port 4K60 2km Fiber Optic output card with VW                | FM-OUT-SVM-FIBER-2K-4K60 |  | 4-port Fiber Optic Outputs<br>Resolution up to 4K60 and distance to 2km over SM fiber LC cable<br>Supports seamless switching, video wall and scaling<br>Works with the AEL Fiber receivers                               |

| Function cards   |  |                  |  |  |
|------------------|--|------------------|--|--|
| Functional cards | 4-port H.264/265 decoding card                     | FM-IN-IP         |  | 4-port IP decoding<br>H.264/265, RTSP, ONVIF<br>Supports 4*4K, 16*1080p, 64*D1   |
|                  | H.264/265 encoder card                             | FM-OUT-IP        |  | 4-port HDMI encoder card<br>Support 3.5m audio embedded<br>Supports RTSP, ONVIF standard protocols   |
|                  | 1-port 4K60 quad-view output card with USB capture | FM-OUT-QUVC-4K60 |  | 1-port 4K60 HDMI2.0 quad-view output<br>Supports 8 working modes<br>Supports RS232, Layout key, IR remote control layouts, resolution<br>Support 1-port USB3.0 capture by OBS    |
|                  | WEB-Based Control card                             | FM-CONTROL       |  | Built-in the matrix chassis<br>3*RS232/RS422/RS485, 4*IO, 8*RELAY, 4*IR<br>Supports WEB GUI dragdrop programming<br>Supports IP expansion<br>Supports control UI/APP customizing |

### Connection diagram

