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PAL

# JVC

## VIDEO PRODUCTS

# PROFESSIONAL VIDEO

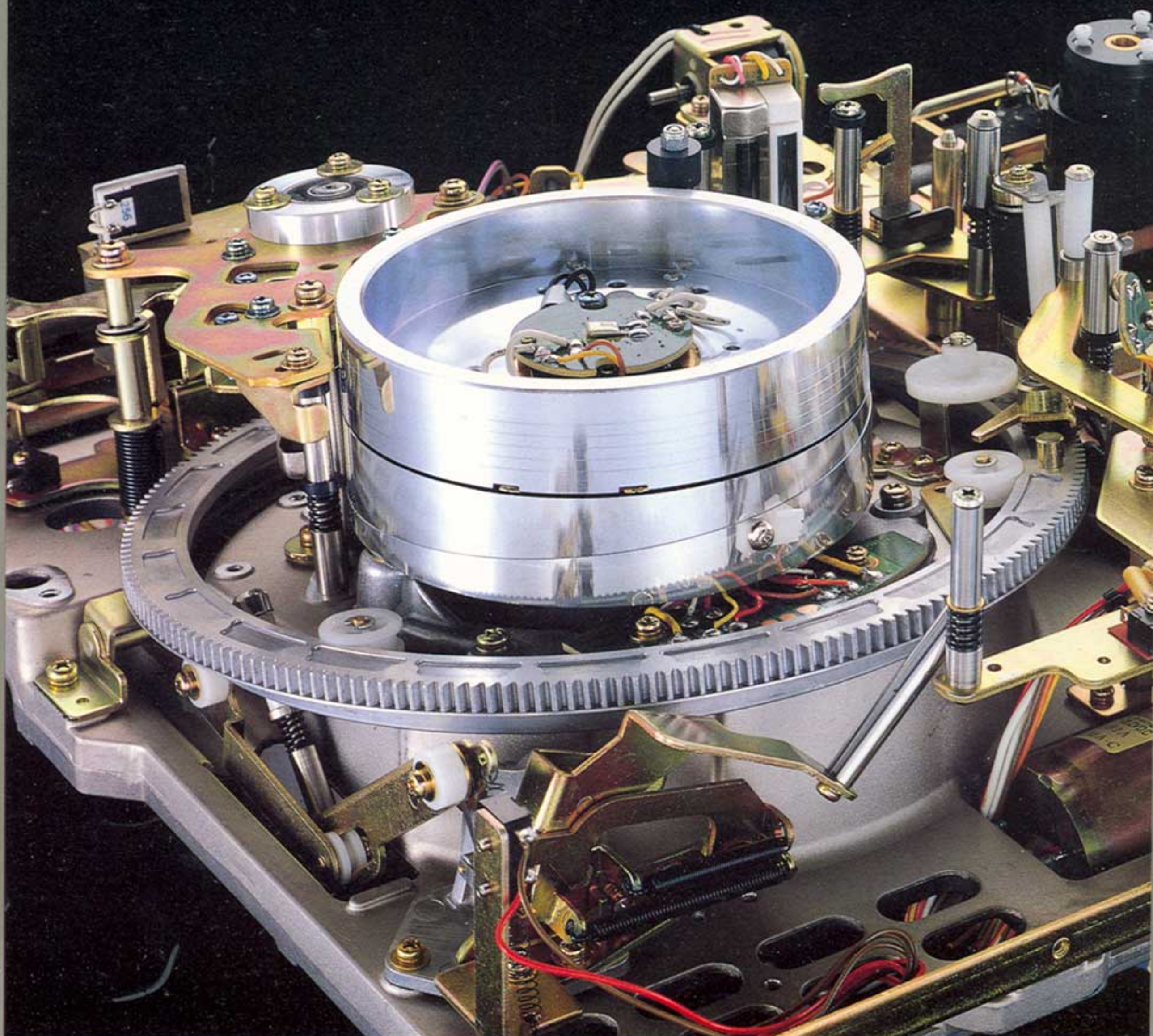
In the professional video field, JVC has what you're looking for. Top-quality recorders, players, editing components and cameras engineered by the industry's leading technologists, backed by credentials to give you the utmost confidence in the equipment you select.

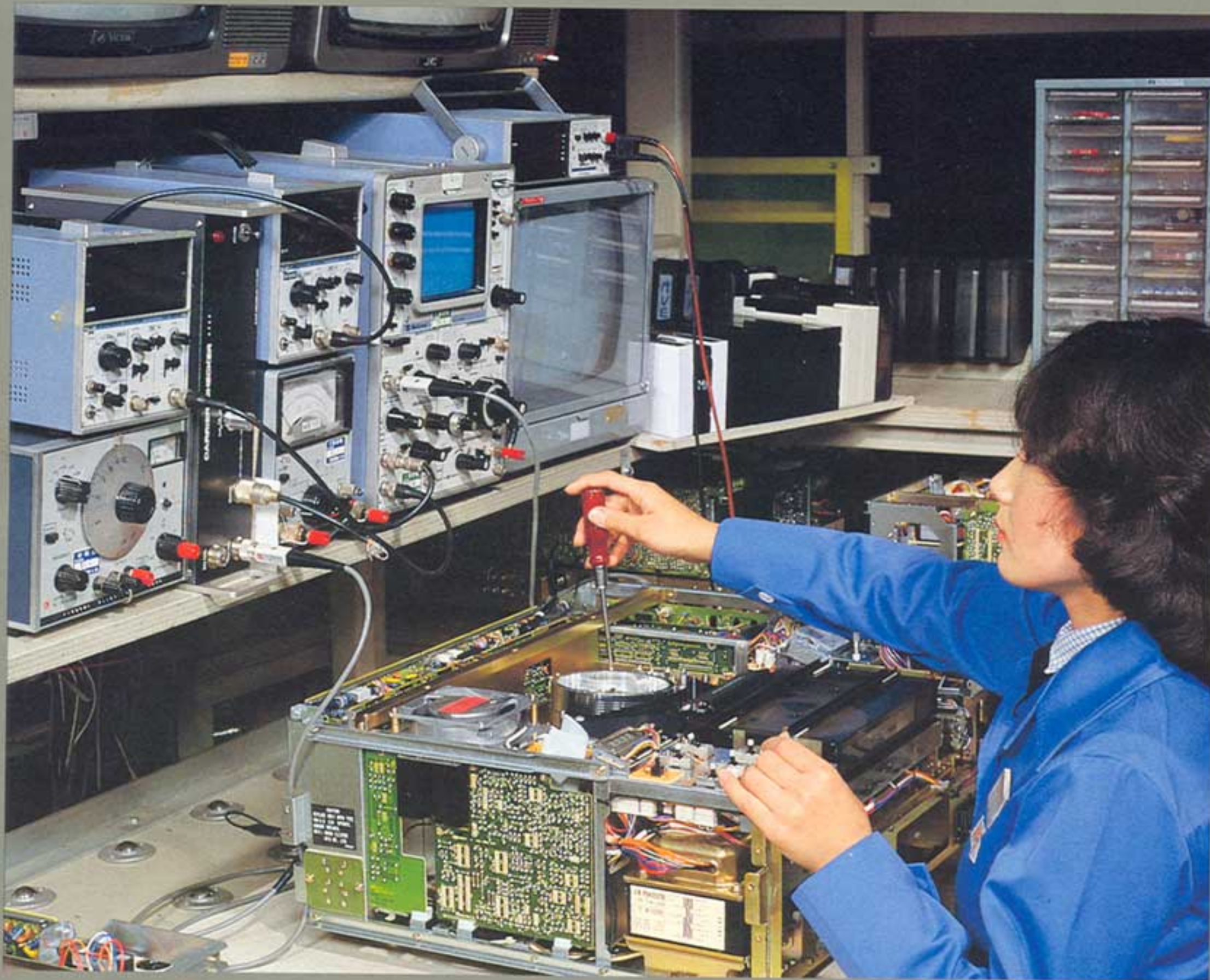
JVC's total involvement in video technology stretches back to the development of the two-head helical scanning system itself, the creation of the world's most popular home video format, VHS, and co-development of the 3/4" U-format. This year's lineup comprises several new models, including a High-Band Series for broadcast-quality productions, which will share the enviable reputation for quality and reliability that is the hallmark of JVC video.

