



## 2ME Live Switcher

# AV-HS6000

The main unit is equipped with an abundance of inputs and outputs for great system integration that includes 32 SDI and 2 DVI inputs plus 16 SDI outputs. 4 DVEs per ME enable diverse transitions when producing creative video in demanding fast-paced situations. Three types of control panels can be used. C1 and C2 panels offer 24 XPT buttons and 4 pages and allow easy switching among 96 total crosspoints. The compact panel C4 is 30% shorter than the C1/C2 version and offers an easier integration into small studios and OB Vans.

### Key Features

34 inputs (SDI X32, DVIx2) and 16 SDI outputs; all inputs have built-in frame synchronizers

Simultaneous output in both 1080p and 1080i formats

4 independent MultiViewer displays; Single MultiViewer can display a maximum of 16 video sources

Equipped with real-time high-quality chroma keying that employs Primatte® algorithms / Standard 1 channel, expandable up to 4 channels

The switcher can be set by the 10,1-type touch-operated Menu Panel AV-HS60C3G (optional) or by a PC monitor and USB mouse





## AV-HS6000

<https://ap.connect.panasonic.com/p/h/en/products/broadcast-proav/av-hs6000>

### Mainframe AV-HS60U2P/E

<b>Power Supply</b>	AC100 V to 240 V, 50 Hz/60 Hz (AV-HS60U2 supports redundant power supply)
<b>Power Consumption</b>	110 W
<b>Ambient Operating Temperature</b>	0°C to 40°C (32°F to 104°F)
<b>Operating Ambient Humidity</b>	10% to 90% (no condensation)
<b>Storage Temperature</b>	0°C to 40°C (32°F to 104°F)
<b>Storage Humidity</b>	10% to 90% (no condensation)
<b>Weight</b>	482 mmx132 mmx418 mm (18-31/32 inchesx5-3/16 inchesx16-15/32 inches)(excluding protrusions)
<b>Dimensions (W x H x D)*4</b>	482 mmx132 mmx418 mm (18-31/32 inchesx5-3/16 inchesx16-15/32 inches)(excluding protrusions)
<b>Video Terminal</b>	
<b>SDI In 1 to SDI In 32 Terminals</b>	<p>During Standard mode</p> <p>32 lines</p> <ul style="list-style-type: none"> <li>• Connectors: BNCx32</li> <li>• SDI IN 27, SDI IN 28, SDI IN 31, SDI IN 32 terminals are equipped with up-converters.</li> <li>• SDI IN 25 to SDI IN 32 terminals are equipped with color correctors.</li> </ul> <p>HD-SDI</p> <p>SMPTE292M (BTA S-004) standard compliant</p> <ul style="list-style-type: none"> <li>• 0.8 V [p-p]±10% (75 ohm)</li> <li>• Automatic equalizer 100 m (328 ft)</li> </ul> <p>(when 1.5 Gbps/5C-FB cable is used)</p> <p>SD-SDI</p> <p>SMPTE259M standard compliant</p> <ul style="list-style-type: none"> <li>• 0.8 V [p-p]±10% (75 ohm)</li> <li>• Automatic equalizer 200 m (656 ft)</li> </ul> <p>(when 5C-2V cable is used)</p> <p>During 3G mode</p> <p>16 lines</p> <ul style="list-style-type: none"> <li>• Connector: BNCx16 (only the odd numbered terminals can be used)</li> <li>• The even numbered terminals [SDI IN 2],[SDI IN 4] ... [SDI IN 32] cannot be used. • [SDI IN 25], [SDI IN 27], [SDI IN 29], and [SDI IN 31] terminals are equipped with color correctors.</li> </ul> <p>During 4K mode</p> <p>4K signal x 8 lines</p> <ul style="list-style-type: none"> <li>• Connector: BNC x 32 (3G-SDI x 4 SQD/2SI)</li> <li>• Can use the 4K signal in SQD format and 2SI format</li> </ul> <p>3G-SDI</p> <p>3G serial digital, SMPTE424M standard compliant</p> <ul style="list-style-type: none"> <li>• 0.8 V[p-p] ±10% (75 ohm)</li> <li>• Automatic equalizer 100 m (328 ft) (when 3 Gbps/5C-FB cable is used)</li> <li>• 3G?SDI Level B</li> </ul> <p>3G-SDI Level A (FS ON)</p>

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**DVI-D In 1 to DVI-D In 2 Terminals**

