

## FA-9500 Datasheet

### 1. Specifications

#### Basic specifications

Temperature / Humidity	0°C to 40°C / 30% to 90% (no condensation)
Power	100 VAC - 240 VAC $\pm$ 10%, 50/60 Hz
Consumption	FA-9500: 50 VA (47 W) (at 100 - 120 VAC) 64 VA (52 W) (at 220 - 240 VAC) with FA-95PS: 60 VA (55 W) (at 100 - 120 VAC) 73 VA (56 W) (at 220 - 240 VAC) Add the amount of power consumption of options installed: FA-95D-D (*1): 4 VA (4 W) (at 100 - 120 VAC) 5 VA (5 W) (at 220 - 240 VAC) FA-95DE-E (*1): 6 VA (6 W) (at 100 - 120 VAC) 7 VA (7 W) (at 220 - 240 VAC) FA-95AIO: 8 VA (9 W) (at 100 - 120 VAC) 9 VA (9 W) (at 220 - 240 VAC) FA-95ALA: 8 VA (9 W) (at 100 - 120 VAC) 9 VA (9 W) (at 220 - 240 VAC)
Dimensions	430 (W) x 350 (D) x 44 (H) mm 480 (W) (Including rack mount brackets)
Weight	3.0 kg (without options) FA-95D-D/DE-E: 0.3 kg FA-95AIO: 0.3 kg (with a connection cable PC-3307-1) FA-95ALA: 0.2 kg
Consumables (at 24-hour operation)	(Recommended replacement timespans) Power unit (within 5 years) Cooling fan: P-1437 (FAN 1 and FAN 2) (within 6 years)

(\*1) FA-95DE-E and FA-95D-D have been discontinued.

#### Technical specifications

Input Video Formats	1080/59.94p, 1080/50p (Level-A), 1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p, 525/60 (NTSC), 625/50 (PAL)
Output Video Formats	1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p, 525/60 (NTSC), 625/50 (PAL), PAL-M
Video Input	3G-SDI: 3 Gbps, HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 75 $\Omega$ , BNC x 2 Analog Composite: 1.0 Vp-p, 75 $\Omega$ , BNC x 1
Video Input (FA-95AIO option)	SDTV YPbPr: 75 $\Omega$ , BNC (Y, Pb and Pr 1ea.) Y: 1.0 Vp-p Pb, Pr: 0.525 Vp-p (SMPTE level) 0.757 Vp-p (BETACAM level) SMPTE and BETACAM menu selectable Analog RGB: 1.0 Vp-p 75 $\Omega$ , BNC (R, G, and B 1 ea.) Y/C: 1.0Vp-p 75 $\Omega$ , BNC (Y and C 1 ea.) HDTV YPbPr: 75 $\Omega$ , BNC (Y, Pb and Pr 1ea.) Y: 1.0 Vp-p Pb, Pr: 0.525 Vp-p Analog RGB: 1.0 Vp-p 75 $\Omega$ , BNC (R, G, and B 1 ea.)

Video Output	3G-SDI: 3 Gbps or HD-SDI: 1.5 Gbps or SD-SDI: 270Mbps, 75Ω, BNC x 4 (2 x 2 outputs) Analog Composite: 1.0Vp-p, 75Ω, BNC x 2
Video Output (FA-95AIO option)	SDTV YPbPr: 75Ω, BNC (Y, Pb and Pr 1ea.) Y: 1.0 Vp-p Pb, Pr: 0.525 Vp-p (SMPTE level) 0.757 Vp-p (BETACAM level) SMPTE and BETACAM menu selectable Analog RGB: 1.0 Vp-p 75Ω, BNC (R, G, and B 1 ea.) Y/C: 1.0Vp-p 75Ω, BNC (Y and C 1 ea.) HDTV YPbPr: 75Ω, BNC (Y, Pb and Pr 1ea.) Y: 1.0 Vp-p Pb, Pr: 0.525 Vp-p Analog RGB: 1.0 Vp-p 75Ω, BNC (R, G, and B 1 ea.)
Video I/O Process	3 inputs (standard) or 4 inputs (maximum input) > 1 processing < 2 x 2 outputs
Color sampling	3G/HD/SD-SDI: 4:2:2 10-bit Analog Composite: 4:2:2 12-bit
Frequency Response	
NTSC	100 kHz to 4.2 MHz: -0.5 dB to +0.5 dB, 4.2 MHz to 5.0 MHz: -1.0 dB to +1.0 dB, roll off above 5.0 MHz (NTSC, composite)
PAL	100 kHz to 4.2 MHz: -0.5 dB to +0.5 dB, 4.2 MHz to 5.5 MHz: -1.0 dB to +1.0 dB, roll off above 5.5 MHz (PAL, composite)
DG/DP	1% / 1° (composite)
S/N Ratio	60 dB (without quantization noise, composite)
Genlock Input	BB: NTSC: 0.429 Vp-p / PAL: 0.45 Vp-p; or Tri-level Sync: 0.6 Vp-p, 75Ω BNC x 1, loop-through (Terminate with 75Ω terminator, if unused.)
Synchronizer mode	Frame Sync mode, Line Sync mode, AVDL mode, Input Sync mode (minimum delay)
System Phase Control	
Frame Sync mode	H phase: -1/2 H to +1/2 H V phase: -1/2 frame to +1/2 frame Maximum delay: 1 frame + 1H, Minimum delay: 1H
Line Sync mode	H phase: -1/2 H to +1/2 H V phase: -1/2 frame to +1/2 frame Maximum delay: 1H +1/2 H, Minimum delay: 1/2 H
AVDL mode	H phase: -1/2 H to +1/2 H V phase: -1/2 frame to +1/2 frame Maximum delay: 5 H +1/2 H, Minimum delay: 1/2 H (HD) Maximum delay: 1 H +1/2 H, Minimum delay: 1/2 H (SD)
Input Sync mode	H phase: -1/2 H to +1/2 H V phase: -1/2 frame to +1/2 frame Maximum delay: 1 frame, Minimum delay: +520 clk
Video Delay	Maximum 8 frames (Frame Sync or Input Sync)

