

# Panasonic

# AJ-D400

1/2" FIT-3CCD DVCPRO Camera/Recorder  
(PAL:625)



**DVCPRO** *PV*  
series

# Broadcast-Quality Shooting with Outstanding C



Designed for professional use, the AJ-D400 camera/recorder combines DVCPRO's outstanding quality and convenience with superior cost-performance that makes it a good fit in any operation. The AJ-D400 features a low-smear, low-noise 1/2" FIT-3CCD and offers many of the same functions that have made Panasonic's broadcast camera/recorders the highly acclaimed choice of broadcast stations all over the world. You can make highly detailed camera settings with the AJ-D400, to create the level of imagery needed in professional applications. The VTR section features DVCPRO's digital component recording system to assure superior picture quality.

## Ultra-Sensitive 1/2-Inch, 480,000-Pixel FIT 3CCD

The AJ-D400 is equipped with the 1/2" FIT (Frame Interline Transfer) CCD with on-chip lens. Boasting low smear low flare and a high S/N ratio, this CCD offers exceptional sensitivity, raising picture-quality performance to a level well above most camera/recorders.

## Digital Signal Processing Camera

Digital circuitry delivers superior picture quality and assures years of reliable performance, regardless of temperature change and vibration. Operation is simple and maintenance is minimal. The camera is easy to set up and adjust, even in the field.

## DVCPRO: Superb Recording Quality

Digital component recording in the AJ-D400 delivers outstanding picture quality across a 5.75-MHz (Y) video bandwidth. The video S/N ratio is 55 dB.

Digital recording, with error correction coding, is highly resistant to media variations that cause dropout. This dramatically improves both recording quality and reliability.

The AJ-D400's digital audio system delivers excellent sound, thanks to a 48-kHz sampling 16-bit recording, 2-channel PCM digital system.

## Highly Detailed Camera Settings

The AJ-D400's digital circuitry has made possible a host of creative image-processing functions. The settings are displayed by menu in the viewfinder for easy use.

- 2-D Low Pass Filter eliminates cross colour.
- Dark Detail corrects details in dark areas.
- Chroma Detail corrects degraded resolution in brightly coloured areas.
- Matrix corrects 6 types of colour phase (R-G, R-B, G-R, G-B, B-R, B-G).
- Super Colour lets you emphasize 'highlight' colours, such as those in a blue sky.
- Black Stretch gives black parts more emphasis to provide sharper images.

Other functions, such as gamma correction and auto knee, give you even more of the image-creating capabilities professionals need.

## Accepts a Wide Variety of 1/2" Conversion Lenses

The industry-standard 1/2-inch bayonet mount readily accommodates the many conversion lenses that are available on the market. For superior ease of use the AJ-D400 features automatic shading correction, which adjusts the settings to match the lens.



# ost-Performance

## Light Weight, Low Power Consumption

In ready-to-shoot condition — with lens, 1.5" viewfinder, cassette and battery pack in place — the AJ-D400 weighs only 5.85 kg. This unit offers low power consumption, too, using 24 W or less when recording.

## 66-Minute Recording with Compact Cassette

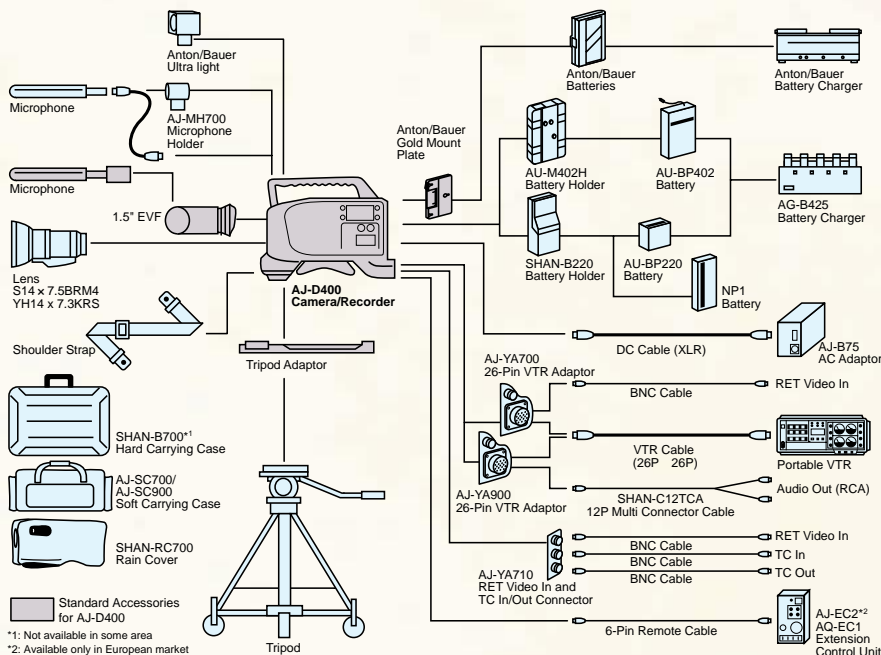
The DVCPRO M cassette (AJ-P66M) is only about one quarter the size and one-sixth the weight of a 1/2-inch ENG cassette, yet it allows up to 66 minutes of recording time.

