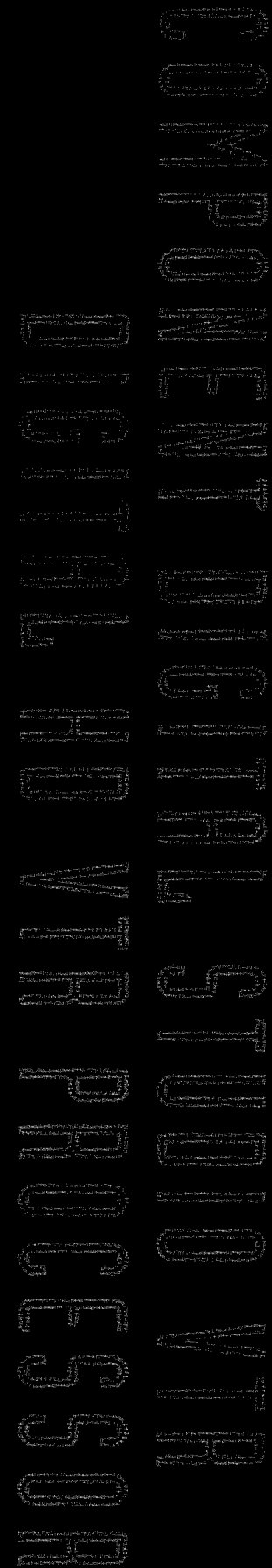


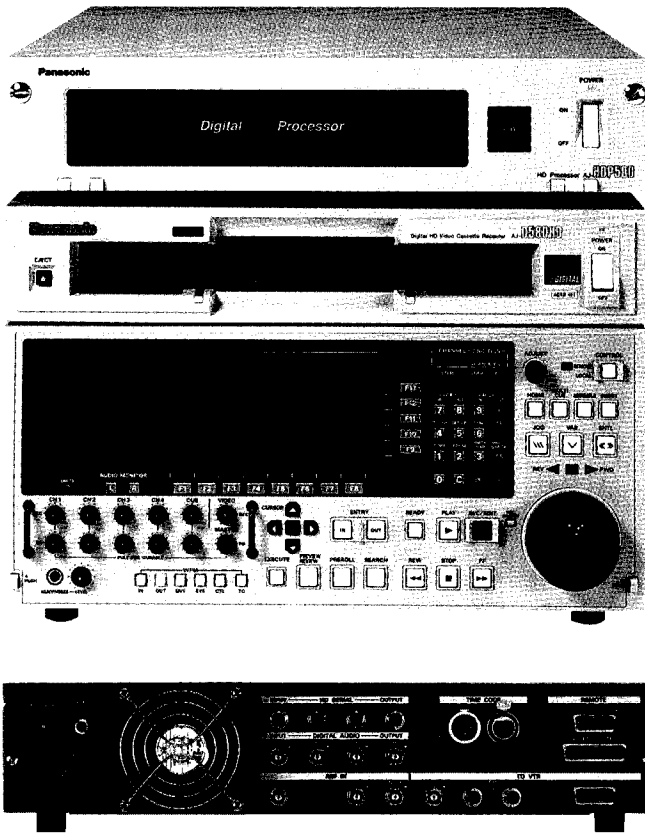
## 1/2 Digital HD Studio VTR System

The AJ-D580/AJ-HDP500 digital VTR system compresses 1125i HDTV studio standard signals and records them with superior digital picture quality. The system makes cost effective HD broadcasting possible, yet takes up no more space than existing systems. The AJ-D580/AJ-HDP500 uses convenient 1/2in standard D5 cassette tape that combines high cost - performance with easy

handling and space-efficient storage. SMPTE 292M serial digital input and output make the AJ-D580/AJ-HDP500 system simple and easy to install. Simultaneous development of D/A and A/D converters, serial and parallel converters, and a digital distributor provides total system interfaces necessary for existing digital and analog HDTV equipment.



