

Live Content Producer

AWS-G500E



SONY

ANYCAST STATION™

Live Content Producer



ANYCAST STATION™



AWS-G500E

The Anycast Station™ Live Content Producer AWS-G500E is a development that combines decades of Sony AV expertise together with industry-leading IT technology. Designed as a powerful content creation tool for live event programming, it comprises a high-quality video switcher, an audio mixer, a large LCD display, Text Typing Tool software and a streaming encoder and server - all packed into an attaché case-size chassis weighing only about 8 kg*.

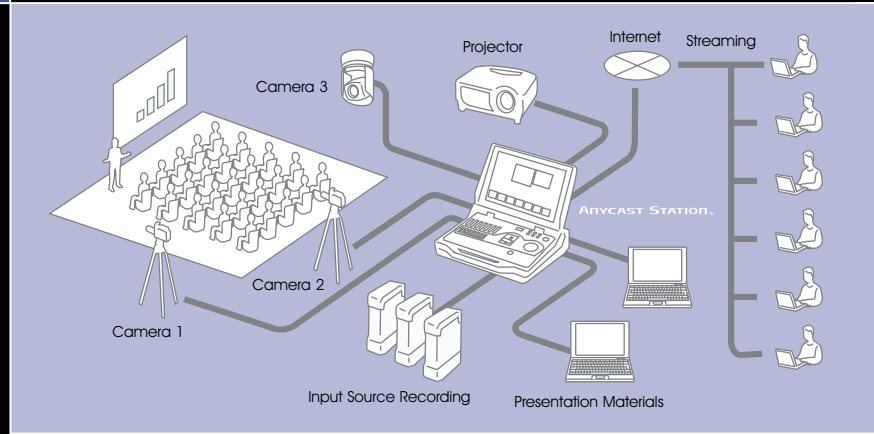
To accommodate today's growing needs to integrate video, audio and a variety of PC input sources in live events, the AWS-G500E provides a comprehensive set of AV and IT inputs. The AWS-G500E can be configured to suit the exact needs of each particular user in terms of input signals. A wide variety of optional modules for input sources are provided such as SD, HD and PC video signals. In addition, Sony has recently introduced the new optional BKAW-581 Serial Digital Interface Module, which enables SDI input's and output's (480i/59.94, 576i/50) as well as supporting embedded audio. This module is an affordable solution for customers who require an SD setup, and is especially useful for studio and live shooting applications. If customers wish to upgrade to an HD configuration as their needs grow, they can simply replace the BKAW-581 with an optional HD interface module.

The AWS-G500E performs the unique processing that allows live switching between these video and computer sources without the use of external line converters and without degrading picture quality. When it comes to programme delivery, the AWS-G500E is also very flexible. Straight from the AWS-G500E, the user can feed programmes to a TV transmitter for live broadcast, record onto tape, feed the switched programme output directly to large venue displays, store input sources and a PGM output to external hard disk drives, and stream the programme on the web on a live or on-demand basis. The AWS-G500E also includes Text Typing Tool software as standard, which allows operators to easily generate still text for superimposition on the programme output.

*When all three slots for optional modules are fully loaded.

LIVE CONTENT PRODUCER

With all these unique features, plus a logical design for ultimate ease of use, the AWS-G500E combined with a wide range of optional modules is a powerful tool that can be used by anyone, anytime, and anywhere - for remote television broadcast operations, church productions, product promotions, event and live staging, music clip creation, conferences, seminars and distance learning. Just plug in the power cord, turn on the power and deliver the programme.



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Main Features



All-in-one design

A Source Viewer

Displays the thumbnail video of each input source. The windows of the sources selected for PGM out and PVW out are highlighted in red and amber respectively.

B Streaming Display

Displays the parameters, current server status of the streaming video and URL of the AWS-G500E the user is operating.

C PGM Viewer

Displays the source currently distributed or presented.

D PVW Viewer

Displays the next source selected for output after the transition.

1 Video Switcher

Provides:

- 1280 x 1024 100-MHz/4:2:2 8-bit processing
- 6 primary inputs plus one still picture source
- 1 ME with 1 keyer including Chroma Keying
- 1 DSK + 1 fixed station logo
- Picture-in-Picture
- 16 wipe patterns

2 Audio Mixer

Provides:

- 48 kHz/24-bit processing
- 6 stereo channel input mixing
- 6 channel faders and 1 master fader
- Audio-follow-video

3 Access Buttons

Pressing an access button calls up the control menus of the associated input to the LCD screen.

A variety of video and audio parameter settings can be made.

4 Mixer Output Controls

Provides controls for the audio monitor output level, built-in speakers, headphone output, talkback On/Off and dimmer On/Off of an intercom.

Also controls the audio signal to be monitored between PGM, AUX1, AUX2, and MIX.