No other company harnesses precision engineering and quality control more successfully to meet your professional video needs. If credentials alone don't convince you (and they shouldn't), we urge you to carefully examine the following pages, and then compare. We're confident in the JVC advantage, and when you're finished, you will be too.



# **The Professional Advantage from Video's Most Dependable Engineers: Rugged JVC Reliability.**







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# JVC

The history of JVC's achievement in the field of video technology reads like no other company's. With a tradition of discovery and advancement stretching back more than a quarter-century, JVC has built the basic foundation of an entire industry. In 1959, it was JVC who unveiled the two-head helical scanning system now employed in virtually every video recorder in the world.

In 1969, another JVC development — the converted colour carrier system — rocked the industry and was quickly adopted by other manufacturers.

These and other milestones, including the creation of the VHS home video format, have earned JVC a solid reputation as the video industry's most dependable innovator.



KV-1

## 1955

- 1955: • Research and development of VTRs started.
- 1959: • Two-head helical scan system used in all today's video recorders developed.
  - World's first 2-head helical scan VTR (**KV-1**) manufactured.
- 1960: • World's first 2-head helical scan colour VTR system developed.
- 1963: • World's smallest 1-inch, 2-head VTR manufactured.

## 1965

- 1966: • Professional colour VTR using double-heterodyne system (**KV-600**) developed.



KV-600

## 1970

- 1970: • 3/4" U-format cassette recorder jointly developed and standardized by the industry.
- 1971: • 3/4" U-format VCR (**CR-6000** and **CP-5000**) marketed.
  - Portable VTR system (**PV-4500** series) marketed.



CR-6000



PV-4500

# Professional Video Chronicle

- 1972:** • VCR incorporating tuner and timer (**CR-6100**) marketed.  
• 3/4" VCRs exported to the USA.

- 1973:** • VCRs exported to Europe.  
**1974:** • World's first colour portable VTR system (**PV-4800/GC-4800**) marketed.  
• World's first 3/4" U-format VCR with noiseless still and pause facility (**CR-6300**) marketed.



**PV-4800**



**CR-4400**

- 1981:** • Professional VHS recorder and player (**BR-6400, BP-5300**) marketed.



**BR-6400**

## 1980

- 1980:** • Heavy-duty series U-VCRs (**CR-8200, CR-6600, CP-5500, RM-88, RM-70**) marketed.

- 1982:** • New heavy-duty 3/4" U-VCRs (**CR-8250E, CR-6650E, CP-5550E**) marketed.  
**1983:** • New editing controller (**RM-86U**) marketed.  
• New portable 3/4" VCR (**CR-4700E**) marketed.  
• Professional VHS portable recorder (**BR-6200E**) marketed.  
**1984:** • JVC's first High-Band 3/4" VCRs with EBU time code capability (**PR-8800E** and portable **PR-4800E**) marketed.



**CR-8250**

## 1975

- 1975:** • Ensemble VCR (**CE-7300**) marketed.  
**1976:** • Fully electronic editing system (**CR-8300, RM-83, CR-8300L**) developed and marketed.  
• Professional 3/4" portable VCRs developed and marketed (**CR-4400, CR-4400L**).



**CR-8300**

- 1978:** • High-performance fully electronic editing system (**CR-8500L, RM-85, etc.**) developed and marketed.

## 1985



**PR-8800**

**PR-4800**

## 3/4" HIGH BAND PORTABLE VIDEO CASSETTE RECORDER



The PR-4800E is a High Band portable built to impeccable standards for high-quality on-location recording. Based on JVC's experience as an original developer of the U-format, the PR-4800E is engineered to meet the demands of electronic journalism, with a time code channel, Video Confidence heads, professional-type audio and video connectors, and the rugged construction required by professionals in the field.

### **High Band quality**

The PR-4800E conforms exactly to High Band specifications with a video track width of 125 microns, higher luminance and chrominance carrier frequencies which result in improved picture quality, and a horizontal resolution of better than 270 lines (colour).

### **EBU time code channel**

In High Band, an additional channel is available for the recording and playback of EBU time codes. When

a time code generator is connected, the recording of EBU time codes makes it possible to access specific frames for precise editing.

### **Video Confidence heads**

The PR-4800E is the first 3/4" High Band U-format portable to be equipped with JVC Video Confidence heads for off-tape monitoring of the signal while recording is taking place. With on-the-spot monitoring access to the recorded signal, you can always be

sure of the result. Alternating between real-time monitoring and the E-E picture is done simply with a switch on the connector panel.

### **Video recording current adjustment**

The PR-4800E is equipped with an RF level meter (switchable from audio-1 level meter) and a potentiometer for adjustment of the video recording current to compensate for sensitivity differences between

tapes. Adjustment can be made while recording is taking place (and preferably while monitoring the off-the-tape picture).

#### Professional-standard connectors for both video and audio

XLR audio connectors, the type most commonly used on professional audio equipment, are used for line inputs and outputs. In addition to standard BNC video input/output connectors and a 14-pin camera socket, BNC sync and subcarrier connectors are provided to allow connection of a time base corrector (TBC).

#### Frame servo editing

The built-in frame servo mechanism ensures continuity of the odd/even field sequence at the edit point.