# D-5 Digital HD VTR System



## **SUPERIOR-QUALITY DIGITAL RECORDING OF HD STUDIO STANDARD SIGNALS**

HD studio standard signals are image-compressed for digital recording with outstanding picture quality.

## **HIGH COST-PERFORMANCE WITH 1/2IN CASSETTE TAPE**

An advanced image compression method combines with the D-5 format's high-density recording technology to allow HD digital recording on high-cost-performance 1/2in cassette tapes. Available in 124.63 and 23 minutes lengths, these convenient 1/2in D-5 tapes are easy to handle and require little storage space.

## **SERIAL DIGITAL INPUT/OUTPUT**

The HD serial digital interface allows transmission of both video and audio signals over a single coaxial cable. The serial digital interface also provides simple connection of the VTR with the processor.

## **HIGH-QUALITY, 4-CHANNEL DIGITAL AUDIO**

The 20-bit/48-kHz sampling and dynamic range of 100 dB assure exceptional sound quality. All four audio channels offer independent recording and playback, as well as channel mixing. One analog (cue) track is also provided.

## **AES DIGITAL INPUT/OUTPUT**

Each of the four audio channels is equipped with its own digital inputs and outputs, for standard interfacing with other digital audio equipment.

## **A VARIETY OF REMOTE CONTROL CAPABILITIES**

The VTR comes standard with 9-pin serial (RS-422A), 50-pin parallel, and RS-232C remote interfaces, while the processor features a video process control terminal and a 25-pin system control terminal for field rate switching (60 Hz/59.94 Hz) and other purposes. This allows greater flexibility and easy system expansion.

## **SLOW, SEARCH AND EDIT FUNCTIONS**

AT (auto tracking) allows noiseless playback from normal-speed reverse to 2 times forward speed. Shuttle search runs at 50 times normal speed in both forward and reverse. Video, digital audio, time code and Ctl can be simultaneously played back for monitoring. Editing functions include assemble and insert edit, spot erase, audio split, and variable memory.

## **COMPACT SIZE, LIGHT WEIGHT**

The VTR is 6U in height and weighs about 50kg. While the processor is 2U and about 15kg. These compact, lightweight units save space and are easy to move.

## **SERIAL DIGITAL CAPABILITY**

Equipped with a 1.5Gbps HD serial digital interface. Video signals can be input and output via a single coaxial cable.

# HD Serial Digital Interface

**AJ-D580**  
DIGITAL STUDIO VTR  
**AJ-HDP500**  
DIGITAL HD VTR PROCESSOR

## 10-BIT D/A(A/D) CONVERTER

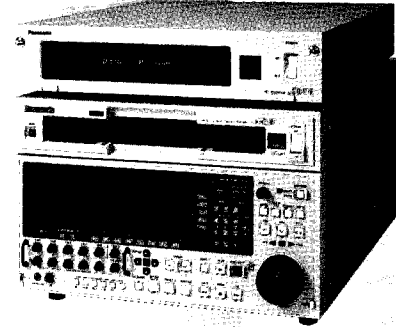
The AJ-HDA500 (and AJ-HAD500) are 10-bit D/A (A/D) converters that provide outstanding picture quality with an S/N ratio of more than 60 dB.

## 1035/1080-LINE COMPATIBLE

The AJ-HDA500, AJ-HAD500 and AJ-HDA300 are compatible with the 1035 line format and with the 1080 line format of SMPTE274M systems.

## 60 HZ/59.94 MOUNT RACK

The AJ-HAD500, AJ-HDA500, AJ-HSP500 and AJ-SDA500 are each designed to fit a 19in rack.