2 lines

Digital RGB:XGA (1024x768), WXGA (1280x768), SXGA (1280x1024), WSXGA+ (1680x1050),UXGA (1600x1200), WUXGA (1920x1200)

Vertical frequency: 60 Hz

Video format inputs: 1080/59.94p, 1080/50p, 1080/59.94i, 1080/50i, 720/59.94p, 720/50p

- Connectors: DVI-Dx2
- The terminals do not support HDCP.
- The DVI-I connector cable cannot be used.
- For the DVI-D connector cable, use a cable with a length of up to 5 m.(16.4 ft)
- [DVI-D IN1]/[DVI-D IN2] terminals cannot be used during 3G mode and 4K mode.

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**SDI Out 1 to SDI Out 16 Terminals**

During Standard mode

16 lines (2 distributed outputs per line)

- Connectors: BNCx32
- ME1 PGM, ME1 PVW, ME1 CLN, ME1 KEYPVW, ME2 PGM, ME2 PVW, ME2 CLN, ME2 KEYPVW, DSKPGM1, DSKPGM2, DSKPVW1, DSKPVW2, DSK1 CLN, DSK2 CLN, DSK3 CLN, DSK4 CLN, SEL KEYPVW, MV1 to MV4, and AUX1 to AUX16 can be assigned.

HD-SDI SMPTE292M (BTA S-004) standard compliant

- Output level: 0.8 V [p-p]±10%

SD-SDI SMPTE259M standard compliant

- Output level: 0.8 V [p-p]±10%

During 3G mode

3G-SDI output: 8 lines (2 distribute outputs per line)

HD-SDI output: 2 lines (2 distribute outputs per line)

- Connector

3G-SDI: BNCx16 (odd numbered terminals only)

HD-SDI: BNCx4 ( and terminals only)

- 3G-SDI signal is not output from the even numbered terminals.
- No signal is output from the [SDI OUT 13] and [SDI OUT 15] terminals.
- The HD-SDI signal converted to the 1080i format is output from the and terminals. This signal is converted to the 1080i format by decimating the 1080p signal from the and terminals.
- [SDI OUT 13] and [SDI OUT 15] terminals are equipped with color correctors. The same color corrector setting is also applied to [SDI OUT 14] and [SDI OUT 16] terminals. • ME1 PGM, ME1 PVW, ME1 CLN, ME1 KEYPVW, ME2 PGM, ME2 PVW, ME2 CLN, DSKPGM1, DSKPGM2, DSKPVW1, DSKPVW2, DSK1 CLN, DSK2 CLN, SEL KEYPVW, MV1 to MV2, and AUX1 to AUX8 can be assigned.

During 4K mode

4K signal output: 3 lines (two distribute outputs per line)

2K signal output: 2 lines (two distribute outputs per line)

- Connector

3G-SDI (for 4K signal): BNC x 24 (terminal number 1 to 12)

3G-SDI (for 2K signal): BNC x 4 (terminal number 13 and 15)

HD-SDI (for 2K signal): BNC x 4 (terminal number 14 and 16)

- The 4K signal is output in SQD format.
- The HD-SDI signal converted to the 1080i format is output from the [SDI OUT 14] and [SDI OUT 16] terminals. This signal is converted to the 1080i format by decimating the 1080p signal output from the [SDI OUT 13] and [SDI OUT 15] terminals.
- ME1 PGM, ME1 PVW, ME1 CLN, ME1 KEYPVW, ME2 PGM, ME2 PVW, ME2 CLN, DSKPGM1, DSKPGM2, DSKPVW1, DSKPVW2, DSK1 CLN, DSK2 CLN, SEL KEYPVW, MV1 to MV2, and AUX1 to AUX8 can be assigned.