#### Automatic backspace editing

Whenever the recorder enters the pause mode, the tape is back-spaced. Then, when recording starts again, the control track previously recorded on the tape is read so that the subsequent recording is correctly synchronised.

#### Visual search

In playback, the picture can be seen with the tape running in either direction at about 10 times normal speed, for high-speed location of any section of the programme.

#### Lightweight portable

Complete with its rechargeable NB-P2U battery pack and a KCS-20 video cassette, the PR-4800E weighs only 9.0 kg. Such mobility is a major benefit on almost every assignment.

#### Low power consumption

Using two rechargeable battery packs, one installed in the slide-in compartment and the other connected externally, up to 70 minutes of continuous recording is possible when used with a JVC KY-series camera.

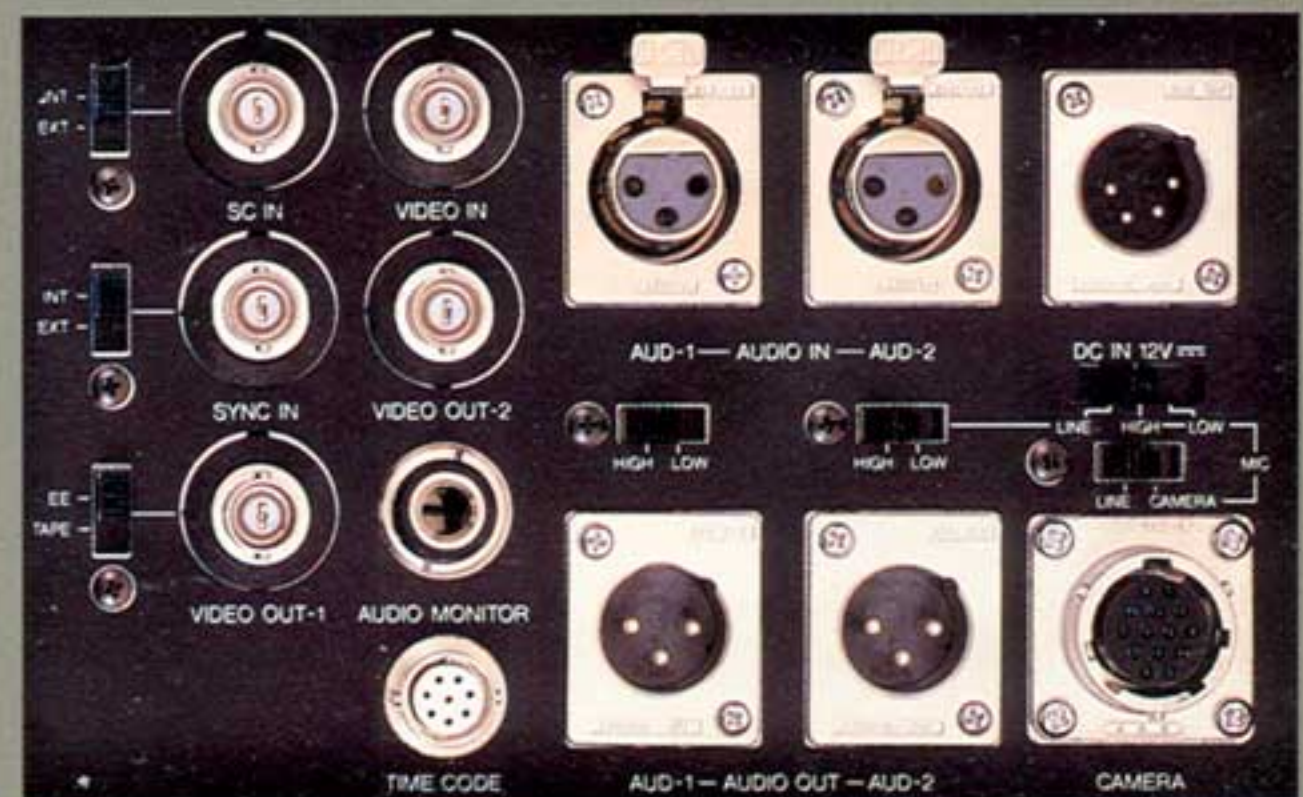
#### Comprehensive warning system

To ensure trouble-free operation and quality recordings, LED indicators are provided to warn of servo lock failure, clogged heads, tape end and automatic shut-off due to moisture condensation and other possible problems. When any of the indicators lights or flashes, beeps can be heard in the output from the audio monitor jack. A meter and an LED indicator for battery power are also provided.

- Real-time tape counter
- Microprocessor-based logic control
- Twin audio level meters
- Audio dubbing facility
- Cassette eject mechanism
- Hour meter (cumulative running time)

#### SPECIFICATIONS

Format: High-Band U-standard  
 Video recording system: Rotary two-head, helical scan system  
 Video signal system: PAL-type colour, 625 lines  
 Maximum recording time: 20 min. (KCS-20)  
 Tape speed: 9.53 cm/s  
 Power requirement: DC 12 V  
 Power consumption: 19.3 W (45 W with camera)  
 Camera output: DC 12 V max. 24 W  
 Temperature: Operating: 0°C to 40°C  
 Storage: -20°C to 60°C  
 Operating position: Horizontal or Vertical  
**VIDEO**  
 Input: 0.5 V to 2.0 Vp-p, 75 ohms, unbalanced  
 Output: 1.0 Vp-p, 75 ohms, unbalanced  
 Signal-to-noise ratio: More than 46 dB (Rohde & Schwarz noise meter)  
 Horizontal resolution: Colour: more than 270 lines  
 SC input: 2.0 Vp-p, 75 ohms, unbalanced  
 Sync input: 4.0 Vp-p, 75 ohms, unbalanced  
 Time code input: 1.0 Vp-p, 10 k-ohms, unbalanced  
 Time code output: 2.0 Vp-p, low impedance, unbalanced  
**AUDIO**  
 Input: Mic -60 dBs, 600 ohms, balanced  
 Line: -20 dBs/-60 dBs (switchable), 600 ohms, balanced  
 Output level: 0 dBs, low impedance, balanced  
 Headphone output: Variable between -20 and -40 dBs, 8 ohms, unbalanced  
 Signal-to-noise ratio: More than 48 dB (at 3 % distortion)  
 Frequency response: 50 Hz to 15,000 Hz  
**CONNECTORS**  
 Video/SC/Sync input/output: BNC  
 Time code input/output: 8-pin  
 Audio LINE IN/OUT: XLR  
 Mic: LINE IN connectors are used for connecting microphones  
 Headphones: 6 mm jack  
 Dimensions: 349(W) x 130(H) x 352(D) mm (handle and protrusions not included)  
 Weight: 9 kg (with NB-P2U Battery Pack and a KCS-20 video cassette)  
 Accessories: NB-P2U Battery pack, Carrying handle, Shoulder strap



## 3/4" HIGH BAND VIDEO CASSETTE EDITING RECORDER



The PR-8800E is a full-feature High Band editing recorder. With its extensive features and excellent performance it is ideal for studio use and for the post-production editing of High Band tapes. To complement the time code capability of High Band, the PR-8800E is equipped with various sophisticated facilities that ensure that edits are made with professional precision.