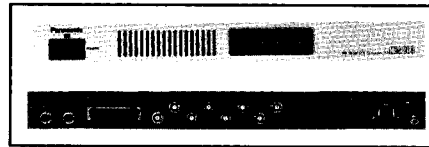
COMPONENT DIGITAL DIGITAL STUDIO VTR  
DIGITAL HD VTR PROCESSOR

## AJ-HDA500

DIGITAL ANALOG

### D/A CONVERTER

The AJ-HDA500 converts HD studio standard digital signals into analog signals. Accepting both serial digital input and 8bit parallel digital input, it connects easily with a variety of equipment

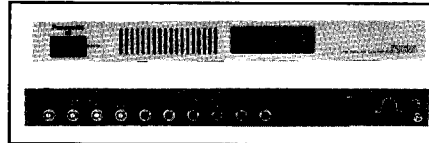


## AJ-HAD500

DIGITAL ANALOG

### A/D CONVERTER

The AJ-HAD500 converts HD studio standard analog signals into serial digital signal. It's equipped with a built-in 100% colour bar generator for test use.

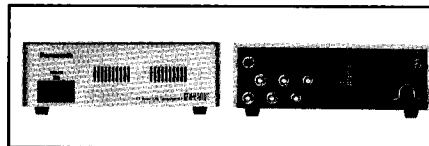


## AJ-HDA300

DIGITAL ANALOG

### D/A CONVERTER

The AJ-HDA300 is a simple, compact D/A converter that features automatic 1035/1080 line selection according to the input signal.

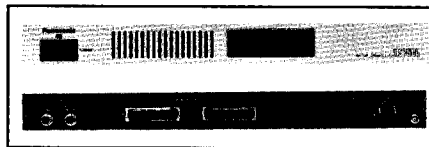


## AJ-HSP500

DIGITAL ANALOG

### S/P CONVERTER

The IU-size AJ-HSP500 converts HD studio standard serial digital signals into parallel digital signals.

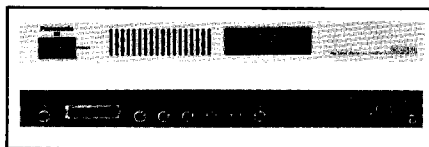


## AJ-SDA500

DIGITAL ANALOG

### DIGITAL DISTRIBUTOR

The AJ-SDA500 accepts either HD studio standard parallel signals or serial digital input signals, and distributes them into 6 serial digital signal outputs. This IU-size unit also provides parallel/serial conversion.



\*K Factor; Less than 1%

\*YC Delay Less than 3.5ns

\*IN?OUT; Serial Digital Output; BNC x6 Analog Component Input(Y,Pb,Pr,Sync); BNC x 4

\*these specification are measured when the AJ-HAD500 is used

**Specifications**  
**AJ-D580 WITH AJ-HDP500**

**General**  
Power Requirement: 100-120 V+ 10%, 50/60Hz  
Power Consumption: VTR: Max. 600 W HD  
Processor: Approx. 220 W  
Operating Temperature: 5 C to 40 C (41 F to 104 F)  
Operating Humidity: 10%-80% (Non-Condensing)  
Weight: VTR: Approx. 50 kg (110.3lbs.)  
HD Processor: Approx 15kg (33 lbs)

**Dimensions:**  
VTR: 437(W)x291(H)x650(D)mm(6U)  
(17-1/4in x 11-1/2in x 25-5/16in)  
HD Processor: 424(W)x88(H)x550(D)mm (2U)  
(16-5/16in x 3-1/2in 22in)

**Recording Track:**  
Video Digital Audio: 12 track/1field  
Cue Audio: 1 track  
Linear Time Code: 1 track  
Control: 1 track

**Tape Speed:** 167,228 mms  
**Recording Time:**  
L: Max 124min, with AJ-D5C14L  
M: Max. 63min with AJ-D5C63M  
S: Max 23min. with AJ-D5C23S

**Servo Lock Time:** Within 1second  
(Framing/Standby ON)

**Tape Timer Accuracy:** ±1frame  
(with continuous CTL signal)  
0 frame (with TC)

**Edit Accuracy:** 0 frame  
**Auto Tracking Range:** -1 to +2x Normal Speed  
**Search Speed:** max. ±50x Normal Speed

**Video Performance**  
**Television Format:** 1125 lines, 60Hz  
1125 lines, 59.94Hz  
Y: 1920 sample/line  
Pb,Pr: 960 sample/line  
1035 line/frame  
1080 line/frame

