

OPERATION MANUAL

HVS-300HS
HVS-300RPS
Digital Video Switcher

HVS-300U
Operation Unit

2nd Edition - Rev. 8




Edition Revision History

| Edit. | Rev. | Date | Description | Section, page |
|-------------|------|------------|--|--|
| Preliminary | | 2009/02/13 | | |
| 1 | | 2009/02/27 | | |
| 1 | 1 | 2009/03/10 | "How to back up settings" "OSD operation" added Factual errors corrected | 5-4 21-3 |
| 1 | 2 | 2009/04/30 | Max. voltage for GPI OUT circuit changed to 40V "Setting Up Additional Inputs" added. "Setting Up Additional Outputs" corrected Wipe patterns No. 200 and later corrected "Ancillary Data" added "Interface Settings" added "Setup Setting for HVS-30FP and HVS-30RU" and HVS-30OU dimensions corrected Additional notes added and factual errors corrected. | 2-4-3 6-6 7-5 10 18-5 20 21 22 |
| 1 | 3 | 2009/05/19 | Deletes SONY models from the available USB flash memory list. | Appendix p1 |
| 1 | 4 | 2009/06/01 | OSD control for User button added Optional inputs description corrected Optional outputs description corrected Keyer edge section moved and text added GPI in/GPI out/Tally names for assignment Other factual errors corrected | 5-1 6-1, 6-3, 6-6,7-1-2 7-5 11-7 20-1, 20-2-1 |
| 1 | 5 | 2009/06/26 | Ethernet port (10BASE-T) Note on rebooting added PREV KEY detailed setting added Endpoint Processing for DVE Transitions added Full key added Available Files for USB memory added Crosspoint Switch Timing added Image Data Transfer added Status Information added Other factual errors corrected | 2-2, 22-1-1 4-4 7-2-2 9-7-1 11-2 17-2 18-2 20-5 21 |
| 1 | 6 | 2009/09/04 | PREV and CLEAN output setting changed "MV" added to Option output. "HDTV"and frequency selection added for HVS-30PCO. Endpoint Processing for DVE Transitions Position change added for Multiviewer Parity setting for Tally unit connection Note on Ethernet deleted, etc | 4-1-2, 7-2-2, 7-3 7-5 9-7-1 15-4 20-2-3 20-4-2, 20-5 |
| 1 | 7 | 2009/11/11 | Preview output control for User button added. AUX CTRL description moved. Video Level Clip description corrected. Detailed description for Safety Area Marker setting | P21 P28 P86 P87 |
| 2 | | 2010/03/05 | New illustrations added Explanation for Aux signal selection changed Modify examples changed Alarms added to tally output selection Ethernet setting changed HVS-300RPS added Other factual errors corrected | 6-3 7-1 10-3, 10-4 20-2-1 2-4-2 2, 3-3, 21, 22, 24 etc. |
| 2 | 1 | 2010/05/10 | 1080/30PsF, 29.97PsF and 25PsF supported. LAN/WAN support added. Other factual errors corrected | P28, 33, 85, 109 P100 P3, 112 |
| 2 | 2 | 2010/07/05 | 50Hz output rate added to DVI-D (HVS-30PCO) PinP and WHITE deleted from XPT CTL | P33 P98 |
| 2 | 3 | 2010/09/30 | HVS-30HSDI-A option added Note on resizing added GROUP setting added to ARCNET menu | Unpacking, P6, 25, 27-28 P26, 89 P99 |
| 2 | 4 | 2010/11/15 | HVS-30TALR added | 2-4, 2-5-4, 20-2 |
| 2 | 5 | 2011/01/28 | A warning added in Precautions (Operation) | |
| 2 | 6 | 2011/03/03 | HVS-30S3D added, "Features" revised RESIZE and HVS-30PCIO ASPECT settings "Specifications" changed | P1 P30 and 35 P112-113 |
| 2 | 7 | 2012/12/25 | HVS-30OU supports HVS-390HS. | P102 |
| 2 | 8 | 2013/03/29 | FTP connection procedure changed (IE deleted) | Sec. 20-5 |




Precautions

Important Safety Warnings





[Power]

| | |
|--|---|
|  Caution | Operate unit only on the specified supply voltage. |
|  Stop | Disconnect power cord by connector only. Do not pull on cable portion. |
|  Stop | Do not place or drop heavy or sharp-edged objects on power cord. A damaged cord can cause fire or electrical shock hazards. Regularly check power cord for excessive wear or damage to avoid possible fire / electrical hazards. |


[Grounding]

| | |
|--|---|
|  Caution | Ensure unit is properly grounded at all times to prevent electrical shock hazard. |
|  Hazard | Do not ground the unit to gas lines, units, or fixtures of an explosive or dangerous nature. |
|  Caution | Ensure power cord is firmly plugged into AC outlet. |




[Operation]

| | |
|---|--|
|  Hazard | Do not operate unit in hazardous or potentially explosive atmospheres. Doing so could result in fire, explosion, or other dangerous results. |
|  Hazard | Do not allow liquids, metal pieces, or other foreign materials to enter the unit. Doing so could result in fire, other hazards, or unit malfunction. |
|  Stop | If foreign material does enter the unit, turn power off and disconnect power cord immediately . Remove material and contact authorized service representative if damage has occurred. |
|  Hazard | Do not block or cover the exhaust and intake vents. In order to ensure safe operation, clear a space of more than 5 cm from both sides. |


[Transportation]

| | |
|--|---|
|  Caution | <p>Handle with care to avoid shocks in transit. Shocks may cause malfunction. When you need to transport the unit, use the original packing materials or alternate adequate packing.</p> |
|--|---|


[Circuitry Access]

| | |
|---|---|
|  Stop | <p>Do not remove covers, panels, casing, or access circuitry with power applied to the unit! Turn power off and disconnect power cord prior to removal. Internal servicing / adjustment of unit should only be performed by qualified personnel.</p> |
|  Stop | <p>Do not touch any parts / circuitry with a high heat factor. Capacitors can retain enough electric charge to cause mild to serious shock, even after power is disconnected. Capacitors associated with the power supply are especially hazardous. Avoid contact with any capacitors.</p> |
|  Hazard | <p>Unit should not be operated or stored with cover, panels, and / or casing removed. Operating unit with circuitry exposed could result in electric shock / fire hazards or unit malfunction.</p> |


[Potential Hazards]

| | |
|---|---|
|  Caution | <p>If abnormal smells or noises are noticed coming from the unit, turn power off immediately and disconnect power cord to avoid potentially hazardous conditions. If problems similar to above occur, contact authorized service representative before attempting to again operate unit.</p> |
|---|---|

[Rack Mount Brackets, Ground Terminal, and Rubber Feet]

| | |
|--|---|
|  Caution | <p>To rack mount or ground the unit, or to install rubber feet, do not use screws or materials other than those supplied. Otherwise, it may cause damage to the internal circuits or components of the unit. If you remove the rubber feet attached on the unit, do not reinsert the screws securing the rubber feet.</p> |
|--|---|

[Consumables]

| | |
|--|--|
|  Caution | <p>The consumables used in unit must be replaced periodically. For further details on which parts are consumables and when they should be replaced, refer to the specifications at the end of the Operation Manual. Since the service life of the consumables varies greatly depending on the environment in which they are used, they should be replaced at an early date. For details on replacing the consumables, contact your dealer.</p> |
|--|--|

Upon Receipt

Unpacking

The Hanabi Series switcher and their accessories are fully inspected and adjusted prior to shipment. Operation can be performed immediately upon completing all required connections and operational settings. Check your received items against the packing lists below.

◆ HVS-300HS/RPS Box

| ITEM | QTY | REMARKS |
|---------------------|-------|-----------------------------|
| Main Unit | 1 | HVS-300HS or HVS-300RPS |
| AC Cord | 1-2 | HVS-300HS 1 HVS-300RPS 2 |
| Rack Mount Brackets | 1 set | EIA standard type |
| Operation Manual | 1 | (This manual) |

Option

| | | |
|--------------|-----|---|
| HVS-30HSDI | 1-2 | SDI Input card w/ up-resize engine (4-input, Max. 2 cards) |
| HVS-30HSDI-A | 1-2 | SDI Input card w/o up-resize engine (4-input, Max. 2 cards) |
| HVS-30HSDO | 1-2 | SDI Output card (3-output, Max. 2 cards) |
| HVS-30HSAI | 1-2 | Analog Input card (2-output, Max. 2 cards) |
| HVS-30HSAO | 1-2 | Analog Output card (2-output) |
| HVS-30PCIN | 1-2 | PC Input card (2-input, Max. 2 cards) |
| HVS-30PCO | 1-2 | PC Output card (2-output, Max. 2 cards) |
| HVS-30TALR | 1-2 | Tally Relay Output card (18-output, Max. 2 cards), 37-pin D-sub connector (1 set, for cable fabrication) |
| HVS-30ED | 1 | Editor Interface software |
| HVS-30VR | 1 | Virtual Link software |
| HVS-30S3D | 1 | 3D Monitoring software |

* Up to two input cards of HVS-30HSDI/HSAI/PCIN can be installed.

* Up to two output cards of HVS-30HSDO/HSAO/PCO can be installed.

* Both HVS-300HS and HVS-300RPS can install the same type and the same number of option cards.

◆ HVS-300OU Box

| ITEM | QTY | REMARKS |
|---------------------|-------|--|
| HVS-300OU | 1 | Operation Unit with Full Control Panel |
| Control Cable | 1 | BNC cable for ARCNET connection (10m) |
| AC adapter | 1 | |
| Rack Mount Brackets | 1 set | EIA standard type (option) |

About the configuration for HVS-300 series system

First, two types of HVS-300 series main units are available: the standard model (**HVS-300HS**) and the power redundant model (**HVS-300RPS**). In addition to this, the following four types of control methods are available. These control methods can exist together in the same system. (Three types, excluding HVS-30FP, for HVS-300RPS)

HVS-300OU: A full-featured standard control panel.

HVS-30FP: A compact type control panel attached to the front panel of HVS-300HS.

HVS-30RU: A compact remote control unit, which has the same front panel as the HVS-30FP, but can control the main unit remotely.

HVS-30GUI: Control software installed in the computer.

◆ **Other Option**

| ITEM | QTY | REMARKS |
|--------------------------|-----|---|
| HVS-AUX8 | 1-3 | AUX remote panel (Hanabi Series Option) |
| HVS-AUX16 | 1-3 | AUX remote panel (Hanabi Series Option) |
| HVS-AUX8RK, HVS-AUXRK | 1 | Remote Kit for Aux bus Control Box (Hanabi Series Option) |
| HVS-TALR20/32 (*1) | 1-2 | Tally Relay Output unit (20/32-output) (Hanabi Series Option) |
| HVS-TALOC20/32 (*1) | 1-2 | Tally Open Collector Output unit (20/32-output) (Hanabi Series Option) |
| Control Cable | 1 | BNC cable for ARCNET connection (10m) , (BNC 5C2V 75Ω) |

(*1) Multiple HVS-TALOC / HVS-TALR configurations possible; up to 2 units max.

Optional devices or software are basically provided with the installation manuals (except factory installed ones) or specific operation manuals.

Check

Check to ensure no damage has occurred during shipment. If damage has occurred, or items are missing, inform your supplier immediately.

Rack Mounting

The product can be mounted to EIA standard rack units. When rack mounting a unit, remove the rubber feet and use the accessory rack mount brackets (rack ears).

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1. Prior to Starting

1-1. Welcome

Congratulations! By purchasing HVS-300 series Hanabi Portable Switcher you have entered the world of FOR-A and its many innovative products. Thank you for your patronage and we hope you will turn to FOR-A products again and again to satisfy your video and audio needs.

FOR-A provides a wide range of products, from basic support units to complex system controllers, which have been increasingly joined by products for computer video based systems. Whatever your needs, talk to your FOR-A representative. We will do our best to be of continuing service to you.

1-2. Features

Standard features

- Very compact main unit (HVS-300HS: 1U high, HVS-300RPS: 2U high)
- 3 types of panels: standard panel, mini panel or control GUI
 - HVS-30OU: 1M/E Operation Unit
 - HVS-30RU: Remote Control Panel (HVS-30FP: 1M/E Front Panel Kit)
 - HVS-30GUI: Remote Control Software
- HD/SD-SDI 4-input/4-output, Max. 12-input/8-output
- Variety of I/O options such as HD/SD-SDI, analog/digital RGB (VGA, DVI-D), HD/SD analog component, analog composite
- Accepts both HD and SD inputs with a frame synchronizer and up-resize engine on each input.
- Built-in 16-way multiviewer, supporting 4, 10 or 16-way split views with tally and title display
- Up-stream Keyer with chroma key, and DSK both with 2.5D DVE
- Dual Picture in Picture function
- More than 150 of various 2D and 3D DVE transition patterns
- Two channels of still stores
- Safety area markers
- Internal color-bar generator

Optional features

- Input/output options
 - HVS-30HSDI/HDSI-A/HSAI/PCIN, HVS-30HSDO/HSAO/PCO
- HVS-30ED: Editor Interface software
- HVS-30VR: Virtual Link software
- HVS-30S3D: 3D Monitoring software
- HVS-30TALR: Tally Relay Output card

1-3. About This Manual

This manual is intended to help the user easily operate the Hanabi series switchers and make full use of their functions during operations. Before configuring or operating your system, read this operation manual thoroughly to ensure you understand the product. After reading, it is important to keep this manual in a safe place and available for future reference.

Font Conventions

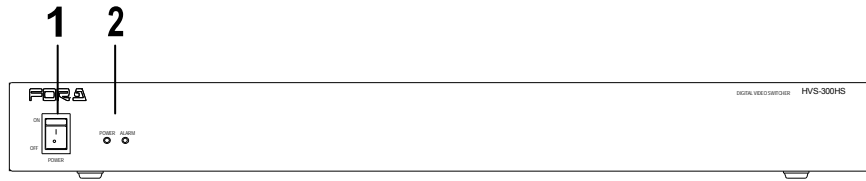
The following conventions are used through out this manual:

- Boxed text (for example **MATT**, **F1**, **TRANS**, and **AUX1**) is used for the control panel **buttons**.
- Bold text (such as **SIGNAL**, **TYPE** and **COLOR** is used for the **setting parameters** in the menus.
- Shaded text (such as **MATT**, **ON**, **OFF**, **50.0**, **30**, and **PGM** is used for the **setting values** in the menus.
- Text enclosed by square brackets (such as [SETUP-SYSTEM]) indicates the **menu name**.

2. Panel Descriptions

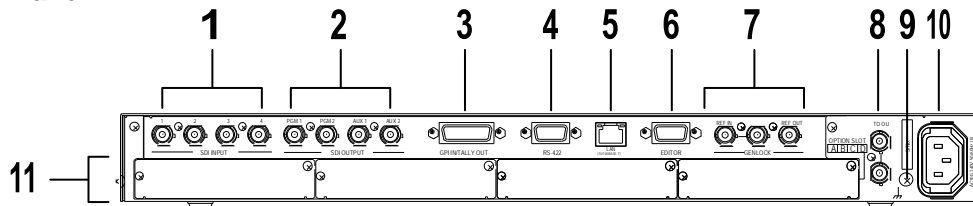
2-1. HVS-300HS (Standard Model)

◆ Front Panel



| No. | Name | Description |
|-----|-----------------|--|
| 1 | Power switch | For power ON/OFF. |
| 2 | POWER indicator | Lit green Power is supplied to the unit. |
| | | Unlit Power is supplied to the unit. |
| | ALARM indicator | Lit red when a cooling fan fails. In such a case, power off the unit and consult your FOR-A supplier. The indicator is normally unlit. This indicator works the same as the ALARM indicator located on the Control panel. |

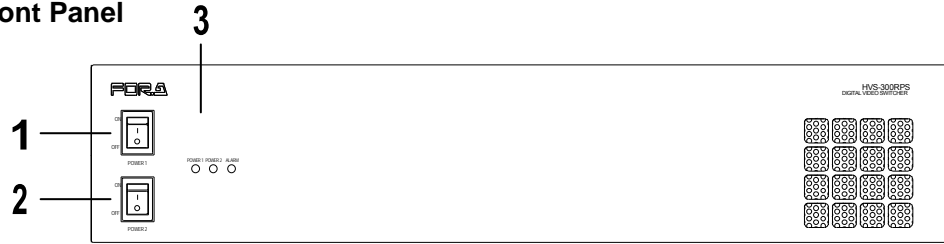
◆ Rear Panel



| No. | Name | Description | Refer to |
|-----|----------------------|---|----------|
| 1 | SDI INPUT | Used to input HD/SD SDI video signal. 4 inputs (BNC) | 6 |
| 2 | SDI OUTPUT | Used to output HD/SD SDI video signal. 4 outputs (2 programs and 2 auxiliary outputs) (BNC) | 7 |
| 3 | GPI IN/ TALLY OUT | Used for GPI input/output and Tally output. (15-pin D-sub, female) | 2-5-3 |
| 4 | RS-422 | Used to connect HVS-30RU and Hanabi tally units. (9-pin D-sub, female) | 2-5-2 |
| 5 | LAN | Used for 10BASE-T Ethernet connection. (RJ-45) | |
| 6 | EDITOR | Used for editor connection. (9-pin D-sub, female) | 2-5-1 |
| 7 | GENLOCK | Used to input/output a genlock signal; tri-level sync or black burst. (BNC) The center terminal is used for loopthrough connection. It must be 75-ohm terminated if not looped-through. | 18-2 |
| 8 | TO OU | Used for HVS-30OU connection via Arcnet. It can be also used to connect the Hanabi AUX control boxes. (BNC) One of two terminals is used for loopthrough connection. It must be 75-ohm terminated if not looped-through. | 3-1 |
| 9 | Ground terminal | Used for system grounding. | |
| 10 | AC IN | Used for AC power connection via supplied cable. (AC100V-240V 50/60Hz) | |
| 11 | Option Slots | Used to install optional input/output expansion cards. | 2-4 |

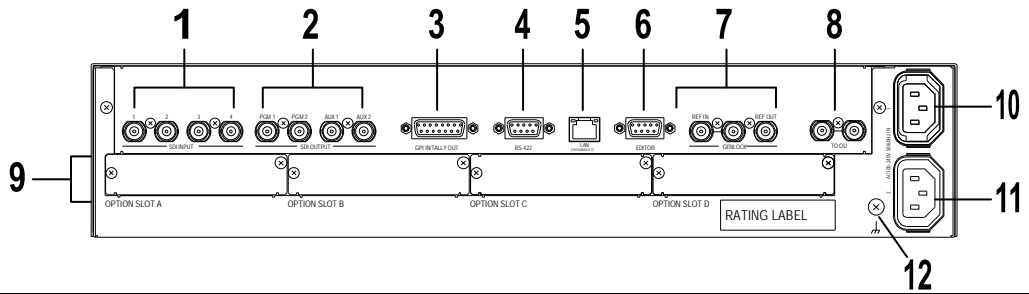
2-2. HVS-300RPS (Power Redundant Model)

◆ Front Panel



| No. | Name | Description | |
|-----|-----------------|---|--------------------------------|
| 1 | Power switch1 | For Power1 ON/OFF. | |
| 2 | Power switch2 | For Power2 ON/OFF. | |
| 2 | POWER indicator | Lit green | Power is supplied to the unit. |
| | | Unlit | Power is supplied to the unit. |
| | ALARM indicator | Lit red when a power or a cooling fan fails. In such a case, power off the unit and consult your FOR-A supplier. The indicator is normally unlit. * This indicator works the same as the ALARM indicator located on the Control panel. | |

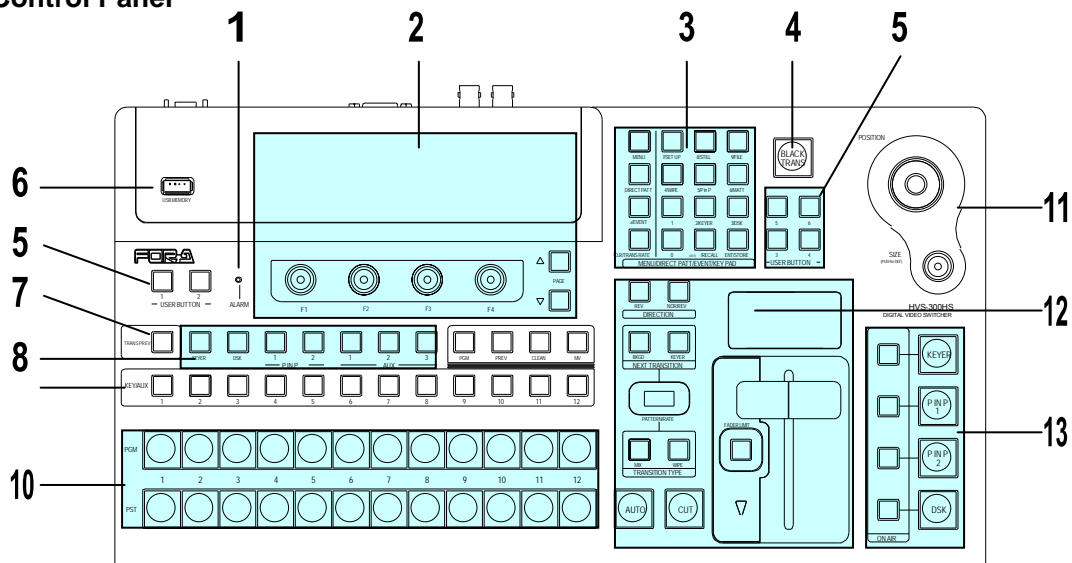
◆ Rear Panel



| No. | Name | Description | Refer to |
|-----|----------------------|---|----------|
| 1 | SDI INPUT | Used to input HD/SD SDI video signal. 4 inputs (BNC) | 6 |
| 2 | SDI OUTPUT | Used to output HD/SD SDI video signal. 4 outputs (2 programs and 2 auxiliary outputs) (BNC) | 7 |
| 3 | GPI IN/ TALLY OUT | Used for GPI input/output and Tally output. (15-pin D-sub, female) | 2-5-3 |
| 4 | RS-422 | Used to connect HVS-30RU and Hanabi tally units. (9-pin D-sub, female) | 2-5-2 |
| 5 | LAN | Used for 10BASE-T Ethernet connection. (RJ-45) | |
| 6 | EDITOR | Used for editor connection. (9-pin D-sub, female) | 2-5-1 |
| 7 | GENLOCK | Used to input/output a genlock signal; tri-level sync or black burst. (BNC) The center terminal is used for loopthrough connection. It must be 75-ohm terminated if not looped-through. | 18-2 |
| 8 | TO OU | Used for HVS-30OU connection via Arcnet. It can be also used to connect the Hanabi AUX control boxes. (BNC) One of two terminals is used for loopthrough connection. It must be 75-ohm terminated if not looped-through. | 3-1 |
| 9 | Option Slots | Used to install optional input/output expansion cards. | 2-4 |
| 10 | AC IN1 | Used for AC power connection via supplied cable. (AC100V-240V 50/60Hz) | |
| 11 | AC IN2 | Used for AC power connection via supplied cable. (AC100V-240V 50/60Hz) | |
| 12 | Ground terminal | Used for system grounding. | |

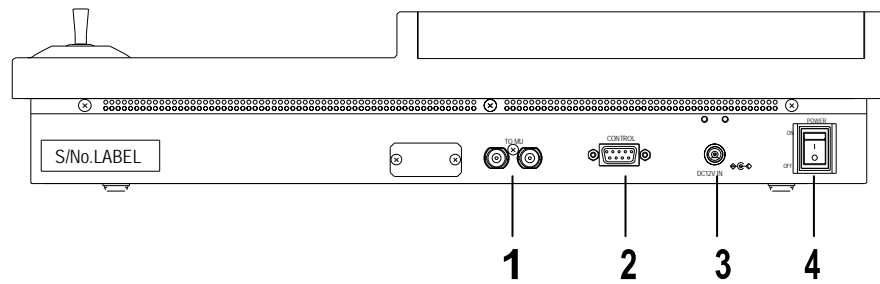
2-3. HVS-300U (Operation Unit)

◆ Control Panel



| No. | Name | Description | Refer to |
|-----|--|---|-------------------------------|
| 1 | ALARM indicator | Indicates the alarm status in the main unit. -Fan alarm is indicated for HVS-300HS. -Power and fan alarm is indicated for HVS-300RPS. The indicator blinks red when an alarm occurs. In such a case, power off the system and consult your FOR-A supplier. The indicator is normally unlit. This indicator works the same as the ALARM indicator located on the front panel of the main unit. | |
| 2 | Menu Control Block | The menu control block is composed of the menu display, menu control push-buttons (F1 to F4) and page up/down buttons. | 4 |
| 3 | MENU DIRECT PATT EVENT KEYPAD | Four mode buttons at the left side change the keypad mode to the right. In these modes, the Keypad is used for menu access, numeric input, transition pattern selection, event control. | 4-1-1 4-2-3 9-9-2 16 |
| 4 | BLACK TRANS | Used to perform black transition. | 9-3 |
| 5 | USER BUTTON | User assignable buttons. Menu shortcuts or functions can be assigned to these buttons. | 5 |
| 6 | USB MEMORY | Used to connect a USB flash memory for image file import and export or system setting backup. (USB1.1, Type-A) | 18 |
| 7 | TRANS PREV | Used to preview next transition. | 7-2-1 |
| 8 | BUS SELECT Block | Used to select a bus. Then select a video in the KEY/AUX bus (No 9) . | 7-1-1 11 |
| 9 | KEY/AUX Bus | Used to select a video signal for the bus selected at the BUS SELECT block (No.8). The video signal can be selected from KEY/AUX bus buttons, PGM, PREV, CLEAN and MV. | 14-1-1 15-1 |
| 10 | PGM/PST Bus | Used to select video signal for the background. | 8 |
| 11 | Joystick Block | Used to set position, size or color in the specific menu parameters. | 4-2-4 |
| 12 | Transition Block | Used to perform transitions for background and keyer. | 9 |
| 13 | KEYER/DSK/PINP Transition Block | Used to perform transitions for KEYER, DSK and PINP1/2. | 15-2 |

◆ Rear Panel



| No. | Name | Description | Refer to |
|-----|-----------|--|----------|
| 1 | TO MU | Arcnet port. Used for the main unit connection. The other connector (loopthrough) can be used for AUX unit connection. The loopthrough connector must be 75 ohm terminated if it is not connected to other system equipment. | 20-4-1 |
| 2 | CONTROL | Used for service purposes. Do not use. | |
| 3 | DC 12V IN | Used for DC power connection from the supplied AC adapter. | |
| 4 | POWER | Used for the unit power On/Off | |

2-4. Option Slots

All expansion cards can be fitted via the rear of the main unit. The bottom 4 slots (A, B, C and D shown in the figure in this page) are dedicated to these optional cards.

IMPORTANT

For the details about system expansion (optional cards) and fan replacement, contact your FOR-A supplier.

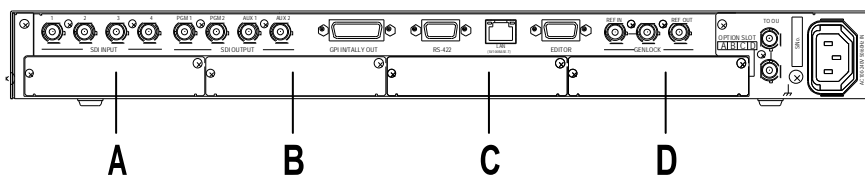
◆ Slots for Option Cards at Main Unit Rear Panel

Two input expansion cards can be installed in slots A and B.

Two output expansion cards can be installed in slot C and D.

Two tally relay expansion cards (HVS-30TALR) can be installed in slot A to D.

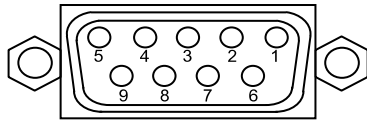
The figure below is an example of HVS-300HS. The option slots of the HVS-300RPS are the same as those of the HVS-300HS.



| Option Slot | Available card | Available Video Signal (Connector) | Number of input/output per card. | Refer to |
|-------------|----------------|--|----------------------------------|---------------|
| A, B | HVS-30HSDI | HD/SD SDI (BNC) | 4 inputs | 6-6 |
| | HVS-30HSDI-A | HD/SD SDI (BNC) | 4 inputs | |
| | HVS-30HSAI | HD/SD analog component or HD/SD analog composite (BNC) | 2 inputs | |
| | HVS-30PCIN | Digital RGB (DVI-D) and Analog RGB (VGA) | 2 inputs | |
| C, D | HVS-30HSDO | HD/SD SDI (BNC) | 3 outputs | 7-5 |
| | HVS-30HSAO | HD/SD analog component or HD/SD analog composite (BNC) | 2 outputs | 7-5 |
| | HVS-30PCO | Digital RGB (DVI-D) and Analog RGB (VGA) | 2 outputs | 7-5 |
| A to D | HVS-30TALR | Tally Relay Output (37-pin D-sub) | 18 outputs | 2-5-4, 20-2-3 |

2-5. Interfaces

2-5-1. EDITOR Connector

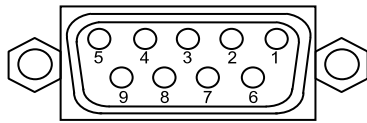


9-pin D-sub (male)
with inch screws

◆ Pin Assignment Table

| Pin No. | Signal Name | In/Out | Description |
|---------|-------------|--------|-------------------|
| 1 | FG | | Frame ground |
| 2 | T- | Out | Transmit data (-) |
| 3 | R+ | In | Receive data (+) |
| 4 | SG | | Signal ground |
| 5 | NC | | Not used |
| 6 | SG | | Signal ground |
| 7 | T+ | Out | Transmit data (+) |
| 8 | R- | In | Receive data (-) |
| 9 | FG | | Frame ground |

2-5-2. RS-422 Connector

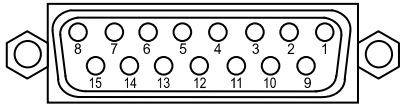


9-pin D-sub (female)
with inch screws

◆ Pin Assignment Table

| Pin No. | Signal Name | In/Out | Description |
|---------|-------------|--------|-------------------|
| 1 | FG | | Frame ground |
| 2 | R- | In | Receive data (-) |
| 3 | T+ | Out | Transmit data (+) |
| 4 | SG | | Signal ground |
| 5 | NC | | Not used |
| 6 | SG | | Signal ground |
| 7 | R+ | In | Receive data (+) |
| 8 | T- | Out | Transmit data (-) |
| 9 | FG | | Frame ground |

2-5-3. GPI IN/TALLY OUT Connector



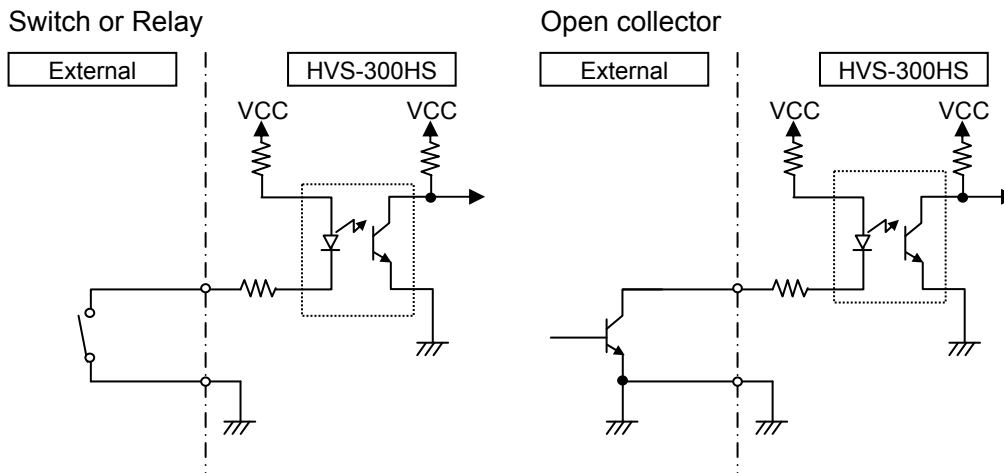
15-pin D-sub (female)
with inch screws

◆ Pin Assignment Table

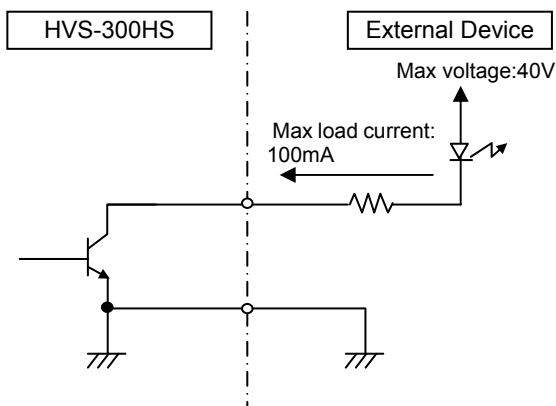
| Pin No. | Description |
|---------|----------------------------------|
| 1 | IN01 RED TALLY (default setting) |
| 2 | IN02 RED TALLY (default setting) |
| 3 | IN03 RED TALLY (default setting) |
| 4 | IN04 RED TALLY (default setting) |
| 5 | IN05 RED TALLY (default setting) |
| 6 | IN06 RED TALLY (default setting) |
| 7 | IN07 RED TALLY (default setting) |
| 8 | IN08 RED TALLY (default setting) |
| 9 | IN09 RED TALLY (default setting) |
| 10 | IN10 RED TALLY (default setting) |
| 11 | IN11 RED TALLY (default setting) |
| 12 | IN12 RED TALLY (default setting) |
| 13 | Signal ground |
| 14 | Signal ground |
| 15 | Signal ground |

The pin assignment shown above is the factory default assignment. Pin assignments can be changed via operational menus. See section 20-1 and 0.

GPI IN Circuit

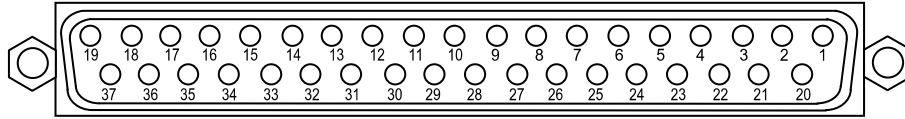


GPI OUT/ TALLY Out Circuit



2-5-4. TALLY OUT Connector (HVS-30TALR)

The TALLY OUT connectors are available only when HVS-30TALR cards are installed.



◆ Pin Assignment Table (37-pin D-sub, female, with inch screws)

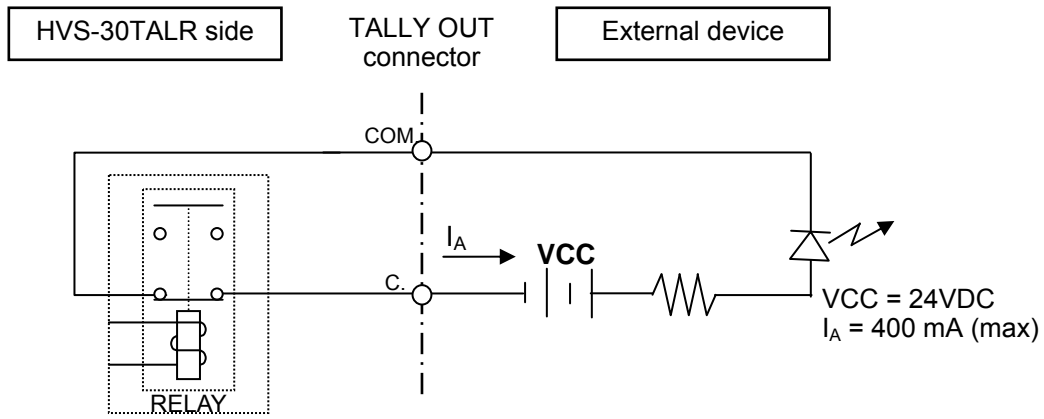
| Pin No. | Output signal | Channel No. | Pin No. | Output signal | Channel No. |
|---------|--------------------------|-------------|---------|---------------------------|-------------|
| 1 | TALLY OUT1 Normally Open | 1 | 20 | TALLY OUT10 Normally Open | 10 |
| 2 | TALLY OUT1 COMMON | | 21 | TALLY OUT10 COMMON | |
| 3 | TALLY OUT2 Normally Open | 2 | 22 | TALLY OUT11 Normally Open | 11 |
| 4 | TALLY OUT2 COMMON | | 23 | TALLY OUT11 COMMON | |
| 5 | TALLY OUT3 Normally Open | 3 | 24 | TALLY OUT12 Normally Open | 12 |
| 6 | TALLY OUT3 COMMON | | 25 | TALLY OUT12 COMMON | |
| 7 | TALLY OUT4 Normally Open | 4 | 26 | TALLY OUT13 Normally Open | 13 |
| 8 | TALLY OUT4 COMMON | | 27 | TALLY OUT13 COMMON | |
| 9 | TALLY OUT5 Normally Open | 5 | 28 | TALLY OUT14 Normally Open | 14 |
| 10 | TALLY OUT5 COMMON | | 29 | TALLY OUT14 COMMON | |
| 11 | TALLY OUT6 Normally Open | 6 | 30 | TALLY OUT15 Normally Open | 15 |
| 12 | TALLY OUT6 COMMON | | 31 | TALLY OUT15 COMMON | |
| 13 | TALLY OUT7 Normally Open | 7 | 32 | TALLY OUT16 Normally Open | 16 |
| 14 | TALLY OUT7 COMMON | | 33 | TALLY OUT16 COMMON | |
| 15 | TALLY OUT8 Normally Open | 8 | 34 | TALLY OUT17 Normally Open | 17 |
| 16 | TALLY OUT8 COMMON | | 35 | TALLY OUT17 COMMON | |
| 17 | TALLY OUT9 Normally Open | 9 | 36 | TALLY OUT18 Normally Open | 18 |
| 18 | TALLY OUT9 COMMON | | 37 | TALLY OUT18 COMMON | |
| 19 | Reserved | | | | |

* Do not connect Pin 19.

| Channel No. | Tally Output for Card 1 | Tally Output for Card 2 |
|-------------|--------------------------------|--------------------------------|
| 1 | RED TALLY-IN01 (default) | GREEN TALLY-IN01 (default) |
| 2 | RED TALLY-IN02 (default) | GREEN TALLY-IN02 (default) |
| 3 | RED TALLY-IN03 (default) | GREEN TALLY-IN03 (default) |
| 4 | RED TALLY-IN04 (default) | GREEN TALLY-IN04 (default) |
| 5 | RED TALLY-IN05 (default) | GREEN TALLY-IN05 (default) |
| 6 | RED TALLY-IN06 (default) | GREEN TALLY-IN06 (default) |
| 7 | RED TALLY-IN07 (default) | GREEN TALLY-IN07 (default) |
| 8 | RED TALLY-IN08 (default) | GREEN TALLY-IN08 (default) |
| 9 | RED TALLY-IN09 (default) | GREEN TALLY-IN09 (default) |
| 10 | RED TALLY-IN10 (default) | GREEN TALLY-IN10 (default) |
| 11 | RED TALLY-IN11 (default) | GREEN TALLY-IN11 (default) |
| 12 | RED TALLY-IN12 (default) | GREEN TALLY-IN12 (default) |
| 13 | RED TALLY-STL1 (default) | GREEN TALLY-STL1 (default) |
| 14 | RED TALLY-STL2 (default) | GREEN TALLY-STL2 (default) |
| 15 | RED TALLY-MATT (default) | GREEN TALLY-MATT (default) |
| 16-18 | Do not use. (default) | Do not use. (default) |

* Whether **Card 1** or **Card 2** is chosen on a dipswitch on the HVS-30TALR card. Tally outputs can be freely assigned. See section 20-2-3 "Tally Output Settings (HVS-30TALR)."