5 On-line Button

Triggers or stops the following functions:

- Streaming distribution
- Recording of input sources or PGM output to compatible hard disk drives
- Recording of PGM output to i.LINK™-compatible VTRs*1
- Recording of video-on-demand files of the streaming content

6 Menu Operation/Camera Control

General menu selection/settings are made using the menu button and jog roller. This area also provides control functions for compatible Sony Pan/Tilt/Zoom cameras. The position controller allows pan/tilt control of compatible Sony Pan/Tilt/Zoom cameras while the ten keys are for camera position memory store/recall. VISCA™ control is used to provide pan, tilt, zoom, iris, focus and white balance control functions.

E Effect Display

The currently selected effect pattern is indicated with an effect icon. Effect and DSK transition durations are also displayed.

F Guide Display

Displays guides for controlling compatible Sony Pan/Tilt/Zoom cameras such as zoom, pan, tilt, focus and iris. Also displays the camera position memory numbers/names of a camera selected on the NEXT button row, as well as the general menu selections and settings.

G Audio Level Display

Displays the audio output levels of PGM, MIX, AUX1 and AUX2.

H Built-in Stereo Speakers

I Key Status Display

Indicates the status (On/Off) of the key.

7 Device Control

Provides basic and jog/shuttle control functions of external hard disk drives and i.LINK-compatible VTRs used for playing back video material. The jog and shuttle dials are also used for focus and zoom control of compatible Sony Pan/Tilt/Zoom cameras.

8 Talkback Microphone

Used for talkback purposes. An intercom connector is also provided on the rear panel should the use of an intercom system be preferred.

9 Wireless Keyboard (Turned Over)

Used to create still text for superimposition on the programme output, to type video source names prior to the live event and for setting up IP addresses of the streaming server.

10 FACTORY USE connector

Outputs the tally signals to connected devices such as Camera Control Units (CCUs) to light the tally lamp of a camera. Also used to allow PGM and PVW signals to be selected remotely from the Sony RM-BR300, a remote controller for VISCA-compatible pan/tilt/zoom cameras.

11 Memory Stick™ slot

Accepts Memory Stick media to import and export files such as fonts, EDLs, graphics and logo files, and to also upgrade the operating software of the AWS-G500E.

12 Operation Screen Connector (RGB) (GUI)

Outputs the operation screen (GUI of the AWS-G500E) to an external display*2 at WXGA size (1,280 x 800) at 60 Hz.

13 NETWORK Connector

Used to connect an external network adaptor or router. 10Base-T and 100Base-TX Ethernet are supported.

14 USB Connectors

Used to connect a USB keyboard or a mouse*3. Also accept USB flash memories to import or export files such as fonts, EDLs, graphics and logo files, and to also upgrade the operating software of the AWS-G500E.

The AWS-G500E comes equipped with a video switcher, an audio mixer, an LCD display and camera control functions, all packed into a compact attaché case design.

This approach eliminates any external wiring and cumbersome signal adjustments, making setup extremely easy and quick. On the large LCD screen, there are two windows for monitoring the programme and preview outputs, together with seven windows to view each individual input source plus one internal still picture source, eliminating the need for multiple video monitors.

The AWS-G500E combines a compact design with features that can be used by anyone at any time. It makes remote television operations, product promotions, event and live staging, conferences, seminars and distance learning events easy to crew, operate and budget for.

These factors make the AWS-G500E a powerful device for producing live events, virtually anywhere and with a minimum production crew and setup time. Despite its compact design, each function of the AWS-G500E provides uncompromising power and quality.

*1 Not available in HD mode.

*2 Please contact your nearest Sony office or authorised dealer for information on compatible displays.

*3 Please contact your nearest Sony office or authorised dealer for information on compatible keyboards and mice.

Main Features

Easy and integrated operation

The AWS-G500E makes live event programming as simple as possible. This is because the AWS-G500E requires very little or no technical knowledge of switcher and mixer setup and operations, due to its extremely intuitive control surface and large LCD display.

With the AWS-G500E, switching between the desired input signals is an extremely easy task as all input sources, as well as the preview and programme outputs, are shown on one large LCD screen. Simply select the next desired signal from the NEXT button row and slide the transition fader or press the Cut button.

The window frames of the input sources chosen for the programme and preview outputs are highlighted in the same colour as the programme and preview window markers. This gives operators complete comfort that the correct inputs have been selected.

A variety of preset effect patterns are available for source switching transitions as well as for inserting keys.

On all GUI displays, a choice of 10 languages is provided for maximum ease of use.



Simulated image

Text Typing Tool software

The AWS-G500E comes with Text Typing Tool software, which is controlled via an easy-to-use GUI displayed in full size on the LCD screen.

This GUI can be easily toggled between the main GUI of the AWS-G500E. The Text Typing Tool software allows operators to easily generate still text for superimposition on the programme output using the DSK or keyer. In addition, wipe and dissolve effects can be used for text overlaying. A number of text files can be created and stored in advance for instant recall during the live event and it is possible to install TrueType fonts from third parties.