**Compression Method:** Inter field compression  
**Level Adjustment:** Out; +3dB -∞(Y/Pb/Pr)  
Black; ±100mV

**Digital Audio**  
Channel: 4CH  
Sampling Frequency: 48 kHz  
Quantization: 20 bits/sample  
Frequency Response: 20 Hz to 20 kHz±0.5dB  
Dynamic Range: more than 100dB (at 1kHz emphasis off, a weighted)  
Distortion: less than 0.03% (at 1 kHz emphasis off, standard level)  
Cross Talk: less than -80 dB (1 kHz, between any two channels)  
Wow & Flutter: Below measurable limit  
Headroom: 20dB  
Operating Level: -8/-4/0/-20 dBm switchable (line IN/OUT)

**Input/Output**  
Gain Range: -∞ to +12 dB

**Cue Audio**  
Frequency Response: 100Hz to 12 kHz ±3dB  
S/N Ratio: More than 44 dB (Distortion 3%)  
Distortion: Less than 2% (at 1 kHz standard level)  
Wow & Flutter: Less than 0.2% (NAB UNWTD)  
Operating Level: +8/+4/0/-20(-60 only input) dBm switchable (Line IN/OUT)

**Input/Output**  
Gain Range: -∞ to +12dB

**Video Input Output Signal**  
HD Serial Digital Input: BNCx1, SMPTE 292M, include Audio and Time code  
HD Reference Input: BNC x 1, Analog 3- value Sync, ±0.3V, loop through 75Ω On/Off  
HD Serial Digital Output: BNC x 2 include Audio and Time code  
HD Serial Digital Monitor Output: BNC x 1, Include Audio and Time code

**Audio Input Output Signal**  
Digital Input: BNC x 2 SMPTE 276M  
Digital Output: BNC x 2 SMPTE 276M  
Analog Input\*: XLR x 4(CH1,2,3,4), Max 28 dBm 150Ω/600Ω/ high impedance switchable  
Cue Input: Max. 18 dBm, 150Ω/600Ω/ high impedance switchable, XLR x1  
Analog Output\*: XLR x 4(CH1,2,3,4), Max. 28dBm, low impedance  
Cue Output: Max. 18dBm, low impedance, XLR x 1  
Monitor Output L/R: XLR x 2  
Max. 24dBm, low impedance  
Headphones: M6x1, Variable level control by VR

**General Input/Output**  
WFM Output: ENV/EYE/CTL/TC BNC X 1 s witchable VTR Output  
Time Code Input: 2.4 Vp-p ±1.4 Vp-p. XLR x 1 Processor Input  
Time Code Output: 2.4 Vp-p low impedance, XLR x 1 VTR Output

**Remote**  
Video Process Remote-In: 15P x 1.Video level, System Phase etc..  
System Control: 25 x 1 60/59.94 field rate switching  
In; TTL, Out; open corrector RS-422a, 9P x 3 (In/Out, In, Out) RS-232C, 25P x 1  
Parallel Remote: VTR Control and Status Monitor In:TTL, Out:Open corrector, 50Px1

\*When equipped with the AJ-MK30P

**HD Serial Digital Interface**

**AJ-HDA500**  
Power Requirement: 100-120 V, 50/60Hz  
Power Consumption: 65W(target)  
Weight: 7kg(15.4lbs)(target)  
Dimensions: 424(W) x 44(H) x 450(D)mm (16-15/16in x 1-3/4in x 18in)

**Operating Temperature:** 5°C-40°C  
**Operating Humidity:** Less than 80%  
**Television Format:** 1125/60, 1125/59.94 (SMPTE274M)

**Sampling Frequency:** 1125/60: Y: 74.25MHz, Pb,Pr: 37.125MHz  
1125/59.94: Y: 74.176MHz, Pb,Pr: 37.088MHz

**Quantization:** 10 bits  
**Frequency Response:** Y: 30Hz-27MHz±0.5dB  
-30MHz+0.5dB/-1.5dB  
Pb,Pr:-1.35MHz±0.5/-1.5dB