3G-SDI

3G serial digital, SMPTE424M standard compliant

- Output level: 0.8 V [p-p] ±10%

- 3G-SDI Level B Mapping
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<b>Signal Formats</b>	<p>SD</p> <p>480/59.94i, 576/50i</p> <p>HD</p> <p>1080/59.94i, 1080/50i, 720/59.94p, 720/50p, 1080/24PsF, 1080/23.98PsF, 1080/25PsF, 1080/29.97PsF,</p> <p>3G</p> <p>1080/59.94p, 1080/50p</p> <p>4K</p> <p>2160/59.94p, 2160/50p(SQD)</p>
<b>Signal Processing</b>	<p>Y:PB:PR 4:2:2 10 bit</p> <p>R:G:B 4:4:4 8 bit</p>
<b>ME Number</b>	2 ME
<b>Synchronous Terminal</b>	
<b>REF Terminal</b>	<ul style="list-style-type: none"> <li>• Connectors: BNC</li> <li>• Same field frequencies as those of the system formats supported</li> </ul> <p>In Genlock mode: Black burst or Tri-level Sync input signals (with loop-through)</p> <ul style="list-style-type: none"> <li>• If the loop-through output is not used, provide a 75 ohm termination.</li> <li>• In the 1080/24PsF and 1080/23.98PsF formats, only Genlock mode supported</li> <li>• In the 1080/23.98PsF format, black burst signals with 10 Field ID (SMPTE318M standard compliant) or Tri-level Sync signals supported</li> <li>• In the 1080/24PsF format, Tri-level Sync signals supported</li> </ul> <p>In internal sync mode: Black burst output signal x 2</p>
<b>LTC In Terminal</b>	<p>This is the LTC (linear time code) input terminal.</p> <ul style="list-style-type: none"> <li>• Connectors: BNC</li> <li>• Impedance: 1 kohm</li> <li>• Level: 1 to 2 V [p-p]</li> </ul>
<b>Video Delay Time</b>	<p>During Standard mode</p> <p>1 line (H)</p> <p>When the frame synchronizer is set to "Off" and the up-converter is set to "Off"</p> <p>2 field (V)</p> <p>When the frame synchronizer is set to "On", or the up-converter is set to "On"</p> <ul style="list-style-type: none"> <li>• When the signals have passed through PinP, DVE, MultiView, down-converter, or DVI-IN, a maximum delay of 1 frame is applied in each case.</li> </ul> <p>During 3G mode</p> <p>2 line (H)</p> <p>When the frame synchronizer is set to [Off]</p> <p>2 frame (V)</p> <p>When the frame synchronizer is set to [On]</p> <ul style="list-style-type: none"> <li>• Maximum of 2 frame delay is added to each when passed through PinP, DVE, or MultiView.</li> </ul>
<b>Control Terminal</b>	
<b>LAN Terminal</b>	<p>Compatible with 100Base-TX and AUTO-MDIX (For IP control)</p> <ul style="list-style-type: none"> <li>• Connection cable: LAN cable (CAT5E), max. 100 m (328 ft), STP (Shielded Twisted Pair) cable recommended</li> <li>• Connector: RJ-45</li> </ul>
<b>Panel Terminal</b>	<p>Compatible with 100Base-TX and AUTO-MDIX</p> <p>(For Control Panel AV-HS60C2/AV-HS60C4 connection)</p> <ul style="list-style-type: none"> <li>• Connection cable (supplied with AV-HS60C2/AV-HS60C4): LAN cable (CAT5E), straight cable, STP (Shielded Twisted Pair), 10 m (32.8 ft)</li> <li>• Connector: RJ-45</li> </ul>
<b>COM1(M)/COM2(M)/COM3(M) Terminals</b>	<p>RS-422 Control Terminal</p> <p>For master connection for controlling external devices</p> <ul style="list-style-type: none"> <li>• Connector: D-sub 9-pin (female) x 3, inch screw</li> </ul>
<b>COM4 (M/S) Terminal</b>	<p>RS-422 Control Terminal</p> <p>For master/slave connection for controlling external devices</p> <ul style="list-style-type: none"> <li>• Connector: D-sub 9-pin (female), inch screw</li> <li>• Switchable between master connection and slave connection via menu</li> </ul>

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<b>GPI In Terminal</b>	GPI IN: 18 inputs, general-purpose, photocoupler sensing ALARM OUT: 1 output, open collector output (negative logic) <ul style="list-style-type: none"><li>• Connector: D-sub 25-pin (female), inch screw</li></ul>
<b>GPI Out1/GPI Out 2 Terminal</b>	GPI OUT: 48 outputs, selected from general purpose, tally Open collector output <ul style="list-style-type: none"><li>• Connector: D-sub 25-pin (female) x 2, inch screw</li></ul>
<b>Accessories</b>	<ul style="list-style-type: none"><li>• AC cable AV?HS60U2P: 2 cables</li><li>AV?HS60U2E: 4 cables</li><li>• Rack-mounted rear panel support bracket</li><li>• Screws for the rack-mounted rear panel support bracket: 8 screws</li><li>• Operating Guide for the AV-HS6000 series (Excerpted Version)</li></ul>

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