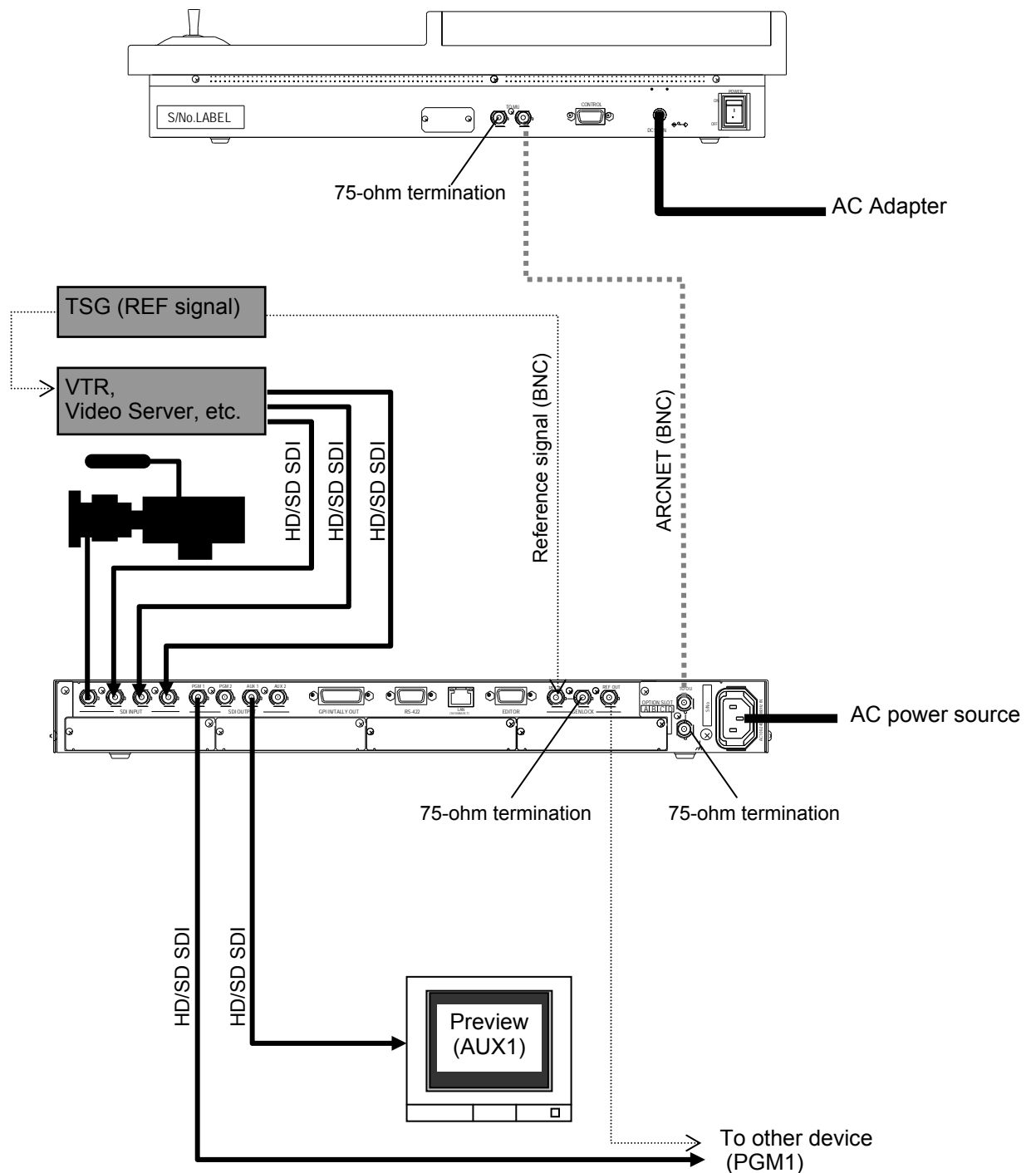
◆ TALLY OUT circuit (Relay output)



- The maximum switching current for each output is 400mA.
- The HVS-30TALR is a relay board. Use the supplied or commercially-prepared 37-pin D-sub male connector (with #40-40 inch screws) for making a connection cable.

3. Connection and Setup

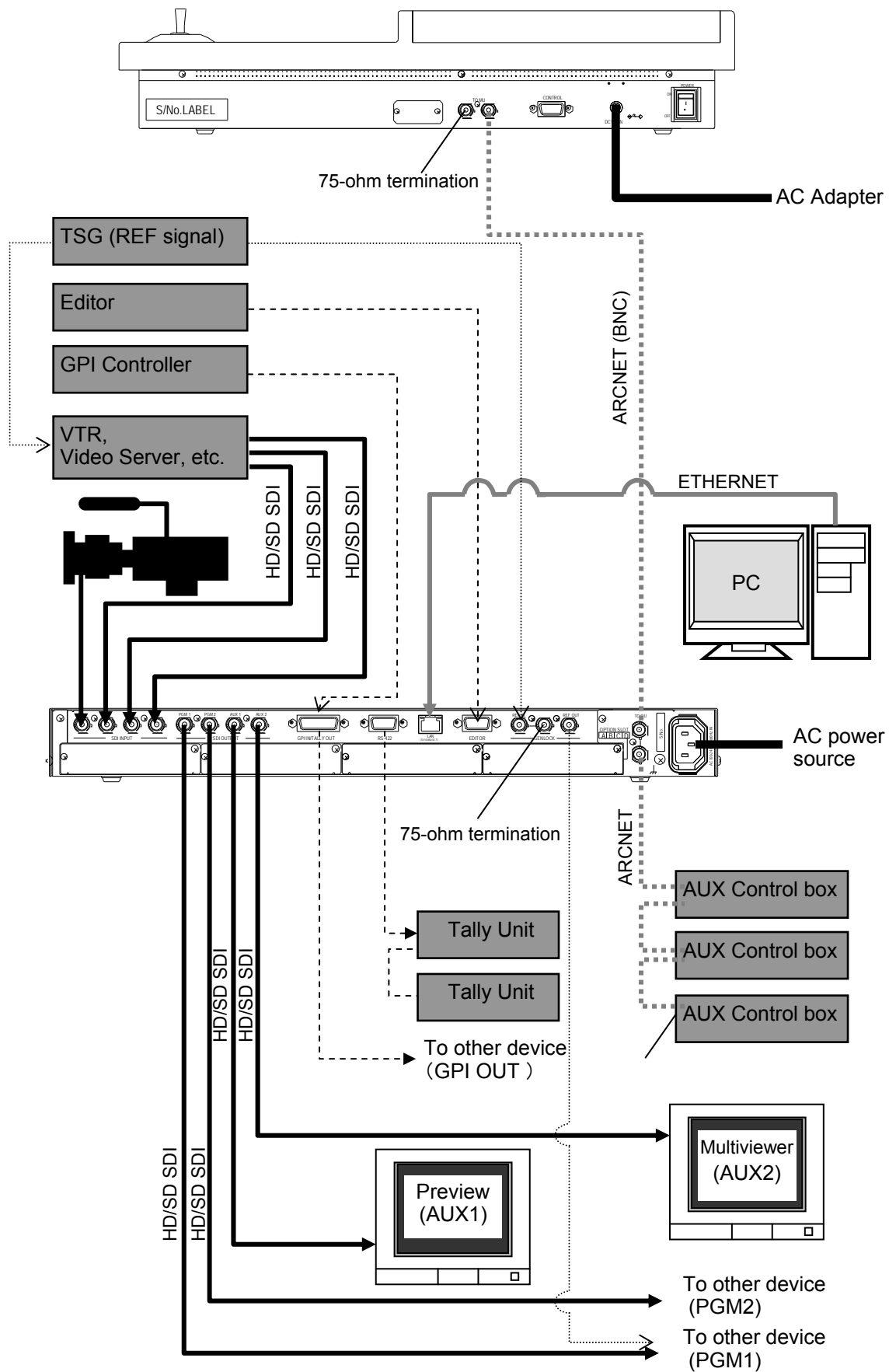
3-1. Basic Connection



NOTE

See section 20-4-1. "ARCNET" for connecting between the main unit and HVS-300U via Arcnet. See section 18-2. "Crosspoint Switch Timing" for reference signal setting. See section 7-2. "Preview Set Up" for how to display the preview image.

3-2. Optional Configuration



NOTE

See section 15. "Multiviewer" for multi-display connection and setup.

See section 20-1. "GPI Control" and section 20-2-2. "Tally Output Settings (GPI IN/TALLY OUT)" for setting up GPI input, GPI output and tally output.

See section 20-2-3. "Sending Tally Signals to Tally Units" and 20-2-5. "Connection Settings with Tally Units (RS-422 port setting)", if you configure the tally units (Hanabi series option).

See section 20-3. "Editor Control (Option)" for editor control.

The HVS-AUX8/16 units (Hanabi series option), which are used for selecting AUX signal, can be deployed in the same Arcnet LAN as HVS-300U. See section 20-4-1. "ARCNET" for Arcnet connection. See the operation manual of Auxiliary Unit for how to connect the AUX units to the switcher.

3-3. Power ON

Before powering on the system, verify that all system connections are properly in reference to section 3. "Connection."

◆ Control Panel Power supply

Supply power to the control panel using the AC adapter provided and turn on the power switch located at the rear panel of HVS-300U.

◆ MU (Main Unit) Power supply

Supply power to the MU using the power cable provided and turn on the power switch located at the front panel. Turn on both power switches for the HVS-300RPS.

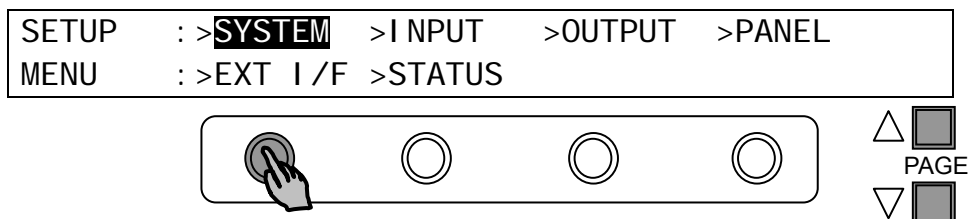
3-4. System Signal Format Selection at the Initial Use

When first switching on your unit, please select a signal format as shown below.

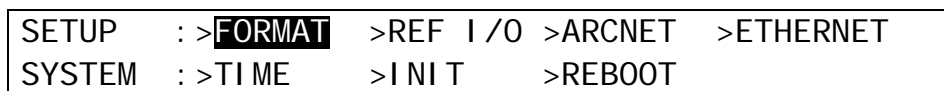
(1) The [MENU] button at the right of the menu display should be flashing at power ON.

(2) Press the [MENU] button and then press the [7/SETUP] button.

(3) The SETUP menu's top page appears in the menu display. Turn [F1] to select **SYSTEM** and then press [F1].



(4) The [SETUP - SYSTEM] menu as shown below appears. Turn [F1] to select **FORMAT** and then press [F1].

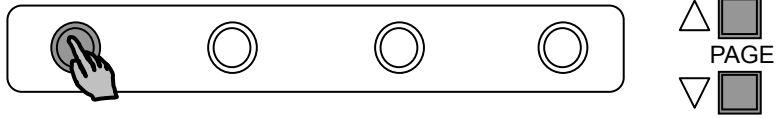


(5) The [SETUP - SYSTEM - FORMAT] menu as shown below appears. Turn [F1] to select the signal format used in the switcher. Then turn [F3] to select the aspect ratio.

```

SYSTEM :   FORMAT   : ASPECT : SW TMNG: 1/1
FORMAT  : =1080/59.94i : =16:9 : =ANY  :

```

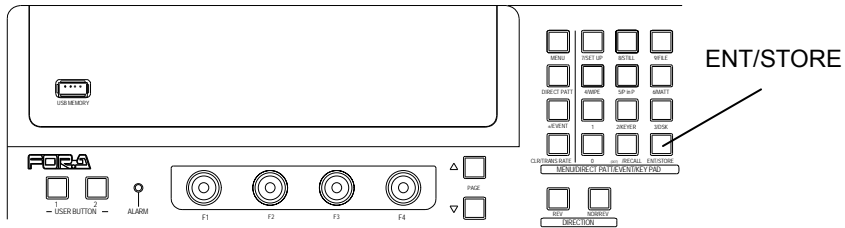


- (6) Press the **PAGE UP** button to return to the **[SETUP - SYSTEM]** menu.
- (7) Turn **F1** to select **REBOOT**. Press **ENT/STORE** in the Keypad block to reboot the switcher.

```

SETUP   : >FORMAT >REF I/O >ARCNET >ETHERNET
SYSTEM  : >TIME   >INIT   >REBOOT

```



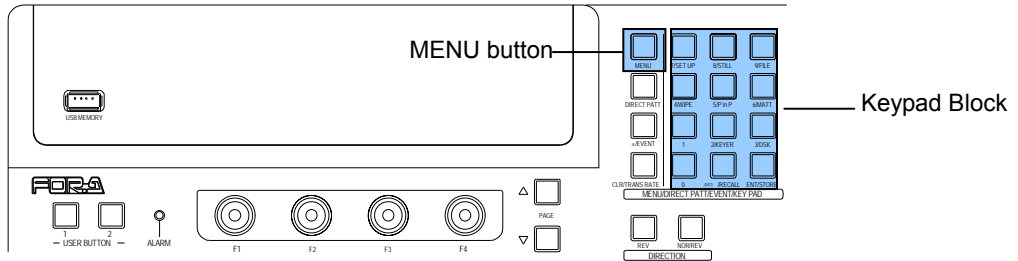
- (8) The selected format and aspect are applied after restarting the switcher.

4. Menu Operations

4-1. How to Access Menus

4-1-1. Menu Access Buttons

Press the **MENU** button below, which changes the buttons in the Keypad block to the menu buttons, and then press the buttons on the Keypad to access menus.

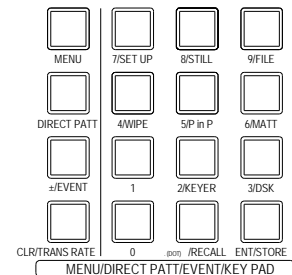


◆ KEYPAD Block

| Button | Accessed menu | Menu Description |
|--------|----------------------|--|
| FILE | FILE TOP | Accesses menu for file operations using a USB |
| STILL | STILL STORE(1/2~2/2) | Accesses menu for still store operation. |
| SET UP | SETUP MENU | Accesses menu for setup of system, panel, video input, video output, external interface. |
| MATT | MATT COLOR | Accesses menu for matte color |
| P in P | PinP TOP | Accesses menu for PinP 1 and PinP 2 setup. |
| WIPE | WIPE | Accesses menu for WIPE pattern modification. |
| DSK | DSK SETUP | Accesses menu for DSK setup and DSK effects. |
| KEYER | KEYER SETUP | Accesses menu for KEYER setup and KEYER effects. |

MENU/ DIRECT PATT/ EVENT/ KEY PAD Block

The MENU/ DIRECT PATT/ EVENT/ KEY PAD block to the right of the menu display has four modes: Menu Access, Pattern Selection, Event Control and Transition Rate. The current operational mode is displayed at the upper right of the menu display. To use the buttons in the Keypad as the Menu Access buttons, press the **MENU** button at the upper right of the block.

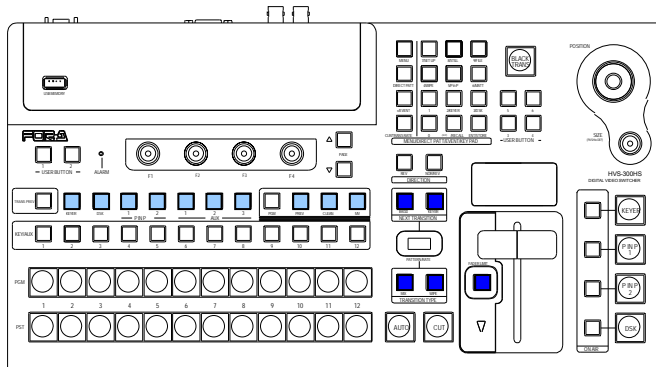


Mode Selection Buttons

| Button | Function |
|----------------|---|
| MENU | This button changes the Keypad to menu access buttons. Pressing on a button in the Keypad displays the related menu. The MENU button blinks if a parameter has changed and it requires rebooting. In this case, reboot the switcher. (See section 19-1. "Rebooting System.") |
| DIRECT PATTERN | This button changes the Keypad to direct pattern selection buttons. |
| ±/EVENT | This button changes the Keypad to event memory control buttons. |
| CLR/TRANS RATE | This button displays the TRANS menu. The transition rate can be changed by entering the number and then pressing ENT/STORE on the Keypad. |

4-1-2. Other Menu Access Buttons

By **pressing once or twice** specific buttons in the bus select section or transition control section, the related menus can be displayed. (See the figure and the table below.)



◆ PGM/PST bus

| Button | Action | Accessed Menu |
|-------------------|------------------------|---------------------------------|
| MATT (*1) | Pressing twice quickly | [MATT] menu |
| STL1 to STL2 (*1) | Pressing twice quickly | [STILL] menu |
| SHIFT (*1) | Pressing twice quickly | [SETUP-INPUT-ASSIGN] (3/3) menu |

(*1) Note that MATT and STL1 – STL2 buttons represent the bus buttons assigned to MATT and STILL1 – STILL2 signals respectively at PGM/PST and KEY/AUX. (Refer to section 6-2. "How to Assign Sources to Bus buttons.")

◆ BUS SELECT block

| Button | Action | Accessed Menu |
|----------|------------------------|------------------------------------|
| KEYER | Pressing twice quickly | [KEYER-SETUP] menu |
| DSK | Pressing twice quickly | [DSK-SETUP] menu |
| MV | Pressing twice quickly | [SET UP-OUTPUT-MV SCRNR] menu |
| P IN P 1 | Pressing twice quickly | [PinP-CHAN1] (1/4) menu |
| P IN P 2 | Pressing twice quickly | [PinP-CHAN2] (1/4) menu |
| PREV | Pressing twice quickly | [SET UP-OUTPUT-CLN/PREV](2/2) menu |
| CLEAN | Pressing twice quickly | [SET UP-OUTPUT-CLN/PREV](1/2) menu |
| AUX1 | Pressing twice quickly | [SETUP-OUTPUT-AUX XPT] (1/2) menu |
| AUX2 | Pressing twice quickly | [SETUP-OUTPUT-AUX XPT] (1/2) menu |
| AUX3 | Pressing twice quickly | [SETUP-OUTPUT-AUX XPT] (1/2) menu |

◆ Transition Block

| Button | Action | Accessed Menu |
|-------------|------------------------|--------------------|
| BKGD | Pressing once | [TRANS BKGD] menu |
| KEYER | Pressing once | [TRANS KEYER] menu |
| MIX | Pressing once | [TRANS BKGD] menu |
| WIPE | Pressing once | |
| FADER LIMIT | Pressing twice quickly | |

4-1-3. USER Button (Menu Shortcut)

User buttons can be assigned to specific menu pages and be used as menu shortcuts. Refer to section 4-3. "USER Button" for details.

4-2. How to Set Values

4-2-1. Displaying Parameters

To display the desired menu, press the **MENU** button (The **MENU** button will light up.), then press the related menu button in the Keypad block. (See section 4-1. "How to Access Menus.") If a menu has multiple submenus such as the SETUP menu, navigate to submenus following the procedure below.

◆ Menu navigation (Example for the SETUP menu)

- (1) Press the **MENU** button to the right of the menu display. Then press the 7/SET UP button in the Keypad to display the SETUP menu. The SETUP menu's top page will then appear on the display, as shown below.

| Menu title | Submenu title |
|------------|---------------------------------|
| SETUP | : >SYSTEM >INPUT >OUTPUT >PANEL |
| MENU | : >EXT I /F >STATUS |

- (2) Select a submenu to open by turning **F1** (The INPUT submenu is selected in the example below.) Then press **F1** or the **PAGE DOWN** button to the right to open the selected submenu.

The current selection is shown in reverse video.

| | |
|-------|---|
| SETUP | : >SYSTEM > INPUT >OUTPUT >PANEL |
| MENU | : >EXT I /F >STATUS |

- (3) The [SETUP-INPUT] menu then opens. The [SETUP-INPUT] menu has also got four submenus. Select a submenu to open by turning and then press **F1** or turning **F1** and pressing the **PAGE DOWN** button to open it. The ">" in front of menu items indicates that a detail submenu can be accessed by pressing **F1**.

| | |
|--------|---|
| SETUP | : >SI GNAL > PROC AMP >RENAME >ASSI GN |
| I NPUT | : |

- (4) The [SETUP-INPUT- PROC AMP] menu is displayed as shown below. Now users can change the value for parameter.

| Menu title | Parameters | Page / Total page |
|------------|------------------------------------|-------------------|
| I NPUT | : SELECT : Y-Lv : BLK-Lv: ENABLE : | 1/3 |
| PROC AMP: | =I N04 : =1.00 : =0 : =ON : | |

Values

◆ **Parameters with the sign ">"**

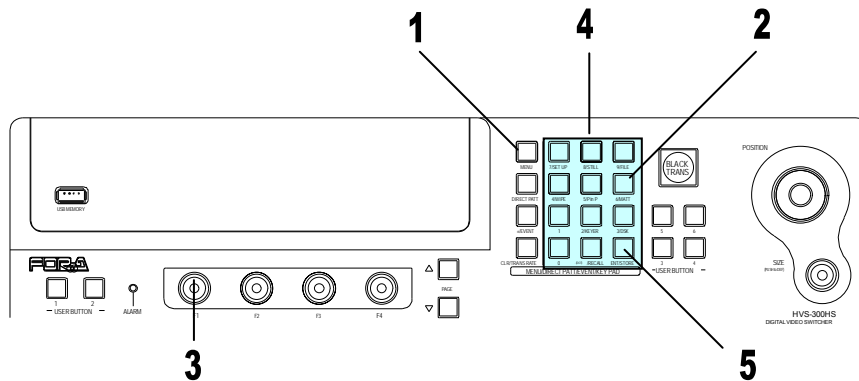
The parameters with the sign ">" in front of them are executable by pushing the relevant menu control push-button. For example, pressing a menu control push-button initializes menus (See section 4-3. "How to Return Settings to Default."), stores still images (See section 13-1. "How to Save Stills."), saves data or loads data (See section 17. "File Operations"). In the parameters selecting a color from the standard colors pressing the relevant menu control selects the color. (See section 6-5. "Bus Matte")

4-2-3. Changing Settings or Values by Using the Numeric Keypad

Users can also use the keypad to input numerical settings to a menu. The procedure example for changing the matte color by using keypad is as follows.

- (1) Press the **MENU** button.
- (2) Press the **6/MATT** button to display the BUS MATT COLOR menu.
- (3) To change the S (Saturation) item, press **F1**.
- (4) Input new setting from the keypad.
- (5) Press **ENT/STORE** to confirm the setting.
- (6) To change the L (Luminance) item, press **F2**, input new setting from the keypad and press **ENT/STORE**.
- (7) To change the H (Hue) item, press **F3**, input new setting from the keypad and press **ENT/STORE**.

| | | | | | | |
|-------|---|----------------|--------|----------|---------|-----|
| MATT | : | BUS MATT COLOR | : | RECALL | : | 1/1 |
| COLOR | : | S=50.0 | L=80.2 | H=125.5: | >GREEN: | |



IMPORTANT

When pressing a push-button, press it down lightly and release it within 1 sec. Note that if you press and hold a control button for more than 1 sec., related setting will be returned to their default value and a beep will be heard.

- Pressing **CLR/TRANS RATE** before **ENT/STORE** cancels the changes just made.
- **±/EVENT** changes the sign of a value (ex. From "+10" to "-10").

KEYPAD Mode Display

The KEYPAD right next to the Menu Display has multiple modes: Menu Access, Direct Pattern, Event Memory, Transition Rate Input and Numeric Input for menu. The mode buttons on the left-hand side are to switch the KEYPAD modes. The current operation mode is displayed at upper right-hand side of the menu display. To use the KEYPAD for menu input, display a desired parameter, press the menu control push-button just below the parameter (F1-F4), and enter the value using the numeric keypad and then press ENTER in the KEYPAD.

4-2-4. Changing Settings or Values by Using the Joystick

Users can also use the joystick and the SIZE control in the JOYSTICK block for making position, size and color settings to specific parameters. The parameters controllable from the JOYSTICK block are shown in the table below.

◆ Controllable Parameters

| Menu | Submenu | Parameter | | | |
|--------|---------------|----------------|--------|--------|--------|
| | | Item | X-axis | Y-axis | SIZE |
| SET UP | OUTPUT-MV | BORDER COLOR | SAT | LUM | HUE |
| MATT | | BUS MATT COLOR | SAT | LUM | HUE |
| PinP | PinP1 POS | POSITION SIZE | POS-X | POS-Y | SIZE |
| | PinP2 POS | POSITION SIZE | POS-X | POS-Y | SIZE |
| | PinP1 BDR COL | BORDER COLOR | SAT | LUM | HUE |
| | PinP2 BDR COL | BORDER COLOR | SAT | LUM | HUE |
| DSK | INC/SRC | MATT COLOR | SAT | LUM | HUE |
| | EDGE | EDGE COLOR | SAT | LUM | HUE |
| KEYER | INC/SRC | MATT COLOR | SAT | LUM | HUE |
| | EDGE | EDGE COLOR | SAT | LUM | HUE |
| | CK | KEYER AUTO CK | POS-X | POS-Y | SELECT |
| WIPE | BORDER | BORDER COLOR | SAT | LUM | HUE |
| | POS/ANGL | POSITION ANGLE | POS-X | POS-Y | ANGLE |

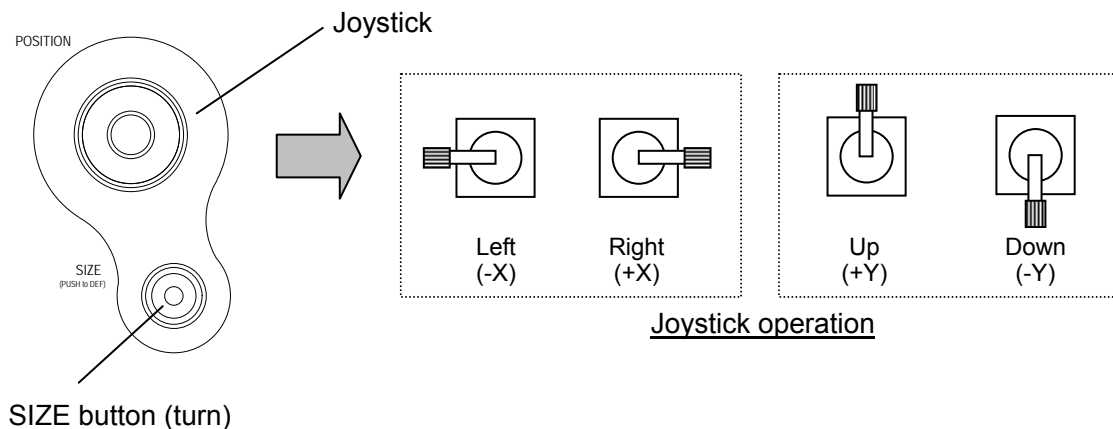
◆ How to Use the Joystick

The general procedure for making and changing operational menu settings using the joystick are as follows.

Open a menu page you want to set. In the example below, to change the three parameter values (BORDER COLOR S, L and H,.) use the joystick's X, Y axes (i.e. move joystick horizontally and vertically) and the SIZE control respectively.

```

Pi nP1      :      BORDER COLOR      : RECALL : 2/4
BDR COL : S=66.3 L=5.4 H=3.5 : >BLUE :
    
```



◆ Resetting Values with Joystick (SIZE control)

See section 4-3. "How to Return Settings to Default."

4-3. How to Return Settings to Default

4-3-1. Returning Parameter to Default

Pressing and holding down Control Push-buttons

Press and hold the control push-button (F1 - F4) below each parameter to return their settings to factory default.

Pressing and holding down the SIZE control

If you need to reset parameters controllable from the JOYSTICK block to factory default, display parameters and then press and hold down the SIZE control. These parameters are returned to factory default all together.

4-3-2. Returning Menu to Default

Using INIT parameter

Some menus have an INIT parameter in the menu. Selecting INIT and pressing the control push-button returns all parameters in the menu to their default setting. Turn the related push-button to select ALL or a category you want to return to default if INIT can be set, and then press the push-button to reset the parameters.

| Menu where INIT included | Menus to be returned to default settings |
|--------------------------|--|
| [SETUP-SYSTEM] menu | All [SETUP-SYSTEM] menus |
| WIPE menu's top page | All WIPE menus |
| [KEYER-SETUP] menu | All KEYER menus |
| [DSK-SETUP] menu | All DSK menus |

4-4. How to Back up Settings

One of the following three operations backs up panel settings and loads them automatically at startup. It is recommended to do any one of these operations after changing menu settings.

- Rebooting (Be sure to reboot the switcher instead of turning the power off then on. See section 19-1. "Rebooting System.")
- Moving to the top page in the SETUP menu.
- Saving / loading an event.

Backed up settings

All settings in the SETUP menu
All settings in the STILL menu
USER TRANS and ADV CTL settings in the TRANS menu

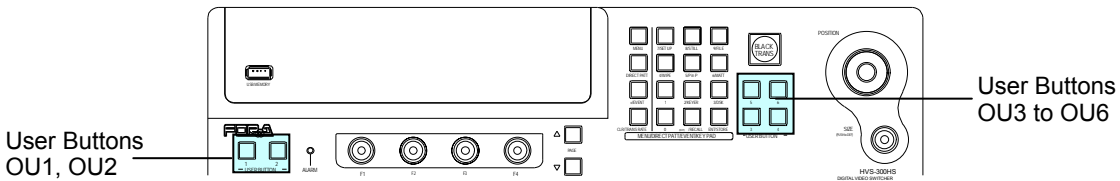
Not backed up settings

Other menu settings not listed above including [TRANS BKGD], MATT, PinP, KEYER and DSK menu settings.

If you want to load panel settings automatically at startup including KEYER, DSK and PinP settings, save the panel settings that you want to load to the event memory and specify the event number to load at startup in the menu. See section 16-5. "Loading Event at Start-up" for details.

5. USER Button

User buttons can be assigned to specific menu pages and be used as shortcuts or specific functions buttons. Follow the procedure below to assign the desired menu page or function to buttons.



5-1. Setting USER Buttons

◆ USER Button Default Assignments

| Button | Default Setting |
|--------|-----------------|
| OU1 | GPI IN ENABLE |
| OU2 | EDITOR ENABLE |
| OU3 | NONE |
| OU4 | NONE |
| OU5 | NONE |
| OU6 | NONE |

- Press the **MENU** button and then press the **7/SETUP** button to display the SETUP menu's top page.
- Turn **F1** to select **PANEL**. Press **F1** or the **PAGE DOWN** button. The [SETUP-PANEL] menu is displayed.

```

SETUP   : >SYSTEM >INPUT >OUTPUT >PANEL
MENU    : >EXT I / F >STATUS
    
```

- Turn **F1** to select **USER BTN**. Press **F1** or the **PAGE DOWN** button. The [SETUP - PANEL - USER BTN] is displayed.

```

SETUP   : >UTILITY >TRS CTRL>KEY CTRL>USER BTN
PANEL   :
    
```

- Turn **F1** to select a USER button for use. The selected USER button blinks.
- Select **MENU** or the function type in the **TYPE** item.

```

PANEL   : SELECT : TYPE : FUNC (F3) : 1 / 1
USER BTN: = 1 : =NONE : = (NOT ASSI GN)
    
```

◆ If Menu Shortcut is Set:

Turn **F2** to select **TYPE** to **MENU** and press **F2**. Then turn **F3** to select a menu page and press **F3**. Once the menu shortcut is assigned to a User button, pressing the button opens the assigned menu page.

Assignable Menu Page

| Menu | Setting (Accessed menu page) |
|--------|------------------------------|
| FILE | FILE-TOP |
| FILE | FILE-LOAD |
| FILE | FILE-SAVE |
| SET UP | SYSTEM-FORMAT MENU |

| | |
|--------|-----------------|
| SET UP | EDITOR MENU |
| SET UP | MV MENU |
| SET UP | STATUS MENU |
| KEYER | KEYER EDGE |
| KEYER | KEYER AUTO CK |
| KEYER | KEYER MATT |
| KEYER | KEYER GAIN/CLIP |
| KEYER | KEYER POS/SIZE |
| KEYER | KEYER CROP |
| KEYER | KEYER BORDER |
| KEYER | KEYER SUB EFF |
| DSK | DSK EDGE |
| DSK | DSK MATT |
| DSK | DSK GAIN/CLIP |
| DSK | DSK POS/SIZE |
| DSK | DSK CROP |
| DSK | DSK BORDER |
| DSK | DSK SUB EFF |
| PinP | PinP 1 XPT |
| PinP | PinP 2 XPT |
| STILL | STILL |
| MATT | MATT |

◆ **If Function Type is Set:**

Turn **F2** to select the type of function and press **F2**. Then turn **F3** to select a function to be used and press **F3**. Once the function is assigned to a User button, pressing the button switches the assigned function On and Off. If a function is assigned, it can also be a menu shortcut (accessible by pressing the button twice quickly).

Assignable Functions

| When MARKR (Marker) was selected for the TYPE item: | | |
|---|--|-------------------------------|
| Setting | Function | Button Indication |
| PGM ENABLE | Pressing the button shows a safety area marker for the output. | ON: Lit orange, OFF: Unlit |
| AUX1 ENABLE | | |
| AUX2 ENABLE | | |
| SLOT-C CH1 ENABLE | | |
| SLOT-C CH2 ENABLE | | |
| SLOT-D CH1 ENABLE | | |
| SLOT-D CH2 ENABLE | | |

| When GPIO (GPI In/Out) was selected for the TYPE item: | | |
|--|--|-----------------------------------|
| Setting | Function | Button Indication |
| GPI IN ENABLE | Pressing the button enables GPI IN. | ON: Lit orange, OFF: Unlit |
| GPI OUTPUT1-12 (PUSH) | The GPI OUTPUT function (1-12) represents ON/OFF setting for each GPI OUTPUT (1-12) assigned to a GPI IN/TALLY OUT connector pin set at the menu. The function is enabled whenever the relevant USER button is pressed. | Lit when pushed, unless unlit. |
| GPI OUTPUT1-12 (TGLE) | The GPI OUTPUT function (1-12) represents ON/OFF setting for each GPI OUTPUT (1-12) assigned to a GPI IN/TALLY OUT connector pin set at the menu. The function is enabled whenever the relevant USER button is pressed. | ON: Lit orange, OFF: Unlit |

| When USTRS (User Transition) was selected for the TYPE item: | | |
|--|---|--|
| Setting | Function | Button Indication |
| KEYER SCALER | Performs the user transition for KEYER. | On-Air: Lit orange, Off-Air: Unlit |
| KEYER MIX | | |
| KEYER SLIDE LEFT | | |
| KEYER SLIDE RIGHT | | |
| KEYER SLIDE TOP | | |
| KEYER SLIDE BOTTOM | | |
| DSK SCALER | Performs the user transition for DSK. | On-Air: Lit orange, Off-Air: Unlit |
| DSK MIX | | |
| DSK SLIDE LEFT | | |
| DSK SLIDE RIGHT | | |
| DSK SLIDE TOP | | |
| DSK SLIDE BOTTOM | | |
| PinP1 SCALER | Performs the user transition for PinP1. | On-On-Air: Lit orange, Off-Air: Unlit |
| PinP1 MIX | | |
| PinP1 SLIDE LEFT | | |
| PinP1 SLIDE RIGHT | | |
| PinP1 SLIDE TOP | | |
| PinP1 SLIDE BOTTOM | | |
| PinP2 SCALER | Performs the user transition for PinP2. | On-Air: Lit orange, Off-Air: Unlit |
| PinP2 MIX | | |
| PinP2 SLIDE LEFT | | |
| PinP2 SLIDE RIGHT | | |
| PinP2 SLIDE TOP | | |
| PinP2 SLIDE BOTTOM | | |

| When KEYER or DSK was selected for the TYPE item: | | |
|---|--------------------------------|-------------------------------|
| Setting | Function | Button Indication |
| 2D DVE ENABLE | Sets 2D DVE On/Off. | ON: Lit orange, OFF: Unlit |
| BOX MASK AND ENABLE | Sets AND type BOX MASK On/Off. | |
| BOX MASK OR ENABLE | Sets OR type BOX MASK On/Off. | |
| EDGE NORMAL ENABLE | Sets Normal Edge On/Off. | |
| EDGE OUTLINE ENABLE | Sets Outline Edge On/Off. | |
| FIELD FREEZE ENABLE | Sets Field Freeze On/Off. | |
| FRAME FREEZE ENABLE | Sets Frame Freeze On/Off. | |

| When OTHER was selected for the TYPE item: | | |
|--|---------------------------------|--|
| Setting | Function | Button Indication |
| EDITOR ENABLE | Sets editor control On/Off. | ON: Lit orange OFF: Unlit |
| STILL1-2 STORE | Captures Still1 or Still2. | Always lit orange |
| WIPE MODIFY RESET | Resets the WIPE menu. | |
| OSD CTRL ENABLE | Sets OSD menu display On/Off. | ON: Lit orange OFF: Unlit |
| EVENT NO0-9 RECALL | Loads an event. | Event stored: Lit Event not stored: Unlit |
| PREVIEW OUT-KEY | Sets display on Preview On/Off. | ON: Lit orange OFF: Unlit |
| PREVIEW OUT-DSK | | |
| PREVIEW OUT-PinP1 | | |
| PREVIEW OUT-PinP2 | | |

6. Video Sources

6-1. How to Give Name to Sources

Signals available for selection on the PGM/PST bus and the KEY/AUX bus can be assigned user specific names, to make them easier to identify for operators. User names can be given to input signals, internally generated black matt and matt signals, and still pictures. Follow the procedure below to name a signal.

- (1) Press the **MENU** button and then press the **7/SETUP** button to display the SETUP menu's top page.
- (2) Turn **F1** to select **INPUT**. Then press **F1** or the **PAGE DOWN** button to display the [SETUP-INPUT] menu.
- (3) Turn **F1** to select **RENAME**. Press **F1** or the **PAGE DOWN** button to display the [SETUP-INPUT- RENAME] menu.

```

SETUP      : >SI GNAL  >PROC AMP>RENAME >ASSI GN
I NPUT     :
  
```

- (4) Turn **F1** to select a signal at the **SELECT** item. (See the table below.)

```

I NPUT     : SELECT : SHORT   : LONG NAME (MV) : 1/1
RENAME     : =I N04 : =I N04 : =I NPUT04    :
  
```

| SELECT | SHORT default setting | LONG NAME default setting (*1) | Signal description |
|----------------|-----------------------|--------------------------------|---|
| BLACK | BLAK | BLACK | Black signal |
| IN01 to IN04 | IN01 to IN04 | INPUT01 to INPUT04 | SDI video input to rear connectors 1-4 |
| STILL1, STILL2 | STL1, STL 2 | STILL1, STILL2 | Still images 1 and 2 |
| MATT | MATT | MATTE | BUS matte color |
| CLBAR | CLBR | COLOR BAR | Color bar |
| IN05 to IN12 | IN05 - (*2) | INPUT05 - (*2) | Optional video inputs on Slot A and Slot B (See section 2-4.) |

(*1) Long names are used for titles displayed on the multiviewer screen.

(*2) IN05 and following inputs are determined by the type and number of the installed input expansion card.

- (5) To change the short name of a signal, use **F2** to give it a name up to 4 characters in length, entering the characters one by one. First, press **F2** to highlight a character. When the latter blinks, turn **F2** to change it. Alphabet, numbers and symbols (ASCII characters) can be used for names.
- (6) To change the long name of a signal, use **F3** to give it a name up to 8 characters in length, entering the characters one by one. First, press **F3** to highlight a character. When the latter blinks, turn **F3** to change it. Alphabet, numbers and symbols (ASCII characters) can be used for names.

6-2. How to Assign Sources to Bus buttons

Primary and optional video inputs, internally generated signals (black, mattes etc) and captured stills can be freely be assigned to any PGM/PST or KEY/AUX bus buttons using the procedure below.

- (1) Press the **MENU** button and then press the **7/SETUP** button to display the SETUP menu's top page.
- (2) Turn **F1** to select **INPUT**. Press **F1** or the **PAGE DOWN** button to display the [SETUP – INPUT] menu.

```

SETUP   : >SI GNAL  >PROC AMP>RENAME  >ASSI GN
INPUT   :
  
```

- (3) Turn **F1** to select **ASSIGN**. Press **F1** or the **PAGE DOWN** button to display the [SETUP – INPUT - ASSIGN] (1/3) menu.

```

INPUT   : BUTTON   : SI GNAL NAME   : I NHI BIT: 1/3
OU ASSGN: =01     : =I N04      =I N04 : =OFF   :
  
```

- (4) Turn **F1** to select a bus button under the **BUTTON** item.
- (5) Turn **F2** to select the signal to be assigned under the **SIGNAL** item. Users can also select a signal by turning **F3** under the **NAME** item. **SIGNAL** and **NAME** are linked to each other. (See section 6-1. "How to Give Name to Source" for more details.)

| Submenu | Parameter | Default | Setting range |
|-----------|-------------|---------|---------------------------------------|
| OU ASSIGN | BUTTON | 1 | 1-12, sft1-sft12 (shifted buttons) |
| | SIGNAL NAME | IN01 | (See the table below) |
| | | IN01 | (Signal name set in SETUP-INPUT menu) |
| | INHBIT | OFF | OFF, ON |

| BUTTON | SIGNAL setting | Description |
|--|--|--|
| 01 to 12, sft01 to sft12 (shifted buttons) | NONE | No signal assignment |
| | BLACK | Black signal |
| | IN01 to IN04 | Video input to rear connectors 1-4 |
| | STIL1, STIL2 | Still pictures 1 and 2 |
| | MATT | BUS MATT Color |
| | CLBAR | Internally generated color bar signal |
| | SHIFT | Shift button function |
| | INA1-INA4 | Optional video input to rear connectors of slot A (*1) (See section 2-4.) |
| INB1-INB4 | Optional video input to rear connectors of slot B (*1) (See section 2-4.) | |

(*1) Inputs vary by the type and number of the installed input expansion card.

- (6) Users can inhibit specific bus buttons. If INHIBIT is set to ON for a bus button, the selected bus button for the PGM/PST cannot be selected. This is useful to help reduce the risk of wrong input selection.

IMPORTANT

The INHIBIT setting has no effect for the KEY/AUX bus. Even if a bus button cannot be used with the PGM/PST, it can be used for the key source, key insert or AUX output.

6-3. Resize Function

A resize function is provided for every input including optional inputs, except HVS-30HSDI-A. This allows users to input SD signals at the same frame-rate **as HD mode** and use them as HD images by upsizing. To use the Resize function, proceed as follows.

- (1) Press the **MENU** button and then press the **7/SETUP** button to display the SETUP menu's top page.
- (2) Turn **F1** to select **INPUT**. Press **F1** or the **PAGE DOWN** button to display the [SETUP – INPUT] menu.

```

SETUP   : >SYSTEM  >INPUT  >OUTPUT  >PANEL
MENU    : >EXT I /F >STATUS
  
```

- (3) Turn **F1** to select **SIGNAL**. Press **F1** or the **PAGE DOWN** button to display the [SETUP – INPUT - SIGNAL] menu.