**S/N:** More than 64dB  
**LF Linearity:** Less than 1%  
**K Factor:** Less than 1%  
**YC Delay:** Less than 3.5ns  
**In/Out:** Parallel Digital Input:D-Sub50Px1, Serial Digital Input: BNC x 2 Analog Component Output (Y, Pb, Pr, Sync): BNC x 8

**AJ-HAD500**  
Power Requirement: 100-120 V, 50/60 Hz  
Power Consumption: 70W (target)  
Weight: 7.5 kg (16.5 lbs.)(target)  
Dimensions: 424(W) x 44(H) x 450(D) mm (16-15/16in x 1-3/4in x 18)

**Operating Temperature:** 5 C-40 C  
**Operating Humidity:** Less than 80%  
**Television Format:** 1125/60, 1125/59.94

(SMPTE274,M)  
Sampling Frequency: 1125/60: Y: 74.25MHz, Pb,Pr: 37.125MHz  
1125/59.94: Y: 74.176MHz, Pb,Pr: 37.088MHz

**Quantization:** 10 bits  
**\*Frequency Response:** Y: 30Hz -27MHz±0.5dB  
-30MHz+0.5dB/-15dB  
PbPr: 30 Hz+0.5dB  
-15MHz +0.5dB/-1.5dB

**\*S/N:** More than 60 dB  
**\*LF Linearity:** Less than 2 %  
**\*K Factor:** Less than 1%  
**\*YC Delay:** Less than 3.5ns  
**\*In/Out:** Serial Digital Output: BNCx6  
Analog Component Input (Y,Pb,Pr,Sync): BNC x 4

\*these specification are measured when the AJ-HDA500 is used

**AJ-HDA300**  
Power Requirements: 100-120 V, 50/60Hz  
Power Consumption: 60W(target)  
Weight: 5.5kg(1.21 lbs.)(target)  
Dimensions: 219(W) x 79(H) x 280(D)mm (8-7/8in x3-3/16in)

**Operating temperature:** 5°C- 40°C  
**Operating Humidity:** Less than 80%  
**Television Format:** 1125/60,1125/59.94 (SMPTE 274M)

**Sampling Frequency:** 1125/60: Y: 74.25MHz  
Pb, Pr: 37.125MHz 1125/59.94  
Y: 74.176MHz  
8 bits

**Quantization:** Y: 30Hz-15MHz+0.5dB/-3dB  
**Frequency Response:** Pb, Pr: 30Hz-10MHz+5dB/-3dB  
More than 56dB

**LF Linearity:** Less than 2%  
**K Factor:** Less than 2%  
**YC Delay:** Less than 14ns  
**In/Out:** Serial Digital Input:BNC x 1  
Analog Component Output (Y,Pb,Pr): BNC x6

**AJ-HSP500**  
Power Requirements: 100-120V, 50/60Hz  
Power Consumption: 30W(target)  
Weight: 6.0kg(1.32lbs)(target)  
Dimensions: 424(W) x 44(H) x 450(D)mm (16-15/16in x 1-3/4in x 18in)

**Operating Temperature:** 5 C- 40 C  
**Operating Humidity:** Less than 80%  
**In/Out:** Serial Digital Input: BNC x2  
**Parallel Digital Output:** D-Sub 50P x 2

**AJ-SDA500**  
Power Requirement: 100-120V, 50/60Hz  
Power Consumption: 45W(target)  
Weight: 6.5 kg (14.3lbs)(target)  
Dimensions: 424(W) x 44(H) x 450(D)mm (16-15in x 1-3/4in x 18)

**Operating Temperature:** 5 C- 40 C  
**Operating Humidity:** Less than 80%  
**In/Out:** Serial Digital Input: BNC x 1  
**Serial Digital Output:** BNC x 6  
**Parallel Digital Input:** D-sub 50P x1

Weights and dimensions shown are approximate  
Specifications and product designs are subject to change without notice.  
This product may be subject to export control regulations.