Video Processing Functions	Up/Down/Cross converter Aspect ratio converter Proc Amp Color Corrector Automatic video optimizer (AVO) Second converter (Down/Cross/Aspect ratio)
Proc Amp	Video level: 0.0% to 200.0% Chroma level: 0.0% to 200.0% Black level: -20.0% to 100.0% HUE: -179.8° to +180°
Video Clip	YPBPR mode RGB mode Composite mode
Color Correction	Balance mode Differential mode Sepia mode
Audio Input	
Embedded Audio	3G/HD: 16 channels (Group 1 to 4), 48 kHz, 16-bit to 24-bit, synchronous/asynchronous SD: 16 channels (Group 1 to 4), 48 kHz, 16-bit to 24-bit, synchronous only
AES/EBU	Unbalanced, 1.0 Vp-p, 75Ω, BNC x 4 for AES/EBU input/output, Maximum 4 pairs of stereo channels, 32/44.1/48 kHz, 16-bit to 24-bit
Analog Audio	Balanced or unbalanced, 4 inputs (2 stereo channels), 25-pin D-sub (female) x 1 for analog audio input/output, 600Ω or High impedance, 48 kHz, 24-bit
Audio Output	
Embedded Audio	3G/HD: 16 channels (Group 1 to 4), 48 kHz, 16/20/24-bit, synchronous/asynchronous SD: 12 channels (Group 1 to 3), 48 kHz, 16/20/24-bit, synchronous only
AES/EBU	Unbalanced, 1.0 Vp-p, 75Ω, BNC x 4 for AES/EBU input/output, Maximum 4 pairs of stereo channels, 48 kHz, 16-bit to 24-bit
Analog Audio	Balanced or unbalanced, 4 outputs (2 stereo channels), 25-pin D-sub (female) x 1 for analog audio input/output, less than 100Ω, 48 kHz, 24-bit
Audio Delay	2 ms - 1,000 ms (adjustable in 1 ms steps)
Audio Processing Functions (Set per channel)	Sampling rate converter (SRC) Gain control Down mix Channel re-mapping Channel mute
Interfaces	
Ethernet	10 Base-T / 100 Base-TX / 1000 Base-T, RJ-45 x 2
Remote (GPI)	9-pin D-sub (male) (7 terminals) x 1, IN: TTL negative logic level signal or Make contact OUT: Rated current 10mA (each terminal), Absolute maximum current 40mA
FA-95D-D/FA-95DE-E Option (*1)	

Audio Input	AES/EBU Unbalanced, 1.0 Vp-p, 75Ω, BNC x 1, 48 kHz, 16-bit to 24-bit
Audio Output	AES/EBU Unbalanced, 1.0 Vp-p, 75Ω, BNC x 1, 48 kHz, 16/20/24-bit
Reference Input	BB: NTSC: 0.429 Vp-p / PAL: 0.45 Vp-p; or Tri-level Sync: 0.6 Vp-p, 75Ω, BNC x 1 (Internally 75Ω terminated)
FA-95AIO (Analog Component I/O) Option	
Input Video Formats	1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p 525/60 (NTSC), 625/50 (PAL)
Output Video Formats	1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p 525/60 (NTSC), 625/50 (PAL), PAL-M
FA-95ALA (Automatic Loudness Adjustment) Option	
Supported standard	ARIB TR-B32, ATSC A/85, EBU-R128, ITU-R BS.1770

(\*1) FA-95DE-E and FA-95D-D have been discontinued.

### Options

FA-95PS	Redundant power supply unit (with AC cord and AC cord retaining clip)
FA-95DACBL	Digital audio expansion cable (to expand digital audio I/O up to 8 inputs and 8 outputs.) Normally installed in slot B.
FA-95RU	Remote Control Unit
FA-95AIO	Analog component I/O expansion card (with dedicated connection cable: PC-3307-1)
FA-95ALA	Automatic Loudness Adjustment card
FA-10DCCRU	Remote Control Unit for color correction

### Software Option

FA-95CO	Changeover
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### Accessories

AC cord, EIA Rack mount brackets, and Quick setup guide

**2. External Dimensions**

(All dimensions in mm.)