### **High Band quality**

The PR-8800E conforms to High Band specifications with a track width of 125 microns, higher luminance and chrominance carrier frequencies which result in improved picture quality, and a horizontal resolution of better than 270 lines (colour) and 370 lines (monochrome).

### **EBU time code channel**

In High Band, an additional channel is available for the recording and playback of EBU time codes. When a time code generator is connected, the recording of EBU time

codes makes it possible to access specific frames for precise editing.

### **Professional-quality electronic editing function**

The PR-8800E has a rotary erase head and a blanking switcher which make possible assemble and insert editing with virtually no distortion at the edit points. Edit flagging is minimised by a framing servo and extremely stable phase lock system.

### **H-phase control/Colour frame detector**

These allow the PR-8800E to be

accurately aligned not only with the horizontal phase but also with the colour frame of the input signal so that virtually distortion-free edits are possible with no colour flashing.

### **Full capstan control with standby mode**

The tape remains threaded in all modes except load and eject, permitting faster cueing times as well as better control. Tape search at 15 times normal speed is possible in both directions. Using external control, the search speed is continuously variable from 0 to 5

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## PR-8800E



times in either direction. A search speed of 15 times is also achievable with an edit controller. A special "standby" mode is provided to allow instant engagement of the next mode.

#### Capstan servo system with external lock function

This permits playback to be locked to external sync signals so that the PR-8800E can be used in existing video systems. The external sub-carrier input terminal also enables connection of a time base corrector (TBC).

#### Increased dubbing flexibility

The FM-FM dubbing system transfers signals without modulation and demodulation; this greatly reduces the degradation of picture quality, making the PR-8800E ideal for use as a master VCR in copying and editing systems. When FM-FM dubbing is not suitable for your editing situation, the VIDEO DUB switch, located on the front, improves colour dubbing quality.

#### Full metering

For demanding professionals, a video level meter and adjustment control are provided. There is a tracking meter for precise playback adjustment. Independent audio level meters are provided for channels 1 & 2. The audio levels of the two channels can be adjusted by referring to the meters, and switchable audio limiting is provided.

#### Balanced line audio inputs/outputs

XLR audio connectors, the type most commonly used on professional audio equipment, are provided for line inputs/outputs.

#### Control compatibility

The PR-8800E uses the JVC standard 45-pin control connector and is compatible with control systems designed for use with Heavy-Duty VHS and U-format machines.

#### Direct-drive head drum and capstan servos for stable recording and playback

The PR-8800E's head drum is directly driven by a servo-controlled brushless DC motor. Together with the servo-controlled capstan, which is also driven by an independent brushless DC motor, it contributes to highly stable pictures as well as greatly improved reliability.

#### Automatic pre-roll

When the pause button is pressed during recording, the tape is automatically pre-rolled, stopping after being rewound by about 5 seconds of programme time.

- Real-time electronic tape counter
- Reel servo system with independent motors
- Aluminium diecast chassis supporting the heavy-duty mechanism
- Microprocessor-based logic control

- Skeletal construction for easy maintenance
- Automatic search
- Automatic repeat

#### SPECIFICATIONS

##### GENERAL

Power requirement: AC 110/127/220/240 V<sub>~</sub>,  
±10 %, 50/60 Hz, 140 W (152 W with Remote Control Unit)  
Dimensions: 564(W) x 221(H) x 520(D) mm  
Weight: 34.8 kg  
Operating temperature: 5°C to 40°C  
Operating position: Horizontal only  
Tape speed: 9.53 cm/sec  
Recording time: Max. 60 min. with JVC KCA-60  
Fast forward/Rewind time: Within 4 min. 30 sec. for 60 min. tape

##### VIDEO

Format: High-Band U-standard  
Recording system: Rotary two-head, helical scanning system  
Luminance: FM recording  
Colour signal: Converted subcarrier direct recording  
Video signal system: PAL-type colour signal  
625 lines (CCIR standard)  
Input Line/TV: 0.5 – 2.0 V<sub>p-p</sub>, 75 ohms  
FM dubbing: 0.5 V<sub>p-p</sub>, 75 ohms  
Output Line/TV: 1.0 V<sub>p-p</sub>, 75 ohms  
FM dubbing: 0.5 V<sub>p-p</sub>, 75 ohms  
Signal-to-Noise ratio: More than 46 dB (colour)  
More than 47 dB (B/W)  
(Rohde & Schwarz noise meter)  
Horizontal resolution: Monochrome: more than 370 lines  
Colour: more than 270 lines  
SC input: 2.0 V<sub>p-p</sub>, 75 ohms  
Sync input: 0.5 to 4.0 V<sub>p-p</sub>, 75 ohms  
Input select: TV/LINE/FM DUB  
Video mode select: COLOUR/AUTO/BW  
Sync select: EXT/VIDEO (INT)  
**AUDIO**  
Input Line: -20/0 dBs (switchable), 10 k-ohms, balanced  
Mic.: -70 dBm, 600 ohms, unbalanced  
TV: -20 dBs, 10 k-ohms, unbalanced  
Output Line: -20/0 dBs (switchable), low impedance, balanced  
Monitor: 0 dBs, low impedance, balanced  
Headphone: -28 dBs, 8 ohms load, unbalanced  
TV: 0 dBs, low impedance, unbalanced  
Signal-to-Noise ratio: More than 48 dB (at 3 % distortion level)  
Frequency response: 50 to 15,000 Hz  
Input select: TV/LINE/MIC  
Monitor output select: CH-1/MIX/CH-2

##### CONNECTORS

Video input/output: BNC connector  
FM dubbing input/output: BNC connector  
Sync/SC input: BNC connector  
RF output: BNC connector  
Video monitor: BNC connector  
Audio Line input/output: XLR connector  
Mic.: 6 mm jack  
Monitor out: XLR connector  
Headphone: 6 mm jack  
TV input/output: EIAJ 8-pin TV connector  
Time code input/output: RCA connector  
AC in: 3-wire IEC socket  
Remote control: 45-pin connector  
Accessories: Monitor cable, Dust cover



## 3/4" VIDEO CASSETTE EDITING RECORDER



The CR-8250E is a Heavy-Duty editing recorder for use in production houses where 3/4" tape is the standard medium. Incorporating sophisticated editing features in a rugged, dependable design, it is a typical example of JVC's ability to meet all the professional's needs.