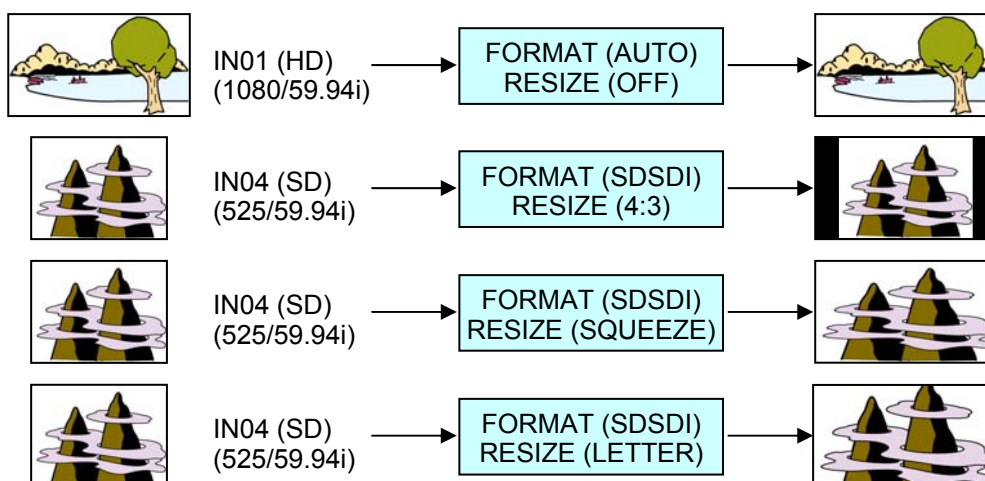
```

SETUP   : >SIGNAL  >PROC AMP>RENAME  >ASSIGN
INPUT   :
  
```

- (4) Turn **F1** to select an input signal for resizing.
- (5) Turn **F2** to set **AUTO** or **SDSDI** for **FORMAT**.
- (6) Turn **F3** to select an aspect ratio under the **RESIZE** item.

```

INPUT   : SELECT : FORMAT : RESIZE : FS   : 1/2
SIGNAL  : =IN04  : =SDSDI: =4:3  : =ON   :
  
```



- (7) To change the side bar color for 4:3 images, press the **PAGE DOWN** button to go to Page 2.
- (8) Turn **F4** to select a color from the following 8 standard colors. Then press **F4** to apply the setting.

WHITE, YELLOW, CYAN, GREEN, MAGENTA, RED, BLUE and BLACK

If you want to adjust the selected color or set the color by entering its HSL values, turn **F1**, **F2** and **F3** to adjust these values or press **F1**, **F2** and **F3**, enter a value from the Keypad and then press **ENT/STORE** (from the keypad). Users can also set these three parameters via the JOYSTICK block. (See section 4-2-4. "Changing Settings or Values by Using the Joystick.")

| Parameter | Setting Range | Description | Joystick operation |
|-----------|---------------|---------------------------|---------------------------------------|
| S | 0.0 to 100.0 | Adjusts color saturation. | Moves Joystick horizontally (X -axis) |
| L | 0.0 to 100.0 | Adjusts color luminance. | Moves Joystick vertically (Y -axis) |
| H | 0.0 to 359.5 | Adjusts color hue. | Turn the SIZE control |

IMPORTANT

The Resize function is automatically enabled when SD signals are input to the switcher in HD mode, and FORMAT in the [SYSTEM-INPUT- SIGNAL] menu is set to SDSDI. ((Please make sure the Resize function stays disabled if HDSDI is set for FORMAT.))

6-4. Frame Synchronizer

A video frame synchronizer is provided for every input (this includes optional inputs). It is used to synchronize asynchronous signals. Users can select whether frame synchronizing is applied to input signals or not (for each of them) as shown in the procedure below.

- (1) Display the [SETUP - INPUT - SIGNAL] menu.
- (2) Turn **F1** to select an input signal for use.
- (3) Turn **F4** to set **FS** to **ON** and activate the frame synchronizer.

| | | | | | |
|---------|----------|----------|-----------|---------------|-------|
| INPUT | : SELECT | : FORMAT | : RESI ZE | : FS | : 1/2 |
| SI GNAL | : =I N02 | : =AUTO | : =16: 9 | : = ON | : |

Ancillary data in input video cannot be passed through if **FS** (input frame synchronizer) is set to **ON** or **RESIZE** is enabled. To pass ancillary data, input the video synchronized with the genlock signal and set **FS** to **OFF**. Be sure to that ancillary data in SD inputs cannot be used when the switcher operates in HD mode.

6-5. Bus Matte

One matte signal can be assigned to the PGM/PST and KEY/AUX bus buttons. The matte signals can be assigned to any bus button (Default assignment: Button 12). Refer to section 6-2. "How to Assign Sources to Bus buttons" for the matte assignment.

6-5-1. Setting Up the Matte Color

- (1) Press the **MENU** button and then press the **6/MATT** button to display the MATT menu.

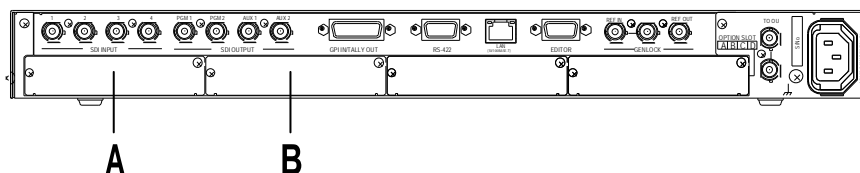
| | | | | |
|--------|---|-----------------------|----------|---------|
| MATT | : | BUS MATT COLOR | : RECALL | : 1/1 |
| COLOR1 | : | S=50.0 L=80.2 H=125.5 | : | >GREEN: |

- (2) Turn **F4** to select a color from 8 standard colors. Then press **F4** to apply the setting. If you want to adjust the selected color or set the color by entering its HSL values, turn **F1**, **F2** and **F3** to adjust these values or press **F1**, **F2** and **F3**, enter a value from the Keypad and then press **ENT/STORE** (from the keypad). Users can also set these three parameters via the JOYSTICK block. (See section 4-2-4. "Changing Settings or Values by Using the Joystick.")

| Parameter | Setting Range | Description | Joystick operation |
|-----------|---------------|---------------------------|---------------------------------------|
| S | 0.0 to 100.0 | Adjusts color saturation. | Moves Joystick horizontally (X -axis) |
| L | 0.0 to 100.0 | Adjusts color luminance. | Moves Joystick vertically (Y -axis) |
| H | 0.0 to 359.5 | Adjusts color hue. | Turn the SIZE control |

6-6. Setting Up Additional Inputs

Up to 2 cards of additional inputs can be installed into Slot A and Slot B.



| Option Slot | Available card | Signal (connector) | Number of inputs per card |
|-------------|----------------|---|---------------------------|
| A, B | HVS-30HSDI | HD/SD SDI (BNC) | 4 inputs |
| | HVS-30HSDI-A | HD/SD SDI (BNC) | 4 inputs |
| | HVS-30HSAI | HD/SD analog component or analog composite (BNC, mini-DIN 7pin) | 2 inputs |
| | HVS-30PCIN | Digital RGB (DVI-D) / Analog RGB signal (VGA) | 2 inputs |

Each card provides two channels of input and each channel can be set up respectively as described below.

- (1) Open the [SETUP – INPUT – SIGNAL] menu.
- (2) Turn **F1** to select an input channel. Select from IN05 to IN08 if the card installed to Slot A has four inputs. Select between IN05 and IN06 if the card installed to Slot A has two inputs. In the same way select from successive numbers after the inputs on Slot A if the card is installed to Slot B.
- (3) Turn **F2** to specify the signal format for the channel.

| | | | | | |
|--------|----------|-----------------|----------|--------|-------|
| INPUT | : SELECT | : FORMAT | : RESIZE | : FS | : 1/1 |
| SIGNAL | : =IN05 | : = AUTO | : =16:9 | : =OFF | : |

Normally set to AUTO. The following settings are available as needed.

| Expansion card | Slot | Number of inputs | FORMAT setting |
|----------------|------|------------------|---|
| HVS-30HSDI | A | 4 inputs | AUTO, HD-SDI, SD-SDI |
| | B | 4 inputs | |
| HVS-30HSDI-A | A | 4 inputs | Unable to set (switcher's operational format) |
| | B | 4 inputs | |
| HVS-30HPCIN | A | 2 inputs | AUTO (If set to AUTO, input signal format is automatically detected and set.)(See the table below.) |
| | B | 2 inputs | |
| HVS-30HSAI | A | 2 inputs | HD Component, SD Component, Composite |
| | B | 2 inputs | |

◆ HVS-30PCIN available format

| Format | Resolution |
|--------|---|
| 1080 | 1024x768 (XGA), 1280x1024 (SXGA), 1600x1200 (UXGA), 1280x768 (WXGA), 1680x1050 (WSXGA), 1920x1200 (WUXGA) |
| 720 | 1024x768 (XGA), 1280x1024 (SXGA), 1280x768 (WXGA) |
| SD | 640x480 (VGA), 800x600 (SVGA), X1024x768 (XGA) |

◆ **HVS-30HSAI available format**

| System standard | HD Component | Composite | Component SMPTE | Component BetaCam | Component |
|--|--------------|------------|-----------------|-------------------|-----------|
| 1080/59.94i 1080/29.97PsF 720/59.94i | Available | Available* | Available | Available* | — |
| 1080/50i, 1080/25PsF 720/50p | Available | Available | — | — | Available |
| 525/60 | — | Available* | Available | Available* | — |
| 625/50 | — | Available | — | — | Available |
| Other standards | Available | — | — | — | — |

* You can choose whether to add or not to add 7.5% Setup to the video outputs. If 7.5% Setup is added to a signal, the symbol "+" follows immediately after the name of the signal.

(4) When operating in HD mode, SD signals can be input, upsized by using Resize function and used in the same way as HD signals. In this case, the SD signals must have the same frame rate as the current video format.

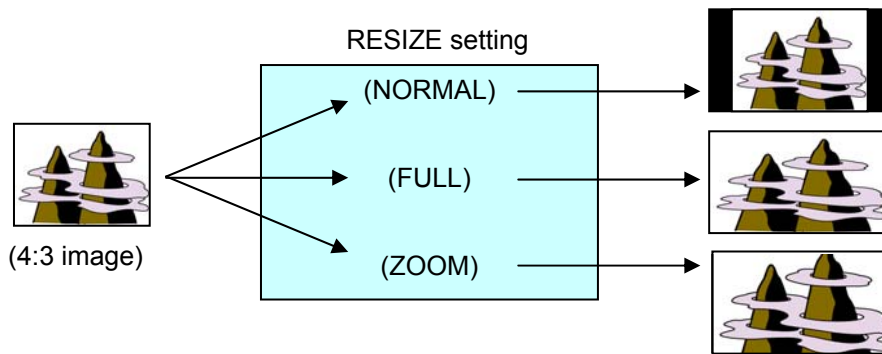
◆ **HVS-30HSDI/30HSAI**

See 6-3. "Resize Function."

◆ **HVS-30PCIN**

If 4:3 signals are input, the aspect ratio is selectable between two below.

| RESIZE setting | Description |
|----------------|---|
| NORMAL | Adds black bars to the left and right of the screen. |
| FULL | Expands images to 16:9 aspect ratio. |
| ZOOM | Displays images in full screen by cropping off the top and bottom of the picture. |



| | | | | | |
|--------|----------|----------|-------------------|--------|-------|
| INPUT | : SELECT | : FORMAT | : RESIZE | : FS | : 1/1 |
| SIGNAL | : =INA1 | : =AUTO | : = NORMAL | : =OFF | : |

IMPORTANT

The resize function is not available for the HVS-30HSDI-A optional inputs.

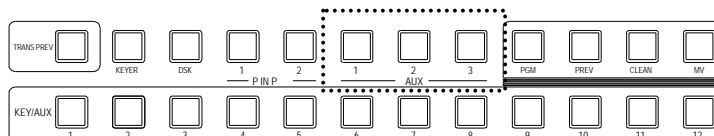
7. Video Outputs

7-1. How to Select Aux signals

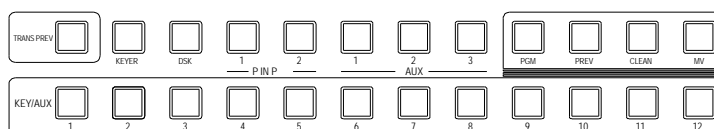
The AUX1 to AUX3 output signals can be selected from all bus sources (IN01-12, Still1-2, Matte and etc.), program, preview, clean and key out signals. There are two procedures to select signals for auxiliary outputs: via bus buttons or from menu selection. If you want to select a signal easily and quickly, select the signal in the KEY/AUX bus. If you want to select a signal not assigned to bus buttons, select it in the menu.

7-1-1. Selecting Video via Bus Buttons

(1) Press a button, one of AUX1 to AUX3 shown by dashed lines below.



(2) Press a button in the KEY/AUX bus section to select a signal for the selected AUX output.



AUX signal selection via bus buttons can be disabled if AUX CTRL is set to OFF in the [SETUP - OUTPUT - AUX XPT] menu to prevent any operational mistakes.

| | | | | | | | | | | |
|---------|---|--------|---|---------|---|------|---|------|---|-----|
| OUTPUT | : | SELECT | : | XPT | : | CTRL | : | ANCI | : | 1/2 |
| AUX XPT | : | =AUX1 | : | =BLACK: | : | =OFF | : | =OFF | : | |

7-1-2. Selecting Video from Menu Selection

- (1) Press the **MENU** button and then press the **7/SETUP** button to display the SETUP menu's top page.
- (2) Turn **F1** to select **OUTPUT**. Press **F1** or the **PAGE DOWN** button to display the [SETUP-OUTPUT] menu.
- (3) Turn **F1** to select **AUX XPT**. Press **F1** or the **PAGE DOWN** button to display the [SETUP-OUTPUT-AUX XPT] menu.

| | | | | | | | |
|--------|---|---------|---|-----------|------|---|----------------|
| SETUP | : | >MARKER | > | CLN/PREV> | ANCI | > | AUX XPT |
| OUTPUT | : | >MV | > | OPTI ON | | | |

- (4) Turn **F1** to select an AUX bus.
- (5) Turn **F2** to select a video signal.

| | | | | | | | | | | |
|---------|---|--------|---|---------|---|------|---|------|---|-----|
| OUTPUT | : | SELECT | : | XPT | : | CTRL | : | ANCI | : | 1/2 |
| AUX XPT | : | =AUX1 | : | =BLACK: | : | =ON | : | =OFF | : | |

Available signal selections are as described below.

| Setting | Description | Refer to |
|---|---|----------|
| BLACK, IN01-04, IN05-12 (option), STILL1-2, MATT, CLBAR, IN05-IN12 (option) | Signals assignable to the bus buttons in PGM/PST and KEY/AUX. | 6-2 |
| PGM | Program video | 8-1 |
| PREV | Preview video (next video with or without KEYER, DSK and PinP) | 7-2 |
| CLEAN | Clean video (program video with or without KEYER) (See 7-3.) | 7-3 |
| KEY | Key cut signal combined with DSK, KEYER and PinP. It is useful to check chromakey appearance. (See section 11-5. Chroma Key.) | 7-4 |
| MV | Multiviewer video | 13 |

7-2. Preview Set Up

The switcher does not have a dedicated PREVIEW output, however, the preview bus output can be assigned to an auxiliary output. Users can also add the KEYER, DSK and PinP to PREVIEW. This can be done as explained below:

7-2-1. Preview bus monitoring

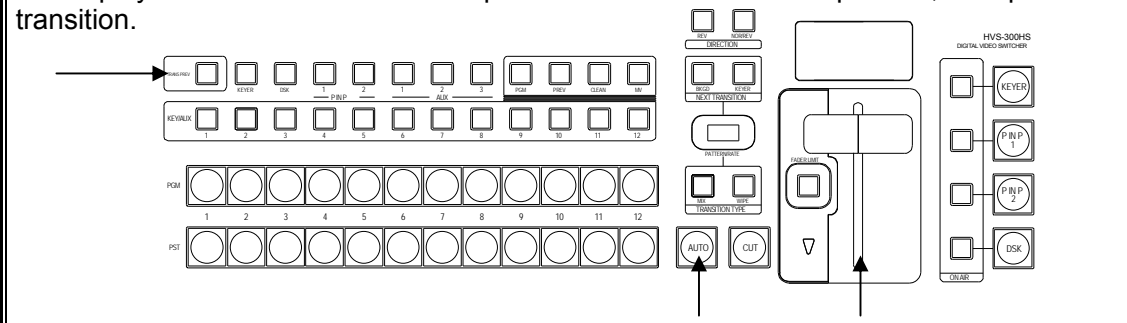
Follow the procedure below to assign the preview video to an AUX output. AUX1 is used in the example below.

- (1) Open the [SETUP-OUTPUT-AUX XPT] menu referring section 7-1. "How to Select Aux signals."
- (2) Turn **F1** to select **AUX1**.
- (3) Turn **F2** to select **PREV**.

| | | | | | | | | | | |
|---------|---|--------|---|-------|---|------|---|------|---|-----|
| OUTPUT | : | SELECT | : | XPT | : | CTRL | : | ANCI | : | 1/2 |
| AUX XPT | : | =AUX1 | : | =PREV | : | =ON | : | =OFF | : | |

To Preview the Next Transition:

Press and hold down the **TRANS PREV** button on the left next to the fader lever. Press **AUTO** or move the fader lever while holding down **TRANS PREV**. The next transition will be displayed on the PREVIEW output. To exit the transition preview, complete the transition.



7-2-2. Setting Up Preview Image

(1) Open the [SETUP – OUTPUT – CLEAN/PREVIEW] (2/2) menu.

| | | | | | | | | | | |
|-----------|---|-------|---|-------|---|-------|---|-----|---|-----|
| OUTPUT | : | KEYER | : | PinP1 | : | PinP2 | : | DSK | : | 2/2 |
| PREV OUT: | | =OFF | : | =OFF | : | =OFF | : | =ON | : | |

(2) Turn **F1** to **F4** to set whether the KEYER, DSK and PinP images are to be displayed on the preview image. Then press the push-button to confirm the setting for each.

| Item | Setting | NEXT TRANSITION | KEYER On-Air/Off-Air | KEYER image on PREVIEW |
|-----------------------|---------|------------------|-------------------------|---------------------------|
| PREV OUT- KEYER | ON | KEYER button ON | On-Air | Not displayed |
| | ON | KEYER button OFF | On-Air | Displayed |
| | ON | KEYER button ON | Off-Air | Displayed |
| | ON | KEYER button OFF | Off-Air | Not displayed |
| | OFF | --- | --- | --- |

Whether the keyer images are displayed on the preview depends on both PREVIEW OUT setting and KEYER button status in the NEXT TRANSITION section.

| Item | Setting | DSK or PinP image on PREVIEW |
|-----------------------|---------|------------------------------|
| PREVIEW OUT - DSK | ON | Displayed |
| | OFF | Not displayed |
| PREVIEW OUT - PinP1/2 | ON | Displayed |
| | OFF | Not displayed |

7-3. Clean Set Up

The switcher can output the CLEAN via an auxiliary output. Users can also add the KEYER image to CLEAN. Follow the procedure below to assign the clean video to an AUX output. AUX3 is used in this example

◆ Sending Clean Signal to AUX Output

- (1) Open the [SETUP-OUTPUT-AUX XPT] menu.
- (2) Turn **F1** to select AUX3.
- (3) Turn **F2** to select CLN.

| | | | | | | | | | | |
|---------|---|--------|---|------|---|------|---|------|---|-----|
| OUTPUT | : | SELECT | : | XPT | : | CTRL | : | ANCI | : | 1/2 |
| AUX XPT | : | =AUX3 | : | =CLN | : | =ON | : | =OFF | : | |

◆ Displaying Keyer Image on Clean

- (1) Open the [SETUP – OUTPUT – CLEAN/PREVIEW] (1/2) menu.
- (2) Turn **F1** to set whether the KEYER image is inserted to the clean image. Then press the push-button to confirm the setting.

◆ Displaying PinP1/2 Image on Clean

- (1) Open the [SETUP – OUTPUT – CLEAN/PREVIEW] (1/2) menu.
- (2) Turn **F2** or **F3** to set whether the PinP1 or PinP2 image is inserted to the clean image. Then press the push-button to confirm the setting.

| | | | | | | | | | | |
|--------|---|-------|---|-------|---|-------|---|--|---|-----|
| OUTPUT | : | KEYER | : | PinP1 | : | PinP2 | : | | : | 1/2 |
| CLEAN | : | =ON | : | =OFF | : | =OFF | : | | : | |

| Item | Setting | Description |
|---------|---------|---|
| KEYER | ON | KEYER image is added to Clean |
| | OFF | KEYER image is not added to Clean. |
| PinP1/2 | ON | PinP1 or PinP2 image is added to Clean |
| | OFF | PinP1 or PinP2 image is not added to Clean. |

7-4. Setting Up and Outputting KEY OUT

The KEY OUT signal (switcher processed key cut signal) can be assigned to AUX outputs. Several kinds of key signals can be used as KEY OUT, such as KEYER and DSK mixed key signal and DVE key signal. This feature is useful for checking key signals while processing chromakeys.

- (1) Open the [SETUP-OUTPUT-AUX XPT] menu referring section 7-1. "How to Select Aux signals."
- (2) Press the **PAGE DOWN** button to go to PAGE 2.

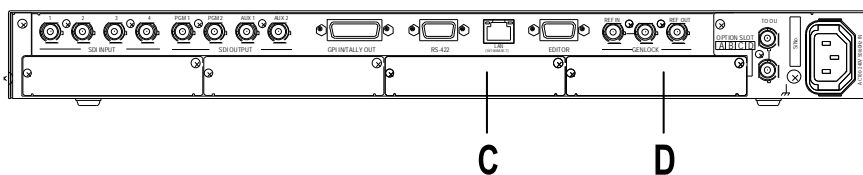
| | | | |
|---------|--------------------|---|-----|
| OUTPUT | : KEY OUT: | : | 2/2 |
| AUX XPT | : = MEKEY : | : | |

- (3) Turn **F1** to select a KEY OUT signal. Various types of KEY OUT signals are available as shown in the table below. Press **F1** to confirm the setting.

| Item | Setting | Description |
|---------|---------|--|
| KEY OUT | D_PGM | DVE key signal used for PGM bus. |
| | D_PST | DVE key signal used for PST bus. |
| | D_MEA | DVE key signal used for A bus. |
| | D_MEB | DVE key signal used for B bus. |
| | D_KEY | DVE key signal used for KEYER. |
| | MEKEY | DVE key signal mixed with KEYER and DSK. |

7-5. Setting Up Additional Outputs

Up to two cards of additional outputs can be installed into slot C and D.



| Option Slot | Available card | Available Video Signal (Connector) | Number of output per card. |
|-------------|----------------|---|----------------------------|
| C, D | HVS-30HSDO | HD/SD SDI (BNC) | 3 outputs (*1) |
| | HVS-30HSAO | HD/SD analog component or SD analog composite (BNC) | 2 outputs |
| | HVS-30PCO | Digital RGB (DVI-D) and Analog RGB (VGA) | 2 outputs |

(*1) HVS-30HSDO can send two output channels to three connectors: Ch1 to Connector 1 and Ch2 to Connectors 2 and 3.

Each card has two output channels whose signal can be selected respectively in the menu as shown in the procedure below.

- (1) Open the [SETUP – OUTPUT – OPTION] menu.
- (2) Turn **F1** to select an output channel. C-Ch1 and C-Ch2 is for Slot C and D-Ch1 and D-Ch2 is for Slot D.
- (3) Turn **F1** to select an image to be output from **PGM**, **PREV**, **CLN**, **AUX1-AUX3** and **MV**.

| | | | | | | | | | | |
|---------|---|---------|---|--------|---|--------|---|--------|---|-----|
| OUTPUT | : | SELECT | : | OUTPUT | : | FORMAT | : | ASPECT | : | 1/2 |
| OPTI ON | : | =C-Ch1: | | =PGM | : | =SXGA | : | =4:3 | : | |

- (4) Select the signal format and aspect ratio. Available selections are shown in the tables below.

If HVS-30HSDO is installed:

| System format | Channel | FORMAT setting | ASPECT setting |
|---|----------|----------------|----------------------|
| HD | Ch1 | HDSDI (Fixed) | ---- |
| 1080i/59.94, 50, 1080PsF/29.97, 25 720p/59.94, 50 | Ch2 | HDSDI (Fixed) | ---- |
| | | SDSDI | 4:3, SQUEEZE, LETTER |
| SD | Ch1, Ch2 | --- | --- |

If HVS-30HSAO is installed:

| System format | Channel | FORMAT setting | ASPECT setting |
|---------------|-------------|---|-------------------------|
| HD | Ch1 | HDComponent | ---- |
| | Ch2 | HDComponent | ---- |
| | | SDComponent, Composite * | 4:3, SQUEEZE, LETTER |
| SD | Ch1, Ch2 | Component * (SMPTE or BetaCam level), Composite * | ---- |

* You can choose whether to add or not to add 7.5% Setup to the output signals if the switcher is running in 59.94Hz mode. If 7.5% Setup is added to a signal, the symbol "+" follows immediately after the name of the signal.

If HVS-30PCO is installed:

| System format | Channel | FORMAT setting | ASPECT setting |
|---------------|-------------|--|----------------|
| 1080i | Ch1, Ch2 | 1280x1024 (SXGA), 1600x1200 (UXGA) | 4:3, LETTER |
| | | 1680x1050 (WSXGA), 1920x1200 (WUXGA), 1920x1080 (HDTV) *1 | ---- |
| 720p | Ch1, Ch2 | 1280x1024 (SXGA) | 4:3, LETTER |
| | | 1280x768 (WXGA) | ---- |
| SD | Ch1, Ch2 | 800x600 (SVGA) | 4:3, LETTER *2 |

*1 You can choose between 60Hz and 50Hz for output frequency for DVI-D(Ch1) if the switcher is running in 50Hz mode (1080/50i, 720/50p or 625/50). See step (5) below. (Version 01-11 and later.)

*2 This setting is available only when ASPECT RATIO is set to SQUEEZE in the [SETUP-SYSTEM-FORMAT] menu.

- (5) Select the output frequency for HVS-30PCO between 60Hz and 50Hz in the [SETUP – OUTPUT – OPTION] (2/2) menu. The setting can be made for each channel by turning menu controls. The setting is available only when the switcher is running in 50Hz mode.

| | | | | |
|---------|---|----------------------------|---|-----------------|
| OUTPUT | : | HVS-30PCO V SCAN FREQUENCY | : | 2/2 |
| OPTI ON | : | C1=60Hz C2=---- | : | D1=60Hz D2=---- |

8. PGM/PST Bus Operation

8-1. PGM/PST Bus buttons

At factory default, video inputs, Stills and Matt are assigned to the PGM/PST bus buttons.

To Select Video in PGM

Press the desired bus button on the **PGM** bus. The video signal assigned to the selected bus button is displayed on the **program output** screen.

To Select Video in PST

Press the desired bus button on the **PST** bus. The video signal assigned to the selected bus button is displayed on the **preview output** screen.

To Perform Transition

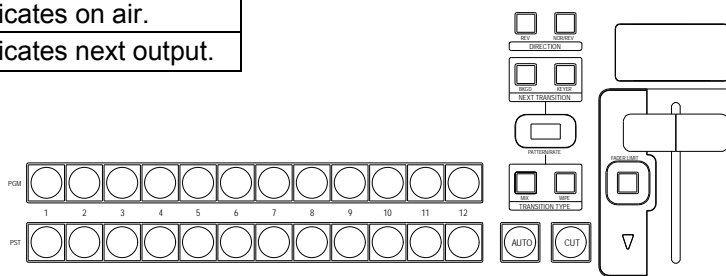
Press the **[BKGD]** button in the Transition block. Then move the fader lever from end to end to check how the button indication changes as the signals are switched. Once the transition is complete, the selected signals on PGM and PST are switched (flip-flop).

The switcher's basic operation is to select the next video on the PST bus and send it to air via transition. And Repeat them again and again.

Color Indications on PGM/PST Bus buttons

The bus buttons light up as shown below to indicate the signal status.

| Lit color | Description |
|-----------|------------------------|
| Red | Indicates on air. |
| Orange | Indicates next output. |



8-2. PGM/PST Switching Mode

Users can change the switching mode for the PGM/PST bus from P/P to A/B. In P/P mode, the source selections in the PGM and the PST are switched when transitions occur and users can always select the next background signal from the PST bus (the bottom row). In A/B mode, the source selections in the PGM and the PST do not switch when transitions occur and the next signal selection must be done in the different bus after each transition. The default setting is P/P.

To Change Switching Mode to A/B:

- (1) Press the **[MENU]** button and then press the **[7/SETUP]** button to display the SETUP menu's top page. Turn **[F1]** to select **PANEL**. Press **[F1]** or the **[PAGE DOWN]** button to display **[SETUP-PANEL]** menu.
- (2) Turn **[F1]** to select **TRS CTRL**. Press **[F1]** or the **[PAGE DOWN]** button to display the **[SETUP - PANEL-TRS CTRL]** menu.
- (3) Turn **[F1]** to select **A/B**. Press **[F1]** or **[ENT/STORE]** in Keypad to confirm the setting.

| | | | | |
|-----------|--------------|---|---------------|-------|
| PANEL | : BUSTYPE: | : | FADER OFFSET | : 1/1 |
| TRS CTRL: | = A/B | : | U=1.00 L=1.00 | : |

8-3. Setting-up and Using the SHIFT function

In PGM/PST and KEY/AUX, users can select a video signal from 12 sources, because each bus row has 12 bus buttons. On this control panel the SHIFT function can also be assigned to a bus button in the same way video sources can. The SHIFT button allows users to select a video signal from 22 sources. (The SHIFT button is also available in the AUX bus.) The SHIFT function is not assigned to a button by default. To use the SHIFT function, assign it to a bus button as shown in the procedure below.

◆ To Assign the SHIFT function to a Bus button:

- (1) Press the **MENU** button and then press the **7/SETUP** button to display the SETUP menu's top page. Turn **F1** to select **INPUT**. Press **F1** or the **PAGE DOWN** button to display the [SETUP - INPUT] menu.
- (2) Turn **F1** to select **ASSIGN**. Press **F1** or the **PAGE DOWN** button to display the [SETUP - INPUT - ASSIGN] menu.

```

SETUP   : >SI GNAL  >PROC AMP>RENAME  >ASSI GN
INPUT   :
  
```

- (3) In the [SETUP - INPUT - ASSIGN] (1/3) menu, turn **F1** to select a bus button for use.
- (4) Turn **F2** or **F3** to select **SHIFT** under the **SIGNAL** item.

```

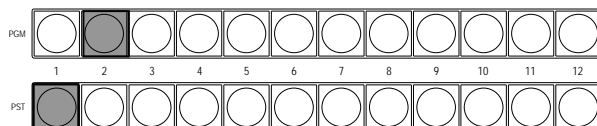
INPUT   : BUTTON : SI GNAL NAME   : I NHI BI T: 1/3
OU ASSGN: =12    : =SHIFT =SHI FT: =ON      :
  
```

◆ Using the SHIFT function

Once the SHIFT function has been assigned to a bus button, the SHIFT button works in normal mode by default. The SHIFT mode can be changed at the SHIFT item in the [SETUP-INPUT-ASSIGN](3/3) menu. In the description below, assume that the SHIFT is assigned to button 12.

When SHIFT works in NORMAL mode:

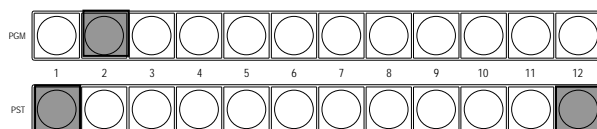
To select 1 to 11, simply press the relevant buttons with SHIFT turned OFF.



Pressing 2 selects Button 2.

Pressing 1 selects Button 1.

To select shifted 1 to 11, press and hold down the SHIFT button and then press the relevant button (with SHIFT lit).



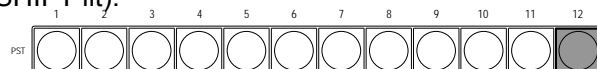
Pressing 2 selects Button 2.

Pressing both 1 and 12 (SHIFT) selects Shifted Button 1 (sft1).

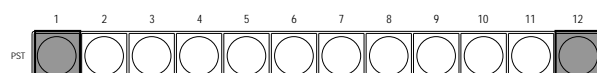
When SHIFT works in TOGGLE mode:

To select 1 to 11, simply press the relevant button with SHIFT turned OFF. Please note that this is the same as Normal mode.

To select shifted 1 to 11, press the SHIFT button to turn it on. Then press each button (with SHIFT lit).



Press SHIFT (Button 12).



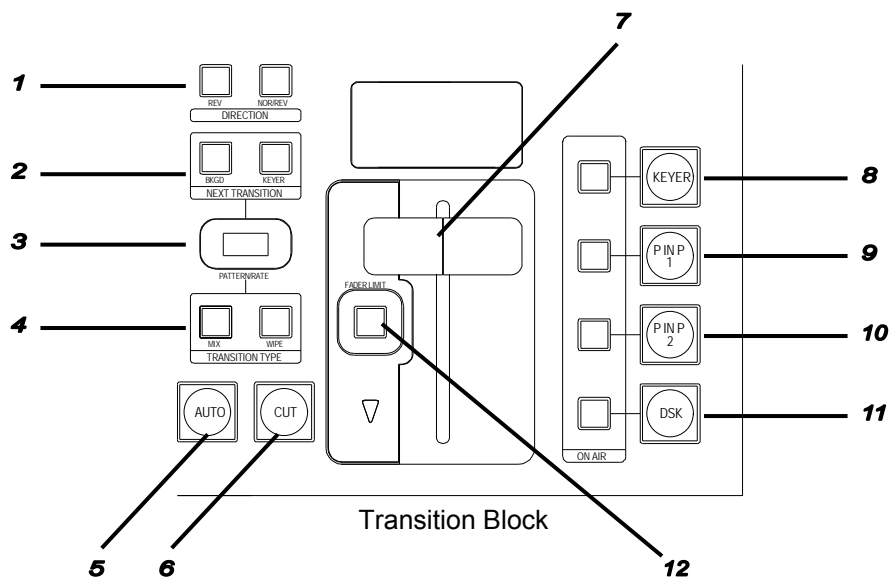
Pressing Button 1 selects Shifted Button 1 (sft1).

9. Transition Operations

The following transition-related operations are possible.

- BLACK transition
- Background CUT, MIX, Pattern transitions
- DSK CUT, MIX and SLIDE IN/OUT and SCALER.
- KEYER CUT, MIX, SLIDE IN/OUT, SCALER and Pattern transitions
- Transitions setup by next transition bus selection (BKGD and KEYER)
- Transitions using the **AUTO** button or the fader lever
- On-Air indicators for KEYER, DSK and PinP1/2.
- More than 150 types of various preset patterns.

9-1. Transition Block Description



| No. | Description | |
|-----|--|--|
| 1 | For transition direction setting for WIPE. | |
| 2 | For selecting next transition bus. | |
| 3 | For transition rate and type display use. | |
| 4 | For selecting transition type | |
| 5 | The AUTO transition button for BKGD and KEYER | |
| 6 | The CUT transition button for BKGD and KEYER | |
| 7 | The fader lever for BKGD and KEYER | |
| 8 | The Auto/User transition buttons for KEYER and ON AIR indicator. | |
| 9 | The Auto/User transition buttons for PinP1 and ON AIR indicator. | |
| 10 | The Auto/User transition buttons for PinP2 and ON AIR indicator. | |
| 11 | The Auto/User transition buttons for DSK and ON AIR indicator. | |
| 12 | For setting fader limit ON/OFF. | |
| - | BLACK TRANS button | For BLACK transition use. (Located on the right next to MENU/DIRECT PATT/EVENT/KEYPAD) |
| - | TRANS PREVIEW button | For previewing transitions. (Located on the left next to BUS SELECT) |

9-2. Available Transitions

| Bus | Type | Transition Rate Setting | Fader Limit Setting | Wipe Direction setting | Transition Execute Button or Tool |
|------------|------------|-------------------------|---------------------|------------------------|---|
| All | BLACK | Available | — | — | BLACK TRANS button |
| DSK | CUT | — | — | — | DSK AUTO button (Advanced Transition mode) |
| | MIX | Available | — | — | DSK AUTO button |
| | USER TRANS | Available | — | — | ON AIR (DSK) button |
| KEYER | CUT | — | — | — | KEY button > CUT button KEY AUTO button (Advanced Transition mode) |
| | MIX | Available | — | — | KEY AUTO button KEY button > AUTO button |
| | WIPE | Available | Available | NOR/REV | KEY button > AUTO button |
| | | — | Available | NOR/REV | Fader lever |
| USER TRANS | Available | — | — | ON AIR (KEYER) button | |
| PinP | CUT | — | — | — | PinP AUTO button (Advanced Transition mode) |
| | MIX | Available | — | — | PinP AUTO button |
| | USER TRANS | Available | — | — | ON AIR (DSK) button |
| BKGD | CUT | — | — | — | BKGD button > CUT button |
| | MIX | Available | — | — | BKGD button > AUTO button |
| | WIPE | Available | Available | NOR/REV | BKGD button > AUTO button |
| | | — | Available | NOR/REV | Fader lever |

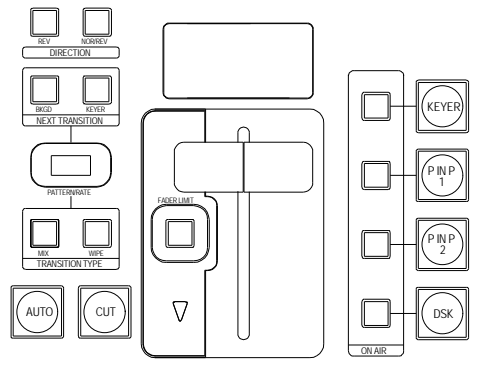
9-3. Black Transitions

Pressing the **BLACK TRANS** button initiates a fade to (or fade from) black whichever source (background and DSK) is currently on air (program output).

- (1) If necessary, set the transition rate. See section 9-8-2. "Transition Rate" for details.
- (2) Press the **BLACK TRANS** button to perform the transition.

9-4. DSK Transitions

- (1) Setup a DSK key. (See section 11. "KEYER and DSK.")
- (2) Perform DSK transition as described below.



To perform CUT transition:

Press the **DSK ON AIR** button to insert the DSK on program video. Press **DSK ON AIR** again to remove the DSK from the signal.

To perform MIX transition:

Press the **DSK AUTO** button in the DSK transition section to perform the MIX transition. Set the transition rate in the menu, if necessary. See section 9-8-2. "Transition Rate" for details.

DSK AUTO button

The DSK AUTO button can work in different ways (CUT or MIX), depending on the menu setting. (See section 9-8-4. "Advanced Auto Transitions ".)

DSK ON AIR button and On-Air indicator

The DSK ON AIR button can work in different ways such as CUT, Scale Up/Down or Slide In/Out, depending on the menu setting. (See section 9-8-3. "User Transitions ".)

◆ On-air/Off-air Indication

The On-Air DSK indicator turns on while signal is on-air and is off when off-air.

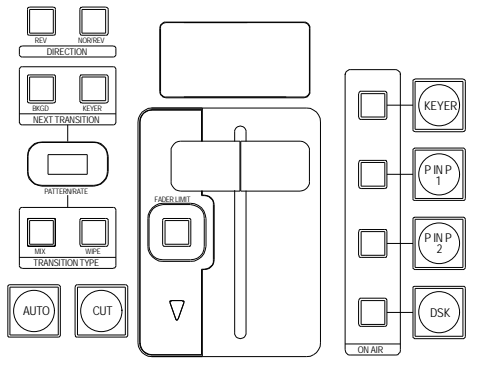
9-5. KEYER Transitions

CUT Transition

- (1) Setup a key for the KEYER. (See section 11. "KEYER and DSK.")
- (2) Press the **KEYER** button in the NEXT TRANSITION block.
- (3) Press **CUT** to perform KEYER CUT transition.

MIX Transition

- (1) Setup a key for the KEYER. (See section 11. "KEYER and DSK.")
- (2) Press the **KEYER** button in the NEXT TRANSITION block.
- (3) Press **MIX** in the TRANSITION TYPE block.
- (4) Press **AUTO** or **KEYER AUTO**, or move the fader lever to perform KEYER MIX transition.



KEYER AUTO button

The KEYER AUTO button can work in different ways (CUT or AUTO), depending on the menu setting. (See section 9-8-4. "Advanced Auto Transitions ".) When set to AUTO, the KEYER AUTO button works in the same way as the **AUTO** button in the pattern transition area.

KEYER ON AIR button and On-Air indicator

The KEYER ON AIR button can work in different ways such as CUT, Scale Up/Down or Slide In/Out, depending on the menu setting. (See section 9-8-3. "User Transitions .")

WIPE transition

- (1) Setup a key for the KEYER. (See section 11. "KEYER and DSK.")
- (2) Press the **KEYER** button in the NEXT TRANSITION block.
- (3) Press **WIPE** in the TRANSITION TYPE block.
- (4) The [TRANS - BKGD] menu appears in the menu display. Turn **F3** to select a desired pattern. (See section 9-9 "How to Select Patterns.")
- (5) Press **AUTO** or **KEYER AUTO**, or move the fader lever to perform the KEYER WIPE transition.