The Text Typing Tool of the AWS-G500E supports ten languages, as listed below.

- | | |
|--------------------------|---------------|
| 1. English | 6. Italian |
| 2. Chinese (Simplified) | 7. Japanese |
| 3. Chinese (Traditional) | 8. Korean |
| 4. French | 9. Portuguese |
| 5. German | 10. Spanish |



GUI: Text Typing Tool

Simulated image

Camera remote control capability

The AWS-G500E allows operators to easily control several compatible pan/tilt/zoom cameras remotely. It allows pan and tilt adjustments from its position controller, in addition to iris, focus and zoom controls using the jog and shuttle dials. Sony offers a variety of compatible cameras such as the BRC-300P, BRC-Z330, BRC-H700 and EVI-HD1.

(For details of compatible models, refer to the chart in page 11 - Camera Control.)



Flexible video input configurations

The AWS-G500E has three slots for optional modules located on its rear panel.

A variety of optional interface modules ranging from SD to HD are available, allowing users to configure the system exactly as required.

What's more, the AWS-G500E allows each input on these modules to be assigned to any one of the primary inputs via simple menu settings.

Optional modules

BKAW-570

SD Video Interface Module



BKAW-580

Serial Digital Interface Module



BKAW-581

Serial Digital Interface Module



BKAW-560

HD Video Interface Module



BKAW-590

HD SDI Module



BKAW-550

PC Video Interface Module



OPTIONAL MODULES Specifications

BKAW-570 SD Video Interface Module

Composite	BNC Type x 2 / Video: 1.0 Vp-p, 75 Ω, Sync negative
S-Video	DIN Type x 2 / Y: 1.0 Vp-p, 75 Ω, Sync negative / C: 0.286 Vp-p at burst, 75 Ω (NTSC) / C: 0.3 Vp-p at burst, 75 Ω (PAL)
DV IN/OUT	EEE 1394 6-pin type x 2 IEC 6 1883-2 compliant
i.LINK	IEEE 1394 S400 6pin Type x 1 / HDD IF: SBP2

BKAW-580 / 581*1 Serial Digital Interface Module

SD SDI IN	BNC Type x 2 / Video: 800m Vp-p (75 Ω) / SMPTE259M-C, ITU-R656 compliant / Audio sampling rate: 20 bit 48 kHz 2 channels (channel 1 and 2, or 3 and 4) / SMPTE272M-A compliant
SD SDI OUT	BNC Type x 1 / Video: 800m Vp-p (75 Ω) / SMPTE259M-C, ITU-R656 compliant / Audio sampling rate: 20 bit 48 kHz 2 channels (channel 1 and 2) / SMPTE272M-A compliant
i.LINK*2	IEEE 1394 S400 6pin Type x 1 / HDD IF: SBP2

BKAW-560 HD Video Interface Module

Y PB PR IN	D-Sub Shrink 15pin Type x 2 (Female) / Analogue Component 1080 50i / 59.94i, 720 50p / 59.94p Sync on Y Y: 0.70V, Pb & Pr: ± 0.35V
Y PB PR OUT*3	D-Sub Shrink 15pin Type (Female) / Analogue Component 1080 50i / 59.94i, 720 50p / 59.94p Sync on Y Level Y: 0.70V, Pb & Pr: ± 0.35V

BKAW-590 HD SDI Module

HD SDI IN	BNC Type x 2, 800 mVp-p, 75 Ω Video: SMPTE 292M 1080 50i / 59.94i, 720 50p / 59.94p Audio: SMPTE 299M (48kHz, 20bit, 1/2CH, 3/4CH selectable)
HD SDI OUT*3	BNC Type, 800 mVp-p, 75 Ω Video: SMPTE 292M 1080 50i / 59.94i, 720 50p / 59.94p Audio: SMPTE 299M (48kHz, 20bit, 1/2CH)

BKAW-550 PC Video Interface Module

RGB	D-Sub Shrink 15pin Type x 2 (Female)
-----	--------------------------------------

*1 This interface module is available with software version 2.30 and later.

*2 Only for BKAW-580.

*3 The output is active when 16:9 HD mode is selected for Programme Output Aspect Ratio.

Rear panel of AWS-G500E



*4 The three slots for optional modules are covered with blank panels.

Rear panel connectors example



*5 BKAW-550 PC Video Interface Module x1, BKAW-570 SD Video Interface Module x2

SD/HD mixed operations

The AWS-G500E can handle SD and HD signals simultaneously, which makes it a highly versatile system.

For PGM output, three types of aspect ratio (4:3, 16:9 SD, and 16:9 HD mode) are provided. For SD/HD mixed operation in 16:9 SD mode, it is possible to record PGM

output onto an external HDD connected to the AWS-G500E via the BKAW-570 SD Video Interface Module or BKAW-580 SD-SDI Video Module.