### **Balanced line audio inputs/outputs**

XLR audio connectors, the type most commonly used on professional audio equipment, are provided for line inputs/outputs.

### **Full metering**

To assure professional-quality results, a full range of meters and adjustment capabilities are provided, including a video level meter with level control, a tracking meter for precise playback adjustment, and independent audio level meters for channels one and two. Audio level on either channel can be independently adjusted, and switchable limiters are also provided. An external hour meter displays

cumulative running time to facilitate timely servicing.

### **H-phase control/Colour frame detector**

These allow the CR-8250E to be accurately aligned not only with the horizontal phase but also with the colour frame of the input signal so that virtually distortion-free edits are possible, with no colour flashing.

### **Full capstan control with standby mode**

The tape remains threaded in all modes except load and eject, permitting faster cueing times as well as better control. Tape search at 15 times normal speed is possible in both directions. Search speed is variable from 0 to 5 times, and is

possible at 15 times when an edit controller is used. A special "standby" mode is provided to allow instant engagement of the next mode.

### **Real-time electronic tape counter**

The electronic tape counter has an easy-to-read fluorescent display that shows elapsed time up to 59 min 59 sec, facilitating indexing. It operates at search speeds, even while winding through blank tape.

### **Increased dubbing flexibility**

In the FM-FM dubbing system, signals are transferred without modulation and demodulation; this greatly reduces the degradation of picture quality, making the CR-8250E ideal for use as a master

VTR in copying and editing systems. When FM-FM dubbing is not suitable for your editing situation, the COLOUR DUB switch, located at the rear, improves colour dubbing quality.

## Reel servo system with independent motors

The stability of the tape transport mechanism is maintained by independent motors driving the reels and the servo system. This keeps tape tension constant, preventing overload on the tape at any speed.

## Direct-drive head drum and capstan servos for stable recording and playback

In the CR-8250E, the head drum is directly driven by a servo-controlled brushless DC motor. Together with the servo-controlled capstan which is also driven by an independent brushless DC motor, it contributes to the stability of the picture and also improves reliability.

## Aluminium diecast chassis supporting the heavy-duty mechanism

The advanced mechanisms used in the CR-8250E are supported by a rugged, durable aluminium diecast

chassis. A two-motor gear-driven tape loading mechanism and powered cassette eject mechanism are used to simplify operation.

## Skeletal construction for ease of maintenance

To make the CR-8250E easier to service and maintain in optimum condition, its front and rear, top and bottom and side panels can be detached independently, giving easy access to circuit boards.

## Professional-quality editing functions

The CR-8250E has a rotary erase head and a blanking switcher which make possible assemble and insert editing with virtually no distortion at the edit points. Editing flagging is minimised by the use of framing servo and extremely stable horizontal phase lock.

## Automatic pre-roll

When the pause button is pressed during recording, the tape is automatically pre-rolled, stopping after being rewound by about 5 seconds of programme time.

## Capstan servo system with external lock function

This permits playback to be locked to external sync signals so that the

CR-8250E can be used in existing video systems. The external subcarrier input also enables connection to a time base corrector (TBC).

- **Microprocessor-based logic control**
- **Automatic search mechanism**
- **Automatic repeat mechanism**

## SPECIFICATIONS

### GENERAL

Power requirement: AC 110/127/220/240 V~,  $\pm 10\%$ , 50/60 Hz, 125 W (Max. 135 W with remote control unit)

Dimensions: 564(W) x 221(H) x 471(D) mm

Weight: 30.6 kg

Operating temperature: 5°C to 40°C

Operating position: Horizontal only

Tape speed: 9.53 cm/sec.

Recording time: Max. 60 min. with JVC KCA-60

Fast forward/Rewind time: Within 4 min. 30 sec. for 60 min. tape

### VIDEO

Recording system: Rotary two-head, helical scanning system

Luminance: FM recording

Colour signal: Converted subcarrier direct recording

Video signal system: PAL-type colour signal 625 lines (CCIR standard)

Input Line/TV: 0.5 – 2.0 Vp-p, 75 ohms

FM dubbing: 0.5 Vp-p, 75 ohms

Output Line/TV: 1.0 Vp-p, 75 ohms

FM dubbing: 0.5 Vp-p, 75 ohms

Signal-to-Noise ratio: More than 46 dB (colour) More than 48 dB (B/W)

(Rohde & Schwarz noise meter)

Horizontal resolution: Monochrome 330 lines

Colour 250 lines

SC input: 2.0 Vp-p, 75 ohms

Sync input: 0.5 to 4.0 Vp-p, 75 ohms

Input select: TV/LINE/FM DUB

Video mode select: COLOUR/AUTO/BW

Sync select: EXT/VIDEO (INT)

### AUDIO

Input Line: -20/0 dBs (switchable), 10 k-ohms, balanced

Mic.: -70 dBm, 600 ohms, unbalanced

TV: -20 dBs, 10 k-ohms, unbalanced

Output Line: -20/0 dBs (switchable), low impedance, balanced

Monitor: 0 dBs, low impedance, balanced

Headphone: -28 dBs, 8 ohms load, unbalanced

TV: 0 dBs, low impedance, unbalanced

Signal-to-Noise ratio: More than 48 dB (at 3% distortion level)

Frequency response: 50 to 15,000 Hz

Input select: TV/LINE/MIC

Monitor output select: CH-1/MIX/CH-2

### CONNECTORS

Video input/output: BNC connector

FM dubbing input/output: BNC connector

Sync/SC input: BNC connector

Audio Line input/output: XLR connector

Mic.: 6 mm jack

Monitor out: XLR connector

Headphone: 6 mm jack

TV input/output: EIAJ 8-pin TV connector

AC in: 3-wire IEC socket

Remote control: 45-pin connector

Accessories: Monitor cable, Dust cover



## 3/4" VIDEO CASSETTE RECORDER



The CR-6650E is an improved Heavy-Duty U-format recorder that is ideal for a wide range of uses in a professional video system. To the earlier Heavy-Duty recorder, which has earned a well-deserved reputation for reliability and dependability, we have added important new features designed to meet professional needs.

### **Balanced line audio inputs/outputs**

XLR audio connectors, the type most commonly used on professional audio equipment, are provided for line inputs/outputs.

### **Full metering**

To assure professional-quality results, a full range of meters and adjustment capabilities are provided, including a video level meter with level control, a tracking meter for precise playback adjustment, and independent audio level meters for channels one and two. Audio level on either channel can be independently adjusted, and switch-

able limiters are also provided. An external hour meter displays cumulative running time to facilitate timely servicing.

### **H-phase control**

This allows the CR-6650E to be accurately synchronised with the horizontal phase of the input signal for more accurate editing.