See section 9-7. "Pattern (WIPE) Transitions " for the WIPE transition details.
 See section 9-8-2. " Transition Rate" for the transition rate.
 See section 9-8-1. " Fader Limit" for the fader limit.

◆ On-air/Off-air Indication

The KEYER indicator will be on when key is live and will otherwise stay off.

To Preview Keyer Next Transition:

Press the **KEYER** button on the NEXT TRANSITION block to turn it on. Press and hold down the **TRANS PREV** button on the left next to the BUS SELECT block. Press **AUTO** or move the fader lever while holding down **TRANS PREV**. The next KEYER transition will be displayed on the PREVIEW output. (See section 7-2. "Preview Set Up.") To exit the transition preview, complete the transition.

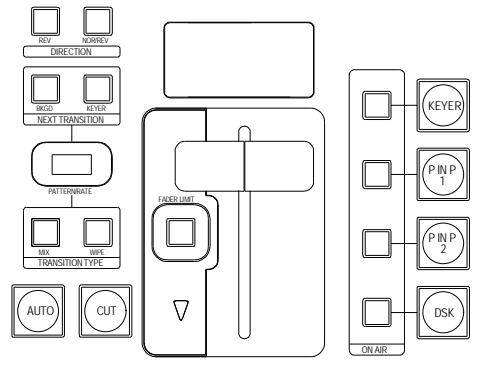
9-6. Background Transitions

CUT Transition

- (1) Select a video source in the PST bus block.
- (2) Press the **BKGD** button in the NEXT TRANSITION block.
- (3) Press **CUT** to perform the background CUT transition.

MIX Transition

- (1) Select a video source in the PST bus block.
- (2) Press the **BKGD** button in the NEXT TRANSITION block.
- (3) Press **MIX** in the TRANSITION TYPE block.
- (4) Press **AUTO** or move the fader lever to perform the background MIX transition.



WIPE Transition

- (1) Select a video source in the PST bus block.
- (2) Press the **BKGD** button in the NEXT TRANSITION block.
- (3) Press **WIPE** in the TRANSITION TYPE block.
- (4) The [TRANS - BKGD] menu appears in the menu display. Turn **F3** to select a desired pattern. (See section 9-9 "How to Select Patterns.")
- (5) Press **AUTO** or move the fader lever to perform the background WIPE transition.

See section 9-7. "Pattern (WIPE) Transitions " for the WIPE transition details.
See section 9-8-2. " Transition Rate" for the transition rate.
See section 9-8-1. " Fader Limit" for the fader limit.

◆ To Check Next Video:

To check the Preview video, assign the Preview video to an AUX bus to display the image. (See section 7-2. "Preview Set Up.") To check the clean video, assign the Clean video to an AUX bus to display the clear signal of program video. (See section 7-3. "Pattern (WIPE) Transitions.")

◆ To Preview Next Background Transition:

Press the **BKGD** button on the NEXT TRANSITION block to turn it on. Press and hold down the **TRANS PREV** button on the left next to the BUS SELECT block. Press **AUTO** or move the fader lever while holding down **TRANS PREV**. The next background transition will be displayed on the PREVIEW output. (See section 7-2. "Preview Set Up.")

9-7. Pattern (WIPE) Transitions

Patterns are available on background and KEYER transitions. This section explains how to perform pattern transitions, using a background transition as an illustration.

- (1) Select a background video source on the PGM/PST bus. The bus button lights up red to indicate that the video is on-air and the button lights up orange to indicate that the video is set up for the next transition.
- (2) Press the **[BKGD]** button in the NEXT TRANSITION section.
- (3) Press **[WIPE]** in the TRANSITION TYPE block. The [TRANS - BKGD] menu appears in the menu display. Turn **[F3]** to select a desired pattern. The patterns can be selected using Direct Pattern Function. See section 9-9. "How to Select Pattern" for details.
- (4) Users can modify the pattern here to add a border, change aspect ratio, change the start position and so on. (See section 10. "WIPE Pattern Modify. ")
- (5) Set the transition direction by using the direction buttons (NOR/REV and REVERSE).

| Transition direction | RON/REV button | REV button |
|-------------------------------------|----------------|------------|
| Always Normal | Unlit | Unlit |
| Always Reverse | Unlit | Lit |
| Normal at Normal/Reverse operation | Lit | Unlit |
| Reverse at Normal/Reverse operation | Lit | Lit |

Transition Rate

The transition duration for the AUTO transitions (Transition Rate) can be set in the menu. The current transition rate is displayed on the TRANSITION block. See section 9-8-2. "Transition Rate."

Fader Limit

When performing transitions there may be times when you want the transition to the next signal to only complete to a certain degree instead of fully switching from one picture to another. In this case, change the Fader Limit in the menu. See section 9-8-1. "Fader Limit."

- (6) Press **[AUTO]** or move the fader lever to perform the background pattern transition.

9-7-1. Endpoint Processing for DVE Transitions

In DVE operations, differences in video delay when entering and exiting DVE effects can cause the video to appear choppy. This choppy can be reduced by menu setting so that the DVE effect always exits at the transition start and end points (TRANS EDGE item to OFF in [SETUP-PANEL-DVE CTRL] menu).

| Setting | Description |
|---------|---|
| ON | DVE is enabled at the start and end points during BKGD DVE transitions. |
| OFF | DVE is disabled at the start and end points during BKGD DVE transitions. |

9-8. Advanced Settings for Transitions

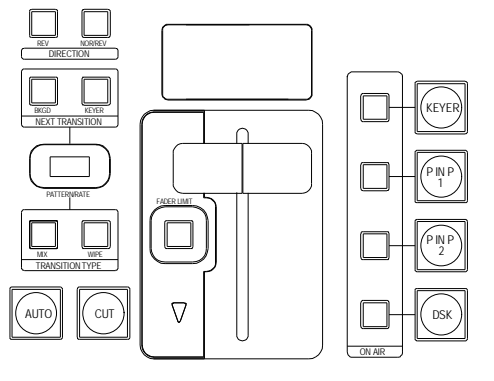
9-8-1. Fader Limit

The fader limit setting determines how far your transition can proceed electrically. When performing transitions (mix or other) there may be times when you want the transition to the next signal to only complete to a certain degree instead of fully switching from one picture to another. In this case, you will need to limit the fader range. The fader limit setting can be made for each bus independently via the TRANSITION menu. The procedure to do this is as follows.

- (1) Press the **FADER LIMIT** button in the TRANSITION block to display the [TRANS - NEXT BKGD] menu.

| | | | | | | | | | | |
|-------|---|------|---|--------|---|---------|---|--------------------------------|---|-----|
| TRANS | : | RATE | : | LIMIT | : | PATTERN | : | <input type="text" value="↑"/> | : | 1/6 |
| BKGD | : | =30 | : | =100.0 | : | =20 | : | <input type="text" value="↓"/> | : | |

- (2) Turn **F2** to change the value of **LIMIT**. The default setting is 100.0. With this setting, the transition is complete with pictures switching fully.
- (3) Verify that the FADER LIMIT button is turned on (lit). Otherwise, press the button to turn it on.
- (4) Press **AUTO** or move the fader lever to perform the background or KEYER transition.



Adjusting the Fader Offset:

The fader **OFFSET** for the lever can also be adjusted in the [SETUP-PANEL-TRS CTRL] menu. Turn **F3** and **F4** to adjust the fader offset.

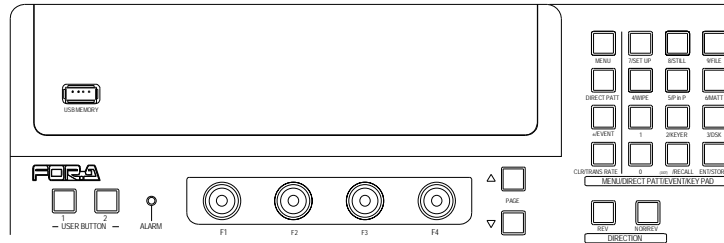
| | | | | | | |
|-----------|------|----------|----|-----------------------------------|----|-----------------------------------|
| PANEL | : | BUSTYPE: | : | FADER OFFSET | : | 1/1 |
| TRS CTRL: | =P/P | : | U= | <input type="text" value="1.00"/> | L= | <input type="text" value="1.00"/> |

| Item | Setting | Description |
|--------------|---------|------------------------------|
| FADER OFFSET | U | Sets the upper edge offset. |
| | L | Sets the bottom edge offset. |

9-8-2. Transition Rate

The transition rate setting determines how long transitions takes in frames to electrically complete.

- (1) Press the **CLR/TRANS RATE** button in the MENU/DIRECT PATT/EVENT/KEYPAD block to display the TRANS menu.



- (2) Press the **PAGE DOWN** button to go to the page for the desired bus.
- (3) Enter the rate in the **KEYPAD** and then press **ENT/STORE** in the **KEYPAD** to store the new transition rate.

The transition rate can be set for each bus respectively as shown in the following menu pages. Use **PAGE UP** and **PAGE DOWN** buttons to move between the menu pages. The setting range is 0 to 999 on a frame basis.

| | | | | | | | | |
|-------|---|------|---|--------|---|---------|---|-----|
| TRANS | : | RATE | : | LIMIT | : | PATTERN | : | 1/6 |
| BKGD | : | =30 | : | =100.0 | : | =20 | : | |

| | | | | | | | | |
|-------|---|------|---|-------------|---|---------|---|-----|
| TRANS | : | RATE | : | USER TRANS | : | ADV CTL | : | 2/6 |
| KEYER | : | =30 | : | =SLIDE LEFT | : | =AUTO | : | |

| | | | | | | | | |
|--------|---|------|---|------------|---|---------|---|-----|
| TRANS | : | RATE | : | USER TRANS | : | ADV CTL | : | 3/6 |
| PinP 1 | : | =10 | : | =SLIDE UP | : | =C/AT | : | |

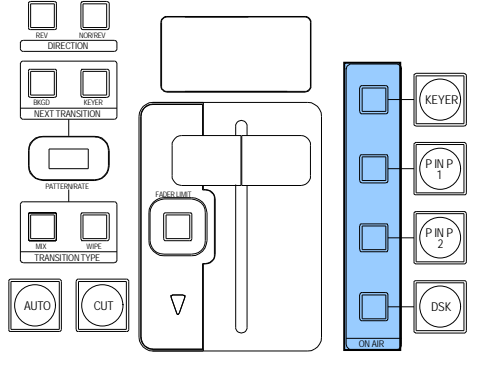
| | | | | | | | | |
|--------|---|------|---|------------|---|---------|---|-----|
| TRANS | : | RATE | : | USER TRANS | : | ADV CTL | : | 4/6 |
| PinP 2 | : | =10 | : | =CUT | : | =AUTO | : | |

| | | | | | | | | |
|-------|---|------|---|------------|---|---------|---|-----|
| TRANS | : | RATE | : | USER TRANS | : | ADV CTL | : | 5/6 |
| DSK | : | =25 | : | =SCALER | : | =C/AT | : | |

| | | | | | | | | |
|-------|---|------|---|--|---|---------|---|-----|
| TRANS | : | RATE | : | | : | ADV CTL | : | 6/6 |
| BLACK | : | =30 | : | | : | =AUTO | : | |

9-8-3. User Transitions

A specific transition effect such as Scale Up/Down or Slide In/Out can be set to each ON AIR button for KEYER, DSK, PinP1 and PinP2. Once a transition effect is set for the ON AIR button, the effect transition can be executed by simply pressing ON AIR. To apply the transition effect to ON AIR buttons, proceed as follows.



- (1) Press the **CLR/TRANS RATE** button in the MENU/DIRECT PATT/EVENT/KEYPAD block to display the TRANS menu.
- (2) Press the **PAGE DOWN** button to go to the page for the desired bus.
- (3) Turn **F2** to select a transition effect under the **USER TRANS** item. This can be set for each bus.

| | | | |
|-------|--------|---------------|----------------|
| TRANS | : RATE | : USER TRANS | : ADV CTL: 2/6 |
| KEYER | : =30 | : =SLIDE LEFT | : =AUTO : |

| | | | |
|---------|--------|------------------------|----------------|
| TRANS | : RATE | : USER TRANS | : ADV CTL: 3/6 |
| Pi nP 1 | : =10 | : = SLIDE RIGHT | : =C/AT : |

| | | | |
|---------|--------|----------------|----------------|
| TRANS | : RATE | : USER TRANS | : ADV CTL: 4/6 |
| Pi nP 2 | : =10 | : = CUT | : =AUTO : |

| | | | |
|-------|--------|--------------|----------------|
| TRANS | : RATE | : USER TRANS | : ADV CTL: 5/6 |
| DSK | : =25 | : =SCALER | : =C/AT : |

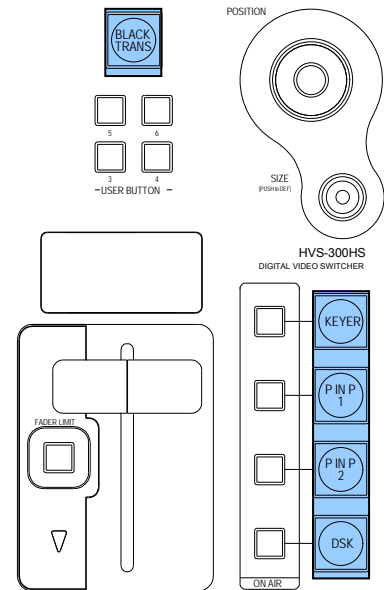
| Item | Setting | Description |
|------------|------------------|---|
| USER TRANS | CUT | Performs Cut transition for the bus. |
| | SCALER | Performs Scale Up and Down for the bus. |
| | SLIDE RIGHT/LEFT | Performs Slide In and Out for the bus. |
| | SLIDE TOP/BOTTOM | |
| | WIPE RIGHT/LEFT | Performs WIPE In and Out for the bus. |
| | WIPE TOP/BOTTOM | |

9-8-4. Advanced Auto Transitions

The function of the AUTO buttons for KEYER, DSK, PinP1 and PinP2 can be set in two different ways as shown in the table below.

To Change the AUTO button function:

- (1) Open the TRANS menu.
- (2) Press the **PAGE DOWN** button to go to the desired page.
- (3) Turn **F4** to select a function for the button under the **ADV CTL** item. This can be set for each bus. (See the menus above.)



| | | | |
|-------|--------|---------------|-------------------|
| TRANS | : RATE | : USER TRANS | : ADV CTL: 2/6 |
| KEYER | : =30 | : =SLIDE LEFT | : = AUTO : |

| | | | |
|--------|--------|----------------|-------------------|
| TRANS | : RATE | : USER TRANS | : ADV CTL: 3/6 |
| PinP 1 | : =10 | : =SLIDE RIGHT | : = C/AT : |

| | | | |
|--------|--------|--------------|-------------------|
| TRANS | : RATE | : USER TRANS | : ADV CTL: 4/6 |
| PinP 2 | : =10 | : =CUT | : = AUTO : |

| | | | |
|-------|--------|--------------|-------------------|
| TRANS | : RATE | : USER TRANS | : ADV CTL: 5/6 |
| DSK | : =25 | : =SCALER | : = C/AT : |

| | | | |
|-------|--------|---|-------------------|
| TRANS | : RATE | : | : ADV CTL: 6/6 |
| BLACK | : =30 | : | : = AUTO : |

| Item | Setting | Description | |
|---------|---------|--------------------------|--|
| ADV CTL | AUTO | KEYER | Always performs AUTO transitions regardless of how long the button is pressed. |
| | | DSK, PinP1, PinP2, BLACK | Always performs Mix transitions regardless of how long the button is pressed. |
| | C/AT | KEYER | Performs Cut transitions when button is briefly pressed. Performs AUTO transitions when button is pressed and held down. |
| | | DSK, PinP1, PinP2, BLACK | Performs Cut transitions when button is briefly pressed. Performs MIX transitions when button is pressed and held down. |
| | OFF | BLACK | Disables the BLACK transition. |

9-9. How to Select Patterns



Wipe patterns are available for background and KEYER transitions. More than 150 preset patterns are provided. This chapter explains how to select patterns for the transition, how to check which pattern is currently selected and how to select patterns quickly using the Direct Pattern function.

9-9-1. Selecting Patterns in the Menu

- (1) Press the **CLR/TRANS RATE** button in the MENU/DIRECT PATT/EVENT/KEYPAD block to display the [TRANS - BKGD] menu.

Users can also display the [TRANS - BKGD] menu by pressing the following buttons in the Transition block: **BKGD** and **KEYER** in NEXT TRANSITION, **MIX** and **WIPE** in TRANSITION TYPE and **FADER LIMIT**.

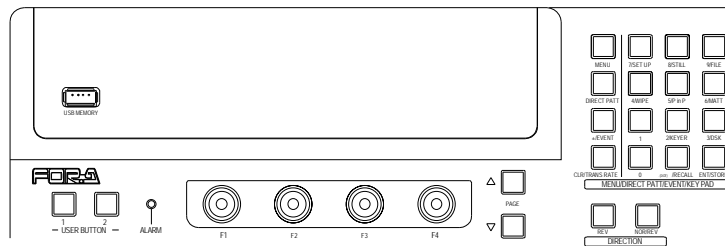
The number and the icon of the currently selected pattern are displayed under the PATTERN item in the [TRANS - BKGD] menu. The letter M is added in front of the number if the pattern is modified. (See section 9-9 "How to Select Patterns.")

| | | | | | | | | | |
|-------|---|------|---|--------|---|---------|---|---|-----|
| TRANS | : | RATE | : | LIMIT | : | PATTERN |  | : | 1/6 |
| BKGD | : | =30 | : | =100.0 | : | =20 |  | : | |

- (2) To change the pattern, turn **F3** or **F4** to select a desired pattern.

9-9-2. Direct Pattern Function

The Direct Pattern Selection feature uses the number buttons on the keypad (0-9), to which WIPE patterns previously registered can be recalled at the touch of one button. So it is useful to assign frequently used patterns to number buttons. Up to 10 patterns can be registered.



To Register a Pattern:

- (1) Press the **CLR/TRANS RATE** button in the MENU/DIRECT PATT/EVENT/KEYPAD block to display the [TRANS - BKGD] menu.
- (2) Turn **F3** or **F4** to select a pattern for registration.
- (3) Press the **DIRECT PATT** button to the right of the Menu Display. The [DIRECT PATT] menu is displayed and the keypad changes to DIRECT PATT mode.
- (4) Press the **STORE** button.
- (5) Press a number button. The selected pattern is saved to the number button.
- (6) Repeat the steps (1) to (5) to register patterns.

When switching to DIRECT PATT mode, the number buttons onto which patterns are already saved light up. If a user presses one of them to save a selected pattern, the number button blinks. To overwrite the pattern, press the number button again. If users cannot overwrite the number buttons, change the OVER WR (overwrite) item from DISBL (disabled) to ENABL (enable) in the [DIRECT RECALL] menu. The [DIRECT RECALL] menu is automatically displayed when the RECALL button is pressed on the KEYPAD.

To Select a Pattern using the RECALL button:

- (1) Press the DIRECT PATT button to the right of the Menu Display.
- (2) Press the number button where the desired pattern has been saved.
- (3) Press the RECALL button. The transition type is automatically switched to WIPE and the current pattern is changed to the new one.

To Select a Pattern without RECALL button (Setting required. See below.):

- (1) Press the DIRECT PATT button to the right of the Menu Display.
- (2) Press the number button where the desired pattern has been saved. The transition type is automatically switched to WIPE and the current pattern is changed to the new one.



To perform quick pattern selections without pressing RECALL, switch DIRECT on in the [DIRECT PATTERN] menu. The [DIRECT PATTERN] menu is automatically displayed when pressing DIRECT PATT.

To Clear a Direct Pattern Registration Individually

- (1) Press the DIRECT PATT button to display the [DIRECT PATT] menu.
- (2) Turn F1 to change **DIRECT** to **OFF**, if it is **ON**.

| | | | | | | |
|----------|-----------|---------|---|---|---|-------|
| DI RECT | : DI RECT | : CLEAR | : | : | : | 1 / 1 |
| PATTERN: | =OFF | : =ALL | : | : | : | |

- (3) Press the number button to be cleared. The [DIRECT RECALL] menu will then be displayed.
- (4) Turn F4 to change **DELETE** to **ON**. Press F4 to delete the registration.

| | | | | | | |
|---------|----------|---|---|-----------------|---|-------|
| DI RECT | : NO. 20 |  | : | OVER WR: DELETE | : | 1 / 1 |
| STORE | : |  | : | =ON | : | >OFF |

| NOTE | |
|--|--|
| Before clearing a direct pattern registration, set the DIRECT item to OFF. Otherwise, the selected pattern is applied the panel when pressing the number button. | |

To Clear All Direct Pattern Registrations

- (1) Press the DIRECT PATT button to display the [DIRECT PATT] menu.
- (2) Turn F2 to set **CLEAR** to **ON**. Press F2 to clear all direct pattern registrations.

| | | | | | | |
|----------|-----------|---------------|---|---|---|-------|
| DI RECT | : DI RECT | : CLEAR | : | : | : | 1 / 1 |
| PATTERN: | =OFF | : > ON | : | : | : | |

10. WIPE Pattern Modify

10-1. Preset Pattern Groups

The WIPE preset patterns (No.0-202) can be changed or modified from their original patterns. Basically the preset patterns are categorized into four different groups. The available items in the WIPE modify menu are also different according to the type of groups

| Pattern No. | Type of Group | Available modify settings |
|---|---------------|--|
| 0 to 99 | WIPE | 2D border, multi, 2D position, 2D size, and etc. |
| 100 to 137 | 2D/2.5D DVE | 2D border, 2D position, 2D size, crop and etc. |
| 140 to 147, 150 to 157, 161 and 162 | 3D DVE | 2D border, lighting effects, warp effects, crop and etc. |
| 200 to | MIX, FAM, NAM | --- |

To modify a pattern, select a WIPE pattern, open the WIPE menu and change desired parameters to modify the pattern. This section explains how to modify patterns using examples for the KEYSER transition and the background transition.

See section 10-5. "WIPE Menu" for details about modify settings.

When you change the WIPE pattern after the pattern modify, some modification data set for the specified pattern may be preserved and applied to the newly selected pattern. In this case, if you wish the modified pattern to the default settings, reset the pattern. (See section 10-2. "How to Reset WIPE Menu.") It is recommended that important modified data be backed up to the event memory or a USB flash. For details about backup procedures, refer to section 15 "Event Memory" and section 17. "File Operations."

10-2. How to Reset WIPE Menu

All parameters in the WIPE menu can be returned to factory default settings by the procedures below.

◆ Using INIT item in WIPE Menu:

- (1) Press the **MENU** button in the MENU/DIRECT PATT/EVENT/KEYPAD block.
- (2) Press **4/WIPE** in the KEYPAD to display the WIPE menu.
- (3) Turn **F1** to select **INIT**. And then press **F1**.

```
WIPE      : >BORDER  >POS/ASP >CROP    >SUB EFF
No. 1XX   : >INIT
```

- (4) Turn **F1** to select the parameter group you want to reset under the **INIT** item. Press **F1** to reset the selected parameter values.

```
WIPE      : INIT      :           :           : 1/1
INIT      : =ALL     :           :           :
```


◆ Using USER Buttons

- (1) Assign the reset function of WIPE menu (OTHER - WIPE MODIFY RESET) to a USER button.
- (2) Press the USER button. All parameters in the WIPE menu are returned to factory default settings. (See section 5. "USER Button.")

10-3. Pattern Modify Example1 (Pattern 20)

This modification example adds a border effect to the background transition using Pattern 20.

- (1) Select the signal used for the next transition in the PST bus.
- (2) Press **BKGD** in the NEXT TRANSITION block.
- (3) Press **WIPE** in the TRNSITION TYPE block.
- (4) The [TRANS - BKGD] menu appears in the Menu Display. Press **F3**, enter "20" in the Keypad and press **ENT/STORE** in the Keypad to select Pattern 20.

| | | | | | | | | | | |
|-------|---|------|---|--------|---|---------|---|---|---|-----|
| TRANS | : | RATE | : | LIMIT | : | PATTERN | : |  | : | 1/6 |
| BKGD | : | =30 | : | =100.0 | : | =20 | : | | : | |

- (5) Press **MENU** to the right of the Menu Display (if it is not lit), and then press **4/WIPE** in the KEYPAD to display the WIPE menu.
- (6) Turn **F1** to select **BORDER**. Press **F1** or the **PAGE DOWN** button.

| | | | | | | |
|---------|---|-----------------|------------|-------|---|---------|
| WI PE | : | > BORDER | >POS/ANGL> | MULTI | > | SUB EFF |
| No. 020 | : | >INIT | | | | |

- (7) The [WIPE - BORDER] menu appears. Turn **F1** to select the signal used for the border under the **SIGNAL** item. Select **MATT** in this example. Set the border width under the **WIDTH** item and border softness under the **SOFT** item.

| | | | | | | | | | | |
|--------|---|---------------|---|--------|---|------|---|--|---|-----|
| WI PE | : | SI GNAL | : | WI DTH | : | SOFT | : | | : | 1/2 |
| BORDER | : | = MATT | : | =5.0 | : | =2.0 | : | | : | |

- (8) Press the **PAGE DOWN** button to go to PAGE 2. Turn **F4** to select a border color from eight standard colors. Press **F4** to apply the selected color. If you want to adjust the selected color or set the color by entering HSL values, turn **F1**, **F2** and **F3** to adjust values or press **F1**, **F2** and **F3**, enter a value in the Keypad and then press **ENT/STORE** in the Keypad. Users can also set these three parameters in the JOYSTICK block. (See section 4-2-4. "Changing Settings or Values by Using the Joystick.")

| | | | | | | | | |
|--------|---|--------|-------|--------------|---|--------|---|-----|
| WI PE | : | | | BORDER COLOR | : | RECALL | : | 2/2 |
| BORDER | : | S=66.3 | L=5.4 | H=3.5 | : | >BLUE | : | |

10-4. Pattern Modify Example2 (Pattern 117)

This modification example also adds a border effect using Pattern 117. However Pattern 117 has different border settings than Pattern 20. It can use both inside and outside border effects.

- (1) Set up **KEYER** (See section 11. "KEYER and DSK.")
- (2) Press **KEYER** in the NEXT TRANSITION block.

SHORTCUT

Assume that Pattern 117 is registered to 1 in the KEYPAD and DIRECT PATT is set to ON in the [DIRECT PATTERN] menu, press **DIRECT PATT** and then press **1** in the KEYPAD to select **117**. Then go to Step (5).

- (3) Press **WIPE** in the TRNSITION TYPE block.
- (4) To enter the pattern number in the KEYPAD, press **F3**, type **117** and press **ENT/STORE** in the KEYPAD to select Pattern **117**.
- (5) Press **MENU** to the right of the Menu Display (if the light of the button is not turned on), and then press **4/WIPE** in the KEYPAD to display the WIPE menu.
- (6) Turn **F1** to select **BORDER**. Press **F1** or the **PAGE DOWN** button.

```
WI PE      : >BORDER  >POS/ASP >CROP    >SUB EFF
No. 117    : >I N I T
```

- (7) The [WIPE - BORDER] menu appears. To use the inside border, set the border width under INSIDE X and Y. To use the outside border, set the border width under OUTSIDE X and Y.

```
WI PE      :      I N S I D E      :      O U T S I D E      : 1/3
BORDER     : X=10    Y=10    : X=5      Y=5      :
```

- (8) Press the **PAGE DOWN** button to go to PAGE 2. Set the softness for the inside border under INSIDE X and Y. Set the softness for the outside border under OUTSIDE.

```
WI PE      :      I N S I D E      : O U T S I D E:      : 2/3
BDR SOFT: X=3      Y=3      : =2      :      :
```

- (9) Press the **PAGE DOWN** button to go to PAGE 3. Turn **F4** to select a border color from eight standard colors. Press **F4** to apply the selected color. If you want to adjust the selected color or set the color by entering HSL values, turn **F1**, **F2** and **F3** to adjust values or press **F1**, **F2** and **F3**, enter a value in the Keypad and then press **ENT/STORE** in the Keypad. Users can also set these three parameters in the JOYSTICK block. (See section 4-2-4. "Changing Settings or Values by Using the Joystick.")

```
WI PE      :      B O R D E R   C O L O R      : R E C A L L : 3/3
BDR COL : S=66.3  L=5.4  H=3.5  : >BLUE :
```


10-5. WIPE Menu

10-5-1. No.0-99

| | | | | | |
|---------|---|---------|-----------|--------|----------|
| WIPE | : | >BORDER | >POS/ANGL | >MULTI | >SUB EFF |
| No. OXX | : | >INIT | | | |

| | | | | | | | | | | |
|--------|---|--------|---|-------|---|------|---|--|---|-----|
| WIPE | : | SIGNAL | : | WIDTH | : | SOFT | : | | : | 1/2 |
| BORDER | : | =MATT | : | =0.0 | : | =0.0 | : | | : | |

| | | | | | | | | |
|--------|---|--------|--------------|-------|--------|-------|-----|--|
| WIPE | : | | BORDER COLOR | : | RECALL | : | 2/2 | |
| BORDER | : | S=66.3 | L=5.4 | H=3.5 | : | >BLUE | : | |

| | | | | | | | | | |
|----------|---|-----|----------|---|-------|---|--------|---|-----|
| WIPE | : | | POSITION | : | ANGLE | : | ASPECT | : | 1/1 |
| POS/ANGL | : | X=0 | Y=0 | : | =0.0 | : | =0.0 | : | |

| | | | | | | | | | |
|-------|---|-----|-------|---|--|---|--|---|-----|
| WIPE | : | | MULTI | : | | : | | : | 1/1 |
| MULTI | : | X=1 | Y=1 | : | | : | | : | |

| | | | | | | | | |
|---------|---|--------|---|-------|------------|--------|-----|--|
| WIPE | : | EFFECT | : | | MONO COLOR | : | 1/3 | |
| SUB EFF | : | =NOR | : | S=0.0 | H=0.0 | En=OFF | : | |

| | | | | | | | | |
|---------|---|-------|---------|---|-----|-------|---|-----|
| WIPE | : | | DEFOCUS | : | | PAINT | : | 2/3 |
| SUB EFF | : | H=0.0 | V=0.0 | : | Y=0 | C=0 | : | |

| | | | | | | | | | | | |
|---------|---|------|--------|------|--------|------|------|------|--------|---|-----|
| WIPE | : | | FREEZE | : | STROBE | : | NEGA | : | MOSAIC | : | 3/3 |
| SUB EFF | : | =OFF | : | =OFF | : | =OFF | : | =OFF | : | | |

| | | | | | |
|---------|---|----------|----------|-------|----------|
| WI PE | : | >BORDER | >POS/ASP | >CROP | >SUB EFF |
| No. 1XX | : | >I N I T | | | |

| | | | | | | |
|--------|---|-------------|-----|---------------|-----|-----|
| WI PE | : | I N S I D E | : | O U T S I D E | : | 1/3 |
| BORDER | : | X=0 | Y=0 | X=0 | Y=0 | : |

| | | | | | | |
|-----------|---|-------------|-----|----------------|---|-----|
| WI PE | : | I N S I D E | : | O U T S I D E: | : | 2/3 |
| BDR SOFT: | : | X=0 | Y=0 | =0 | : | : |

| | | | | | | |
|---------|---|--------------|-------|--------|---|---------|
| WI PE | : | BORDER COLOR | : | RECALL | : | 3/3 |
| BDR COL | : | S=66.3 | L=5.4 | H=3.5 | : | >BLUE : |

| | | | | | | |
|------------|---|-----------------|-----|---------|---|-----|
| WI PE | : | P O S I T I O N | : | S I Z E | : | 1/2 |
| POS/SI ZE: | : | X=0 | Y=0 | =1000 | : | : |

| | | | | | | |
|-----------|---|-------------|--------|---------|---|-----|
| WI PE | : | A S P E C T | : | F A D E | : | 2/2 |
| ASPT/FAD: | : | X=1000 | Y=1000 | =0.0 | : | : |

| | | | | | | |
|-------|---|-------------------------|-------|-------|-------|-----|
| WI PE | : | C R O P P O S I T I O N | : | | : | 1/1 |
| CROP | : | T=0.0 | B=0.0 | L=0.0 | R=0.0 | : |

| | | | | | | |
|---------|---|--|---|-------------------|-------|----------|
| WI PE | : | | : | M O N O C O L O R | : | 1/3 |
| SUB EFF | : | | : | S=0.0 | H=0.0 | En=OFF : |

| | | | | | | |
|---------|---|---------------|-------|-----------|-----|-----|
| WI PE | : | D E F O C U S | : | P A I N T | : | 2/3 |
| SUB EFF | : | H=0.0 | V=0.0 | Y=0 | C=0 | : |

| | | | | | | | | | | |
|---------|---|-------------|---|-------------|---|---------|---|-------------|---|-----|
| WI PE | : | F R E E Z E | : | S T R O B E | : | N E G A | : | M O S A I C | : | 3/3 |
| SUB EFF | : | =OFF | : | =OFF | : | =OFF | : | =OFF | : | : |

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| | | | | | |
|---------|---|---------|-------|-------|----------|
| WI PE | : | >BORDER | >TURN | >CROP | >SUB EFF |
| No. 1XX | : | >INIT | | | |

| | | | | | | |
|--------|---|--------|-----|---------|-----|-----|
| WI PE | : | INSIDE | : | OUTSIDE | : | 1/3 |
| BORDER | : | X=0 | Y=0 | X=0 | Y=0 | : |

| | | | | | | |
|-----------|---|--------|-----|----------|---|-----|
| WI PE | : | INSIDE | : | OUTSIDE: | : | 2/3 |
| BDR SOFT: | : | X=0 | Y=0 | =0 | : | : |

| | | | | | | |
|---------|---|--------------|-------|--------|---|-------|
| WI PE | : | BORDER COLOR | : | RECALL | : | 3/3 |
| BDR COL | : | S=66.3 | L=5.4 | H=3.5 | : | >BLUE |

| | | | | | | | | |
|-------|---|----------|--------|-----|---|-----|---|-----|
| WI PE | : | LIGHTING | : | DIR | : | RAD | : | 1/2 |
| WARP | : | W=0.0 | En=OFF | =0 | : | =0 | : | : |

| | | | | | | |
|-----------|---|-------------|---------|--------|---|---------|
| WI PE | : | LIGHT COLOR | : | RECALL | : | 2/2 |
| LIGHTCOL: | : | S=0.0 | L=100.0 | H=0.0 | : | >WHITE: |

| | | | | | | |
|-------|---|---------------|-------|-------|-------|-----|
| WI PE | : | CROP POSITION | : | | : | 1/1 |
| CROP | : | T=0.0 | B=0.0 | L=0.0 | R=0.0 | : |

| | | | | | | | |
|---------|---|--|---|------------|-------|--------|---|
| WI PE | : | | : | MONO COLOR | : | 1/3 | |
| SUB EFF | : | | : | S=0.0 | H=0.0 | En=OFF | : |

| | | | | | | |
|---------|---|---------|-------|-------|-----|-----|
| WI PE | : | DEFOCUS | : | PAINT | : | 2/3 |
| SUB EFF | : | H=0.0 | V=0.0 | Y=0 | C=0 | : |

| | | | | | | | | | | |
|---------|---|--------|---|--------|---|------|---|--------|---|-----|
| WI PE | : | FREEZE | : | STROBE | : | NEGA | : | MOSAIC | : | 3/3 |
| SUB EFF | : | =OFF | : | =OFF | : | =OFF | : | =OFF | : | : |

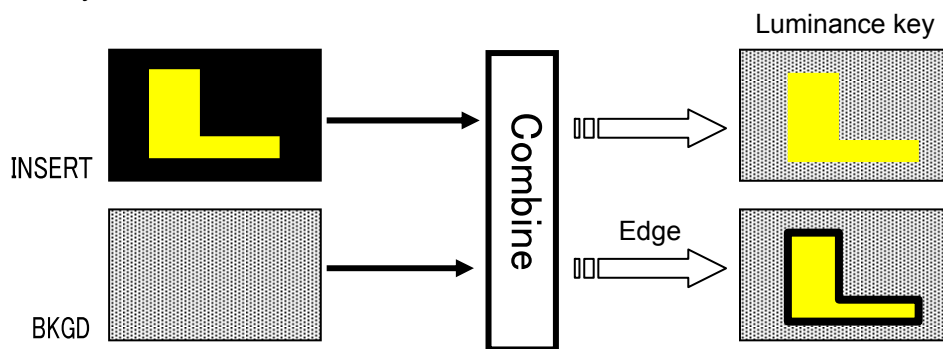
11. KEYER and DSK

Using keyers enables you to superimpose titles and images onto background signals. With the HVS-300 series, KEYER and DSK are available. KEYER and DSK can use three types of key: Luminance Key, Full Key and Bus Key. Edge, Invert, Mask and 2D DVE effects can be also added to DSK and KEYER. Furthermore, KEYER can also use Chroma Key.

The method for setting KEYER and DSK are almost the same. This section describes how to set a Luminance key for a DSK.

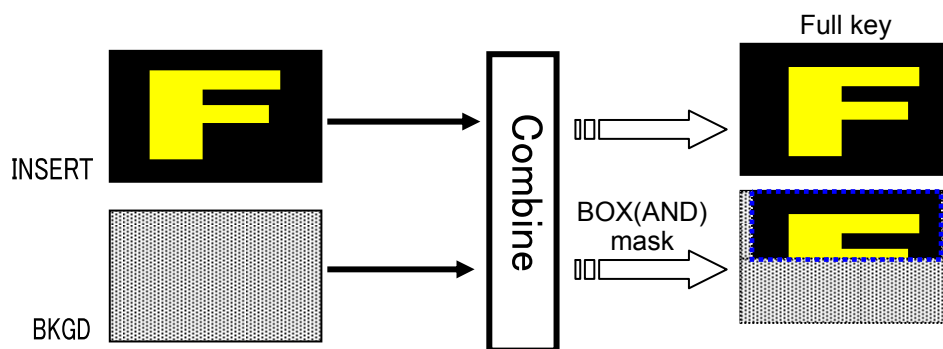
◆ Luminance KEY

Luminance Key, also called Self Key, uses the same image for Key Source and Key Insert. This image is selected from Key Insert.



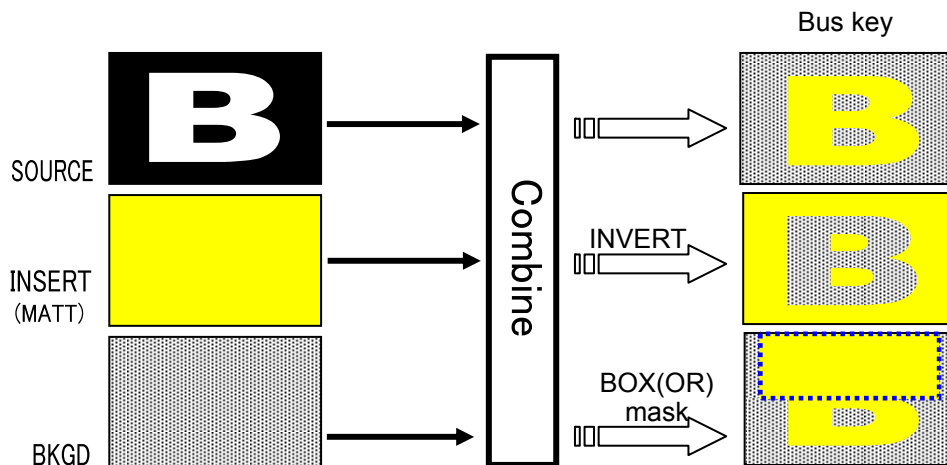
◆ Full key

Full Key displays the key insert signal on full screen.



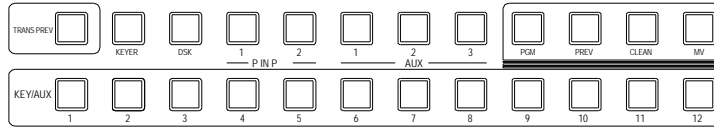
◆ Bus key

Bus Key, also called External Key, uses the different images for Key Source and Key Insert. The background signal is cut out using Key Source and Key Insert fills the cut out part of the signal.



11-1. Luminance Key

- (1) Press the **DSK** (or **KEYER**) button in BUS SELECT.
- (2) Select a signal for Key Insert in the KEY/AUX bus.



- (3) Double-click **DSK** in BUS SELECT to display the DSK menu.
- (4) Turn **F1** to select **INS/SRC**, and press **F1** or the **PAGE DOWN** button.

| | | | | |
|-------|---|------------------|---------|------------------|
| DSK | : | > INS/SRC | >EDGE | >MASK |
| SETUP | : | >POS/SI Z | >BORDER | >SUB EFF >I NI T |

- (5) The [DSK - INS/SRC] menu is displayed. Turn **F1** to set **TYPE** to **LUM**. The insert signal can also be selected at INSERT.

| | | | | | | | | | | |
|---------|---|--------------|---|--------|---|--------|---|---------|---|-----|
| DSK | : | TYPE | : | INSERT | : | SOURCE | : | I NVERT | : | 1/3 |
| INS/SRC | : | = LUM | : | >I N01 | : | =I N01 | : | =OFF | : | |

See sections 9-4. "DSK Transitions", 9-8-3. "User Transitions", and 9-8-4."Advanced Auto Transitions" for details on transitions.

See section 11-4. "Adjusting Key Signal" for details on making fine adjustment.