Main Features

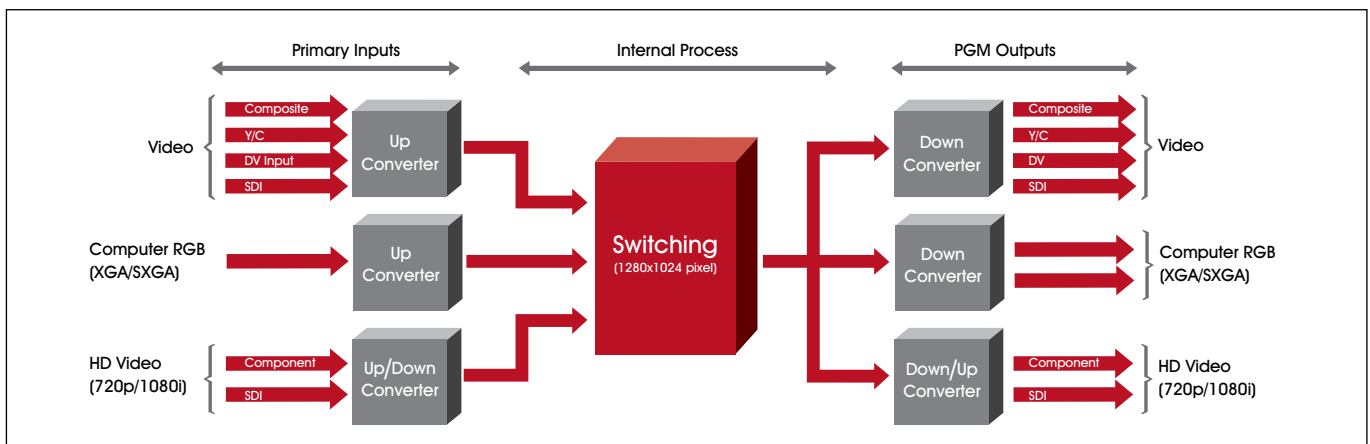
Seamless switching between video and PC sources

In live events, there's no telling what types of signal source need to be presented or distributed. With the AWS-G500E this dilemma is a thing of the past. The AWS-G500E allows live switching between a variety of signal sources – from standard definition video (analogue composite, S-Video, DV, SD-SDI), high-definition video (HD analogue component, HD-SDI) to PC images with various resolutions.

Two important features make this possible - the sophisticated built-in line converters and the high-resolution internal processing. Each input source supplied to the AWS-G500E is up-converted and processed within a 1280 x 1024 progressive domain to allow switching between sources of different resolutions, while keeping picture degradation to a minimum.

The programme can be output from a variety of interfaces including analogue composite, S-Video, SD-SDI*1 for video, HD analogue component*2, HD-SDI*3 and D-Sub 15-pin outputs for projectors and plasma displays*4.

- *1 When using the optional BKAW-580 or BKAW-581 Serial Digital Interface Module.
- *2 When using the optional BKAW-560 HD Video Interface Module.
- *3 When using the optional BKAW-590 HD-SDI Module.
- *4 Available output depends on the interface module used.



External hard disk drives (HDD) operation*5

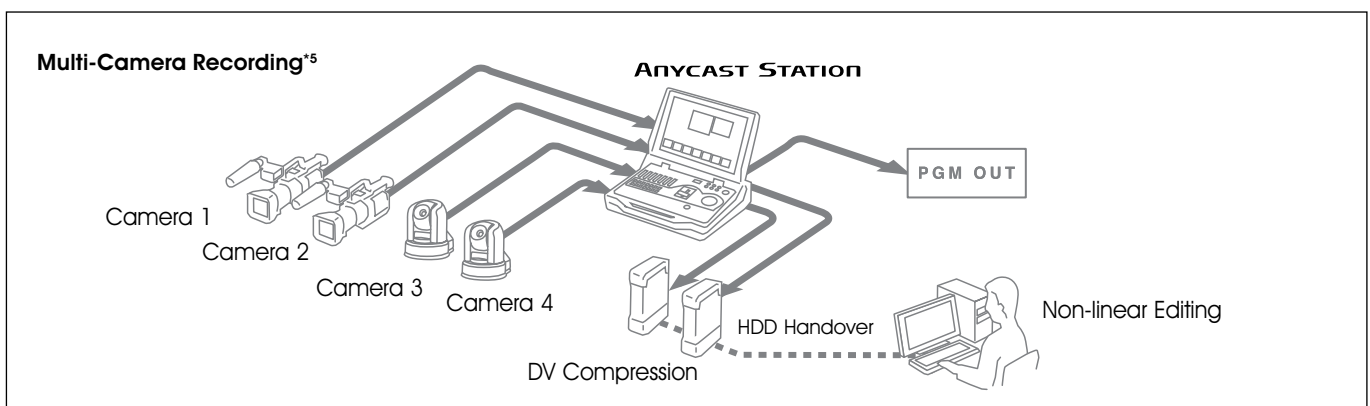
During a live event, the AWS-G500E with optional BKAW-570 or BKAW-580 allows synchronised recording (DV-AVI format) of two primary standard definition video input sources to an external third-party hard disk drive*6 via an IEEE1394 interface. This means that with only two hard disk drives, four primary inputs can be recorded. What's more, the PGM output of the

AWS-G500E can also be recorded to them as DV files.