### **Full capstan control with standby mode**

The tape remains threaded in all modes except load and eject, permitting faster cueing times as well as better control. Tape search at 15 times normal speed is possible in both directions. Search speed is

variable from 0 to 5 times, and is possible at 15 times, when an edit controller is used. A special "standby" mode is provided.

### **Real-time electronic tape counter**

The electronic tape counter has an easy-to-read fluorescent display that shows elapsed time up to 59 min 59 sec, facilitating indexing. It operates at search speeds, even while winding through blank tape.

### **Increased dubbing flexibility**

In the FM-FM dubbing system, signals are transferred without modulation and demodulation; this greatly reduces degradation of picture quality, making the

- Microprocessor-based logic control
- Automatic search
- Automatic repeat
- Channel-1 audio dubbing



CR-6650E ideal for use as a master VTR in copying and editing systems. When FM-FM dubbing is not suitable for your editing situation, the COLOUR DUB switch, located at the rear, improves the colour dubbing quality.

#### Direct-drive head drum and capstan servos for stable recording and playback

In the CR-6650E, the head drum is directly driven by a servo-controlled brushless DC motor. Together with the servo-controlled capstan, which is also driven by an independent brushless DC motor, it contributes to the stability of the picture and also improves reliability.

#### Reel servo system with independent motors

The stability of the tape transport mechanism is maintained by independent motors driving the reels and the servo system, which keeps tape tension constant, preventing overload on the tape at any speed.

#### Aluminium diecast chassis supporting the heavy-duty mechanism

The advanced mechanisms used in the CR-6650E are supported by a rugged, durable aluminium diecast

chassis. A two-motor gear-driven tape loading mechanism and powered cassette eject mechanism are used to simplify operation.

#### Skeletal construction for easy maintenance

To make the CR-6650E easier to service and maintain in optimum condition, its front and rear, top and bottom and side panels can be detached independently, giving easy access to circuit boards.

#### Automatic pre-roll

When the pause button is pressed during recording, the tape is automatically pre-rolled, stopping after being rewound by about 5 seconds of programme time.

#### Capstan servo system with external lock function

This permits playback to be locked to external sync signals so that the CR-6650E can be used in existing video systems. The external sub-carrier input also enables connection to a time base corrector (TBC)

## SPECIFICATIONS

### GENERAL

Power requirement: AC 110/127/220/240 V~,  $\pm 10\%$ , 50/60 Hz, 120 W (Max. 130 W with remote control unit)  
 Dimensions: 564(W) x 221(H) x 471(D) mm  
 Weight: 30.6 kg  
 Operating temperature: 5°C to 40°C  
 Operating position: Horizontal only  
 Tape speed: 9.53 cm/sec.  
 Recording time: Max. 60 min. with JVC KCA-60  
 Fast forward/Rewind time: Within 4 min. 30 sec. for 60 min. tape

### VIDEO

Recording system: Rotary two-head, helical scanning system  
 Luminance: FM recording  
 Colour signal: Converted subcarrier direct recording  
 Video signal system: PAL-type colour signal 625 lines (CCIR standard)  
 Input Line/TV: 0.5 – 2.0 Vp-p, 75 ohms  
 FM dubbing: 0.5 Vp-p, 75 ohms  
 Output Line/TV: 1.0 Vp-p, 75 ohms  
 FM dubbing: 0.5 Vp-p, 75 ohms  
 Signal-to-Noise ratio: More than 46 dB (colour)  
 More than 48 dB (B/W)  
 (Rohde & Schwarz noise meter)  
 Horizontal resolution: Monochrome 330 lines  
 Colour 250 lines  
 SC input: 2.0 Vp-p, 75 ohms  
 Sync input: 0.5 to 4.0 Vp-p, 75 ohms  
 Input select: TV/LINE/FM DUB  
 Video mode select: COLOUR/AUTO/BW  
 Sync select: EXT/VIDEO (INT)

### AUDIO

Input Line: -20/0 dBs (switchable), 10 k-ohms, balanced  
 Mic.: -70 dBm, 600 ohms, unbalanced  
 TV: -20 dBs, 10 k-ohms, unbalanced  
 Output Line: -20/0 dBs (switchable), low impedance, balanced  
 Monitor: 0 dBs, low impedance, balanced  
 Headphone: -28 dBs, 8 ohms load, unbalanced  
 TV: 0 dBs, low impedance, unbalanced  
 Signal-to-Noise ratio: More than 48 dB (at 3% distortion level)

Frequency response: 50 to 15,000 Hz  
 Input select: TV/LINE/MIC  
 Monitor output select: CH-1/MIX/CH-2

### CONNECTORS

Video input/output: BNC connector  
 RF output: AERIAL connector  
 FM dubbing input/output: BNC connector  
 Sync/SC input: BNC connector  
 Audio Line input/output: XLR connector  
 Mic.: 6 mm jack  
 Monitor out: XLR connector  
 Headphone: 6 mm jack  
 TV input/output: EIAJ 8-pin TV connector  
 AC in: 3-wire IEC socket  
 Remote control: 45-pin connector  
 Accessories: Monitor cable, Dust cover



## 3/4" VIDEO CASSETTE PLAYER



For use in professional 3/4" video systems, JVC offers this improved player in the Heavy-Duty series. It has a number of important features, in addition to the basic reliability and sturdiness that have earned the other machines making up this comprehensive series of 3/4" U-format recorders and players such wide acclaim.

### **Balanced line audio outputs**

XLR audio connectors, the type most commonly used on professional audio equipment, are provided for line outputs.

### **Dependable metering**

A tracking meter is provided for precise playback adjustment. An external hour meter is also provided.

### **Full capstan control with standby mode**

The tape remains threaded in all modes except load and eject, permitting faster cueing times as well as better control. Tape search at 15

times normal speed is possible in both directions. Search speed is variable from 0 to 5 times, and is possible at 15 times, when an edit controller is used. A special "standby" mode is provided to allow instant engagement of the next mode.

### **Real-time electronic tape counter**

The electronic tape counter has an easy-to-read fluorescent display that shows elapsed time up to 59 min 59 sec, facilitating indexing. It operates at search speeds, even while winding through blank tape.

### **Increased dubbing flexibility**

In the FM-FM dubbing system, signals are transferred without modulation and demodulation; this greatly reduces the degradation of picture quality, making the CP-5550E ideal for use as a player in copying and editing systems. When FM-FM dubbing is not suitable for your editing situation, the COLOUR DUB switch, located at the rear, improves the colour dubbing quality.

## Reel servo system with independent motors

The stability of the tape transport mechanism is maintained by independent motors driving the reels and the servo system which keeps tape tension constant, preventing overload on the tape at any speed.

## Direct-drive head drum and capstan servos for stable play

In the CP-5550E, the head drum is directly driven by a servo-controlled brushless DC motor. Together with the servo-controlled capstan which is also driven by an independent brushless DC motor, it contributes to the stability of the picture and also improves reliability.