Edge, Invert, Mask and 2D DVE effects can be applied to the luminance key.

11-2. Full Key

- (1) Follow Step (1) to Step (4) in "Luminance Key" above.
- (2) The [DSK - INS/SRC] menu is displayed. Turn **F1** to set **TYPE** to **FULL**. The insert signal can also be selected at INSERT.

| | | | | | | | | | | |
|---------|---|---------------|---|--------|---|--------|---|---------|---|-----|
| DSK | : | TYPE | : | INSERT | : | SOURCE | : | I NVERT | : | 1/3 |
| INS/SRC | : | = FULL | : | >I N01 | : | =I N01 | : | =OFF | : | |

See sections 9-4. "DSK Transitions", 9-8-3. "User Transitions", and 9-8-4."Advanced Auto Transitions" for details on transitions.

See section 11-4. "Adjusting Key Signal" for details on making fine adjustment.

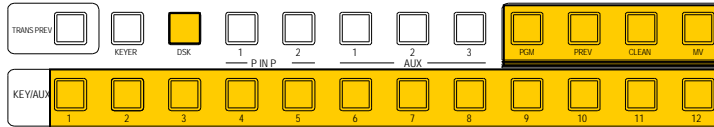
Edge, Invert, Mask and 2D DVE effects can be applied to the luminance key.

11-3. Bus Key

Bus Key uses different signals for Key Insert and Key Source. To create a Bus Key, select a Key Insert signal and a Key Source signal in the menus. Since selecting a signal in the menu takes time, the HVS-300 series has got a KEY LINK function, which enables you to select a key source and insert using a source button only. See section 11-3-1. "Key Link" for details.

The method for setting up KEYER and DSK are almost the same. This section describes how to set up Bus Key using DSK.

- (1) Press the **DSK** (or **KEYER**) button in BUS SELECT.
- (2) Select a signal for Key Insert in the KEY/AUX bus.



- (3) Double-click **DSK** in BUS SELECT to display the DSK SETUP menu.
- (4) Turn **F1** to select **INS/SRC**, and press **F1** or the **PAGE DOWN** button.

| | | | | | | | |
|-------|---|---|----------------|---|--------|---|-------------------|
| DSK | : | > | INS/SRC | > | EDGE | > | MASK |
| SETUP | : | > | POS/SI Z | > | BORDER | > | SUB EFF > I N I T |

- (5) The [DSK - INS/SRC] menu is displayed. Turn **F1** to set **TYPE** to **BUS**.
- (6) Turn **F3** to select a signal for Key Source in **SOURCE**.

| | | | | | | | | | | |
|---------------|---|--------------|---|-------------|---|-------------|---|-------------|---|-------|
| DSK | : | TYPE | : | I N S E R T | : | S O U R C E | : | I N V E R T | : | 1 / 3 |
| I N S / S R C | : | = BUS | : | > I N O 1 | : | = I N O 2 | : | = O F F | : | |

See sections 9-4. "DSK Transitions", 9-8-3. "User Transitions", and 9-8-4. "Advanced Auto Transitions" for details on transitions.

See section 11-4. "Adjusting Key Signal" for details on making fine adjustment.

Edge, Invert, Mask and 2D DVE effects can be applied to the luminance key.

11-3-1. Key Link

A Key Source signal is automatically selected when a Key Insert signal is selected when KEY LINK is on. The INSERT/SOURCE signal pairs are automatically set once they are selected for DSK or KEYER. To change signal assignment, select INSERT/SOURCE signal pair again for DSK or KEYER. The same assignments can be used both DSK and KEYER.

NOTE

If the key links do not work correctly, set the **LINK** item to **ON** in the [SETUP-PANEL-KEY CTRL] menu.

11-3-2. KEY INSERT MATT

In addition to the bus matt signal, the internally generate MATT can be used as key fill.

KEY INSERT MATT is dedicated matte signal for DSK and KEYER and it is not same as BUS MATT. The different colors can be set in KEY INSERT MATT for KEYER and DSK.

- (1) Set up a Bus Key, then press **F2** in the [DSK - INS/SRC] menu to set **INSERT** to **InMat** (Insert Matt).

```
DSK      : TYPE : I N S E R T : S O U R C E : I N V E R T : 1 / 3
I N S / S R C : = B U S : > I n M a t : = I N O 2 : = O F F :
```

- (2) Press the **PAGE DOWN** button to go to PAGE3.
(3) Turn **F4** and select a color from eight standard colors. To use a different color, turn **F1**, **F2**, and **F3** to adjust the color.

```
DSK      : M A T T C O L O R : R E C A L L : 3 / 3
I N S M A T T : S = 6 7 . 3 L = 1 5 . 8 H = 2 5 7 . 5 : > R E D :
```

Key Links cannot be applied to KEY MATT.

11-4. Adjusting Key Signal

Clip and Gain allows users to adjust the key signal and its composition over the background. The transparency of the Keyer can also be adjusted.

- (1) Double-click **DSK** (or **KEYER**) in BUS SELECT, and display the [DSK SETUP] menu.
(2) Turn **F1** to select **INS/SRC**, and press **F1** or the **PAGE DOWN** button.

```
DSK      : > I N S / S R C > E D G E > M A S K
S E T U P : > P O S / S I Z > B O R D E R > S U B E F F > I N I T
```

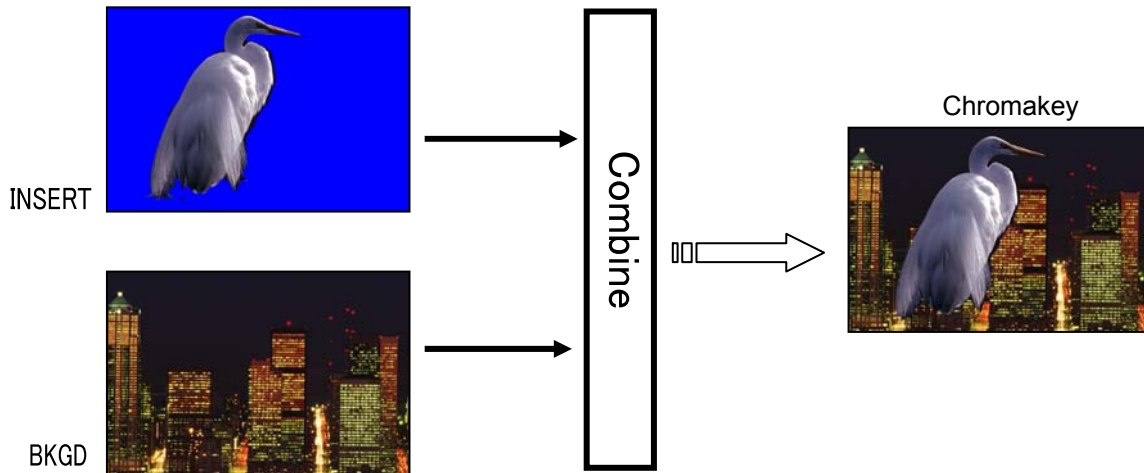
- (3) The [DSK - INS/SRC] menu is displayed. Press the **PAGE DOWN** button to go to PAGE2.

```
DSK      : G A I N : C L I P : T R A N S P : F A M : 2 / 3
P R O C A M P : = 1 . 0 : = 0 . 0 : = 0 . 0 : = O F F :
```

- (4) Turn **F1** to adjust **GAIN**
(5) Turn **F2** to adjust **CLIP** for adjusting Keyer.
(6) Turn **F3** to set the transparency of Keyer. Increasing the value makes the Keyer more transparent.

11-5. Chroma Key

Chroma key is a method for creating a key signal using a chroma component instead of a luminance component. It is mostly used for compositing moving subjects such as a person in the virtual background. For example, to place a person onto a background graphic, first film the person standing in front of a background such as a blue screen. The blue part of filmed image is detected and will be used to create the key signal.



11-5-1. Creating a Chroma Key

- (1) Select a signal to be used as a background on the PGM bus.
- (2) Press the **KEYER** button in BUS SELECT and select a chromakey signal the KEY/AUX bus. (It can be selected in the INSERT item in the [KEYER - INS/SRC] menu.)
- (3) Double-click **KEYER** in BUS SELECT to display the KEYER SETUP menu.
- (4) Turn **F1** to select INS/SRC, and press **F1** or the **PAGE DOWN** button.

```
KEYER   : >INS/SRC >EDGE   >MASK   >CK
SETUP   : >POS/SIZ >BORDER >SUB EFF >INIT
```

- (5) The [KEYER - INS/SRC] menu is displayed. Turn **F1** to set **TYPE** to **CHR**.

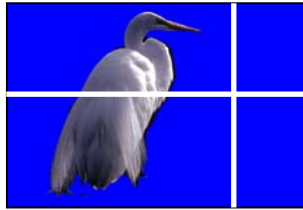
```
KEYER   : TYPE   : INSERT : SOURCE : INVERT : 1/3
INS/SRC : =CHR   : >IN01 : =IN01  : =OFF   :
```

- (6) Press the **PAGE UP** button to return to the KEYER SETUP menu. Turn **F1** to select **CK** and press **F1** to display the [KEYER - AUTO-CK] menu.
- (7) Turn **F3** to change **SELECT** to **ON** to activate the auto chromakey.

```
KEYER   : POSITION : SELECT : PGM OUT: 1/5
AUTO CK : X=0      Y=0   : =ON   : =OFF   :
```

- (8) Moving the joystick displays the KEYER signal in the preview screen as well as a crosshair cursor to specify the color to use for keying. The current coordinates are displayed in POSITION X and Y in the [KEYER - AUTO-CK] menu. Move the joystick to move the crosshair cursor onto the desired color. To precisely adjust the position, turn **F1** or **F2** to enter the values directly into POS X and POS Y in the menu. Selecting a darker color makes adjustment easier.

(9) Turn the SIZE control to generate the chromakey. This can also be done by turning **F3** to set the **SELECT** item to **OFF** in the [KEYER - AUTO - CK] menu.



Move the crosshair with the joystick X-Y axes and turn SIZE to create chromakey.

Preview image

Chromakey is displayed on the preview output. To display it on the program output, set the **PGM OUT** item in the [KEYER - AUTO-CK] menu to **ON**.

11-5-2. Chromakey adjustments

If the desired result is not achieved using the automatic chromakey generation, fine adjustments can be made as follows:

Adjust HUE, ANGLE and ANGLE OFFSET to make the background clear.



Use CK EDGE to smooth chromakey edges.

Use COLOR CANCEL and SUPPRESSION to eliminate or reduce the color noises on the bird.

◆ Adjusting Edges

Used to adjust the edge of the Keyed area when it appears unnatural.

Press the **PAGE DOWN** button to go to PAGE2 of the chromakey menu. Adjust the left edge in the **L (LEFT)** item and the right edge in the **R (RIGHT)** item.

```
KEYER      :      CK EDGE      :      : 2/5
CK ADJT   : L=0      R=0      :      :
```

◆ Gain and Clip

Used to adjust the key signal and its composition over the background image. Press the **PAGE DOWN** button to go to PAGE3 of the chromakey menu. Turn **F1** and **F2** to adjust the gain and clip.

```
KEYER      : GAIN      : CLIP      : HUE      : COL CAN: 3/5
CK ADJT   : =1.0      : =0.0      : =0.0      : =ON      :
```

For chromakey, **INVERT**, **GAIN**, **CLIP**, and **TRANSP** in the KEYER - INS/SRC] menu cannot be set.

◆ **Adjusting Chromakey Colors**

Use to fine-tune specific chromakey colors, press the **PAGE DOWN** button to go to PAGE3 of the KEYER menu. Turn **F3** to make HUE adjustments.

| | | | | | | | | | |
|---------|---|------|---|------|---|------|---|----------|-----|
| KEYER | : | GAIN | : | CLIP | : | HUE | : | COL CAN: | 3/5 |
| CK ADJT | : | =1.0 | : | =0.0 | : | =0.0 | : | =ON | : |

◆ **Chroma Angle**

The ANGLE parameter determines the width of the color hue. Press the **PAGE DOWN** button to go to PAGE5 of the KEYER menu. If the reference color (blue back panel or other background) is not uniform and has some variation, widen the **ANGLE** to make the HUE range wider. You can finely adjust the range by using **Y**, **C** and **K** parameters of **ANGLE OFFSET**.

| | | | | | | | | | |
|-------|---|--------|---|--------------|---|--------|---|--------|---|
| KEYER | : | ANGLE | : | ANGLE OFFSET | : | 5/5 | | | |
| ANGLE | : | =45.00 | : | Y=0.00 | : | C=0.00 | : | K=0.00 | : |

◆ **Color Cancellation and Suppression**

Turning on **Color Cancel** (default) reduces the reflection in the foreground and background images. If you still notice some tint or spill of color (blue) on the foreground subject, use **Y**, **C1**, and **C2** parameters in **SUPPRESSION** respectively to eliminate or reduce the color noises.

| | | | | | | | |
|---------|---|-------------|---|---------|---|--------|---|
| KEYER | : | SUPPRESSION | : | 4/5 | | | |
| SUPPRES | : | Y=1.00 | : | C1=0.60 | : | C2=0.0 | : |

11-6. Mask and Invert

Mask and Invert can be used for keys and DSKs. DSK is taken as an example in this section.

11-6-1. Inverting Keyer and Background

Setting Invert to ON inverts the Keyer image and the background image. Set **INVERT** in the [DSK - INS/SRC] menu to **ON**. The key signal is then inverted.

11-6-2. Key Masks

◆ BOX Mask

Box-shaped masks can be applied to Keyers. They can also be inverted so that the keyed area inside the box becomes invisible.

- (1) Create a Keyer.
- (2) Double-click **DSK** (or **KEYER**) to display the DSK (KEYER) menu.
- (3) Turn **F1** to select **MASK**, and press **F1** or the **PAGE DOWN** button to open the [DSK - MASK] menu.
- (4) Turn **F2** to select **BOX** in PAGE1 in the [DSK MASK] menu. Set **TYPE** to **AND** or **OR**. If set to **AND**, the area where Key Source and Box Mask overlap is used as the key signal. If set to **OR**, both Key Source and Box Mask are used as the key signal.

| | | | | | | | | |
|------|---|------|---|--------------|---|---------|---|-------|
| DSK | : | TYPE | : | MASK | : | I NVERT | : | 1 / 2 |
| MASK | : | =AND | : | = BOX | : | =OFF | : | |

- (5) Set the horizontal and vertical mask width in PAGE2 in the MASK menu.

| | | | | | | |
|-----------|-----|--------------------|-----|-------|---|--|
| DSK | : | BOX MASK POSI TION | : | 2 / 2 | | |
| MASK POS: | T=0 | B=0 | L=0 | R=0 | : | |

- (6) Setting the **INVERT** item in PAGE1 in the MASK menu to **ON** inverts the Box Mask.

| | | | | | | | | |
|------|---|------|---|------|---|-------------|---|-------|
| DSK | : | TYPE | : | MASK | : | I NVERT | : | 1 / 2 |
| MASK | : | =AND | : | =BOX | : | = ON | : | |

◆ AUX/DSK Mask

The selected AUX bus signal is used for mask instead of Box.

- (1) Create a Key.
- (2) Double-click **DSK** (or **KEYER**) in BUS SELECT to display the DSK (KEYER) menu.
- (3) Turn **F1** to select **MASK**, and press **F1** or the **PAGE DOWN** button to open the [DSK - MASK] menu.
- (4) Turn **F2** to select an AUX bus used for the mask in PAGE1 in the [DSK MASK] menu. Set **TYPE** to **AND** or **OR**. If set to **AND**, the area where Key Source and AUX Mask are overlapped is used as the key signal. If set to **OR**, the both Key Source and AUX Mask are used as the key signal.

| | | | | | | | | |
|------|---|------|---|---------------|---|---------|---|-------|
| DSK | : | TYPE | : | MASK | : | I NVERT | : | 1 / 2 |
| MASK | : | =AND | : | = AUX1 | : | =OFF | : | |

- (5) Setting the **INVERT** item in PAGE1 in the [DSK MASK] menu to **ON** inverts the AUX Mask.

| | | | | | | | | |
|------|---|------|---|-------|---|-------------|---|-------|
| DSK | : | TYPE | : | MASK | : | I NVERT | : | 1 / 2 |
| MASK | : | =AND | : | =AUX1 | : | = ON | : | |

11-7. Key Edge

The EDGE function allows users to add border type edges on KEYER and DSK. Two types of edges are available; Normal and Outline. The width, transparency, and color can be set for the edges. Shadow effects can also be added by changing the position of the edges. To do this, please follow the procedures below.



No border, no shadow

Normal border

Outline

- (1) Go to the [DSK - EDGE] menu. Turn **F1** to select **NORMAL** or **O_LINE** for **TYPE**. Selecting to **NORMAL** allows users to add edges. **O_LINE** allows users to display outlines without key fill images.
- (2) The item **SOFT** is for setting softness, **TRANSP** is for transparency, and **WIDTH** is for width of the edges.

```
DSK      : TYPE      : SOFT   : TRANSP  : WIDTH  : 1/3
EDGE     : =O_LIN: =0     : =0      : =1     :
```

- (3) Press the **PAGE DOWN** button to go to PAGE2. Change the **X** and **Y** values to set the edge position.

```
DSK      : POSITION   :          : 2/3
EDGE POS: X=0      Y=0      :          :
```

- (4) Press the **PAGE DOWN** button to go to PAGE3. The edge color can be set on this page. Turn **F4** to select a color from eight standard colors. If you wish to use a color other than those eight, adjust the color by turning **F1**, **F2** and/or **F3**.

```
DSK      : EDGE COLOR   : RECALL : 3/3
EDGE COL: S=0.0   L=0.0   H=0.0   : >BLACK:
```

◆ Initial Setting for Keyer Edge

The EDGE ASGN item in the [SETUP - PANEL - KEY CTRL] menu determines the maximum width of KEYER and DSK edges as shown in the table below.

| EDGE ASGN setting | Description |
|----------------------------|---|
| K/D (4H) (default setting) | Up to 4H of edge width available for both KEYER and DSK. |
| KEY (8H) | Up to 8H of edge width available for KEYER. DSK edges cannot be set. |
| DSK(8H) | Up to 8H of edge width available for DSK. KEYER edges cannot be set. |

12. DVE Effects on Keys

2D-DVE effects are available for KEYER and DSK. The 2D-DVE is available by just setting the 2D DVE item to ON in the KEYER or the DSK menu. As an example, this section explains how to add a 2D-DVE effect on the DSK.

12-1. How to enable 2D DVEs

- (1) Press the **MENU** button and then the **3/DSK** button. The DSK SETUP menu will be displayed.
- (2) Turn **F1** to select **POS/SIZ**, then press **F1** or the **PAGE DOWN** button to display the [DSK - POS/SIZE] menu

```
DSK      : >INS/SRC >EDGE      >MASK
SETUP    : >POS/SIZ >BORDER  >SUB EFF >INIT
```

- (3) Turn **F4** to set **2D DVE** in the menu to **ON**.

```
DSK      :   POSI TION      :  SIZE  : 2D DVE : 1/3
POS/SI ZE: X=0      Y=0      : =1000 : =ON   :
```

The 2D DVE function is enabled for DSK, and therefore the POS/SIZE, BORDER, and SUB EFFECT menus in the DSK menu become available.

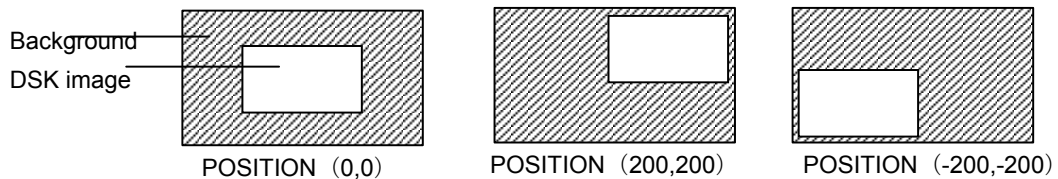
12-2. Changing Position

The position or the size of DSK images can be changed as follows:

- (1) Go to the [DSK - POS/SIZE] menu PAGE1.

```
DSK      :   POSI TION      :  SIZE  : 2D DVE : 1/3
POS/SI ZE: X=0      Y=0      : =500   : =      :
```

- (2) Turn **F2** to set the position of the DSK image.



The base original POSITION of the DSK is at the center of the output screen. You can set the position of the DSK images by specifying X and Y coordinates, with the origin of the axes located at the center of the screen.

12-3. Changing Sizes or Aspect Ratios

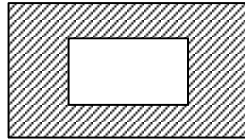
◆ Changing sizes Sizes

(1) Go to the [DSK - POS/SIZE] menu PAGE1.

| | | | | | | | | |
|-----------|-----|----------|---|------|---|--------|---|-----|
| DSK | : | POSITION | : | SIZE | : | 2D DVE | : | 1/3 |
| POS/SIZE: | X=0 | Y=0 | : | =500 | : | =ON | : | |

(2) Turn **F3** to adjust the size of the DSK image.

(The figures below are examples of **SIZE=500** and **SIZE=750**. The **POSITION** is set to (0, 0) in both examples.)



SIZE (500)



SIZE (750)

| |
|---|
| Setting the size allows users to change the size of KEY or DSK images while retaining aspect ratios. If the value is 1000, the DSK will be of a full screen size. |
|---|

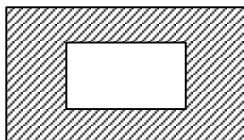
◆ To Change Aspect Ratio

(1) Press the **PAGE DOWN** button to display the [DSK - POS/SIZE] menu PAGE2.

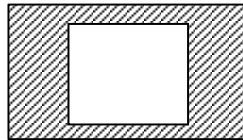
| | | | | | | | | |
|--------|---|--------|--------|------|------|---|---|-----|
| DSK | : | ASPECT | : | FADE | : | | : | 2/3 |
| ASPECT | : | X=1000 | Y=1000 | : | =0.0 | : | | |

(2) Turn **F2** to change the values of **ASPECT** for the DSK image.

(The figures below are examples. The **POSITION** is set to (0, 0) in the examples.)



(500, 500)



(500, 750)



(750, 750)

12-4. FADE

The FADE allows users to add an effect to make backgrounds transparent.

(1) Go to the [DSK - POS/SIZE] menu PAGE2.

| | | | | | | | |
|--------|---|--------|--------|------|------|---|-----|
| DSK | : | ASPECT | : | FADE | : | : | 2/3 |
| ASPECT | : | X=1000 | Y=1000 | : | =0.0 | : | : |

(2) Turn **F3** to set the **FADE** level for the DSK image. Increasing the value makes the background transparent.

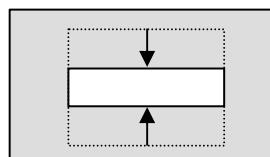
12-5. CROP

CROP allows users to trim the KEY image or DSK image from all four directions. The background image then only remains visible in the cropped area.

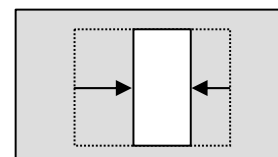
(1) Go to the [DSK - POS/SIZE] menu PAGE3.

| | | | | | | |
|------|---|---------------|-----|-----|-----|---|
| DSK | : | CROP POSITION | : | 3/3 | | |
| CROP | : | T=0 | B=0 | L=0 | R=0 | : |

(2) Use **F1**, **F2**, **F3** and/or **F4** to crop DSK images.



Crops from top and bottom.



Crops from right and left.

12-6. SUB EFFECT

The SUB EFFECT menu allows users to add MONO COLOR, DEFOCUS, and PAINT COLOR effects. Access the SUB EFFECT menu as shown below.

- (1) Press the **MENU** button and then the **3/DSK** button to display the [DSK SETUP] menu.
- (2) Turn **F1** to select **SUB EFF**, then press **F1** or the **PAGE DOWN** button to display the [DSK - SUB EFF] menu.

| | | | | |
|-------|---|----------|---------|------------------------|
| DSK | : | >INS/SRC | >EDGE | >MASK |
| SETUP | : | >POS/SIZ | >BORDER | > SUB EFF >INIT |

12-6-1. MONO COLOR

Monochrome effects can be configured via this menu.

- (1) Go to the [DSK - SUB EFF] menu PAGE1.
- (2) Turn **F4** to set **EN** (ENABLE) to **ON**.
- (3) Set the color by adjusting its **S** (SATURATION) and **H** (HUE) values.

| | | | | | |
|---------|---|-----|------------|---------------|-----|
| DSK | : | : | MONO COLOR | : | 1/3 |
| SUB EFF | : | S=0 | H=0 | En= ON | : |

12-6-2. DEFOCUS

The DEFOCUS function allows users to add an effect that will blur the output image.

- (1) Go to the [DSK - SUB EFF] menu PAGE2.
- (2) Turn **F1** to set the horizontal defocus level at the item **H** (HORIZONTAL).
- (3) Turn **F2** to set the vertical defocus level at the item **V** (VERTICAL).

| | | | | | | |
|---------|---|---------|-------|-------|-----|-----|
| DSK | : | DEFOCUS | : | PAINT | : | 2/3 |
| DEFOCUS | : | H=4.0 | V=5.0 | Y=0 | C=0 | : |

12-6-3. PAINT COLOR

The Paint color effect allows users to add an effect which makes the image look like a painting. Increasing the value decreases the resolution, so the image becomes like a painting.

- (1) Go to the [DSK - SUB EFF] menu PAGE2.
- (2) Turn **F3** to set the luminance level at the item **Y** (LUMINANCE).
- (3) Turn **F4** to set the chroma level at the item **C** (CHROMA).

| | | | | | | |
|---------|---|---------|-------|-------|------|-----|
| DSK | : | DEFOCUS | : | PAINT | : | 2/3 |
| DEFOCUS | : | H=0.0 | V=0.0 | Y=10 | C=10 | : |

12-6-4. FREEZE, STROBE, NEGA, MOSAIC

Freeze, strobe, negative, and mosaic effects are also available.

(1) Go to the [DSK - SUB EFF] menu PAGE3.

| | | | | | | | | | | |
|--------|---|--------|---|--------|---|------|---|--------|---|-----|
| DSK | : | FREEZE | : | STROBE | : | NEGA | : | MOSAIC | : | 3/3 |
| FREEZE | : | =OFF | : | =OFF | : | =OFF | : | =OFF | : | |

(2) When applying these effects, please refer to the table below.

| Parameter | Description |
|-----------|--|
| FREEZE | Allows users to set enable the freeze effect function. Users can select either frame freeze or field freeze. |
| STROBE | Allows users to enable strobe effects. Increasing the value strengthen the flash light. |
| NEGA | Setting this function to ON makes a image negative by reversing all luminance levels. |
| MOSAIC | Allows users to use a mosaic effects. Increasing the value enlarges the size of mosaic cells. |

◆ **Setting Example**

| | | | | | | | | | | |
|--------|---|--------|---|--------|---|------|---|--------|---|-----|
| DSK | : | FREEZE | : | STROBE | : | NEGA | : | MOSAIC | : | 3/3 |
| FREEZE | : | =FIELD | : | =1 | : | =ON | : | =OFF | : | |

12-7. BORDERS

Borders can be added to DSK images. Inside border and outside borders can be adjusted independently.

- (1) Go to the [DSK - BORDER] menu.
- (2) To use the inside border, set the width at the **INSIDE X** and **Y**. To use the outside border, set the width at the **OUTSIDE X** and **Y**.

| | | | | | | |
|--------|---|--------|-----|---------|-----|-----|
| DSK | : | INSIDE | : | OUTSIDE | : | 1/3 |
| BORDER | : | X=0 | Y=0 | : | X=0 | Y=0 |

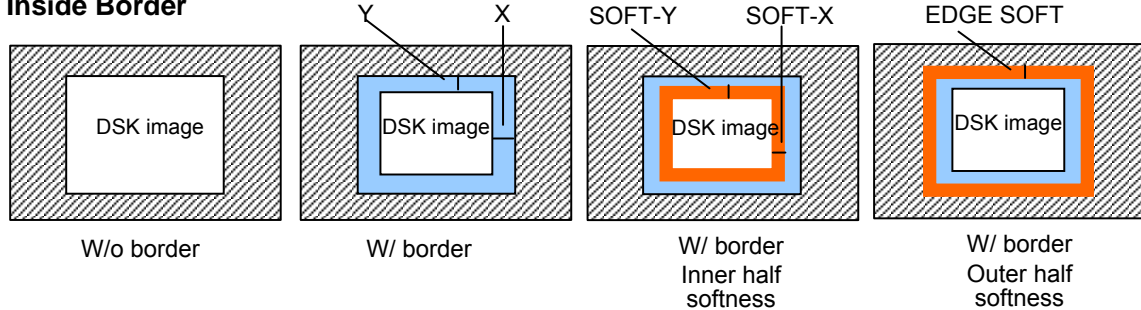
- (3) Press the [PAGE DOWN] button to go to PAGE2. In this menu, border softness can be adjusted. **INSIDE X** and **Y** allow users to set the softness for the inner half of the set border. The softness of the outer half of the border is set at **OUTSIDE X** and **Y**.

| | | | | | | |
|-----------|---|--------|-----|----------|----|-----|
| WIPE | : | INSIDE | : | OUTSIDE: | : | 2/3 |
| BDR SOFT: | : | X=0 | Y=0 | : | =0 | : |

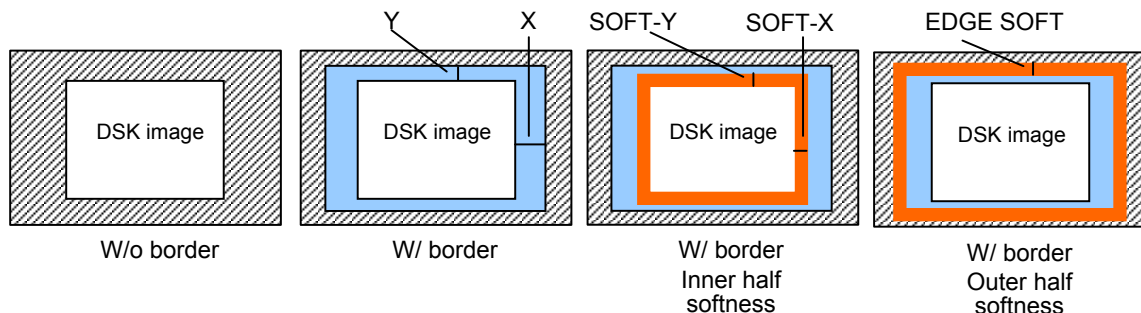
- (4) Press the [PAGE DOWN] button to go to PAGE3. Turn [F4] to select a color for the border from eight standard colors. If you wish to use a color other than those eight, adjust the color using [F1], [F2] and/or [F3]. You can also use the joy stick to set the color.

| | | | | | | |
|---------|---|--------------|-------|--------|---|-------|
| DSK | : | BORDER COLOR | : | RECALL | : | 3/3 |
| BDR COL | : | S=66.3 | L=5.4 | H=3.5 | : | >BLUE |

◆ Inside Border



◆ Outside Border



13. Still Store

The switcher can capture and memorize up to 2 still pictures from the switcher output video. Captured stills can then be used as signals for key source, key insertion, PGM select, PST select or AUX bus select (See section 6-2. "How to Assign Sources to Bus buttons" for assigning stills.). Although the stored stills are cleared when the switcher is powered down, they can be backed up within the switcher. Stored stills can also be saved to the USB flash memory.

13-1. How to Save Stills

- (1) Setup the image for program, preview or AUX output to be captured to STILL1 or 2.
- (2) Press **MENU**, and then **7/SETUP** in the MENU/DIRECT PATT/EVENT/KEYPAD block to display the [STILL STORE] menu

| | | | | | | | | | | |
|-------|---|--------|---|--------|---|--------|---|--|---|-----|
| STILL | : | SIGNAL | : | STILL1 | : | STILL2 | : | | : | 1/2 |
| STORE | : | =PGM | : | >FRAME | : | >ODD | : | | : | |

- (3) Turn **F1** to select the output you wish to capture the still at the **SIGNAL** item in the menu. Available settings are PGM, PREV, CLN, AUX1-AUX3. (See section 7. "Video Outputs" for details about these signals.)
- (4) To save the image to STILL1, turn **F2** to select the capture type from FRAME, ODD (odd field) and EVEN (even field), then press **F2**. A beep sound will be heard and the still image will be stored to STILL1.
To save the image to STILL2, turn **F3** to select the capture type, then press **F3**. A beep sound will be heard and the still image will be stored to STILL2.

13-2. Backing-up Stills

To Save Still Images:

- (1) Press **MENU**, and then **8/STILL** in the MENU/DIRECT PATT/EVENT/KEYPAD block to display the [STILL STORE] menu
- (2) Press **PAGE DOWN** to go to PAGE 2 ([STILL RESUME] menu).
- (3) Turn **F1** to change the **RESUME** item from OFF to ON. Press **F2** to save the image(s) to the backup memory. The saved images will remain after turning off the switcher.

| | | | | | | | | | | |
|--------|---|--------|---|---------|---|---------|---|--|---|-----|
| STILL | : | RESUME | : | SAVE | : | LOAD | : | | : | 2/2 |
| RESUME | : | =ON | : | =STILL1 | : | =STILL1 | : | | : | |

To Load Saved Images to Still Memory Manually:

- (1) Open the [STILL RESUME] menu.
- (2) Turn **F3** to select the image(s) you wish to load between STIL1 and STIL2. Press **F3** to load the image to the still store memory.

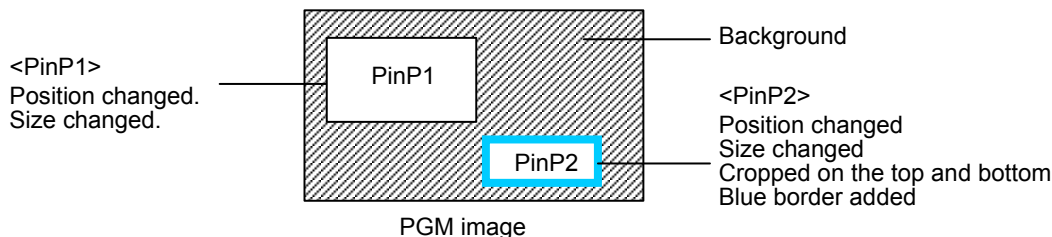
| | | | | | | | | | | |
|--------|---|--------|---|---------|---|---------|---|--|---|-----|
| STILL | : | RESUME | : | SAVE | : | LOAD | : | | : | 2/2 |
| RESUME | : | =ON | : | =STILL1 | : | =STILL1 | : | | : | |

To Load Saved Images to Still Memory Automatically:

The still images are automatically loaded at startup following the **LOAD** setting in the [STILL RESUME] menu when the **RESUME** item is set to ON.

14. Picture-in-Picture

The PIP (picture-in-picture) feature allows any video (sub-screens) to be displayed on full screen simultaneously. In the switcher, two sub-screens (PinP1 and PinP2) can be inserted on the background video. The setup for PIP pictures is the same. This section explains how to setup and display PinP pictures as shown in the figure below (as an example).

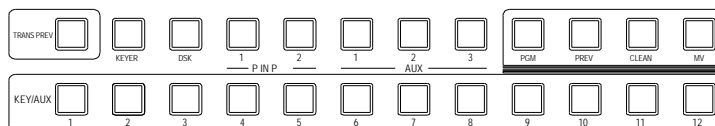


14-1. Setting-up PinP

14-1-1. Selecting Video for PinP

To Select Video on the Control Panel:

- (1) Press the **PinP1** (or **PinP2**) button in the BUS SELECT block.
- (2) Press a desired source bus button in the KEY/AUX bus to select video for the PinP.



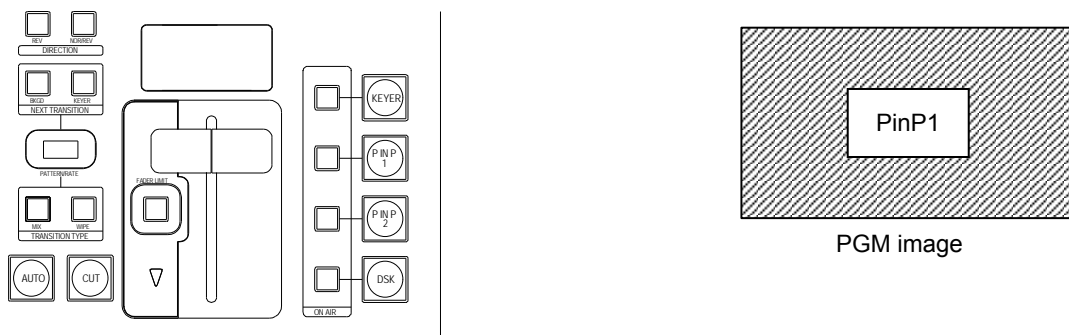
To Select Video in the Menu:

- (1) Press twice quickly the **PinP1** (or **PinP2**) button in the BUS SELECT to display the PinP1 (PinP2) menu.
- (2) Turn **F1** to select video under the **XPT** item.

| | | | | | | | | |
|-------|---|-------|---|--------|---|--------|---|-------|
| PinP1 | : | XPT | : | BORDER | : | ASPECT | : | 1/4 |
| XPT | : | =IN10 | : | W=0 | : | S=0 | : | =16:9 |

14-1-2. Inserting PinP1 (PinP2) Video

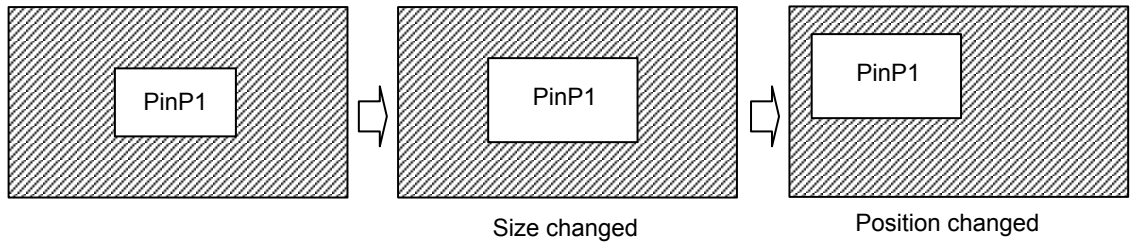
Press the **PinP1** (or **PinP2**) button or the **ON-AIR** button at the right end of in the Transition block to insert the PinP on the background (the PGM output).



14-1-3. Position and Size

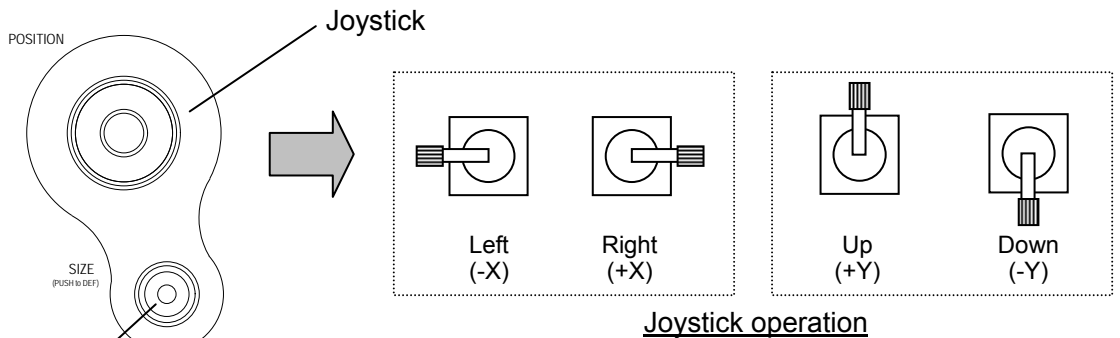
- (1) Press twice quickly the PinP1 button in the BUS SELECT to display the PinP1 menu.
- (2) Press the **PAGE DOWN** button to go to PAGE4.
- (3) Turn **F3** to make PinP1 a little bit larger.
- (4) Use **F1** and **F2** to move PinP1 to the top left-hand side.

| | | | | | | | |
|-------|---|----------|-------|------|--------|---|-----|
| PinP1 | : | POSITION | : | SIZE | : | : | 4/4 |
| POS | : | X=-350 | Y=150 | : | =30x30 | : | : |

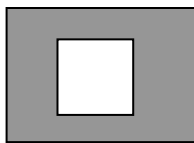


The center of the screen is set as origin (0,0) in the coordinates. The position of PinP is specified by the center of the PinP image. You can also change the aspect ratio for the PinP image to 4:3 in the menu when in HD mode.

POSITION /SIZE Setting Using Joystick

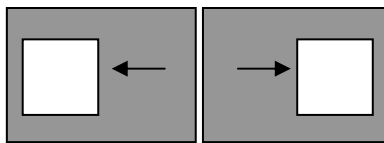


SIZE control (turn)

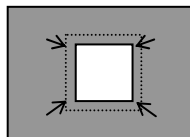


Background with PinP

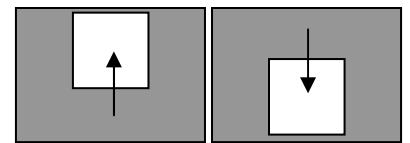
If the joystick moves horizontally:



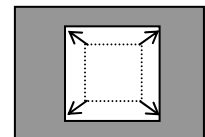
If SIZE turns counter-clockwise:



If the joystick moves vertically:



If SIZE turns clockwise:



14-1-4. Crop and Border

Using the procedure just used for PinP1, Insert PinP2 to the PGM image, move PinP2 to a desired position and change PinP2 size. The example below shows how to crop PinP and add a border.