## No Playback Adaptor Necessary

The AJ-D400 can play back pictures in black and white on the viewfinder or in full colour on an external TV monitor via VIDEO OUT. This lets the field team check the pictures on-site and allows microwave transmission to another station.

## 2-Lux Shooting Illumination

The AJ-D400's CCD with on-chip lens and +30 dB gain-up allows high-quality shooting in lighting all the way down to 2 lux. This lets you capture clear images even under dim lighting conditions. The programmable 3-position gain switch allows the operator to select from 11 settings (-3, 0, +3, +6, +9, +12, +15, +18, +21, +24, +30 dB) for complete control of low, medium and high gain preference.



## Programmable One-Button Super Iris and Super Gain

Pressing the Super Iris button will adjust the iris to provide correct exposure of backlit subjects. Alternately, the Super Iris can be programmed to engage Super Gain mode, to be used, for example, when the subject moves from outside to a darkened interior.

## Synchro Scan Electronic Shutter

The electronic shutter (1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000-sec) with wide range synchro scan capability (1/29.9 to 1/252-sec.) reduces flicker when shooting CRT displays.

## Shockless AWB Control

The AJ-D400's white balance and black balance levels are preset at the factory to adapt to different filters (3200K, 5600K+1/4ND, 5600K, 5600K+1/16ND). You can store two adjustment values in memory for each filter.

The AJ-D400 also provides Shockless AWB Control, which smoothly adjusts the white balance according to the image being shot. This assures natural, easy-to-view images even when there are sudden changes in darkness or brightness levels.

## Backup VTR Connector (26-pin)

The optional AJ-YA900 and AJ-YA700 26-pin adaptor let you connect the AJ-D400 to a variety of portable VTRs. This allows you to record with the AJ-D400 while making a backup recording in another VTR.

## Compatible with Anton/Bauer Digital Battery

The AJ-D400 is equipped with a gold mount plate for mounting an Anton/ Bauer digital battery system. When the digital battery is in use, the remaining power is displayed in real time on the EVF. When using an Anton/Bauer Ultra Light, the lighting on/off and recording start/stop can be linked together.

## Additional Features

- Standard EBU colour bar output
- Built-in Gen-lock function
- Built-in EBU time code generator/reader
- One-touch camera status report function
- One-touch Rec review function
- Built-in monitor speaker
- Phantom power supply (48-VDC phantom mic)
- Optional RET video input and time code input/output (AJ-YA710)

## Standard Accessories

- 1.5" Electronic Viewfinder
- Microphone
- Tripod Adaptor
- Anton/Bauer Gold Mount Plate (installed)



Rear Panel



Side Panel Connector

# Broadcast Digital Quality for Professional Use

Panasonic's compact, lightweight DVCPRO digital VTRs offer extremely high picture quality. In addition to the broadcast series, which continues to win high acclaim from broadcasters worldwide, the line-up has now been expanded to include a low-cost professional series. Another reason why DVCPRO is quickly becoming the standard in image production.



## OPTIONAL ACCESSORIES

<b>AJ-MH700</b>	Microphone Holder
<b>S14x7.5BRM4</b>	1/2" Bayonet Type Fujinon Lens
<b>YH14x7.3KRS</b>	1/2" Bayonet Type Canon Lens
<b>AJ-YA700</b>	26P VTR and RET Video In Connector
<b>AJ-YA900</b>	26P VTR and Multi Connector
<b>AJ-YA710</b>	RET Video In and TC In/Out Connector
<b>AJ-B75</b>	AC Adaptor

Battery Holder	Battery Pack	Battery Charger
Anton/Bauer Gold Mount Plate (Supplied)	Anton/Bauer ABDT14, ABT14, ABDP14, ABP14	Anton/Bauer ABC800
AU-M402H	AU-BP402	AG-B425
SHAN-B220	AU-BP220	

## DVCPRO Medium Video Cassettes

Model No.	Time	Length
AJ-P66M	66 min.	137 m
AJ-P46M	46 min.	96 m
AJ-P33M	33 min.	70 m
AJ-P24M	24 min.	51 m
AJ-P12M	12 min.	27 m
AJ-CL12M		Cleaning Tape

## SPECIFICATIONS

### GENERAL

Power Requirement:	DC12V (11 V to 17 V)
Power Consumption:	24 W
Operating Temperature:	0 °C to 40 °C
Storage Temperature:	-20 °C to 60 °C
Operating Humidity:	Less than 85%
Weight:	5.85 kg (including lens, viewfinder, tape, and battery pack) *Varies according to the equipment composition.