After recording, the DV files can be played back on a PC by connecting the hard disk drives to it, as well as on the AWS-G500E. Loop playback between designated IN and OUT points is possible and six pairs of IN and OUT points can be set for one clip file.

In addition to recording, external HDDs can be used to supply the AWS-G500E with externally created video sources in the DV-AVI format.

Furthermore, the AWS-G500E has the capability to automatically create an EDL (Edit Decision List) based on its switching information, which allows users to edit DV files on a PC very efficiently.



*5 Optional BKAW-570 or BKAW-580 is required.

*6 Please contact your nearest Sony office or authorised dealer for compatible hard disk drives and their conditions for use in recording of two primary input sources.

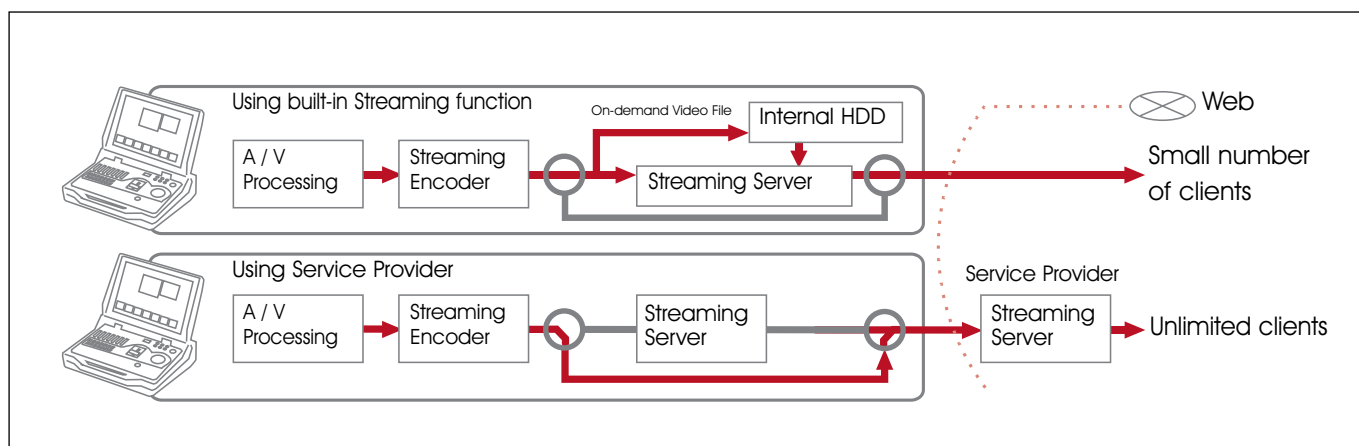
Streaming Encoder and Streaming Server – Live and On-demand Video Streaming

The AWS-G500E provides a built-in Streaming Encoder and Streaming Server as a standard feature for live and on-demand video streaming. This function allows the high-quality programme output of the AWS-G500E to be streamed in real-time - with minimum degradation and through very simple procedures - for distribution over the Internet, LANs or leased lines. When the number of clients is relatively small, the built-in Streaming

Server function allows the streamed video to be distributed right from the AWS-G500E without the need for an external streaming server connection. Since the built-in Streaming Encoder also allows connection to external streaming servers, the live event can be widely distributed to hundreds or even thousands of viewers.

The AWS-G500E can also store internally encoded video files on its own hard disk

drive and stream them as video-on-demand. This allows a relatively small number of clients to connect directly to the AWS-G500E and view video files when they wish. In addition, the stored video files can also be exported via Memory Stick or USB flash drive to an external server for full-fledged on-demand video streaming to a larger number of clients.



Other Features

Device control capability

The i.LINK interface provided on the BKAW-570 SD Video Interface Module enables remote controls of devices connected via the i.LINK connector such as VTRs and camcorders.

Controlling the Play and Stop buttons and the Jog/Shuttle dials on the control panel of the AWS-G500E provides these respective commands to the connected devices. Up to six cue-up points can be set for one device.

Pressing the ONLINE button on the control panel enables a connected recorder device to start and stop recording PGM output.

Connectivity with PC

The i.LINK interface provided on the BKAW-570 SD Video Interface Module also allows PGM output signals to be supplied to external devices as a DV stream. With this capability, the DV stream from the

AWS-G500E, for example, can be captured on a PC for later use such as viewing and editing it.

Tally functions and remote selection of PGM/NEXT buttons

The FACTORY USE connector on the side panel gives two convenient functions to the AWS-G500E during live events.

From this connector, tally outputs are provided for up to five cameras via their Camera Control Units (CCUs).