- (1) Press twice quickly the **PinP1** button in the BUS SELECT to display the PinP1 menu.
- (2) Press the **PAGE DOWN** button to go to PAGE4.
- (3) Use **F1** and **F2** to crop PinP1 on the top and bottom.

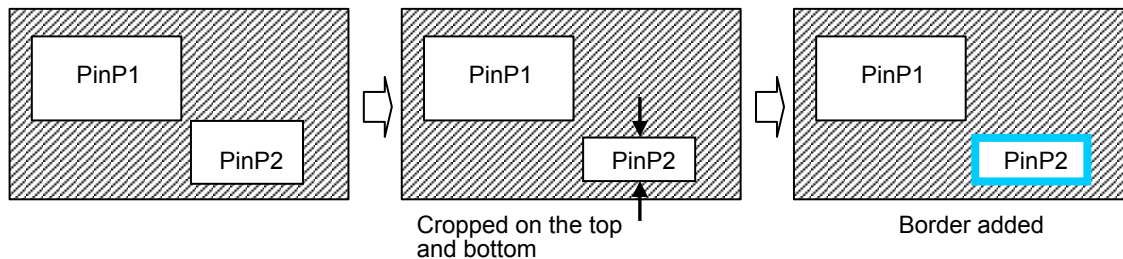
| | | | | | | | | | | |
|--------|---|-------------|---|-------------|---|------|---|--------|---|-----|
| Pi nP2 | : | TOP | : | BOTTOM | : | LEFT | : | RI GHT | : | 3/4 |
| CROP | : | = 30 | : | = 20 | : | =0 | : | =0 | : | : |

- (4) Press the **PAGE UP** button to return to PAGE1.
- (5) Turn **F2** to set the border width.

| | | | | | | | | |
|--------|---|-------|---|-------------|---|--------|---|-------|
| Pi nP2 | : | XPT | : | BORDER | : | ASPECT | : | 1/4 |
| XPT | : | =IN10 | : | W= 5 | : | S=0 | : | =16:9 |

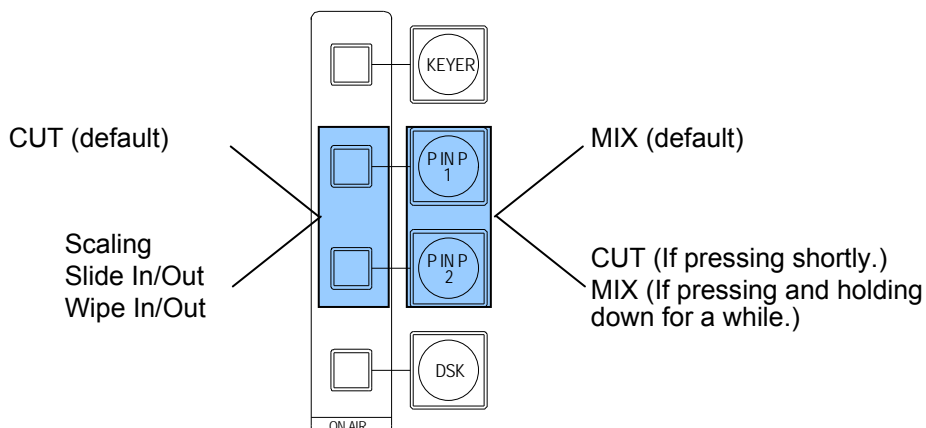
- (6) Press the **PAGE DOWN** button to go to PAGE 2.
- (7) Turn **F4** to set the border color to **BLUE**.

| | | | | | | |
|---------|---|--------------|---|--------|---|-------|
| Pi nP2 | : | BORDER COLOR | : | RECALL | : | 2/4 |
| BDR COL | : | S=66.3 | : | L=5.4 | : | H=3.5 |
| | : | | : | >BLUE | : | : |



14-2. IN/OUT Effects

The following buttons switch PinP 1 and PinP 2 between on-air and off-air. The ON AIR buttons at the left side perform cut in and cut out and the PinP Auto buttons at the right side performs mix in and mix out of PinPs at the default setting. These buttons, however, can change their functional behavior as shown in the figure below.



To Change Functional Behavior of the Transition Buttons

- (1) Press the **CLR/TRANS RATE** button in the MENU/DIRECT PATT/EVENT/KEYPAD block to display the TRANS menu.
- (2) Press the **PAGE DOWN** button to go to PAGE 3 or PAGE 4.
- (3) Turn **F2** to select a transition effect for the ON-AIR button. Turn **F3** to select a transition effect for the **PinP AUTO** button.

| | | | |
|--------|--------|--------------|----------------|
| TRANS | : RATE | : USER TRANS | : ADV CTL: 3/6 |
| PinP 1 | : =10 | : =SLIDE TOP | : =C/AT : |

| | | | |
|--------|--------|--------------|----------------|
| TRANS | : RATE | : USER TRANS | : ADV CTL: 4/6 |
| PinP 2 | : =10 | : =CUT | : =AUTO : |

◆ ON-AIR Button

| Item | Setting | Description |
|-----------------|------------------|---|
| TRANS RATE TYPE | CUT | Performs Cut-in or CUT-out of PinP. |
| | SCALER | Performs Scale Up or Down of PinP. |
| | SLIDE RIGHT/LEFT | Performs Slide-in or Slide-out of PinP. |
| | SLIDE TOP/BOTTOM | |
| | WIPE RIGHT/LEFT | Performs WIPE-in and Wipe-out of PinP. |
| | WIPE TOP/BOTTOM | |

◆ PinP Auto Button

| Item | Setting | Description |
|----------|---------|--|
| ADV CTRL | AUTO | Always performs Mix transition regardless of the pressing button time. |
| | C/AT | Performs Cut transition when briefly pressing the button. Performs MIX transition when pressing and holding down the button for more than one second. |

The transition duration for the MIX transitions can be set at the **RATE** item in the menu on a frame basis.

15. Multiviewer

The multiviewer allows users to monitor multiple images such as the video sources input to the switcher and internally generated or combined images on the same screen. Three types of split displays are available: quad, 10 and 16 way. The video titles and the on-air tally information can be also displayed. Note that the multiviewer output is delayed by one frame relative to the program output.

The setup procedure for the multiviewer is as follows:

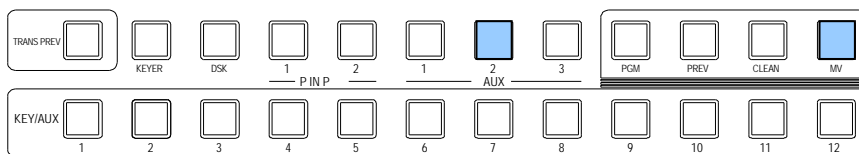
1. Assign the multiviewer video to an AUX output bus
2. Select a split-screen type.
3. Select video for each split area.
4. Add titles, on-air tally and frame border.

15-1. Assigning the Multiviewer function to an AUX Bus

The multiviewer function can be assigned to any AUX bus. There are two ways to select an AUX bus: using the buttons in the BUS SELECT block or using the menus. In the following example AUX2 is selected to be the multiviewer output.

◆ Using Buttons in BUS SELECT

- (1) Press the **AUX2** button in the BUS SELECT block.
- (2) Press the **MV** button at the right end of the BUS SELECT block.



◆ Using Menu

- (1) Quickly press twice the **AUX2** button in the BUS SELECT block.
- (2) The [SETUP-OUTPUT-AUX XPT] menu opens. Turn **F2** to select **MV**.

| | | | | | |
|---------|-------------------|-------------|----------|------|-------|
| OUTPUT | : SELECT : | XPT | : CTRL : | ANCI | : 1/2 |
| AUX XPT | : = AUX2 : | = MV | : =ON : | =OFF | : |

15-2. Selecting Split-screen Type

The type of split-screen to be used can be selected in the [SETUP-OUTPUT-MV SCRNM] menu. There are three different types.

- (1) Quickly press twice the **MV** button in the BUS SELECT block to display the [SETUP-OUTPUT-MV SCRNM] menu.

| | | | | | |
|----------|----------------|--------|------------|-------|-------|
| OUTPUT | : TYPE : | WINDOW | : SIGNAL : | CHARA | : 1/3 |
| MV SCRNM | : = 4 : | =01 | : =IN01 : | = OFF | : |

- (2) Turn **F1** to select the type from 4, 10 or 16-way. (See the split screen images with channel numbers below.)

| | |
|----|----|
| 01 | 02 |
| 03 | 04 |

| | | | |
|----|----|----|----|
| 01 | | 02 | |
| 03 | 04 | 05 | 06 |
| 07 | 08 | 09 | 10 |

| | | | |
|----|----|----|----|
| 01 | 02 | 03 | 04 |
| 05 | 06 | 07 | 08 |
| 09 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 |

15-3. Selecting Video for Each Split Area

This section shows how to a video source for each split area in the multiviewer screen. This is done in the [SETUP-OUTPUT-MV SCR�] menu.

- (1) Quickly press twice the **[MV]** button in the BUS SELECT block to display the [SETUP-OUTPUT-MV SCR�] menu.

| | | | | | | | | | | |
|---------|---|------|---|-------------|---|---------------|---|-------|---|-----|
| OUTPUT | : | TYPE | : | WI NDOW | : | SI GNAL | : | CHARA | : | 1/3 |
| MV SCR� | : | =4 | : | = 01 | : | = IN01 | : | = OFF | : | |

- (2) Turn **[F2]** to select a channel number (split area) of the split screen under the **SCREEN** item.
- (3) Turn **[F3]** to select video displayed on the split area. The following video sources are selectable.

| | |
|---------------------|---|
| Input images | IN01-IN12 |
| Internal bus images | BLAK(BLACK), STL1, STL2, MATT, CLBR(Color bar), PGM, PREV |

- (4) Repeat (2) and (3) to assign images to the multiviewer channels.

15-4. Adding Titles, On-air Tally and Frame Border

You can set a title to each image and display the on-air tally information. A color border can be also applied to the split-screen to emphasize channel areas.

15-4-1. Titles

- (1) Quickly press twice the **[MV]** button in the BUS SELECT block to display the [SETUP-OUTPUT-MV SCR�] menu.
- (2) Turn **[F2]** to select a channel number (split area) of the split screen under the **SCREEN** item.

| | | | | | | | | | | |
|---------|---|------|---|-------------|---|---------------|---|--------------|---|-----|
| OUTPUT | : | TYPE | : | WI NDOW | : | SI GNAL | : | CHARA | : | 1/3 |
| MV SCR� | : | =4 | : | = 01 | : | = IN01 | : | = OFF | : | |

- (3) Turn **[F4]** to select the type of title display under the **CHARA** item. (See the table below.)
The texts used for titles are the short name and the long name set in the [SETUP-INPUT-RENAME] menu. (See section 6-1. "How to Give Name to Sources.")

| CHARA setting | Description |
|---------------|---------------------------------------|
| OFF | Displays no title. |
| SHORT | Displays a title within 4 characters. |
| LONG | Displays a title within 8 characters. |

Setting Example

In this setting example the multiviewer is set as shown on the right hand side with the multiviewer settings in the table below (Names are default settings.)

| Channel | SIGNAL setting | CHARA setting |
|---------|----------------|---------------|
| 1 | IN01 | OFF |
| 2 | IN02 | SHORT |
| 3 | PGM | LONG |
| 4 | PREV | LONG |

| | |
|---------|---------|
| | IN02 |
| PREVIEW | PROGRAM |

- (4) Press **[PAGE]** button to go to Page 2 where you can change the title position. Turning **[F3]** selects the horizontal title position and turning **[F4]** selects the vertical title position respectively from three options.

| Item | Description |
|-------------------|---|
| TITLE POSITION -X | Selects the horizontal title position from LEFT, MID (middle) or RIGHT. |
| TITLE POSITION -Y | Selects the vertical title position from HIGH, MID (middle) or LOW. |

15-4-2. On-air Tally

The tally indicates which video is currently On-air (output from the program) and which video is set to be the next output. The multiviewer has two types of tally indicators: Frame and Marker. You can use one at a time or both simultaneously. The Frame indicator is active by default.

- (1) Quickly press twice the **[MV]** button in the BUS SELECT block to display the [SETUP-OUTPUT-MV SCRNM] menu.
 (2) Press the **[PAGE DOWN]** button to go to PAGE 2. Set **FRAME** and/or **MARKER** to **ON**.

```
OUTPUT : MARKER : FRAME : TITLE POSITION : 2/3
MV TALLY: =OFF : =ON : X=MID Y=LOW :
```

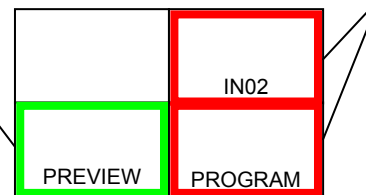
Setting Example

MARKER indicator is OFF.
FRAME indicator is ON.

Green: Next indication

Red: On-air indication

Here, we assume that IN02 is displayed in PGM.



IMPORTANT

The on-air tally indication (RED and GREEN) is linked to the tally color (**TLY COL**) setting. For example, the tally color for PGM is set to **RED** and the tally color for PST is set to **NONE**, green tally (next indication) is not displayed on the screen. (See section 20-2-2. "Tally Output Settings (GPI IN/TALLY OUT)."

15-4-3. Frame Border

A color border can be also applied to the split-screen to emphasize channel areas.

- (1) Quickly press twice the **[MV]** button in the BUS SELECT block to display the [SETUP-OUTPUT- MV SCRNM] menu.
 (2) Press the **[PAGE DOWN]** button to go to PAGE 3.
 (3) Turn **[F4]** to select a border color from eight standard colors. Press **[F4]** to apply the selected color. If you want to adjust the selected color or set the color by entering HSL values, turn **[F1]**, **[F2]** and **[F3]** to adjust values or press **[F1]**, **[F2]** and **[F3]**, enter a value in the Keypad and then press **[ENT/STORE]** in the Keypad.

```
OUTPUT : BORDER COLOR : RECALL : 3/3
MV BDR : S=0.0 L=100.0 H=0.0 : >WHITE:
```

16. Event Memory

The switcher can save control panel setup statuses as data for recall when needed. This function is called Event Memory. This Event Memory function enables quick recall of the same setting statuses. The keypad is used to save and recall events.

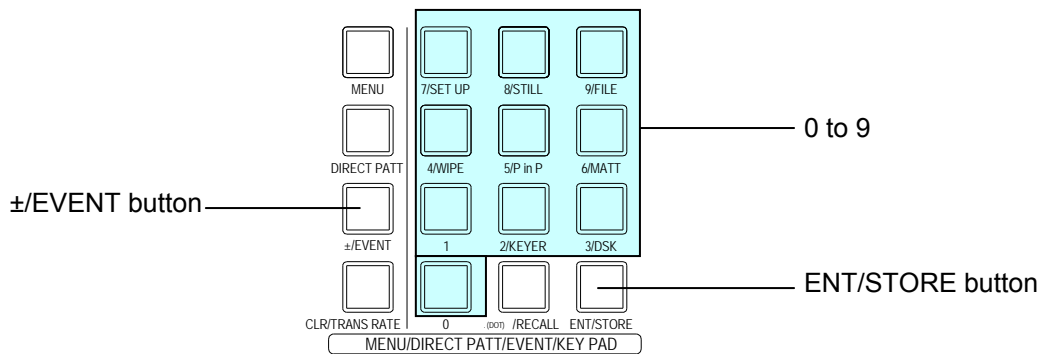
Saved event memories can be saved and recalled from USB flash memories. For details, see section 17 “File Operations.”

16-1. Storing Events

Event memory can store the setting status of the control panel. Up to 100 events (10 memory pages, with 10 events per page) can be stored in memory. The PGM/PST and KEYSER signal selection data can also be saved to the memory.

◆ To Store Event (in the minimum way):

- (1) Press the **±/EVENT** button at the top right-hand side of the menu display.
- (2) Press **ENT/STORE** on the Keypad.
- (3) Press a number button (0-9) on the Keypad to store the event.



◆ Storing Events (in the detailed way):

- (1) Press the **±/EVENT** button at the top right-hand side of the menu display. The [EVENT MEMORY] menu is displayed and the Keypad switches to EVENT mode.
- (2) Turn **F1** to select an event page in the [EVENT MEMORY] menu. PAGE 0 has Event 0-9 (event memories), PAGE 1 has Event 10-19, and so on. The last page, PAGE 9 has Event 90-99.

```
EVENT  : PAGE  : DI RECT : PAGECLR: LAST   : 1/1
MEMORY : =0     : =OFF  : =OFF   :      :
```

- (3) Press **ENT/STORE** on the Keypad. The [EVENT STORE] menu will then be displayed.

```
EVENT  : SELECT : XPT   : DATA  :      : 1/1
STORE  : =ALL   : =ON   : =ON    :      :
```

- (4) Data saved to the event can be selected under the **SELECT** item. If set to **ALL**, all data set for BKGD, KEYSER, DSK PinP1 and PinP2 are selected. You can also select specific bus data, for example, **BKGD**.
- (5) Normally set the **XPT** and **DATA** items to **ON**. If the **XPT** item is set to **OFF**, the bus signal selection is not saved to the event. If the **DATA** item is set to **OFF**, the setting data for the bus such as transition type and transition rate (including the bus signal selection) is not saved to the event.

Data not saved in the event memory

| |
|--|
| All SETUP menu settings |
| All FILE menu settings |
| STILL images |
| USER TRANS and ADV CTRL settings in the TRANS menu |

(6) Press a number button (0-9) on the Keypad to store the event.

If an Event is Already Saved to a Button:

When [ENT/STORE] is pressed, the light of the buttons (0 to 9) are off if no events are saved. The number buttons light up if events are already saved. If you press a button where an event is already saved, it flashes. Pressing the button again overwrites the event. If you press another button that has no event before overwriting, the event will be saved to that button. If you cannot overwrite data, change **OVER WR** to **ENABL** (ENABLE) in the [EVENT-RECALL] menu. (See section 16-3. "Overwrite Protection".)

16-2. Recalling Events

16-2-1. Using DIRECT Operation

If using the direct operation, the events can be most quickly recalled. However, users cannot select the loaded data at recalling events. To use the direct recall, previously set the DIRECT item to ON in the menu.

- (1) Press the [±/EVENT] button at the top right-hand side of the menu display.
- (2) Turn [F1] to select an event page in the [EVENT MEMORY] menu.
- (3) Press the number button where the needed data is stored. The selected event will be applied to the panel.

To Set DIRECT to ON:

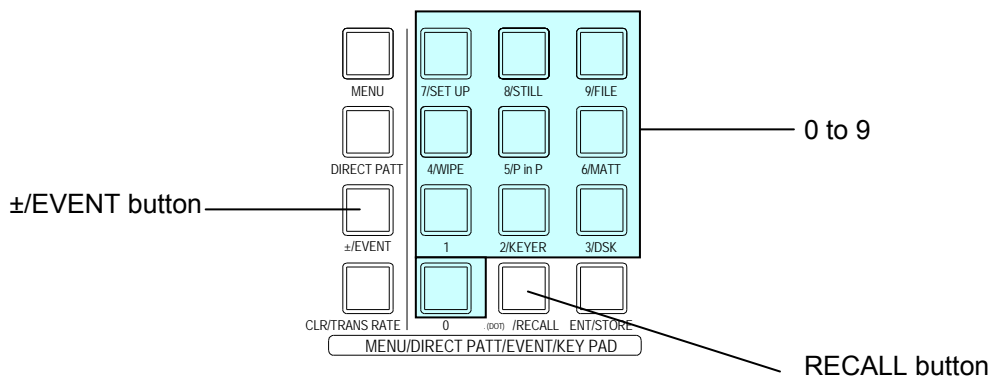
When pressing [±/EVENT], the [EVENT MEMORY] menu is automatically displayed. Turn [F2] to set **DIRECT** to **ON**.

| | | | | | | | | |
|--------|---|------|---|---------|---|---------------|---|-----|
| EVENT | : | PAGE | : | DI RECT | : | PAGECLR: LAST | : | 1/1 |
| MEMORY | : | =0 | : | =ON | : | =ALL | : | : |

16-2-2. Using the RECALL Button

To Recall Events (Fastest method):

- (1) Press the [±/EVENT] button at the top right-hand side of the menu display.
- (2) Press the number button where the needed data is stored.
- (3) Press the [RECALL] button. The selected event will then be applied to the panel.



To Recall Events (in the detailed way):

- (1) Press the \pm /EVENT button at the top right-hand side of the menu display. The [EVENT MEMORY] menu is displayed and the Keypad changed to Event mode.
- (2) Turn $\overline{F1}$ to select an event page in the [EVENT MEMORY] menu.
- (3) Press the number button where the needed data is stored. The [EVENT RECALL] menu is displayed.

| | | | | | | | | | | |
|--------|---|--------|---|-----|---|------|---|--|---|-----|
| EVENT | : | SELECT | : | XPT | : | DATA | : | | : | 1/2 |
| RECALL | : | =ALL | : | =ON | : | =ON | : | | : | |

- (4) The saved data in the event is set on the [EVENT RECALL] menu. This time users can select to recall all saved data or the specific data within the event by setting **SELECT**, **XPT** and **DATA** items.

For example, to recall the stored event data except the background information, one must do the following:

| | | | | | | | | | | |
|--------|---|--------|---|------|---|------|---|--|---|-----|
| EVENT | : | SELECT | : | XPT | : | DATA | : | | : | 1/2 |
| RECALL | : | =BKGD | : | =OFF | : | =OFF | : | | : | |

- (5) Press the \overline{RECALL} button. The [EVENT RECALL] menu is displayed.

| | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|
| The LAST item in the [EVENT MEMORY] menu shows the number of the last recalled event. This is useful when checking which event was recalled last. | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|

16-3. Overwrite Protection

- (1) Press the \pm /EVENT button at the top right-hand side of the menu display.
- (2) Press the number button where the needed data is stored. The button will start flashing when pressed. The [EVENT RECALL] menu will be automatically displayed.
- (3) Press the $\overline{PAGE DOWN}$ button to go to PAGE 2.
- (4) Turn $\overline{F1}$ to change **OVER WR** to **DISBL**(disable) to set the write protection on the memory button.

| | | | | | | | | | |
|--------|---|----------|--------|---|--|---|--|---|-----|
| EVENT | : | OVER WR: | DELETE | : | | : | | : | 2/2 |
| RECALL | : | =DISBL: | >OFF | : | | : | | : | |

16-4. Deleting Events

◆ To Delete Data for an Event:

- (1) Press the \pm /EVENT button at the top right-hand side of the menu display.
- (2) Press the number button from which data is to be deleted. The button will begin to flashing when pressed.
- (3) Press the $\overline{PAGE DOWN}$ button to go to PAGE 2.
- (4) Turn $\overline{F2}$ to set **DELETE** to **ON**, then press $\overline{F2}$. The data saved in the event memory button is cleared.

| | | | | | | | | | |
|--------|---|----------|--------|---|--|---|--|---|-----|
| EVENT | : | OVER WR: | DELETE | : | | : | | : | 2/2 |
| RECALL | : | =ENABL: | >ON | : | | : | | : | |

◆ **To Delete Data for an Event Page:**

- (1) Press the **[±/EVENT]** button at the top right-hand side of the menu display. The [EVENT MEMORY] menu is displayed.
- (2) Turn **[F1]** to select an event page to be deleted.
- (3) Turn **[F3]** to set **PAGECLR** to **CRNT** (current), then press **[F3]**. The data saved in the event page will then be cleared.

```
EVENT : PAGE : DI RECT : PAGECLR: LAST : 1/1
MEMORY : =1 : =OFF : =CRNT : :
```

◆ **To Delete All Event Data :**

- (1) Press the **[±/EVENT]** button at the top right-hand side of the menu display. The [EVENT MEMORY] appears.
- (2) Set **PAGECLR** to **ALL**, and press **[F3]**. All event data is cleared.

```
EVENT : PAGE : DI RECT : PAGECLR: LAST : 1/1
MEMORY : =0 : =OFF : =ALL : :
```

16-5. Loading Event at Start-up

The settings made for the BKGD, KEYER, DSK and PinP buses on the control panel are cleared when powering off the switcher. You can, however, recall the desired panel setup whenever the switcher starts by setting in the [SETUP-SYSTEM-INIT] menu as shown in the procedure below.

- (1) Press the **[MENU]** button at the right of the menu display.
- (2) Press the **[7/SETUP]** button to display the SETUP menu's top page.
- (3) Turn **[F1]** to select **SYSTEM** and then press **[F1]**.

```
SETUP : >SYSTEM >INPUT >OUTPUT >PANEL
MENU : >EXT I /F >STATUS
```

- (4) The [SETUP - SYSTEM] menu as shown below appears. Turn **[F1]** to select **INIT** and then press **[F1]** to display the [SETUP-SYSTEM-INIT] menu.

```
SETUP : >FORMAT >REF I /O >ARCNET >ETHERNET
SYSTEM : >TIME >INIT >REBOOT
```

```
SYSTEM : INIT : LOAD : : 1/1
INIT : >CURRENT : =LAST : :
```

- (5) Turn **[F3]** to select the desired panel setup in the table below

| LOAD setting | Description |
|--------------|---|
| OFF | The switcher starts with the factory default settings. |
| LAST | The switcher starts with the last loaded event. Note that to enable the Last Load function, an event must be loaded after setting to LAST. |
| 0-99 | The switcher starts with loading an event (0-99). |

17. File Operations

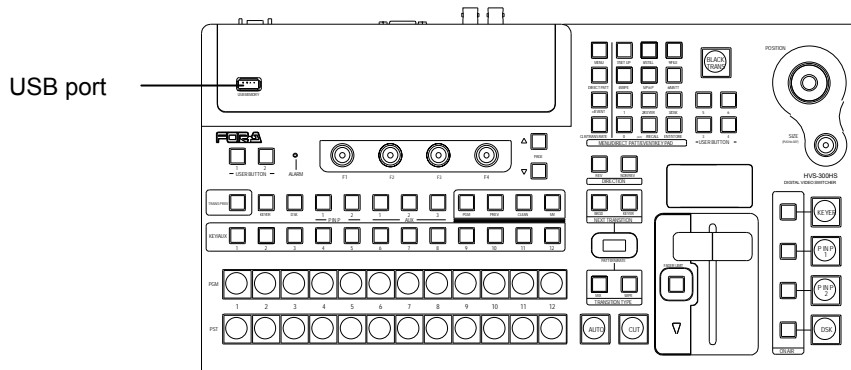
The switcher is capable of storing operational data to USB flash memory and also of recalling and downloading previously saved data for application to production operations. Operational data including system settings, wipe settings, stills, bus settings and events can be all saved to and downloaded from the USB flash memory.

17-1. USB Flash Memory

- For available USB flash memory, see "Available File List" in the Appendix. Inserting and removing of USB should be performed slowly and firmly.
- The access lamp on the USB flash memory blinks while saving or reading data. Check access to the USB flash memory before and while performing the operations. **Do not** remove the USB flash memory while the access lamp is flashing. This could corrupt the stored data or damage the USB flash memory.
- The remaining space of the USB flash memory is displayed at the bottom right-hand side in the FILE menu.

```

FILE      : >LOAD    >SAVE    >UPDATE
TOP       :                                               101MB
    
```



17-2. Available Files

The following file formats can be saved / loaded to / from USB flash memory.

| File Extension | File Name (*1) | File Data Description |
|----------------|----------------|--|
| all | data.all | System data, all wipe data and all event memory data |
| sys | hvs-300.sys | System data |
| mem | event.mem | All event memory data |
| jpg (*2) | *.jpg | JPEG format files (standard RGB) |
| | still1.jpg | Still 1 capture video |
| | still2.jpg | Still 2 capture video |
| tga (*2) | *.tga | TARGA format files (uncompressed RGB) |
| | still1.tga | Still 1 capture video |
| | still2.tga | Still 2 capture video |

Note that file names are limited to max. 8 characters in length (ASCII code).

(*1) The files are automatically named to the correct name as shown in the table above when saving to the USB flash memory.

(*2) When loading a JPEG or TARGA file from the USB flash memory, you can select a centered or tiled format as well as a normal one. In this case, a centered or tiled format image file is saved to STILL as either jpg or tga.

IMPORTANT

To use USB memory sticks with the switcher, format them in FAT or FAT32 file system.

17-3. Saving Data to USB Flash Memory

This section explains how to save the panel settings to the USB memory by using a "data.all" file as an example.

- (1) Insert the USB flash memory into the USB port.
- (2) Press the **MENU** button, then press the **9/FILE** button to open the FILE top menu.
- (3) Turn **F1** to select **SAVE**, and then press **F1** or the **PAGE DOWN** button to open the [FILE-SAVE] menu.

| | | | | | |
|------|---|-------|---------------|---------|-------|
| FILE | : | >LOAD | > SAVE | >UPDATE | |
| TOP | : | | | | 101MB |

- (4) Turn **F1** to select **ALL** to the **EXT** (File Extension) item.
- (5) Turn **F3** to select **data**. (See section 17-5 "Moving between Directories in the USB Flash Memory.") Press **F3** to save the data to the USB memory.

| | | | | | | | |
|------|---|--------------|---|-------|---|---------|-------|
| FILE | : | EXT | : | CTRL | : | <DIR>.. | 1/1 |
| SAVE | : | = ALL | : | =SAVE | : | data | 101MB |

- (6) When the data is sent to the flash memory, the message "SAVE?" will appear. Press **F3** again to store the data to the flash memory. A "beep" sound will be heard when the data is saved.

If the same file exists in the USB flash memory:

A pop up window appears and asks you if you overwrite the existing file. Turn **F3** to select **CANCEL**, **OVERWR**(overwrite) or **RENAME**.

To Rename the File:

If you wish to rename the file to save it, turn **F3** to select **RENAME** and refer to the section 17-7. "Renaming Files in the USB Flash Memory" to give a new name to the file.

IMPORTANT

When pressing a control push-button, press it down lightly and release it within 1 sec. Note that if you press and hold a control for more than 1 sec., related operation will be cancelled. Do not remove the USB flash memory while the access lamp is flashing. This could corrupt the stored data or damage the USB flash memory.

17-4. Loading Data from USB Flash Memory

17-4-1. To Load Setting Data

This section explains how to load setting data to the USB memory by using a "data.all" file as an example.

- (1) Insert the USB flash memory to the USB port.
- (2) Press the **MENU** button, then press the **9/FILE** button to open the FILE top menu.
- (3) Turn **F1** to select **LOAD**, and then press **F1** or the **PAGE DOWN** button to open the [FILE-LOAD] menu.

| | | | | | |
|------|---|---------------|-------|---------|-------|
| FILE | : | > LOAD | >SAVE | >UPDATE | |
| TOP | : | | | | 101MB |

- (4) Turn **F1** to select **ALL** to the **EXT** (File Extension) item.
- (5) Turn **F3** to select data. (See section 17-5 "Moving between Directories in the USB Flash Memory.")

| | | | | | | | | |
|------|---|--------------|---|------|---|-------|--|------------|
| FILE | : | EXT | : | LOAD | : | <DIR> | | 1/2 |
| LOAD | : | = ALL | : | = | : | | | data 101MB |

- (6) Press **F3** (or **F2**) to load the setting data to the control panel.

| IMPORTANT | |
|--|--|
| Once the saved system data (files with "all" or "sys" extension) is loading, you will have to restart the switcher. (The unit power off then power ON.) The system data is applied only after the switcher is restarted. | |
| Be careful to load the system data (files with all or sys extension), because the switcher and the control panel may not be disconnected if loading the different connection settings from the previous. | |

17-4-2. To Download Image Files

When loading a JPEG or TARGA file from the USB flash memory, you can select a centered or tiled format as well as a normal one. This section explains how to download the "sample.jpg" file to STILL1 as an example.

- (1) Insert the USB flash memory into the USB port.
- (2) Press the **MENU** button, then press the **9/FILE** button to open the FILE top menu.
- (3) Turn **F1** to select **LOAD**, and then press **F1** or the **PAGE DOWN** button to open the [FILE-LOAD] menu.
- (4) Turn **F1** to select **JPG** to the **EXT** (File Extension) item.
- (5) Turn **F2** to select **STL1** to the **LOAD** item as a destination.

If selecting **STL1C** to **LOAD**, the image file is saved to STILL1 as a centered format.
If selecting **STL1T** to **LOAD**, the image file is saved to STILL1 as a tiled format.

- (6) Turn **F3** to select **sample.** . (See section 17-5 "Moving between Directories in the USB Flash Memory.") Press **F3** to confirm the file selection.

| | | | | | | | | |
|------|---|--------------|---|-------|---|-------|--|--------------|
| FILE | : | EXT | : | LOAD | : | <DIR> | | 1/2 |
| LOAD | : | = JPG | : | =STL1 | : | | | sample 101MB |

- (7) Press **F3** (or **F2**) to load the image file to the STILL1 memory.

17-5. Moving between Directories in the USB Flash Memory

The directories in the USB flash memory are displayed after the word "<DIR>", <DIR>JPEG for example, at the upper right-hand in the FILE menu as shown below.

| | | | | | | | |
|------|---|------|---|----------|---|-----------|-------|
| FILE | : | EXT | : | LOAD | : | <DIR>JPEG | 1/2 |
| LOAD | : | =JPG | : | =STILL1: | | sample | 101MB |

Directory name

File name

In all FILE menus you can move to other directory in the USB flash memory in the following way.

- (1) Turn **F2** to select **PATH** in the FILE menu, and then press **F2**. The menu display changes to the directory menu.
- (2) If you want to go to a subdirectory of the current directory, turn **F3** to select the directory name and press **F3**. If you want to go to upper directory, select **<DIR>...**

| NOTE | |
|---|--|
| New folders cannot be made in the switcher. If you need a new folder, make it in the computer previously. | |

17-6. Deleting Files in the USB Flash Memory

The user can delete files in the USB flash memory using the FILE menu operation.

- (1) Open the [FILE - LOAD] menu. If you are in the [FILE-SAVE] menu, press the **PAGE UP** button to go to the FILE top menu and move to the [FILE-LOAD] menu.
- (2) Press the **PAGE DOWN** button to go to the [FILE-LOAD-DATA] menu.
- (3) Turn **F1** to select the extension of the file you wish to delete from the flash memory.
- (4) Turn **F3** to select the file to be deleted.
- (5) Turn **F2** to select **DELETE** under the **CTRL** item and press **F2**.
- (6) Turn **F3** to select **ON**, then press **F3**. A "beep" sound will be heard when the data is deleted.

| | | | | | | | |
|------|---|------|---|-----------------|---|-----------|-------|
| FILE | : | EXT | : | CTRL | : | <DIR>JPEG | 2/2 |
| DATA | : | =JPG | : | =DELETE: STILL1 | | | 101MB |

17-7. Renaming Files in the USB Flash Memory

The user can input an identifying name of up to 16 alphanumeric characters for any file stored to USB flash memory. Existing files can also be named / renamed using the following procedure.

- (1) Open the [FILE - LOAD] menu. If you are in the [FILE-SAVE] menu, press the **PAGE UP** button to go to the FILE top menu and move to the [FILE-LOAD] menu.
- (2) Press the **PAGE DOWN** button to go to the [FILE-LOAD-DATA] menu.
- (3) Turn **F1** to select the extension of the file you wish to rename in the displayed file list.
- (4) Turn **F2** to select **RENAME**.
- (5) Turn **F3** to select which file you wish to rename in the displayed file list.
- (6) Press **F2** to start renaming
- (7) Press **F3** to select the character to be changed in the selected file. Turn **F4** to change the currently chosen character.

| | | | | | | | |
|------|---|------|---|------------------------|---|-----------------|-------|
| FILE | : | EXT | : | CTRL | : | S TI LL1 | 2/2 |
| DATA | : | =JPG | : | =RENAM: SELECT: CHARA: | | | 101MB |

- (8) (Repeat steps (7) to change each character in the name of the selected file.
- (9) When all needed characters are input, press **F2**. A "beep" sound will be heard when the changed name is saved as the new file name.

18. System Setup Settings

18-1. Selecting System Signal Format

- (1) Press the **MENU** button, then press the **7/SETUP** button to display the SETUP top menu.
- (2) Turn **F1** to select **SYSTEM**, then press **F1** or the **PAGE DOWN** button to open the [SETUP-SYSTEM] menu.
- (3) Turn **F1** to select **FORMAT**, then press **F1** or the **PAGE DOWN** button to open the [SETUP - SYSTEM - FORMAT] menu.

```

SETUP   : >FORMAT >REF I/O >ARCNET >ETHERNET
SYSTEM  : >TIME   >INIT   >REBOOT
    
```

- (4) Turn **F1** to select the TV format to be used in the switcher. Turn **F3** to select the aspect ratio.

```

SYSTEM  :      FORMAT      : ASPECT : SW TMNG: 1/1
FORMAT  : =1080/59.94i    : =16:9 : =ANY   :
    
```

- (5) Press the **PAGE UP** button to go back to the [SETUP - SYSTEM] menu.
- (6) Turn **F1** to select **REBOOT**. Press the **ENT/STORE** button in the MENU/DIRECT PATT/EVENT/KEYPAD block to reboot the system.

```

SETUP   : >FORMAT >REF I/O >ARCNET >ETHERNET
SYSTEM  : >TIME   >INIT   >REBOOT
    
```

- (7) The selected system format is applied to the switcher after rebooting.

18-2. Crosspoint Switch Timing

The switcher can be set when and where crosspoints are switched.

- (1) Open the [SETUP - SYSTEM - FORMAT] menu. (See the procedure above.)
- (2) Turn **F4** to set the switcher timing at the **SW TMNG** item.

```

SYSTEM  :      FORMAT      : ASPECT : SW TMNG: 1/1
FORMAT  : =1080/59.94i    : =16:9 : =ANY   :
    
```

| Signal Format | Setting | Description |
|---|---------|--|
| 1080i/59.94, 60, 50 525/60 625/50 | ODD | Switches crosspoints in odd fields. |
| | EVEN | Switches crosspoints in even fields. |
| | ANY | Switches crosspoints at any time when the commands are issued. |
| 720p/59.94, 60, 50 | No1 | Switches crosspoints in odd frames. |
| | No2 | Switches crosspoints in even frames. |
| | ANY | Switches crosspoints at any time when the commands are issued. |
| 1080PsF/29.97, 30, 25, 24, 23.98 | --- | Switches crosspoints at the same time regardless of setting. |

18-3. Selecting Reference Signal

The switcher provides reference input, its loop-through and output connectors in the GENLOCK section on the rear panel.

18-3-1. To Set Reference Input

- (1) Press the **MENU** button, then press the **7/SETUP** button to display the SETUP top menu. Turn **F1** to select **SYSTEM**, then press **F1** or the **PAGE DOWN** button to open the [SETUP- SYSTEM] menu.
- (2) Turn **F1** to select **REF I/O**, then press **F1** or the **PAGE DOWN** button to open the [SETUP - SYSTEM - REF IN] menu.
- (3) Turn **F1** to select a reference signal to be input to the switcher between Black Burst and Tri-level Sync.

| | | | | | | |
|--------|---|------|---|--|---|-----|
| SYSTEM | : | TYPE | : | | : | 1/2 |
| REF IN | : | =BB | : | | : | |

18-3-2. To Set Reference Output

- (1) Press the **PAGE DOWN** button in the [SETUP-SYSTEM-REF IN] menu to go to the [SETUP- SYSTEM-REF OUT] menu.
- (2) Turn **F1** to select a reference signal to be output from the switcher between Black Burst and Tri-level Sync.
- (3) You can adjust the horizontal phase of the reference signal under the **H PHS** item and the vertical phase under the **V PHS** item.

| | | | | | | | | | | |
|---------|---|------|---|-------|---|-------|---|--|---|-----|
| SYSTEM | : | TYPE | : | H PHS | : | V PHS | : | | : | 2/2 |
| REF OUT | : | =BB | : | =0 | : | =0 | : | | : | |

18-4. Adjusting Video Signal Levels

18-4-1. Proc Amp

The switcher provides the following Proc Amp features.

- (1) Press the **MENU** button, then press the **7/SETUP** button to display the SETUP top menu. Turn **F1** to select **INPUT**, then press **F1** or the **PAGE DOWN** button to open the [SETUP- INPUT] menu.
- (2) Turn **F1** to select **PROC AMP**, then press **F1** or the **PAGE DOWN** button to open the [SETUP-INPUT-PROC AMP] menu.
- (3) Turn **F1** to select the input to be adjusted.
- (4) Turn **F4** to set **ENABLE** to **ON** to enable the PROC AMP feature.
- (5) You can adjust the luminance level under the **Y-Lv** item and the black level under the **BLK-Lv** item.

| | | | | | | | | | | |
|-----------|---|--------|---|-------|---|--------|---|--------|---|-----|
| INPUT | : | SELECT | : | Y-Lv | : | BLK-Lv | : | ENABLE | : | 1/3 |
| PROC AMP: | | =I N04 | : | =1.00 | : | =0 | : | =ON | : | |

- (6) Press the **PAGE DOWN** button to go to PAGE 2.
- (7) You can adjust the chrominance level under the **Pb-Lv** item and the **Pr-Lv** item.

| | | | | | | | | | | |
|-----------|---|--------|---|-------|---|-------|---|--------|---|-----|
| INPUT | : | SELECT | : | Pb-Lv | : | Pr-Lv | : | ENABLE | : | 2/3 |
| PROC AMP: | | =I N04 | : | =1.00 | : | =1.00 | : | =ON | : | |

18-4-2. Video Level Clip

To maintain the desired signal level after adjusting the video levels with the Proc Amp, use the Video Level Clip function to adjust the upper and lower limits of YPbPr color space. Note that the Video Level Clip can be applied only when the Proc Amp is enabled.