## Aluminium diecast chassis supporting the heavy-duty mechanism

The advanced mechanisms used in the CP-5550E are supported by a rugged, durable aluminium diecast chassis. A two-motor gear-driven tape loading mechanism and powered cassette eject mechanism are used to simplify operation.

## Capstan servo system with external lock function

This permits playback to be locked to external sync signals so that the CP-5550E can be used in existing video systems. The external sub-carrier input also enables connection to a time base corrector (TBC)

## Skeletal construction for easy maintenance

To make the CP-5550E easier to service and maintain in optimum condition, its front and rear, top and bottom and side panels can be detached independently, giving easy access to circuit boards.

- Microprocessor-based logic control
- Automatic repeat
- Automatic search

## SPECIFICATIONS

### GENERAL

Power requirement: AC 110/127/220/240 V $\sim$ ,  $\pm 10\%$ , 50/60 Hz, 105 W (Max. 115 W with remote control unit)  
 Dimensions: 564(W) x 221(H) x 471(D) mm  
 Weight: 30.6 kg  
 Operating temperature: 5°C to 40°C  
 Operating position: Horizontal only  
 Tape speed: 9.53 cm/sec.  
 Playing time: Max. 60 min. with JVC KCA-60  
 Fast forward/Rewind time: Within 4 min. 30 sec. for 60 min. tape

### VIDEO

Playback system: Rotary two-head, helical scanning system  
 Video signal system: PAL-type colour signal 625 lines (CCIR standard)  
 Output Line/TV: 1.0 Vp-p, 75 ohms  
 FM dubbing: 0.5 Vp-p, 75 ohms  
 Signal-to-Noise ratio: More than 46 dB (colour) More than 48 dB (B/W) (Rohde & Schwarz noise meter)  
 Horizontal resolution: Monochrome 330 lines Colour 250 lines  
 SC input: 2.0 Vp-p, 75 ohms  
 Sync input: 0.5 to 4.0 Vp-p, 75 ohms  
 Video mode select: COLOUR/AUTO/BW  
 Sync select: EXT/INT  
**AUDIO**  
 Output Line: -20/0 dBs (switchable), low impedance, balanced  
 Monitor: 0 dBs, low impedance, balanced  
 Headphone: -28 dBs, 8 ohms load, unbalanced  
 TV: 0 dBs, low impedance, unbalanced  
 Signal-to-Noise ratio: More than 48 dB (at 3% distortion level)  
 Frequency response: 50 to 15,000 Hz  
 Monitor output select: CH-1/MIX/CH-2

### CONNECTORS

Video output: BNC connector  
 RF output: AERIAL connector  
 FM dubbing output: BNC connector  
 Sync/SC input: BNC connector  
 Audio Line output: XLR connector  
 Monitor out: XLR connector  
 Headphone: 6 mm jack  
 TV output: EIAJ 8-pin TV connector  
 AC in: 3-wire IEC socket  
 Remote control: 45-pin connector  
 Accessories: Monitor cable, Dust cover



## 3/4" TRIPLE-SYSTEM VIDEO CASSETTE RECORDER



The CR-6060ET is a triple-standard 3/4" colour video cassette recorder that's ideal for global use. It records PAL and SECAM colour or CCIR monochrome signals, and plays back PAL, SECAM and NTSC tapes with ease and simplicity (with a suitable triple-standard monitor), making it particularly suitable for international business and other communications.

### **Switchable between PAL, SECAM and NTSC standards**

Both PAL and SECAM colour signals and CCIR monochrome signals can be recorded and played back, with automatic switching. NTSC colour (modified) and EIA monochrome signal playback are also possible using a triple-standard TV monitor with built-in 4.43 MHz NTSC decoder.

### **Crisp, clear pictures**

Stable images and well balanced colours are provided by the AGC

(Automatic Gain Control) and double-function ACC (Automatic Colour Control) circuits to give you exceptional pictures.

### **Full remote control**

The ease of full remote control is yours — eight control buttons (PLAY, STOP, REW, FF, REC, AUDIO DUB, PAUSE/STILL and FRAME ADV) let you control all functions from a distance, using the convenient RM-60U Remote Control Unit (optional)

### **Manual audio level control**

Audio recording level can be controlled manually for both channels and the levels are indicated by two level meters. Or the built-in audio limiter circuit can be activated for automatically limiting the audio input peak level to prevent over-level recording.

### **Pause during recording**

The pause facility lets you stop the tape while in the record mode, making it easy to prevent unwanted parts of the programme from being recorded.



# CR-6060ET

## Still frame playback

During playback you can stop the action to view still frames. The frame advance (FRAME ADV) button allows you to adjust the frame position to give stable clear still pictures.

## Off-air recording

Permits automatic off-the-air programme recording using a TV receiver/monitor and timer switch to switch the mains power.

## Feather-light operation buttons

All control buttons are functionally arranged and can be operated with a light touch.

## Stereophonic or bilingual sound track available

For greater flexibility, two audio channels allow simultaneous recording or reproduction of two different sound sources.

## Auto search facility

This permits you to relocate quickly any desired tape section automatically in either rewind or fast forward mode.

## Auto replay facility

You can repeat playback automatically as many times as you desire.

## Excellent tape dubbing quality

The dubbing switch permits excellent, stable colour picture quality when dubbing tapes from the CR-6060ET to another video cassette recorder.

## Optional RF converter

The JVC optional RF converter, available for PAL, can be installed within the unit, so that playback pictures can be reproduced through a TV receiver which operates to the corresponding standard.

## CR-6060E

The CR-6060E is a PAL-version recorder sharing all the features of the CR-6060ET. Where conformity to other standards is not required, the CR-6060E is a suitable choice for performance and functions.