What's more, when used with the Sony RM-BR300, a remote controller for VISCA-compatible pan/tilt/zoom cameras, selection of PGM and PWW signals on the AWS-G500E is remotely enabled by the signals from the RM-BR300.

Audio-follow-video function

The Audio-follow-video function allows video and audio signals on a same channel to be selected at the same time

just by selecting a desired video source on the PGM row.

This is convenient when one operator needs to perform both video switching and audio mixing.

Operation screen (GUI) output to an external display

The operation screen (GUI) of the AWS-G500E can be supplied to an external display* at WXGA size (1,280 x 800) at 60 Hz.

*Please contact your nearest Sony office or authorised dealer for information on compatible displays.

Video effect snapshots

Effect patterns and settings can be registered as snapshots, and instantly recalled when necessary. Up to 54 snapshots can be registered. Another 54 snapshots are available in key mode.

Applications

Example: Large projection application



Simulated image

A range of features make the AWS-G500E suitable for virtually limitless applications. The following are typical examples:

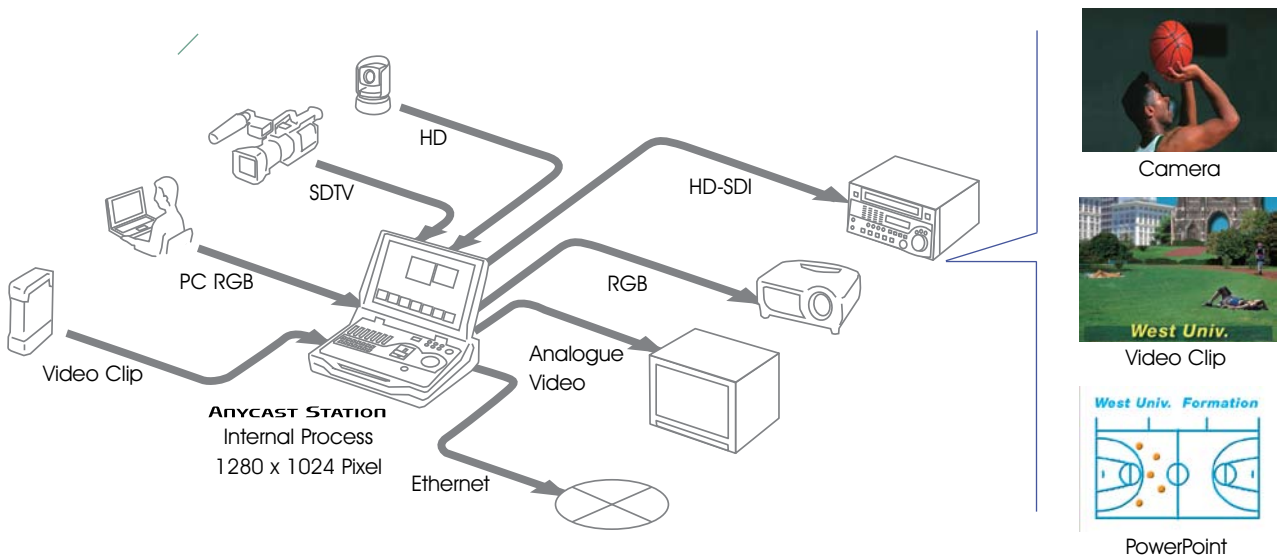
- > Church production
- > Product promotion
- > Remote television broadcast productions
- > Corporate videos
- > Event staging
- > Live stages/music clip creation
- > Conferences/seminars
- > Distance learning

The AWS-G500E is a convenient live content creation system that allows easy integration of PC images, such as Microsoft PowerPoint® slides and Excel® spreadsheets, into live video programming. The AWS-G500E is designed so that PC image quality and/or video quality are not degraded during source switching, keeping the final programme output quality at its best. Since image quality is important when displaying presentations on large projection systems, the AWS-G500E serves as a powerful tool in such applications. The preview monitor on the LCD screen further assists in selecting the next source to be put on screen, allowing for a very smooth, seamless presentation.

What's more, by preparing video clips to be used in the presentation on third-party hard disk drives, operation of the entire presentation becomes much smoother, especially compared to using conventional tape-based playback devices.

And, of course, using the built-in streaming capability or signing up with a streaming service provider, allows the impressive screen projection to be distributed across the web, delivering the message wherever desired.