- (1) Open the [SETUP-INPUT-PROC AMP] menu. (See section 18-4-1. "Proc Amp.")
- (2) Turn **F1** to select an input signal to be corrected.

| | | | | | | | | | | |
|-----------|---|-------------|---|-------|---|--------|---|--------|---|-----|
| INPUT | : | SELECT | : | Y-Lv | : | BLK-Lv | : | ENABLE | : | 1/3 |
| PROC AMP: | = | INO4 | : | =1.00 | : | =0 | : | =ON | : | |

- (3) Press the **PAGE DOWN** button twice to go to PAGE 3.
- (4) You can adjust the luminance level under the **Y-Lv** item, the black level under the **BLK-Lv** item and the chrominance level under the **Pb-Lv** item and the **Pr-Lv** item.

| | | | | | | | | | | |
|-------|---|-------|---|--------|---|-------|---|-------|---|-----|
| INPUT | : | Y-Lv | : | Blk-Lv | : | Pb-Lv | : | Pr-Lv | : | 3/3 |
| CLIP | : | =1019 | : | =4 | : | =500 | : | =500 | : | |

18-5. Safety Area Markers

Various markers indicating the safety area, the center of the screen, and the aspect ratio can be displayed on the desired output.

- (1) Press the **MENU** button, then press the **7/SETUP** button to display the SETUP top menu. Turn **F1** to select **OUTPUT**, then press **F1** or the **PAGE DOWN** button to open the [SETUP-OUTPUT] menu.
- (2) Turn **F1** to select **MARKER**, then press **F1** or the **PAGE DOWN** button to open the [SETUP-OUTPUT-MARKER] menu.
- (3) Turn **F1** to select a video output.

| | |
|-----------------|--|
| PGM | (Program Out) |
| AUX1 and AUX2 | (AUX1 Out and AUX2 Out) |
| C-Ch1 and C-Ch2 | (Ch1 Out and Ch2 Out on the option slot C) |
| D-Ch1 and D-Ch2 | (Ch1 Out and Ch2 Out on the option slot D) |
- (4) Turn **F2** to set the Marker function to **ON**.

| | | | | | |
|--------|----------|----------|----------|-------------|-----|
| OUTPUT | : SELECT | : ENABLE | : MARKER | : SI DECUT: | 1/2 |
| MARKER | : =AUX1 | : =ON | : =BOX | : =OFF | : |

◆ Safety Area Marker

To display the safety area marker in the selected output, first select the type of marker under the MARKER item in the [SETUP-OUTPUT-MARKER] menu from BOX and HOOK. (See the figures in the bottom of the page.) Then go to PAGE 2, select an aspect ratio and set the marker size.

| | | | | | |
|--------|----------|----------|----------|-------------|-----|
| OUTPUT | : SELECT | : ENABLE | : MARKER | : SI DECUT: | 1/2 |
| MARKER | : =AUX1 | : =ON | : =BOX | : =OFF | : |

| | | | | | |
|--------|----------|--------|----------|---|-----|
| OUTPUT | : ASPECT | : SIZE | : CENTER | : | 2/2 |
| MARKER | : =16:9 | : =85% | : =ON | : | : |

◆ Center Marker

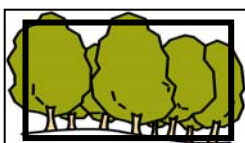
To display the center marker in the selected output, set the **CENTER** item to **ON** in the PAGE 2 of the [SETUP-OUTPUT-MARKER] menu. (See the figures in the bottom of the page.)

| | | | | | |
|--------|----------|--------|----------|---|-----|
| OUTPUT | : ASPECT | : SIZE | : CENTER | : | 2/2 |
| MARKER | : =16:9 | : =85% | : =ON | : | : |

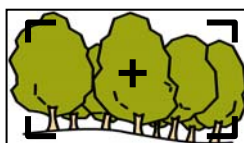
◆ Side Cut Display

To display the Side Cut image converting the aspect ratio from 16:9 to 4:3, select the display type under the **SIDECUT** item. Available types are **LINE**, **BLACK** and **HALF**. (See the figure in the bottom of the page.)

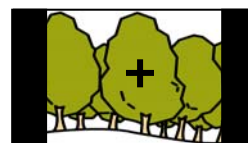
| | | | | | |
|--------|----------|----------|----------|-------------|-----|
| OUTPUT | : SELECT | : ENABLE | : MARKER | : SI DECUT: | 1/2 |
| MARKER | : =AUX1 | : =ON | : =OFF | : =BLACK | : |



MARKER: BOX
ASPECT: 16:9
SIZE: 85%



MARKER: HOOK
ASPECT: 16:9
SIZE: 85%
CENTER: ON



MARKER: OFF
SIDECUT: BLACK
CENTER: ON

18-6. Ancillary Data

The switcher allows you to substitute or blank the ancillary data in the Program (Clean) and Preview video. The current ancillary data in the video stream are once cleared and then the substitute data is inserted, if set in the menu. Where the substitute data comes from can be selected in the [SETUP-OUTPUT- ANCI] menu.

The switcher can be also set to pass or blank the ancillary data in the AUX outputs.

Ancillary data in input video cannot be passed through if **FS** (input frame synchronizer) is set to **ON** or **RESIZE** is enabled. To pass ancillary data, input the video synchronized with the genlock signal and set **FS** to **OFF**. Be sure to that ancillary data in SD inputs cannot be used when the switcher operates in HD mode.

18-6-1. PROGRAM (CLEAN) Output

The procedure below shows how to set to blank or substitute the ancillary data by using the [SETUP-OUTPUT-ANCI] menu.

◆ Setting to Blank the Ancillary Data (Default setting)

Turn **F1** to set **PGM SWAP** to **OFF**.

| | | | | | | |
|--------|---|--------------|--------|--------------|---|-----|
| OUTPUT | : | PGM SWAP | : | PREV SW: | : | 1/1 |
| ANCI | : | = OFF | Lv=50: | = OFF | : | : |

◆ Selecting the Substitute Ancillary Data

Turn **F1** to specify where the ancillary data to be inserted comes from. The options are AUX1, AUX2 and AUX3.

Turn **F2** to select the point where the new data is inserted from 1-100. If set to **50**, the new data is inserted at the halfway point of the transition.

| | | | | | | |
|--------|---|---------------|-----------------|--------------|---|-----|
| OUTPUT | : | PGM SWAP | : | PREV SW: | : | 1/1 |
| ANCI | : | = AUX1 | Lv= 50 : | = OFF | : | : |

The same ancillary setting for PGM is applied for CLEAN output.

18-6-2. PREVIEW Output

The procedure below shows how to set to pass or blank the ancillary data by using the [SETUP-OUTPUT-ANCI] menu.

◆ Setting to Blank the Ancillary Data (Default setting)

Turn **F3** to set **PREV SWAP** to **OFF**.

| | | | | | | |
|--------|---|--------------|--------|--------------|---|-----|
| OUTPUT | : | PGM SWAP | : | PREV SW: | : | 1/1 |
| ANCI | : | = OFF | Lv=50: | = OFF | : | : |

◆ Selecting the Substitute Ancillary Data

Turn **F3** to specify where the ancillary data to be inserted comes from. The options are AUX1, AUX2 and AUX3.

| | | | | | | |
|--------|---|--------------|--------|---------------|---|-----|
| OUTPUT | : | PGM SWAP | : | PREV SW: | : | 1/1 |
| ANCI | : | = OFF | Lv=50: | = AUX1 | : | : |

18-6-3. AUX Output

Open the [SETUP – OUTPUT – AUX XPT] menu. Choose an AUX output at **SELECT**. Then select **ON** (pass) or **OFF** (blank).

```
OUTPUT : SELECT : XPT : CTRL : ANCI : 1/2
AUX XPT : =AUX1 : =BLACK: =ON : =OFF :
```

18-7. Setting Date and Time

- (1) Press the **MENU** button, then press the **7/SETUP** button to display the SETUP top menu. Turn **F1** to select **SYSTEM**, then press **F1** or the **PAGE DOWN** button to open the [SETUP-SYSTEM] menu.
- (2) Turn **F1** to select **TIME**, then press **F1** or the **PAGE DOWN** button to open the [SETUP - SYSTEM - TIME] menu.

```
SETUP : >FORMAT >REF I/O >ARCNET >ETHERNET
SYSTEM : >TIME >INIT >REBOOT
```

- (3) If you need to change the date, turn **F1** to select Month, Day or Year, then turn **F1** to change the setting.
- (4) If you need to change the time, turn **F3** to select Hour, Minute or Second, then turn **F3** to change the setting.

```
SYSTEM : DATE(mm/dd/yy): TIME[10: 20: 10] : 1/1
TIME : =Feb/27/10 : =10: 20: 20 :
```

18-8. Buzzer, Brightness and Screen Saver

The brightness of the display and buttons on the control panel and the volume of the buzzer can be adjusted in the menu. You can also set the start time of the screen saver shown on the menu display.

- (1) Press the **MENU** button, then press the **7/SETUP** button to display the SETUP top menu. Turn **F1** to select **PANEL**, then press **F1** or the **PAGE DOWN** button to open the [SETUP-PANEL] menu.

```
SETUP : >UTILITY >TRS CTRL>KEY CTRL>USER BTN
PANEL :
```

- (2) Turn **F1** to select **UTILITY**, then press **F1** or the **PAGE DOWN** button to open the [SETUP-PANEL-UTILITY] menu.

```
PANEL : BUZZER : BRIGHT : S-SAVER: LOGO : 1/1
UTILITY : =OFF : =8 : =1 : =OFF :
```

- Buzzer: The BUZZER item sets the volume of the buzzer.
- Brightness: The BRIGHT item sets the brightness of the display and buttons on the control panel.
Setting range: 7-8 (when OU version is 01-00)
Setting range: 1-8 (when OU version is 01-01 and higher)
- Screen saver: The S-SAVER item sets the start time of the screen saver in minutes. Set to **OFF** if you do not want to use the screen saver.
- Logo The LOGO item sets the Hanabi logo mark to turn on of off.

19. Reboot and Initialize

19-1. Rebooting System

- (1) Press the **MENU** button, then press the **7/SETUP** button to display the SETUP top menu.
- (2) Turn **F1** to select **SYSTEM**, then press **F1** or the **PAGE DOWN** button to open the [SETUP-SYSTEM] menu.
- (3) Turn **F1** to select **REBOOT**. Press the **ENT/STORE** button in the MENU/DIRECT PATT/EVENT/KEYPAD block to reboot the system.

```
SETUP   : >FORMAT  >REF I/O >ARCNET  >ETHERNET
SYSTEM  : >TIME    >INIT    >REBOOT
```

19-2. System Initialization

To initialize the system settings, follow the procedure below.

- (1) Press the **MENU** button, then press the **7/SETUP** button to display the SETUP top menu.
- (2) Turn **F1** to select **SYSTEM**, then press **F1** or the **PAGE DOWN** button to open the [SETUP-SYSTEM] menu.
- (3) Turn **F1** to select **INIT**, then press **F1** or the **PAGE DOWN** button to display the [SETUP-SYSTEM-INIT] menu.

```
SETUP   : >FORMAT  >REF I/O >ARCNET  >ETHERNET
SYSTEM  : >TIME    >INIT    >REBOOT
```

- (4) Turn **F1** to select **SETUP(expSYS)**, then press **F1** to initialize the switcher setup data except the system data.

```
SYSTEM  :  INIT          :  LOAD   :          : 1/1
INIT    : >CURRENT      : =LAST :          :
```

CURRENT: Resets settings for the background, KEYER, PinP, DSK and MATT.
SETUP(expSYS): Resets the SETUP menu except [SETUP-SYSTEM] menu.
CUR&SETUP: Resets settings including CURRENT and SETUP(expSYS) above.
FACTORY: Resets settings including CUTTENT and SETUP including [SETUP-SYSTEM] menu.

See section 4-3. "How to Return Settings to Default" for initializing menus.
See section 16-5. "Loading Event at Start-up" for how to load the desired settings at system startup.

20. Interface Settings

20-1. GPI Control

The switcher can control external devices or can be controlled by external devices via the GPI interface. The GPI input and output functions are freely assignable to 12 pins of GPI IN/TALLY OUT connector. The pin assignments are made in the [SETUP- EXT I/F-GPI I/O] menu as shown below.

NOTE

See section 2-5-3. "GPI IN/TALLY OUT Connector" for the default pin assignment for the connector.

- (1) Press the **MENU** button, then press the **7/SETUP** button to display the SETUP top menu.
- (2) Turn **F1** to select **EXT I/F**, then press **F1** or the **PAGE DOWN** button to open the [SETUP-EXT I/F] menu.

```
SETUP   : >SYSTEM >INPUT >OUTPUT >PANEL
MENU    : >EXT I/F >STATUS
```

- (3) Turn **F1** to select **GPI I/O**, then press **F1** or the **PAGE DOWN** button to open the [SETUP-EXT I/F-GPI I/O] menu.

```
SETUP   : >RS-422 >EDITOR >TLY COL >GPI I/O
EXT I/F : >TALLY1 >TALLY2 >30TALR
```

- (4) Turn **F2** to select the pin number at **P NO**.
- (5) Turn **F3** to select the function to be assigned. (See the tables "GPI IN function" and "GPI OUT function" in the following page for available functions.)

```
EXT I/F : ENABLE : P NO : FUNCTION : 1/1
GPI I/O : =ON    : =1   : =In: BKGD AUTO TRANS
```

- (6) Set **ENABLE** to **ON** when using the GPI IN functions.

NOTE

The GPI IN ENABLE function can be assigned to a USER button. Once this function is assigned, pressing the USER button repeatedly toggles between GPI IN ON (button lit) and GPI IN OFF (button unlit). Pressing the USER button twice quickly opens the GPI I/O menu. See section 5. "USER Button" for how to assign the function to USER button.

The tally signals can be output from the GPI IN/TALLY OUT connector. See section 20-2-2. "Tally Output Settings (GPI IN/TALLY OUT)."

◆ **GPI IN function**

| FUNCTION setting | Description |
|---------------------|--|
| BKGD AUTO TRANS | Performs Background AUTO transition. |
| KEYER AUTO TRANS | Performs KEYER AUTO transition. |
| DSK AUTO TRANS | Performs DSK AUTO transition. |
| PinP1 AUTO TRANS | Performs PinP1 AUTO transition. |
| PinP2 AUTO TRANS | Performs PinP2 AUTO transition. |
| NEXT AUTO TRANS | Performs the NEXT AUTO TRANSITION set in the transition section. |
| BLACK AUTO TRANS | Performs BLACK transition. |
| BKGD CUT TRANS | Performs Background CUT transition. |
| KEYER CUT TRANS | Performs KEYER CUT transition. |
| DSK CUT TRANS | Performs DSK CUT transition. |
| PinP1 CUT TRANS | Performs PinP1 CUT transition. |
| PinP2 CUT TRANS | Performs PinP2 CUT transition. |
| TRANS-TYPE BK-WIPE | Changes the background transition type to WIPE. |
| TRANS-TYPE BK-MIX | Changes the background transition type to MIX. |
| TRANS-TYPE BK-CUT | Changes the background transition type to WIPE. |
| TRANS-TYPE KEY-WIP | Changes the KEYER transition type to WIPE. |
| TRANS-TYPE KEY-MIX | Changes the KEYER transition type to MIX. |
| TRANS-TYPE KEY-CUT | Changes the KEYER transition type to CUT. |
| TRANS-TYPE DSK-MIX | Changes the DSK transition type to MIX. |
| TRANS-TYPE DSK-CUT | Changes the DSK transition type to CUT. |
| USER BUTTON1 to 6 | Performs the function assigned to USER button 1 to 6. |
| STILL STORE1 to 2 | Performs still store. |
| XPT PGM BLACK | Selects BLACK for the PGM bus. |
| XPG PGM IN01 to 12 | Selects a primary input (IN01 to 12) for the PGM bus. |
| XPT PGM STILL1 to 2 | Selects a still (STILL1 to 2) for the PGM bus. |
| XPT PGM MATT | Selects MATT for the PGM bus. |
| XPT PGM COLORBAR | Selects the color bar for the PGM bus. |
| XPT PST BLACK | Selects BLACK for the PST bus. |
| XPG PST IN01 to 12 | Selects a primary input (IN01 to 12) for the PST bus. |
| XPT PST STILL1 to 2 | Selects a still (STILL1 to 2) for the PST bus. |
| XPT PST MATT | Selects MATT for the PST bus. |
| XPT PST COLORBAR | Selects the color bar for the PST bus. |

◆ **GPI OUT function**

| FUNCTION setting | Description |
|--------------------|--|
| NOT USED | No function assigned |
| GPI OUTPUT01 to 12 | These functions are used in conjunction with USER buttons (GPI OUTPUT1 to 12 Push/Toggle). Push: Continues to output GPI pulses while the button is pressed. Toggle: Toggles GPI pulse On/Off. |
| BKGD TRANS STS | Outputs pulse while background transition is processed. |
| KEYER TRANS STS | Outputs pulse while KEYER transition is processed. |
| DSK TRANS STS | Outputs pulse while DSK transition is processed. |
| BKGD AUTO TRANS | Outputs pulse while background AUTO transition is processed. |
| KEYER AUTO TRANS | Outputs pulse while KEYER AUTO transition is processed. |
| PinP1 AUTO TRANS | Outputs pulse while PinP1 AUTO transition is processed. |
| PinP2 AUTO TRANS | Outputs pulse while PinP2 AUTO transition is processed. |

20-2. Tally Output

The tally information can be output from the GPI IN/TALLY OUT connector. See section 20-2-2. "Tally Output Settings (GPI IN/TALLY OUT)" for details about setting.

Tally outputs can be expanded by installing HVS-30TALR cards (optional). See section 20-2-3. "Tally Output Settings (HVS-30TALR)".

The tally information can be also output via the Tally Unit (the Hanabi series option). In this case the RS-422 connector is used for connection to tally units. See section 20-2-4. "Sending Tally Signals to Tally Units" and section 20-2-5. "Connection Settings with Tally Units (RS-422 port setting)."

20-2-1. Tally Color Setting

- (1) Display the [SETUP- EXT I/F -TALLY COLOR] menu.
- (2) Turn **F1** to select **PGM** and turn **F2** to select a color for the PGM bus. Select colors for the PST and AUX buses in the same way.

| | | | |
|--------------------------|----------------|---|-------|
| EXT I / F : SELECT : | COLOR : | : | 1 / 1 |
| TLY COL : = PGM : | = RED : | : | : |

The Tally Color settings made in this menu are shared with those for the GPI/TALLY OUT connector, TALLY OUT connector (HVS-30TALR) and the Tally Units.

20-2-2. Tally Output Settings (GPI IN/TALLY OUT)

The tally assignments to the connector pins are made in the TALLY COLOR and GPI I/O submenus in the [SETUP- EXT I/F] menu as shown below. See section 2-5-3. "GPI IN/TALLY OUT Connector" for the default pin assignments of the connector.

- (1) Set up the tally colors in the [SETUP- EXT I/F-TALLY COLOR] menu. (See section 20-2-1. "Tally Color Setting".)
- (2) Select **GPI I/O** in the [SETUP-EXT I/F] menu, and then press **F1** or **PAGE DOWN** to display the [SETUP – EXT I/F-GPI I/O] menu.

| | | | | | |
|-----------|---|---------|----------|----------|------------------|
| SETUP | : | >RS-422 | >EDI TOR | >TLY COL | > GPI I/O |
| EXT I / F | : | >TALLY1 | >TALLY2 | >30TALR | |

- (3) Turn **F2** to select the pin number at **P NO**.
- (4) Turn **F3** to select a tally to be assigned at **FUNCTION**. (See the table "TALLY function" below.)
- (5) Set **Enable** to **ON** to enable all tally outputs of the GPI IN/TALLY OUT connector.

| | | | | |
|----------------------|--------|----------|----|------------------------|
| EXT I / F : ENABLE : | P NO : | FUNCTION | : | 1 / 1 |
| GPI I / O : | =ON | : | =1 | : =In: BKGD AUTO TRANS |

◆ **TALLY function**

| FUNCTION setting | Description |
|----------------------------|---|
| KEYER ON TALLY | Outputs tally signal when KEYER is on the PGM video. |
| DSK ON TALLY | Outputs tally signal when DSK is on the PGM video. |
| PinP1 ON TALLY | Outputs tally signal when PinP1 is on the PGM video. |
| PinP2 ON TALLY | Outputs tally signal when PinP2 is on the PGM video. |
| FAN ERROR ALARM | Outputs fan alarm. |
| PS ERROR ALARM | Outputs power alarm (HVS-300RPS only) |
| RED TALLY-BLACK | Outputs red tally when the specified signal is sent to the red (tally color) bus. |
| RED TALLY-IN01 to IN12 | |
| RED TALLY-STIL1 to STIL2 | |
| RED TALLY-MATT | |
| RED TALLY-PGM | |
| RED TALLY-PREV | |
| RED TALLY-CLN | |
| GREEN TALLY-BLACK | Outputs green tally when the specified signal is sent to the green (tally color) bus. |
| GREEN TALLY-IN01 to IN12 | |
| GREEN TALLY-STIL1 to STIL2 | |
| GREEN TALLY-MATT | |
| GREEN TALLY-PGM | |
| GREEN TALLY-PREV | |
| GREEN TALLY-CLN | |
| KEYER ON TALLY | Outputs tally signal when KEYER is on the PGM video. |
| DSK ON TALLY | Outputs tally signal when DSK is on the PGM video. |
| PinP1 ON TALLY | Outputs tally signal when PinP1 is on the PGM video. |
| PinP2 ON TALLY | Outputs tally signal when PinP2 is on the PGM video. |

◆ **Tally Control Example**

The setting example in the table below shows how to make tally settings in the following conditions. Pin1-4 send on-air tallies and Pin5-8 send Next tallies. This example is also useful to monitor video sources on the AUX buses and to know which source is On-Air or set to Next by using Pin11 and 12.

Conditions

- RED tally is used for the On-Air indication (PGM bus)
- GREEN tally is used for the indication of next background transition (PST bus).
- Pin1-4 output RED tallies for IN01-IN04 respectively.
- Pin5-8 output GREEN tallies for IN01-IN04 respectively.
- Pin11 outputs RED tally (same as PGM tally) for AUX1.
- Pin12 outputs GREEN tally (same as PST tally) for AUX2.

Menu Setting

| Menu | Items | Setting | Item | Setting |
|-------------|--------|---------|----------|--------------------------------------|
| TALLY COLOR | SELECT | PGM | COLOR | RED |
| | SELECT | PST | COLOR | GREEN |
| | SELECT | AUX1 | COLOR | RED |
| | SELECT | AUX2 | COLOR | GREEN |
| GPI I/O | P NO | 1 to 4 | FUNCTION | RED TALLY IN01 to RED TALLY IN04 |
| | P NO | 5 to 8 | FUNCTION | GREEN TALLY IN01 to GREEN TALLY IN04 |
| | P NO | 11 | FUNCTION | AUX1 SIGNAL = RED TALLY |
| | P NO | 12 | FUNCTION | AUX2 SIGNAL = GREEN TALLY |

20-2-3. Tally Output Settings (HVS-30TALR)

Up to two cards of HVS-30TALR (Tally Output Expansion Card) can be installed to the HVS-300HS/RPS. Each card has 18 channels, therefore up to 36 channels (two cards) available for tally output. See section 2-5-4 "TALLY OUT Connector (HVS-30TALR)" for the default pin assignments of the connector.

(1) Set up the tally colors in the [SETUP- EXT I/F-TALLY COLOR] menu. (See section 20-2-1. "Tally Color Setting".) Tally color settings are common with other tally modules such as the GPI IN/TALLY OUT connector.

(2) Display the [SETUP- EXT I/F - 30TALR] menu.

```

SETUP   : >RS-422  >EDITOR  >TLY COL >GPI I/O
EXT I/F : >TALLY1  >TALLY2  >30TALR
    
```

```

EXT I/F : ENABLE : P NO : FUNCTION           : 1/1
30TALR  : =ON    : =1-1: =Out: RED TALLY-IN01
    
```

(3) Turn **F2** to select a channel at **P NO**.

Channels are specified as follows: [Card number]-[Channel number]. For example, "1-10" represents the 10th channel of Card 1. See "Card Number of HVS-30TALR" below.

(4) Turn **F3** to select a tally to be assigned at **FUNCTION**. See the table "TALLY function." (p97)

(5) Set **Enable** to **ON** to enable all tally outputs of the TALLY OUT connector.

NOTE

The HVS-30TALR cards can send GPI outputs. To output GPI signals, select the desired GPI function under **FUNCTION**. See section 20-1 "GPI Control" for details.

◆ Card Number of HVS-30TALR

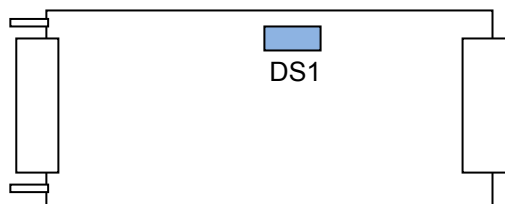
The card number, Card1 or Card2, is chosen by the internal dip switch (DS1) on the HVS-30TALR card.

If set to Card1:

DS1-1: **ON**
DS1-2: **OFF**

If set to Card2:

DS1-1: **OFF**
DS1-2: **ON**



HVS-30TALR card

* DS1-3 to DS1-8 are all set to OFF, do not change the settings.

20-2-4. Sending Tally Signals to Tally Units

The tally assignments to the Tally Units are made in the TALLY COLOR, TALLY1 and TALLY2 submenus in the [SETUP- EXT I/F] menu as shown below.

- (1) Set up the tally colors in the [SETUP- EXT I/F-TALLY COLOR] menu. (See section 20-2-1. "Tally Color Setting".) Tally color settings are common with other tally modules such as the GPI IN/TALLY OUT connector.
- (2) Display the [SETUP-EXT I/F-TALLY1 (or TALLY2)] menu.
- (3) Turn **F2** to select the pin number at **P NO.**
- (4) Turn **F3** to select a tally at **FUNCTION.** See the table "TALLY function." (p97)
- (5) Turn **F1** to set **ENABLE** to **ON** to enable TALLY Unit 1 (or 2).

| |
|--|
| EXT I /F : ENABLE : P NO : FUNCTION : 1/1 |
| TALLY1 : = ON : = 1 : = TALLY RED I N01 |

| |
|--|
| EXT I /F : ENABLE : P NO : FUNCTION : 1/1 |
| TALLY2 : = ON : = 1 : = TALLY GREEN I N01 |

| |
|---|
| The setting procedure for TALLY2 is the same as for TALLY1. See HVS-TALOC/TALR operation manual for details about tally connection and operation. |
|---|

20-2-5. Connection Settings with Tally Units (RS-422 port setting)

Up to two tally units are connected in series to the switcher via RS-422 connector. The connection settings with Tally Units are made in the [SETUP - EXT-IF-RS-422] menu as shown below.

- (1) Open the [SETUP-EXT I/F-RS-422] menu.

| |
|--|
| EXT I /F : SELECT : FUNC : BAUDRAT: PARI TY : 1/1 |
| RS-422 : = RS422 : = TALLY : =38400: = EVEN : |

- (2) Turn **F1** to select **RS422**.
- (3) Turn **F2** to select **TALLY**. Set the parity to **EVEN**. The baud rate is automatically set according to the tally unit.
- (4) Restart HVS-300HS/RPS. (See section 19-1. "Rebooting System".)

20-3. Editor Control (Option)

The switcher can be controlled from an editor. See section 20-3-1."Editor Control Settings" for controlling the editor and section 20-3-2 "Connection Settings with Editor (EDITOR port setting)" for editor connection.

The HVS-30ED software option is required for editor control.

20-3-1. Editor Control Settings

(1) Open the [SETUP-EXT I/F-EDITOR] menu.

```

SETUP   : >RS-422  >EDITOR  >TLY COL >GPI I /O
EXT I /F : >TALLY1  >TALLY2
    
```

(2) Select a protocol at **TYPE** between BVS3K and GVG100.

(3) Set **ENABLE** to **ON** to enable the editor control. (The Editor Control On/Off function can be assigned to USER button. See section 5. "USER Button.")

```

EXT I /F : TYPE   : ENABLE : SELECT : WI PE : 1 /2
EDI TOR  : =BVS3K: =ON   : =ME    : =NORML:
    
```

(4) If BVS3K (BVS-3000) is used, the bus to be controlled from the editor must be specified. Refer to the table below to set the bus under the **SELECT** item. If PREV, PREV ON or ALL is set, AUX1 will be the edit preview bus and whose crosspoint number is 35. Set your editor accordingly.

| Setting | Description |
|---------|---|
| ME | Controls the M/E bus when ENABLE is ON. |
| PREV | Controls the preview bus when ENABLE is ON. |
| ALL | Controls both M/E bus and preview bus when ENABLE is ON. |
| ME ON | Always controls the M/E bus regardless of ENABLE setting. Controls both M/E bus and preview bus when ENABLE is ON. |
| PREV ON | Always controls the preview bus regardless of ENABLE setting. Controls both M/E bus and preview bus when ENABLE is ON. |

(5) If GVG-100 is used, select the pattern control mode between two below at **WIPE**.

| Setting | Description |
|---------|--|
| NORMAL | Same wipe pattern numbers (0-99) as in the switcher are used in the editor. (default setting) |
| LIST | Ten wipe patterns saved to Direct Pattern memory are used in the editor as Direct Pattern No.90-99. (GVG-100 only) |

(6) Press the **PAGE DOWN** button to go to PAGE2.

```

EXT I /F : XPT CTL: WIP CTL: KEY CTL:           : 2 /2
EDI TOR  : =I NPUT: =ON   : =ON   :           :
    
```


(7) Select the crosspoint control mode between two below at **XPT CTL**.

| | |
|--------|---|
| INPUT | Specify a signal by using the input number from the editor. (Default setting) |
| BUTTON | Specify a signal by using the button number from the editor. |

| BUTTON | |
|--------------|---------------|
| Selected bus | Button number |
| 1-24 | 1-24 |

| INPUT | |
|--------------|---------------|
| Input number | Source signal |
| 0 | BLACK |
| 1-12 | IN01-IN12 |
| 27 | COLOR BAR |
| 29-30 | STILL1-2 |
| 33 | MATT |

(8) Set to enable/disable the wipe pattern control under the **WIP CTL** item.

(9) Set to enable/disable the KEYER control under the **KEY CTL** item. (Be careful that in this case KEYER will not be automatically OFF when ALL STOP is received in the switcher.)

20-3-2. Connection Settings with Editor (EDITOR port setting)

The connection settings with an editor are made in the [SETUP - EXT-IF-RS-422] menu as shown below.

(1) Open the [SETUP-EXT I/F-RS-422] menu.

| |
|--|
| EXT I / F : SELECT : FUNC : BAUDRAT: PARI TY : 1/1 |
| RS-422 : =EDI TR: =EDI T : =38400: =ODD : |

(2) Turn **F1** to select EDITR (EDITOR).

(3) Turn **F2** to select EDIT (EDITOR)

(4) Turn **F3** to select the baud rate. (It is normally not necessary to change this.)

(5) Turn **F4** to select the parity. (It is normally not necessary to change this.)

20-4. Network Settings

20-4-1. Arcnet

◆ Connecting HVS-300U to the Main Unit (HVS-300HS or HVS-300RPS)

For the main unit (hereafter MU) and HVS-300U (hereafter OU) to communicate, use the BNC cable to connect an Arcnet port of each unit. If you want to connect other devices to the Arcnet, use the other Arcnet port of the switcher or the control panel. If either or both of them are the last device in the network, the other port has to be 75 ohm terminated. Refer to section 3-2 "Optional Configuration" for Arcnet configuration and operation manual for Hanabi Auxiliary unit.

◆ ARCNET Menu

The factory default settings for the ARCNET are shown in the table below. Change ARCNET settings only when necessary. The settings can be made in the [SETUP-SYSTEM-ARCNET] menu.

| | | | | |
|-----------|---------|---|------------------|---------|
| EXT I/F : | OU ID : | : | CTRL MU: GROUP : | 1/2 |
| ARCNET : | = 1 : | : | =250 : | =300HS: |

| | | | | |
|-----------|---------|---|---|-----|
| EXT I/F : | MU ID : | : | : | 2/2 |
| ARCNET : | =250 : | : | : | : |

| Item | Description | Default setting | Setting range |
|---------|---|-----------------|-------------------------|
| OU ID | Sets Arcnet ID for the OU. | 1 | 1-255 |
| CTRL MU | Selects Arcnet ID of the MU controlled by the OU. | 250 | 1-255 |
| MU ID | Sets Arcnet ID for the MU. | 250 | 1-255 |
| GROUP | Selects a network group of the switcher system connected from the OU. | 300HS | 300HS 350HS 390HS |

If you are configuring one each MU and OU via ARCNET, connect them by using the BNC connector and leave them to factory default set ID numbers (250 and 1 respectively).

Turning **F2** displays the accessible MU ID(s) under the **CTRL MU ID** item in the menu. Select the MU for control. If you want to disconnect the MU from the OU on the Arcnet, select **---** in the **CTRL MU ID** block.

◆ Changing ID of MU

If you want to change the MU ID, connect the MU to the OU and disconnect other devices from the network. Power on both MU and OU and change the MU ID. Turn all units power off, re-connect all the units in the system and turn the system power back on to re-configure the network. Note that new ID will not be valid until units are powered ON again.

◆ Adding ARCNET devices to the Arcnet LAN

If you want to connect other arcnet devices to the MU and the OU, additional connection cables are required and the network should be configured again. Consult your FOR-A resellers for more details.

Be careful not to use the same ARCNET ID for two different units. If ARCNET ID conflict has occurred and network communication fails, turn unit power OFF at one of the units in conflict and disconnect it from the network. Power on the conflicting unit and change the ID to a valid network ID. Note that new ID will not be valid until units are powered ON again.

| |
|--|
| <p>Before downloading system data from an installed memory card, verify ARCNET ID currently assigned to OU and MU for operation is the same as in the data being downloaded. If a conflicting ARCNET ID (one assigned to another OU or MU in the network) is downloaded and applied, network operation will fail after download is complete.</p> |
|--|

20-4-2. Ethernet

The Ethernet connection is used for connecting HVS-30GUI, the control software connection or transferring image data. (See section 20-5. "Image Data Transfer.")

◆ Connecting to LAN

Use the twisted pair, Category 5 (UTP) cable (straight-through type) to connect the main unit (MU) to LAN. If connecting the MU to a PC directly, use the cross-connect type cable.

◆ IP Address, Net mask and Default Gateway Setting

Open the [SETUP-SYSTEM-ETHERNET] menu. The default settings for IP address, Net mask and Default Gateway are as shown below.

| | | | | | |
|-----------|------------------|------------|---|---|-----|
| SYSTEM | : | IP ADDRESS | : | : | 1/4 |
| ETHERNET: | =192.168.000.010 | : | : | : | : |

| | | | | | |
|-----------|------------------|----------|---|---|-----|
| SYSTEM | : | NET MASK | : | : | 2/4 |
| ETHERNET: | =255.255.255.000 | : | : | : | : |

| | | | | | |
|-----------|------------------|-----------------|---|---|-----|
| SYSTEM | : | DEFAULT GATEWAY | : | : | 3/4 |
| ETHERNET: | =192.168.001.001 | : | : | : | : |

◆ Changing IP Address, Net mask and Default Gateway

- (1) Open the IP address page (or the net mask page).
- (2) Press **F1**.
- (3) The first octet (192 in the IP address example above) will be highlighted.
- (4) Turn **F1** to change the number.
- (5) Press **F1**.
- (6) The second octet (168 in the IP address example above) will be highlighted.
- (7) Repeat (4) and (5) to change the IP address.
- (8) Reboot the main unit. (See section 19-1. "Rebooting System.")

IMPORTANT

You should consult your network administrator before connecting the HVS-300 series to the LAN.

◆ MAC Address

The MAC address of the network card is displayed in PAGE4.

| | | | | | |
|-----------|-------------------|-------------|---|---|-----|
| SYSTEM | : | MAC ADDRESS | : | : | 4/4 |
| ETHERNET: | 00-00-00-00-00-00 | : | : | : | : |

20-5. Image Data Transfer

The HVS-300HS series can send and receive image data through an Ethernet. The FTP protocol is used for transferring files between the switcher and the computer. The main unit works as an FTP server.

20-5-1. Setup Before Connection

◆ PC Requirements

An Ethernet port (10BASE-T) and FTP client function are required for the personal computer. Any types of computer or OS can be used. In this section the Windows 7 or XP installed PC is used as an example.

◆ Available Image files

Image File Format: JPEG and TARGA (See the table below.)

Image Size: Less than 1920x1080 [pixels]

File Name Format: (any file name).jpg and (any file name).tga

Use the three-letter extension after the period. Any length of any characters can be used for file names.

| File Format | Description | Limitation (unavailable data) |
|-------------|-----------------------|---|
| JPG | JPEG Compression data | Grey-scale image data |
| TGA | TARGA data | RLE compression data Data with Alpha channel |

◆ Still Directory Structure in the Main Unit

| | | | |
|----------|-------------|-----------|---|
| (Root) — | +(still1) — | still.jpg | Used for saving STILL1 images in JPEG and TGA format. To send an image file to the switcher, specify this directory. |
| | | still.tga | |
| | +(still2) — | still.jpg | Used for saving STILL2 images in JPEG and TGA format. To send an image file to the switcher, specify this directory. |
| | | still.tga | |

◆ Network Setting

| | | |
|-------------|--------------------------|-----------|
| IP Address | 192. 168.0.10 (default) | Main unit |
| Subnet mask | 255. 255. 255.0(default) | |

| | | |
|-------------|---|----------|
| IP Address | 192. 168.0.1 to 192. 168.0.254 (Do not set the same IP as the main unit) | Computer |
| Subnet mask | 255. 255. 255.0 | |

Refer to the procedure below to open the setting dialog and change the computer network settings, if necessary.

Setting the IP Address in Windows 7

Go to **Start >> Control Panel >> Network and Internet >> Network and Sharing Center** and then click **Change adapter settings**. Right-click the **Local Area Connection** icon and choose **Properties**. Click the **Internet Protocol Version 4(TCP/IPv4)** check box, and click **Properties**.

Setting the IP Address in Windows XP

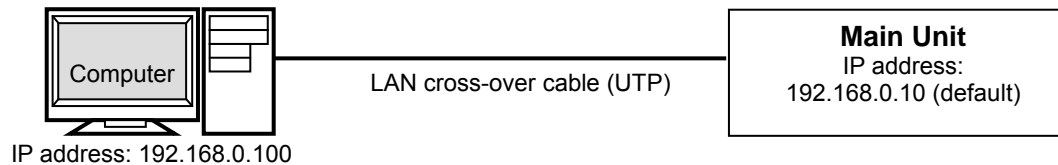
Go to **Start > My Network Places**. Right-click **My Network Places**, and choose **Properties**. Right-click the **Local Area Connection** icon and choose **Properties**. Select the **Internet Protocol (TCP/IP)** check box, and click **Properties**.

NOTE

The setting example above is for connecting the computer and the main unit. Although you can change the IP address of the main unit, normally change the IP of the computer. See section 20-4-2. "Ethernet" for network setting in the main unit. If you want to connect the computer and the switcher to the existing LAN, be sure to consult the network administrator before connecting to the LAN and use suitable cables and settings.

20-5-2. Sending / Receiving Still Images

- (1) Connect between the Ethernet ports of PC and the Main Unit directly with a LAN cross-over cable (UTP).



- (2) Click on the Start button and then click on the Control Panel option.
- (3) Enable the passive mode as shown below.
 - (a) Click on **Network and Internet** (Windows 7) or **Network and Internet Connection** (Windows XP), then **Internet Options**.
 - (b) Click at the **Advanced** tab.
 - (c) Click to select the **Use Passive FTP (for firewall and DSL modem compatibility)** check box.
 - (d) Click **OK**.
- (4) Click on the Start button and then select My Computer (XP) or Computer (7).
- (5) Enter " **ftp://192.168.0.10** " in the address bar.
- (6) A dialog appears and asks you to input username and password. Enter them as shown below.

Username: **hvs300** (Username cannot be changed.)
Password: **fora** (Password cannot be changed.)

- (7) Once you have accessed the FTP server, **STILL1** and **STILL2** folders are displayed in the window.

NOTE

Use PING or other network commands for checking if any connection problem occurs.

◆ Uploading Images to the Switcher

- (1) Open the folder where your images are stored.
- (2) Select the image to be uploaded and drag and drop it to **STILL1** (or **STILL2**) folder of the FTP server. It takes about one minute to complete receiving data. Then display STILL1 (or STILL2) image in the monitor by operating the switcher to check that the still image is properly sent.

◆ Downloading Still Images from the Switcher

Open **STILL1** (or **STILL2**) folder of the FTP server. Select an image file to be downloaded. Drag and drop it to any folder of your computer.

21. Status Information

The STATUS menu indicates the current status of cooling fan, power and genlock and the version of hardware and software.

21-1. Checking Alarm Status

(1) Open the [SETUP-STATUS] menu. Turn **F1** to select **ALARM**, then press **F1** or the **PAGE DOWN** button to display the submenu.

```

SETUP   : >ALARM   >VERSI ON >OPTI ON
STATUS :
    
```

(2) The [SETUP-STATUS-ALARM] menu displays the current status of cooling fan, power and genlock as shown below.