### CAMERA SECTION

<b>Camera</b>	
Pick-up Device:	Frame interline transfer 1/2" CCD Image sensor (x3)
Picture Element:	480,000 pixels
Digital Quantization:	10 bits A/D
Digital Signal Processing:	14.4 MHz/28.8 MHz
Sensitivity:	2000 lux with F8.0
Minimum Illumination:	2 lux (F1.4, +30 dB gain)
Shutter Speed:	1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000-sec.
Syncro Scan:	1/29.9 to 1/47.6-sec., 1/51.5 to 1/252-sec. (variable)
Optical Filter:	3200K, 5600K+1/4ND, 5600K, 5600K+1/16ND,
S/N Ratio:	60 dB (typical)
Horizontal Resolution:	750 lines (center)
Vertical Resolution:	450 lines/500 lines (Super-V)
Registration:	Less than 0.03% (all zones, without lens)
Gain:	-3/0/+3/+6/+9/+12/+15/+18/+21/+24/+30 dB
Optical System:	f1.4 prism system
Lens Mount:	1/2" bayonet mount

### Viewfinder

CRT:	1.5" monochrome
Horizontal Resolution:	600 TV lines (Center)

### VTR SECTION

<b>General</b>	
Format:	DVCPRO 1/4" Digital compressed recording
Recording Track:	Digital Video Digital Audio: 2CH Cue: 1 Track Sub-Code CTL: 1 Track
Tape Speed:	33.854 mm/s
Tape:	1/4-inch Metal Particle Tape
Cassette Size:	AJ-P66M: 97.5 x 64.5 x 14.6 mm
Recording/Playback Time:	66 min. with AJ-P66M cassette
FF/REW Time:	Approx. 3 min. using AJ-P66M
<b>Video*</b>	
Sampling Frequency:	Y: 13.5 MHz C (PB/PR): 3.375 MHz
Quantization:	8 bits/sample
Error Correction:	Reed-Solomon Code
Bandwidth:	Y: 25Hz to 5.75MHz +1.0/-3 dB
S/N Ratio:	55 dB
K Factor (2T):	2 % or less
Linearity:	2 % or less
Y/C Delay:	30 ns or less
<b>Audio*</b>	
Sampling Frequency:	48 KHz
Quantization:	16 bits/sample
Frequency Response:	20 Hz to 20 kHz, +1.0/-1.0 dB
Dynamic Range:	More than 80 dB (at 1kHz, AWTD)
Distortion:	Less than 0.1% (at 1 kHz, reference level)

Wow & Flutter:	Below measurable limit
Headroom:	18 dB
Emphasis:	T1=50µs, T2=15µs (ON/OFF Selectable)
<b>Signal Inputs</b>	
Genlock In:	BNC x 1, 1.0 Vp-p 75Ω
Mic In:	XLR balanced, 3kΩ -60/-50/-40 dBu selectable
Audio In :	XLR (CH1/CH2), balanced, 10kΩ MIC/LINE Switchable MIC: -60/-50/-40 dBu selectable, LINE: +4/0/-6 dBu selectable
Timecode In (option):	BNC, 0.5 to 18 Vp-p, high impedance
<b>Signal Outputs</b>	
Camera Out:	BNC x 1, 1.0 Vp-p 75Ω
Video Out:	BNC x 1, 1.0 Vp-p 75Ω
Audio Out:	XLR (CH1/CH2/MIX selectable) 0 dBu balanced, Low impedance 12-pin Multi-Connector, (optional AJ-YA900), CH1/CH2, -20 dBu unbalanced, Low impedance
Earphone:	Stereo mini jack (x 1)
Timecode Out (option):	BNC, 1.5 Vp-p, low impedance
<b>Others</b>	
RET Video In (option):	BNC x 1, 1.0 Vp-p 75Ω
26P VTR Connector (option):	Component video, 75Ω
ECU:	6-Pin, Camera Remote
DC Out:	4-pin, DC11V to 17V, Max.0.1A
Lens:	12-pin

\*The specifications given above were measured by playing back tapes recorded by the AJ-D400 on standard DVCPRO VTRs. Weight and dimensions shown are approximate. Specifications are subject to change without notice. These products may be subject to export regulations.

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Certificate No. EC95J1010

ISO9001 / BS7550 - PART 1  
FM No. 28369