Large Projection Application



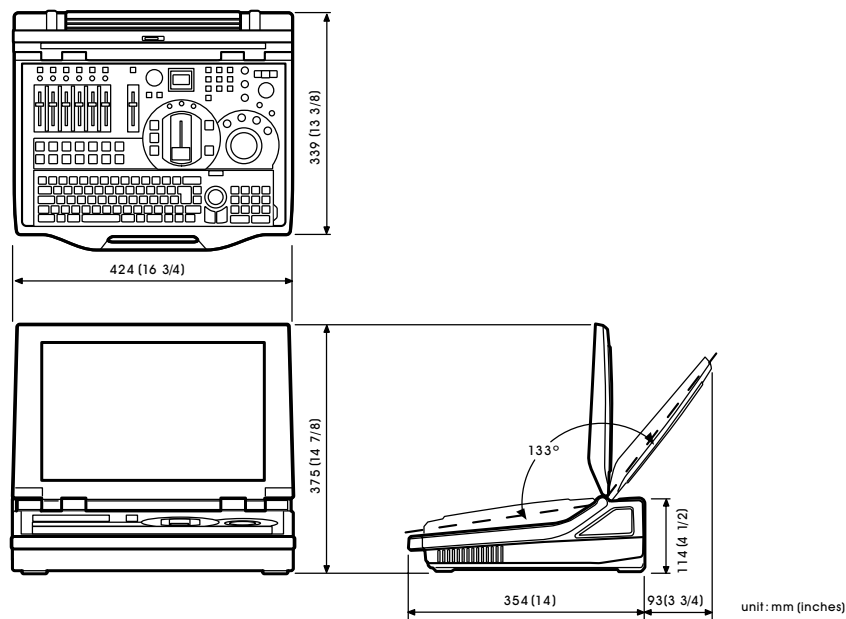
Functions

Video Switcher	
Configuration	6 Primary inputs and 1 Internal Still Picture 1 M/E + 1 Keyer + DSK + LOGO
Input Level Control	Lum Level / Lum Offset(Setup) / Chroma Level / Hue (NTSC only)
Video Effect	Mix and 16 patterns of Wipe P In P: 3 patterns (Large, Medium, and Small) Fade to Black
Key Source	Keyer: Input Signals or Internal Still Picture DSK: Internal Still Picture LOGO: Internal Still Picture
Key Type	Keyer: Luminance Key / Alpha Channel / Chroma Key DSK: Luminance Key / Alpha Channel LOGO: Luminance Key / Alpha Channel
Internal Still Picture	Matte, Colour Bar (SMPTE/EBU) Import Picture Format: BMP, TIFF, TGA, JPG
Picture Aspect	4 : 3 / 16:9
Audio Mixer	
Configuration	Input: 8 Monaural inputs or DV / SDI Stereo Audio Mixing: 6 Stereo Mixing Output: PGM (Stereo) / MIX (Stereo) / AUX1 / AUX2
Input Control	Input Trim: -15dB to +15dB Filter: High Cut 8kHz, Low Cut 100Hz EQ: 3 Band Parametric Equaliser Limiter: 100:1 Compressor: 2:1 Pan Audio-follow-video
Tone Signal	100Hz, 440Hz, 1kHz, 10kHz
HDD Recording/Playback *1	
Codec	DV
Recording Format	AVI (DV-AVI)
Recording Source	Video: SD Video Inputs / PGM Audio: Inputs (Stereo) / PGM Audio (Stereo)

Camera Control	
Recommended Camera	BRC-H700 / BRC-Z700 / BRC-300P / EVI-D100P EVI-D70P / EVI-HD1
Max. Controllable cameras	Up to 6 Cameras
Snap Shot Memory	Memory: 6 Items: Pan / Tilt / Zoom / Focus / Iris
Control Tool	NEXT Button / Pointer / Jog Shuttle Dial
Streaming	
Streaming Control	Online Button for starting Streaming
Meta Data Description	Title, Author, Copyright
Movie during preparing broadcast	Sony Original Movie "Sony Network Tunnel"
Text Typing Tool	
Resolution	1280 x 960 RGB 8 bit
Objects	Text, Line, Background Colour
Modification	Bold, Italic, Underline Edge Border
Font	Three English True Type Font
Import format	True Type Fonts (.ttf)
Export format	TIFF, TGA
Colour Tool	RGB/HSL Slider type, Colour Picker type
Others	Kerning, Spacing, Centering, Ordering, Safe Area *Please contact your nearest Sony office or authorised dealer for availability of other languages.
Job Management	
Save/Load	Setup data can be stored on or recalled from a built-in hard disk drive.
Import/Export	Setup data can be exported to or imported from a Memory Stick® media or USB flash memory device.

*1 Optional BKAW-570 or BKAW-580 is required.