◆ **Status Menu in HVS-300HS**

```

STATUS : FAN1: NOR   2: NOR   3: NOR   4: NOR   : 1/2
ALARM  : PS: NOR                      :
    
```

```

STATUS : GENLOCK: External Lock      : 2/2
ALARM  :                               :
    
```

| Item | Display | Description |
|-------------|---------------|---|
| FAN1 - FAN4 | NOR | Indicates that FAN works properly. |
| | ERR | Indicates that FAN fails. Power off the switcher and consult your FOR-A reseller. |
| PS | NOR | Indicates that POWER works properly. |
| | ERR | Indicates that POWER fails. Power off the switcher and consult your FOR-A reseller. |
| GENLOCK | External Lock | Indicates that the valid reference signal is present and video signals are properly locked to the reference signal. |
| | Internal Lock | Indicates that the reference signal is not present or its level is too low. The internal reference is used. |
| | Unlock | Indicates that the reference signal with a different format from the switcher is present. |

◆ **Status Menu in HVS-300RPS**

```

STATUS : FAN1: NOR   2: NOR                      : 1/2
ALARM  : PS1: NOR   2: NOR                      :
    
```

```

STATUS : GENLOCK: External Lock      : 2/2
ALARM  :                               :
    
```

| Item | Display | Description |
|------------|---------|---|
| FAN1, FAN2 | NOR | Indicates that FAN works properly. |
| | ERR | Indicates that FAN fails. Power off the switcher and consult your FOR-A reseller. |
| PS1, PS2 | NOR | Indicates that POWER works properly. |
| | ERR | Indicates that POWER fails. Power off the switcher and consult your FOR-A reseller. Indicates that POWER fails. Power off the switcher and consult your FOR-A reseller. |

| | | |
|---------|---------------|---|
| GENLOCK | External Lock | Indicates that the valid reference signal is present and video signals are properly locked to the reference signal. |
| | Internal Lock | Indicates that the reference signal is not present or its level is too low. The internal reference is used. |
| | Unlock | Indicates that the reference signal with a different format from the switcher is present. |

21-2. Verifying Version

To verify the version of software and FPGA firmware installed in the HVS-300HS, open the [SETUP-STATUS-VERSION] menu. Before upgrading the switcher, be sure to check the relevant version in this menu.

| | | | |
|---------|--------------------|-------------|-------|
| STATUS | : SOFT MU: v1.00.0 | OU: v1.00.0 | : 1/3 |
| VERSION | : FP: v1.00.0 | RU: v1.00.0 | : |

| | | | |
|---------|-------------------|-------------|-------|
| STATUS | : FPGA GL: v01-00 | SDI: v01-00 | : 2/3 |
| VERSION | : IN: v01-00 | OUT: v01-00 | : |

| | | | |
|---------|--------------------|------------|-------|
| STATUS | : FPGA DVE: v01-00 | OU: v01-00 | : 3/3 |
| VERSION | : | : | : |

| Item | Description |
|------------|---|
| SOFT MU | Displays the software version of HVS-300HS/RPS. |
| SOFT OU | Displays the software version of HVS-300OU. |
| SOFT FP/RU | Displays the software version of HVS-30FP/RU. |
| FPGA GL | Displays the FPGA version for Genlock card. |
| FPGA SDI | Displays the FPGA version for SDI card. |
| FPGA IN | Displays the FPGA version for IN card. |
| FPGA OUT | Displays the FPGA version for OUT card. |
| FPGA DVE | Displays the FPGA version for DVE card. |
| FPGA OU | Displays the FPGA version for HVS-300OU. |

21-3. Installed Options

To check the options installed to the switcher, open the [SETUP-STATUS-OPTION] menu. The menu shows the hardware and software option installed to the switcher as shown below.

| | | | | |
|--------|----------|-------------|----------|-------|
| STATUS | : SLOT-A | >HVS-30HSDI | : v01-00 | : 1/3 |
| OPTION | : SLOT-B | >HVS-30HSAI | : v01-00 | : |

| | | | | |
|--------|----------|-------------|----------|-------|
| STATUS | : SLOT-C | >HVS-30HSDO | : v01-00 | : 2/3 |
| OPTION | : SLOT-D | >HVS-30PCO | : v01-00 | : |

| | | | | |
|--------|------------|---------------|---|-------|
| STATUS | : HVS-30ED | >i nstal l ed | : | : 3/3 |
| OPTION | : | : | : | : |

22. Upgrading Operational Version

Consult your FOR-A supplier for upgrading your switcher.
 Before upgrading, check the current version of the software and firmware in the [SETUP-STATUS-VERSION] menu.

You will need to use the FILE special menu function to download and apply the operational software files in the USB flash memory. The files listed below contain the software upgrades for your switcher.

| | |
|--------------------------|---------------------|
| (HVS-300HS/RPS software) | PM8744XX.MCM |
| (HVS-300OU software) | PM8747XX.OCB |

22-1. How to Verify Version

Once upgrading the system, the setting data will be lost and return to factory default. Important setting data should be backed up by saving to the USB flash memory.

To upgrade your switcher, follow the procedure below:

| Step | Description | Refer to |
|------|--|----------|
| 1 | Save current setting data to the USB flash memory. | 17-3 |
| 2 | Upgrade the software | 22-2 |
| 3 | Reboot the switcher. | 19-1 |
| 4 | Initialize the switcher. | 19-2 |
| 5 | Load the setting data saved at step 1. | 22-3 |
| 6 | Reboot the switcher. | 19-1 |
| 7 | Turn power off then on at HVS-300OU | |

22-2. Upgrading HVS-300HS/RPS

- (1) Insert the USB flash memory that contains the upgrade data into the USB port.
- (2) Press the **MENU** button, then press the **9/FILE** button to open the FILE top menu.
- (3) Turn **F1** to select **UPDATE**, and then press **F1** or the **PAGE DOWN** button to open the [FILE-UPDATE] menu.

```
FILE      : >LOAD      >SAVE      >UPDATE
TOP       :
```

```
FILE      : EXT       : LOAD      : <DI R>      1/1
UPDATE    : =MCM     : =       : data       101MB
```

- (4) Turn **F1** to select **MCM** to the **EXT** (File Extension) item.
- (5) Turn **F3** to select an MCM file.
- (6) Press **F3** to start upgrading.

IMPORTANT

DO NOT turn power OFF at your units or try to remove the USB flash memory from the port until file download is complete!

- (6) In the [FILE-UPDATE] menu screen the pop-up status window appears showing the file transfer progress.
- (7) The lamp buttons on the panel will go dark after 30 seconds. (The data will start to be written to the switcher flash ROM.)
- (8) After about 1 minute, panel indications will return to normal. (Download / ROM write complete.)
- (9) Software upgrade will be applied after rebooting the switcher. (The switcher power OFF then power ON.)

IMPORTANT

You can upgrade your HVS-300U software by loading an upgrading file with OCB extension in a same way as the HVS-300HS/RPS software upgrading procedure. (Writing to flash ROM will take about 10 seconds.)

22-3. Loading Setting Data

All menu settings previously made for the switcher can be set again by loading the "data.all" file from the CF card.

- (1) Insert the USB flash memory, where the data is saved, into the USB port.
- (2) Press the **FILE** button to display the top page of the FILE menu.
- (3) Turn **F1** to select **LOAD**, and then press **F1** or the **PAGE DOWN** button to display the [FILE-LOAD] menu.
- (4) Turn **F1** to select **ALL** to the **EXT** (File Extension) item.
- (5) Turn **F3** to select **data**. (The file name of the data must be "data.all", if it is not renamed.)
- (6) Press **F3** (or **F2**) to start loading the file.
- (7) The data transfer will be complete within 30 minutes approx..
- (8) After loading the data, reboot the switcher.

IMPORTANT

Once the saved system data is loading, you will have to restart the switcher. (The unit power off then power ON.) The ARCNET ID is applied only after the switcher is restarted.

23. Setup Setting for HVS-30FP and HVS-30RU

The PGM/PST bus buttons and free functional (USER) buttons on the HVS-30FP and HVS-30RU can be set on the HVS-30OU by using menu. The setting procedures are almost the same as those of the control panel buttons. HVS-30FP and HVS-30RU share the same settings if both units are connected. If HVS-30OU is used with HVS-30FP or HVS-30RU, you can select the same signal assignments or different signal assignments for the PGM/PST between HVS-30OU and HVS-30FP/RU.

23-1. Assigning Sources to PGM/PST Bus buttons

◆ **If Same assignments are used between HVS-30OU and HVS-30FP/RU:**

- (1) Press the **MENU** button and then press the **7/SETUP** button to display the SETUP menu's top page.
- (2) Turn **F1** to select **INPUT**. Press **F1** or the **PAGE DOWN** button to display the [SETUP – INPUT] menu.

```
SETUP      : >SI GNAL  >PROC AMP>RENAME  >ASSI GN
I NPUT
```

- (3) Turn **F1** to select **ASSGN**. Press **F1** or the **PAGE DOWN** button to display the [SETUP – INPUT - ASSIGN] menu. Press the **PAGE DOWN** button to go to PAGE3.
- (4) Turn **F2** to select **LINK** at the **FP/RU** item.

```
FP/RU      : SHI FT : FP/RU      :           : 3/3
ASSGN      : =NRMAL: =LI NK  :           :
```

◆ **If Different assignments are used between HVS-30OU and HVS-30FP/RU::**

- (1) Open [SETUP – INPUT - ASSIGN](3/3) menu. (See above.) Set **FP/RU** to **OFF**.
- (2) Press the **PAGE UP** button to display PAGE2 in the [SETUP-INPUT-ASSIGN] menu.

```
I NPUT      : BUTON  : SI GNAL  NAME  : I NHI BI T: 2/3
FP ASSGN: =01    : =I N04   =CAM4  : =ON       :
```

- (3) Turn **F1** to select a button under the **BUTTON** item.
- (4) Turn **F2** to select the signal to be assigned under the **SIGNAL** item. Users can also select a signal by turning **F3** under the **NAME** parameter. **SIGNAL** and **NAME** are linked to each other. (See section 6-1. "How to Give Name to Source" for more details.)
The selectable options for **SIGNAL** are shown in the table below.
- (5) Users can inhibit specific buttons. If **INHIBIT** is set to **ON** for a button, the selected button are inactive. This is useful to help reduce the risk of wrong input selection.

23-2. Setting USER Buttons on HVS-30FP and HVS-30RU

◆ USER Button Default Assignments in HVS-30FP

| Button | | Default setting |
|--------|--------------------------------|-----------------|
| FP1 | USER1 on HVS-30FP and HVS-30RU | AUX XPT SELECT |
| FP2 | USER2 on HVS-30FP and HVS-30RU | PinP XPT SELECT |

◆ Assigning Functions to USER Buttons

- (1) Press the **[MENU]** button and then press the **[7/SETUP]** button to display the SETUP menu's top page.
- (2) Turn **[F1]** to select **PANEL**. Press **[F1]** or the **[PAGE DOWN]** button. The [SETUP-PANEL] menu is displayed.
- (3) Turn **[F1]** to select **USER BTN**. Press **[F1]** or the **[PAGE DOWN]** button. The [SETUP - PANEL - USER BTN] is displayed.
- (4) Turn **[F1]** to select a USER button for use.
- (5) Turn **[F2]** to select **OTHER** to **TYPE** and press **[F2]**.

| |
|--|
| PANEL : SELECT : TYPE : FUNC(F3) : 1/1 |
| USER BTN: =FP-1 : =OTHER: =AUX XPT SEL |

- (6) Turn **[F3]** to select a function to be used and press **[F3]**. See HVS-30FP/RU operational manual for the assignable functions.

23-3. OSD Operation

Pressing both of the menu control buttons on the HVS-30FP or HVS-30RU control panel simultaneously shows the menu on the front panel. At the same time The OSD (On Screen Display) will appear on the preview screen. Pressing the both buttons again clears the menu from the screen. The following explains how to display the desired menu and how to change parameters on the menu in the OSD. See "HVS-30FP and HVS-30RU operation manual" (soon be released) for details.

◆ To Display a Desired Menu:

- (1) Turn either of the control push-buttons to select a menu and press the button to confirm the selection.
- (2) The parameters in the menu are displayed. The name of the selected menu is displayed in the mini-screen on the HVS-30FP or HVS-30RU panel. If the menu has submenus, go to the desired submenu in the same way and display parameters. To go back to the main menu, select RETURN and press the button.

◆ To Change Parameter Setting

- (1) Turn either of the control push-buttons to select a parameter and press the button to confirm the selection.
- (2) Turn the button to change the setting and press the button to confirm the change.
- (3) To go back to the menu selection, turn the button to select RETURN and press the button. To exit the menu, press the both buttons.

24. Specifications and Dimensions

24-1. Specifications

24-1-1. HVS-300HS / HVS-300RPS / HVS-300OU / HVS-30RU

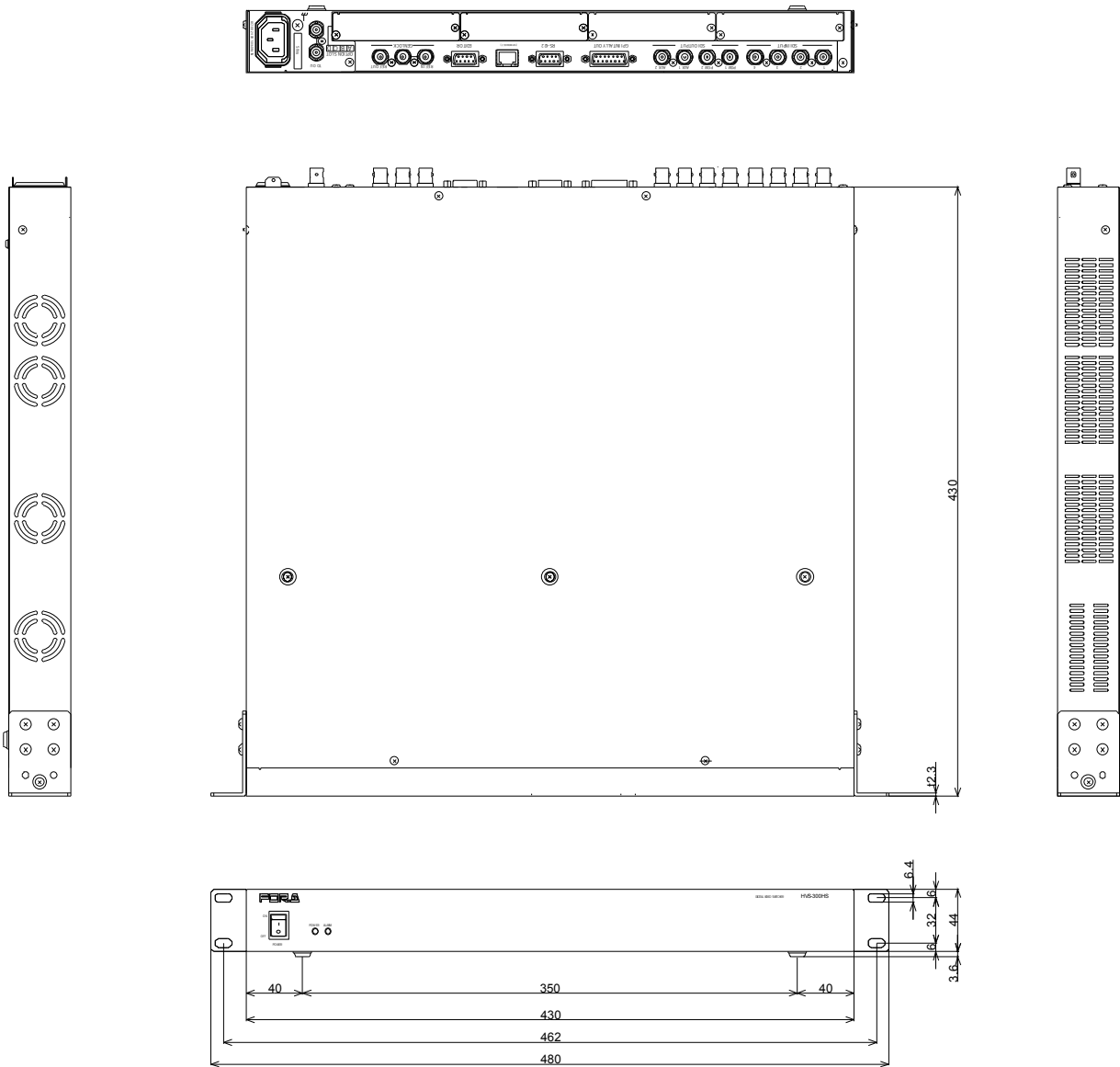
| | |
|-------------------------|---|
| Number of M/Es | 1M/E |
| Control Panel | 3 types HVS-300OU: 1M/E 12-button model HVS-30RU: 1M/E 12-button model (OSD menu display) (HVS-30FP: 1M/E 12-button panel kit) HVS-30GUI: GUI application (PC required) |
| Video Format | 1080/59.94i, 1080/60i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 1080/25PsF, 1080/29.97PsF, 1080/30PsF, 720/59.94p, 720/60p, 720/50p 525/60 (NTSC) , 625/50 (PAL) |
| Video Input | HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps 75Ω BNC x 4 * Frame synchronizer on each input |
| Video Input (optional) | |
| HVS-30HSDI | HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps 75Ω BNC x 4 |
| HVS-30HSDI-A | |
| HVS-30HSAI | HD analog component SD analog component Analog composite |
| HVS-30PCIN | DVI-D: XGA to WUXGA (HD) (HDCP incompatible), VGA to XGA (SD) (HDCP incompatible) RGB: XGA to WUXGA (HD), VGA to XGA (SD) |
| Number of Inputs | Standard: x 4 (SDI), Max.: x 12 (with HSDI x 2 or HSDI-A x 2) |
| Video Output | HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps 75Ω BNC x 4 (PGM x 2, AUX1 and 2) |
| Video Output (optional) | |
| HVS-30HSDO | HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps 75Ω BNC x 2 |
| HVS-30HSAO | HD analog component SD analog component Analog composite |
| HVS-30PCO | DVI-D: SXGA to WUXGA (HD) (HDCP incompatible) SVGA (SD) (HDCP incompatible) RGB: SXGA to WUXGA (HD) , SVGA (SD) |
| Number of Outputs | Standard: x 4 (SDI), Max.: x 8 (with 2 output cards) |
| AUX Outputs | Standard: x 2, Max.: x 3 * OSD menu is available on a PREV output screen |
| Signal Processing | 4:2:2 Digital component |
| Quantization | HD/SD-SDI: 10-bit |
| Effect | WIPE: 100 patterns, Border and Softness DVE: 56 patterns or more (2D and 3D) |
| Transition | Execution: Fader lever, AUTO or CUT button Type: MIX or WIPE (DVE included) Transition Preview function |
| Still Store | 2 channels (with backup feature) |
| Keyer/DSK | 2 channels (KEYER x 1 + DSK x 1) of Bus, Luminance or Full key, 2D DVE on each channel KEYER: Chroma key and Edge/Shadow effect |
| P in P | 2 channels (up to 1/4 of the full screen size) with Mix, Slide or Scaling effect |
| Multiviewer | 4-, 10- or 16-way split views with title and tally display |
| Process Amp | Process Amp feature on each input |

| | |
|-----------------------------|---|
| Event Memory | 100 events |
| Genlock Input | BB: NTSC: 0.429 Vp-p/PAL: 0.45Vp-p or Tri-level Sync: 0.6 Vp-p 75Ω BNC x 1, loop-through (Terminate with 75Ω terminator, if unused.) |
| System Phase Adjust | Horizontal: -1/2H to +1/2H |
| Genlock Output | BB: NTSC: 0.429 Vp-p/PAL: 0.45Vp-p or Tri-level Sync: 0.6 Vp-p 75Ω BNC x 1 |
| I/O Delay | 1 H (minimum delay) 1 to 2 frames + 1 H (when FS or Up-resize engine used:) 2 to 3 frames + 1 H: (when FS or Up-resize engine plus DVE used:) 3 to 4 frames + 1 H: (when FS or Up-resize engine plus Output resize engine and DVE used) |
| Interfaces | |
| Ethernet | 10 Base-T RJ-45 x 1 * For HVS-30GUI connection |
| GPI IN/TALLY OUT | 15-pin D-sub (female) x 1, 6-input/6-output, TTL negative logic pulse or Make-contact |
| TALLY OUT (with HVS-30TALR) | 37-pin D-sub (female) x 1 (with inch screws), Make-contact (18 outputs added per card, up to 2 cards available) |
| RS-422 | 9-pin D-sub (female) x 1 (with inch screws) * For HVS-30RU or tally unit connection |
| EDITOR | 9-pin D-sub (female) x 1 (with inch screws), BVS-3000 or GVG protocol |
| ARCNET | 75Ω BNC x 1, loop-through (Terminate with 75Ω terminator, if unused.) * For control panel and AUX remote panel connection |
| Temperature | 0°C to 40°C |
| Humidity | 30% to 90% (no condensation) |
| Power | 100VAC to 240 VAC ±10%, 50/60Hz |
| Consumption | HVS-300HS: 191 W (at 100-120 VAC) 211 W (at 220-240 VAC) HVS-300RPS: 224 W (at 100-120 VAC) 221 W (at 220-240 VAC) HVS-300OU: 23 W (at 100-120 VAC) 25 W (at 220-240 VAC) HVS-30RU: 26 W (at 100-120 VAC) 29 W (at 220-240 VAC) |
| Dimensions | HVS-300HS: 430 (W) x 430 (D) x 44 (H) mm HVS-300RPS: 430 (W) x 430 (D) x 88 (H) mm HVS-300OU: 420 (W) x 246 (D) x 87.2 (H) mm HVS-30RU: 430 (W) x 42 (D) x 44 (H) mm |
| Weight | HVS-300HS: 8 kg (in Standard), 10 kg (in Full Option) HVS-300RPS: 9 kg (in Standard), 11 kg (in Full Option) HVS-300OU: 3 kg HVS-30RU: 1 kg |
| Consumables | Power supply unit: Replace every 5 years Cooling fan: Replace every 6 years |
| Accessories | Manual, AC cord, Rack mount brackets and BNC cable (10 m) |
| Options | HVS-30HSDI: SDI Input card w/ up-resize engine HVS-30HSDI-A: SDI Input card w/o up-resize engine HVS-30HSAI: Analog Input card HVS-30PCIN: PC Input card HVS-30HSDO: SDI Output card HVS-30HSAO: Analog Output card HVS-30PCO: PC Output card HVS-30TALR: Tally Relay Output card (18-output) HVS-30ED: Editor Interface software HVS-30VR: Virtual Link software HVS-30S3D: 3D Monitoring software HVS-AUX8/16/32: AUX remote panel HVS-30TALR: Tally Relay card (18-output) HVS-TALR20/32: Tally Relay Output unit (20/32-output) HVS-TALOC20/32: Tally Open Collector Output unit (20/32-output) |

24-2. External Dimensions

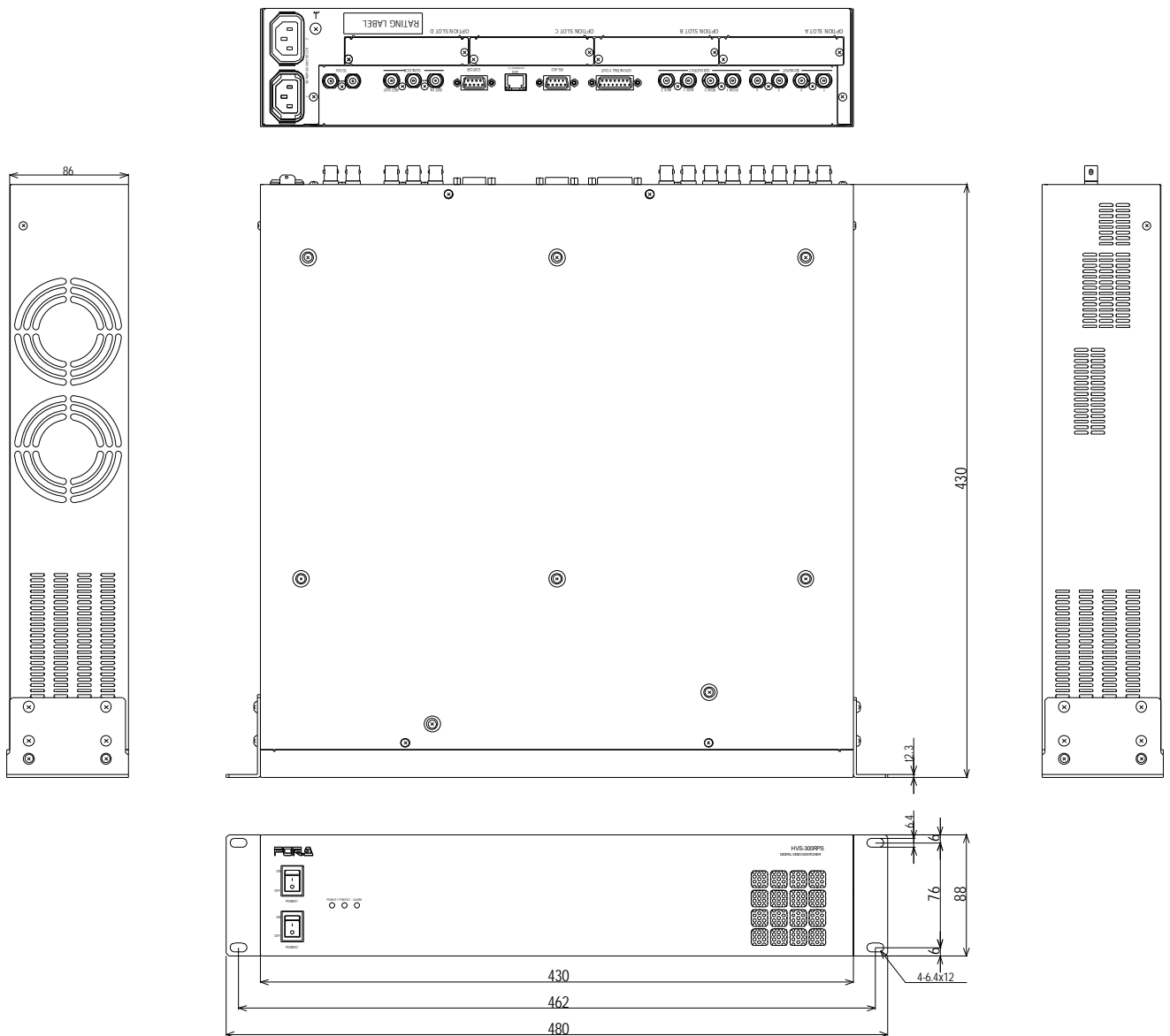
24-2-1. HVS-300HS

(All dimensions in mm)



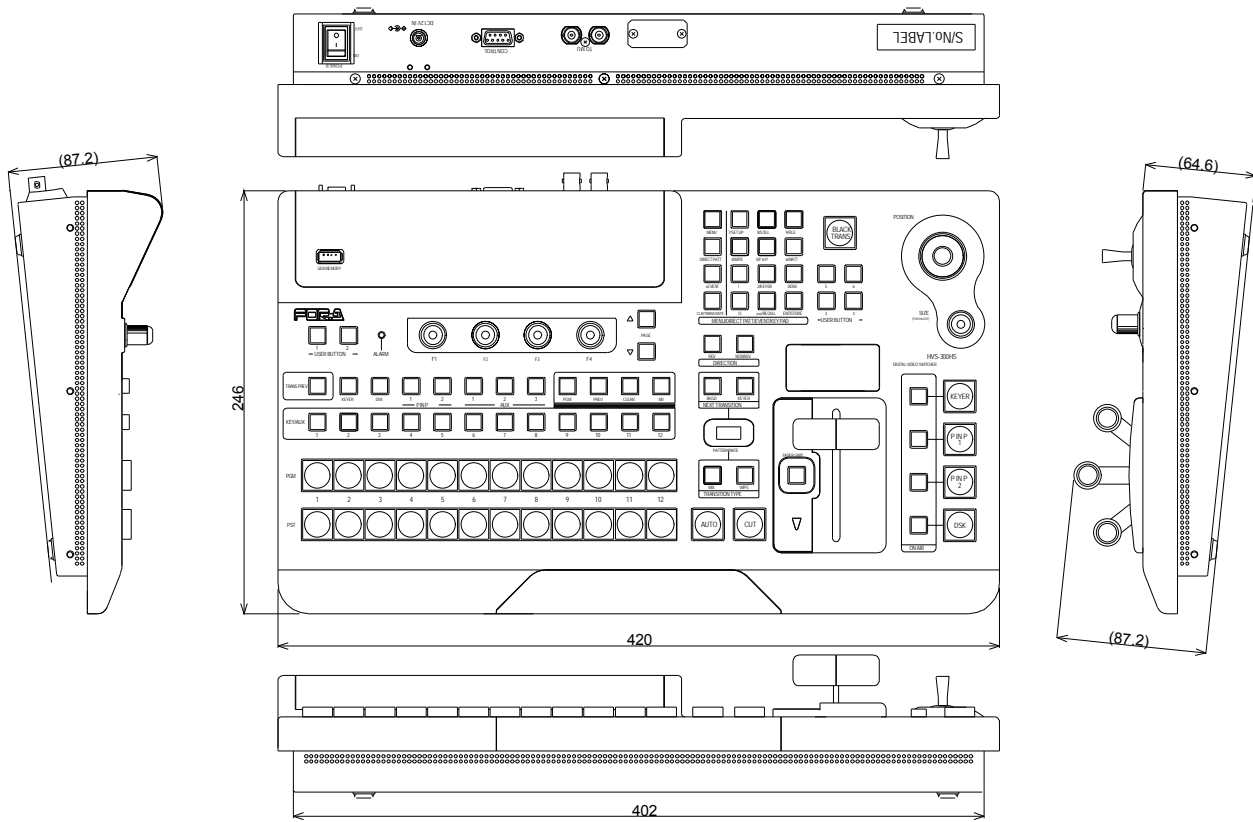
24-2-2. HVS-300RPS

(All dimensions in mm)



24-2-3. HVS-300U

(All dimensions in mm)



Appendix 1. Available File List

Available files for saving and loading (via USB flash memory or Ethernet connection)

| File Extension | File Name (*1) | File Data Description |
|----------------|----------------|--|
| all | data.all | System data, all wipe data and all event memory data |
| sys | hvs-300.sys | System data |
| mem | event.mem | All event memory data |
| jpg (*2) | *.jpg | JPEG format files (standard RGB) |
| | still1.jpg | Still 1 capture video |
| | still2.jpg | Still 2 capture video |
| tga (*2) | *.tga | TARGA format files (uncompressed RGB) |
| | still1.tga | Still 1 capture video |
| | still2.tga | Still 2 capture video |

Note that file names are limited to max. 8 characters in length (ASCII code).

(*1) The files are automatically named to the correct name as shown in the table above when saving to the USB flash memory.

(*2) When loading a JPEG or TARGA file from the USB flash memory, you can select a centered or tiled format as well as a normal one. In this case, a centered or tiled format image file is saved to STILL as either jpg or tga.

Available files for loading (via USB flash memory or Ethernet connection)

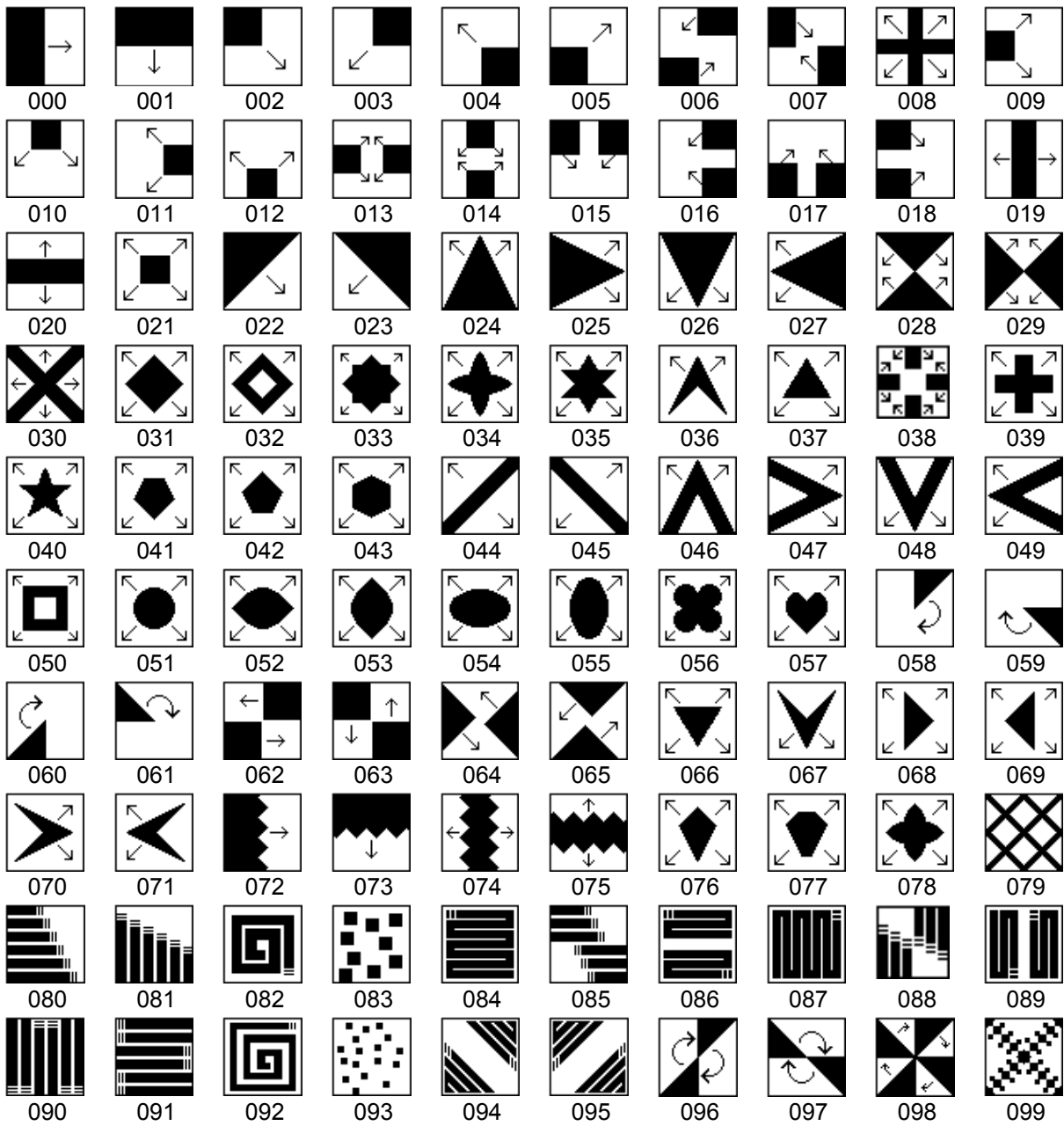
| File Format | File Name | File Data Description |
|-------------|--------------|--------------------------------------|
| mcm | pm8744xx.mcm | HVS-300HS software upgrade data |
| ocb | pm8747xx.ocb | HVS-300OU software upgrade data |
| mfb | xxxxxxx.mfb | HVS-300HS FPGA firmware upgrade data |

Available USB flash memory

| Manufacturer | Series Name | Model Name (Tested memory) |
|--------------|----------------------------------|----------------------------|
| SanDisk | Cruzer micro, Cruzer mini Series | SDCZ2-256 |
| I/O DATA | TB-ST Series | ToteBag |
| Transcend | JetFlash150 Series | |
| TOSHIBA | TransMemory Series | U2B-256MT |

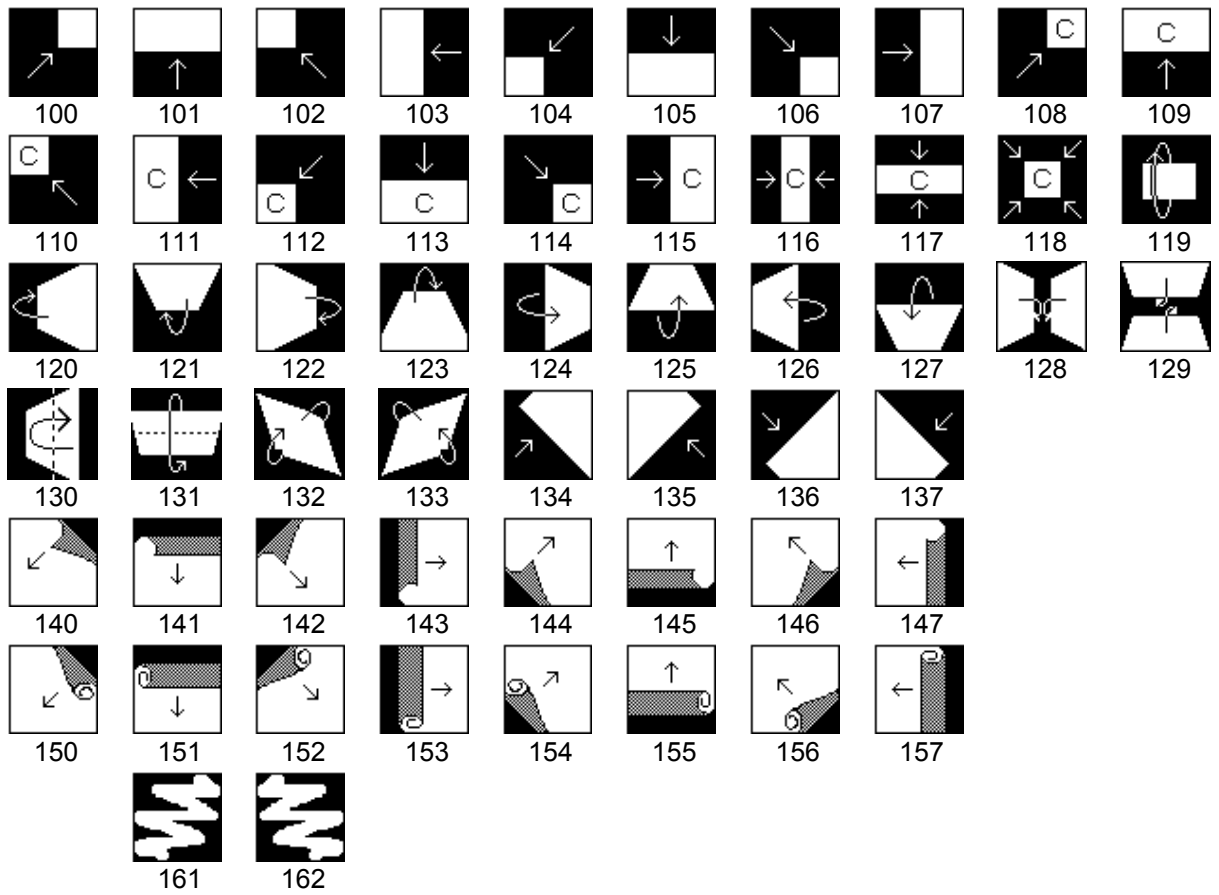
Appendix 2. Transition Pattern List

2-1. WIPE Type



2-2. DVE Type

◆ Normal direction



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Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.



FOR-A COMPANY LIMITED

Head Office 3-8-1 Ebisu, Shibuya-ku, Tokyo 150-0013, Japan
Overseas Division Phone: +81(0)3-3446-3936, Fax: +81(0)3-3446-1470
Japan Branch Offices Osaka/Okinawa/Fukuoka/Hiroshima/Nagoya/Sendai/Sapporo
R&D/Production Sakura Center/Sapporo Center

FOR-A America Corporate Office

11155 Knott Ave., Suite G&H, Cypress, CA 90630, USA
Phone: +1-714-894-3311 Fax: +1-714-894-5399

FOR-A America East Coast Office

2 Executive Drive, Suite 670, Fort Lee Executive Park, Fort Lee, NJ 07024, USA
Phone: +1-201-944-1120 Fax : +1-201-944-1132

FOR-A America Distribution & Service Center

2400 N.E. Waldo Road, Gainesville, FL 32609, USA
Phone: +1-352-371-1505 Fax: +1-352-378-5320

FOR-A Corporation of Canada

346A Queen Street West, Toronto, Ontario M5V 2A2, Canada
Phone: +1-416-977-0343 Fax: +1-416-977-0657

FOR-A Latin America & the Caribbean

5200 Blue Lagoon Drive, Suite 760, Miami, FL 33126, USA
Phone: +1-305-931-1700 Fax: +1-305-264-7890

FOR-A UK Limited

UNIT C71, Barwell Business Park, Leatherhead Road, Chessington Surrey, KT9 2NY, UK
Phone: +44(0)20-8391-7979 Fax: +44(0)20-8391-7978

FOR-A Italia S.r.l.

Via Volturmo 37, 20047 Brugherio MB, Italy
Phone: +39-039-881-086/103 Fax: +39-039-878-140

FOR-A Corporation of Korea

1007, 57-5, Yangsan-ro, Yeongdeungpo-gu, Seoul 150-103, Korea
Phone: +82(0)2-2637-0761 Fax: +82(0)2-2637-0760

FOR-A China Limited

708B Huateng Bldg., No. 302, 3 District, Jinsong, Chaoyang, Beijing 100021, China
Phone: +86(0)10-8721-6023 Fax: +86(0)10-8721-6033

FOR-A Middle East-Africa Office

Jebel Ali Free Zone, LOB-16, Office 619, P. O. Box: 261914 Dubai, UAE
Phone: +971 4 887 6712 Fax: +971 4 887 6713