Dimensions



Specifications

AWS-G500E	
General	
Power Requirements	AC 100-240 V, 50/60 Hz
Operating Voltage	AC 90-260 V, 47/63 Hz
Power Consumption	1.6 A - 0.8 A
Operating Temperature	5 to 40 °C (42 to 104 °F)
Dimensions (W x H x D)	424 x 114 x 354 mm (16 3/4 x 4 1/2 x 14 inches)
Mass	7.0 kg *1
Video Signals	
VIDEO OUTPUTS (in ex-factory configuration)	
Composite	BNC Type x1 Video: 1.0 Vp-p, 75 Ω, Sync negative
S-Video	DIN Type x 1 Y: 1.0 Vp-p, 75 Ω, Sync negative C: 0.286 Vp-p at burst, 75 Ω (NTSC) C: 0.3 Vp-p at burst, 75 Ω (PAL)
RGB	D-Sub Shrink 15-pin Type x 2 (Female)
REF OUT	BNC Type x 2 Sync: 0.286 Vp-p, 75 Ω, Sync negative (NTSC) Sync: 0.3 Vp-p, 75 Ω, Sync negative (PAL) C: 0.286 Vp-p at burst, 75 Ω (NTSC) C: 0.3 Vp-p at burst, 75 Ω (PAL)
Video Signals Performance	
Quantisation	8 bit
Frequency Response	NTSC: 0 to 4.2MHz +1dB - 3dB / PAL: 0 to 4.8MHz +1dB - 3dB
S/N Ratio	50dB or more (Composite Y)
Y/C Delay	Less than 50ns
REF OUT Frequency Accuracy	Within 50ppm
RGB Preset Signals	XGA 60Hz (VESA DMT1024 x 768 60Hz) / XGA 75Hz (VESA DMT1024 x 768 75Hz) / WXGA 60 Hz (VESA DMT1280 x 768 60Hz) / SXGA 60Hz (VESA DMT1280 x 1024 60Hz)
Supplied Accessories	
Operating Instructions	Printed manual, CD-ROM
Keyboard	85 keys + Pointer / Infrared communication / Powered from AWS-G500E: + 5 V / Battery operation: CR2032 or CR2032H

*1 Without optional modules.

*2 For VOD files only

*3 The Anycast Station automatically selects the frame rate according to bit rate and picture resolution. Therefore the frame rate cannot be manually selected.

AWS-G500E	
Audio Signals	
Audio Inputs	
Analogue Inputs 1-2	XLR/TRS Combo Type x 2 / Ref. Level: + 4 dBu, - 20 dBu, - 44 dBu / Mic. Power: + 48 V
Analogue Inputs 3-6	TRS Type (Balanced) x 4 / Ref. Level: + 4 dBu, - 20 dBu, - 44 dBu
Analogue Inputs 7-8	Pin x 2, Ref. Level: -10 dBu
Audio Outputs	
PGM Out	TRS Type x 2, Ref.: + 4 dBu, Impedance: 150 Ω
MIX Out	Pin Type x 2, Ref.: -10 dBu, Impedance: 470 Ω
AUX Out	TRS Type x 2, Ref.: + 4 dBu, Impedance: 150 Ω
Monitor Out	TRS Type x 2, Ref.: + 4 dBu, Impedance: 150 Ω
Headphones	1/4" Stereo Phone Jack Type x 1, 70mW x 2, Impedance: 47 Ω
Intercom	D-Sub 9-pin Type (Female) / Original Parallel I/O
Audio Signals Performance	
Sampling Frequency	48kHz x 128 over sampling (A/D)48kHz/32kHz (DV IN)
Quantisation	24 bit (A/D, D/A), 32/40bit (DSP)
Frequency Response (MIC/LINE)	20Hz to 20kHz + 0.5dB to - 2dB
THD (LINE -10dBu 1kHz)	0.1% or less
Dynamic Range	90dB or more
Other Interfaces	
Network	RJ-45 Type x 1, 10 base-T/100 base-TX
Usb	USB A Type x 2, USB compatible
RGB (GUI)	D-Sub Shrink 15 pin (Female), 1280 x 800 60 Hz
Remote	D-Sub 9 pin (Male), RS-232C
Factory Use	D-Sub 15 pin (Male), Original Parallel I/O Up to five camera tally outputs are available.
Memory Stick	Memory Stick Slot / Memory Stick Pro / Pro Duo
Visca Out	DIN 8pin Type x 1 / Sony VISCA camera commands are supported.
LCD	15.4"High Brightness LCD, 1440 x 900 60 Hz
Speaker	Built-In Speaker x 2 Size: 20 x 40 (mm)
Streaming Performance	
Codec	Real Video 9, Real Audio 8
Streaming Server	Helix DNA Server
Protocol	rtsp (Streaming), UDP, TCP, HTTP (Transport)
Audio Sampling Frequency	44.1kHz
Resolution	160 x 120, 240 x 180, 320 x 240
Bit Rate (Video+Audio)	Compression Scheme: Variable Bit Rate / Preference: Average (Max. Bit Rate) 34kbps(56kbps) / 50kbps(64kbps) / 150kbps(180kbps) / 225kbps(256kbps) / 350kbps(700kbps) / 450kbps(900kbps) / 700kbps(1400kbps) / 1Mbps(2Mbps)*2
Frame Rate	15fps (Typical) *3
Distribution Delay	10 seconds or more (inc. player's minimum buffering delay)
Client Number	34, 50, 150kbps: Up to 20 / 225, 350kbps: Up to 10 / 450, 700kbps: Up to 5 (This number is influenced by network condition.)



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