## SPECIFICATIONS

Video recording system: Rotary two-head, helical scanning system

Video signal system

CR-6060ET

Recording: PAL/SECAM colour & CCIR monochrome signals

Playback: PAL/SECAM colour & CCIR monochrome signals, NTSC (modified) colour & EIA monochrome signals (subcarrier: 4.43 MHz)

CR-6060E

Recording: PAL colour & CCIR monochrome signals

Playback: PAL colour & CCIR monochrome signals

Tape speed: 9.53 cm/sec

Operating temperature: 5°C to 40°C

## VIDEO

Input: 0.5 to 2.0 Vp-p, 75 ohms, unbalanced

Output: 1.0 Vp-p, 75 ohms, unbalanced

Signal-to-Noise ratio: 45 dB (Rohde & Schwarz noise meter)

Horizontal resolution (Auto mode): Colour 240 lines, Monochrome 300 lines

## AUDIO

Input: MIC: -70 dBm, 600 ohms, unbalanced

Line: -20 dBs, 50 k-ohms, unbalanced

Output level: 0 dB, high impedance load

Output impedance: 2 k-ohms, unbalanced

Signal-to-Noise ratio: More than 40 dB

Frequency response: 50 Hz to 12,000 Hz

Power requirement: AC 110/127/220/240 V~, 50 Hz

Power consumption: 110 W

Dimensions: 526(W) x 195(H) x 450(D) mm

Weight: 27 kg

Accessories: Dust cover, Aerial cable, Monitor cable



**CR-6060E 3/4" VIDEO CASSETTE RECORDER**



## 3/4" TRIPLE-SYSTEM VIDEO CASSETTE PLAYER



Built to the highest standards of reliability and performance, the CP-5060ET is equipped to play back 3/4" video cassettes recorded anywhere in the world. Switching between PAL and SECAM colour signals and CCIR monochrome signals is automatic, while a switch is provided for changeover to play the NTSC colour and EIA monochrome tapes. Image clarity is enhanced by AGC (Automatic Gain Control) and colours are more vivid because of the ACC (Automatic Colour Control) circuit.

### **PAL/SECAM/NTSC triple-standard playback**

Both PAL and SECAM colour signals can be played back with automatic switching. NTSC colour (modified) and EIA monochrome signal playback are also possible using a triple-standard TV monitor with built-in 4.43 MHz NTSC decoder.

### **Crisp clear pictures**

Stable images and well balanced colour are provided by the APC (Automatic Phase Control) and double-function ACC (Automatic Colour Control) circuits to give you exceptional pictures.

### **Full remote control**

The ease of full remote control is yours — six control buttons (PLAY, STOP, REW, FF, STILL and FRAME ADV) let you control all functions from a distance, using the convenient RM-60U Remote Control Unit (optional).

## Still frame playback

During playback you can stop the action to view still frames. The frame advance (FRAME ADV) button allows you to adjust the frame position to give stable and clear still pictures.

## Feather-light operation buttons

All control buttons are functionally arranged and can be operated with a light touch.

## Stereophonic or bilingual sound track available

For greater flexibility, two audio channels allow simultaneous reproduction of two different sound sources.

## Automatic repeat

Using the counter repeat or the full repeat you can automatically play back desired programmes as many times as you wish. When the REPEAT lever is in the FULL position, the entire tape is played back repeatedly. In the COUNT position, the tape stops automatically when the tape counter reaches "000" and is replayed from the beginning to that point repeatedly.

## Optional RF converter

The JVC optional RF converter, available for PAL, can be installed within the unit, so that playback pictures can be reproduced through a normal TV receiver which operates to the corresponding standard.

## SPECIFICATIONS

Playback system: Rotary two-head, helical scanning system  
Video signal system: PAL/SECAM colour & CCIR monochrome signals, NTSC (modified) colour & EIA monochrome signals (subcarrier: 4.43 MHz)

Tape speed: 9.53 cm/sec  
Operating temperature: 5°C to 40°C

### VIDEO

Output: 1.0 Vp-p, 75 ohms, unbalanced  
Signal-to-Noise ratio: 45 dB (Rohde & Schwarz noise meter)  
Horizontal resolution: Colour 240 lines, Monochrome 300 lines

### AUDIO

Output level: 0 dB, high impedance load  
Output impedance: 2 k-ohms, unbalanced  
Signal-to-Noise ratio: More than 40 dB  
Frequency response: 50 Hz to 12,000 Hz  
Power requirement: AC 110/127/220/240 V~, 50 Hz  
Power consumption: 110 W  
Dimensions: 526(W) x 195(H) x 450(D) mm  
Weight: 24.8 kg  
Accessories: Dust cover, Aerial cable



## 3/4" PORTABLE VIDEO CASSETTE RECORDER



Meeting the growing demand for high-quality portable 3/4" VCRs, the CR-4700E perfectly expresses JVC's total commitment to the U-format, which it helped to conceive. This model incorporates several powerful features, including Video Confidence heads, to satisfy professionals for whom first-time quality results are a top priority.

### **Video Confidence heads**

The CR-4700E is the first 3/4" U-format recorder to be equipped with Video Confidence heads for off-tape monitoring of the signal while recording is taking place. Because you have on-the-spot monitoring access to the recorded signal, you can be sure of the result. Alternating between real-time monitoring and E-E picture is done simply with a switch on the connector panel.

### **Low power consumption**

Using two battery packs, one installed in the slide-in compartment and the other connected externally, up to 70 minutes of continuous operation is possible when used with a JVC KY-series camera. For recharging of battery packs, there is an optional multi-charger that charges four packs simultaneously.

### **Lightweight portable**

Complete with its rechargeable NB-P2U battery pack and a KCS-20

video cassette, the CR-4700E weighs only 8.9 kg. Such mobility is a major benefit on almost every assignment.

### **Video recording current adjustment**

To compensate for sensitivity differences between tapes, it is necessary to adjust the recording current to match each individual tape. The CR-4700 is equipped with an RF level meter (switchable from audio-1 level meter) and a potentiometer for adjustment. While

recording is taking place (and preferably while monitoring the off-the-tape picture), the adjustment can be made.

### Automatic backspace editing

Whenever the recorder enters the pause mode, in response to the front panel pause button, the remote control unit's pause button or the camera's start/stop switch, the tape is back-spaced. Then, when recording starts again, the control track previously recorded on the tape is read so that the subsequent recording is correctly synchronised.

### Frame servo editing

The built-in frame servo mechanism ensures continuity of the odd/even field sequence at the edit point.

### Real-time tape counter

The 4-digit LCD tape counter shows the amount of tape that has run in minutes and seconds. This provides reference with a fair degree of precision to the amount of recording time left. The counter check light button makes it easy to check the readings in any situation. An identical 4-digit LCD tape counter is provided on the optional remote control unit.

### Comprehensive warning system

To ensure trouble-free operation and quality recordings, LED indicators are provided to warn of servo lock failure, clogged heads, tape end and automatic shut-off due to moisture condensation and other possible problems. When any of the indicators lights or flashes, beeps can be heard in the output from the audio monitor jack. A meter and an LED indicator for battery power are also provided.

### Twin audio level meters

Independent audio level meters are provided for channels 1 and 2. The audio levels of the two channels can therefore be separately adjusted. Switchable audio limiting is also provided and manual level control is possible even when the limiter circuit is on. A three-position switch allows audio monitoring of channel 1 or 2 or the mixed sound of the two.

### Professional-standard connectors for both video and audio

XLR audio connectors, the type most commonly used on professional audio equipment, are used for line inputs and outputs. In addition to standard BNC video input/output connectors and a 14-pin camera socket, BNC sync and subcarrier connectors are provided to allow connection of a time base corrector (TBC).

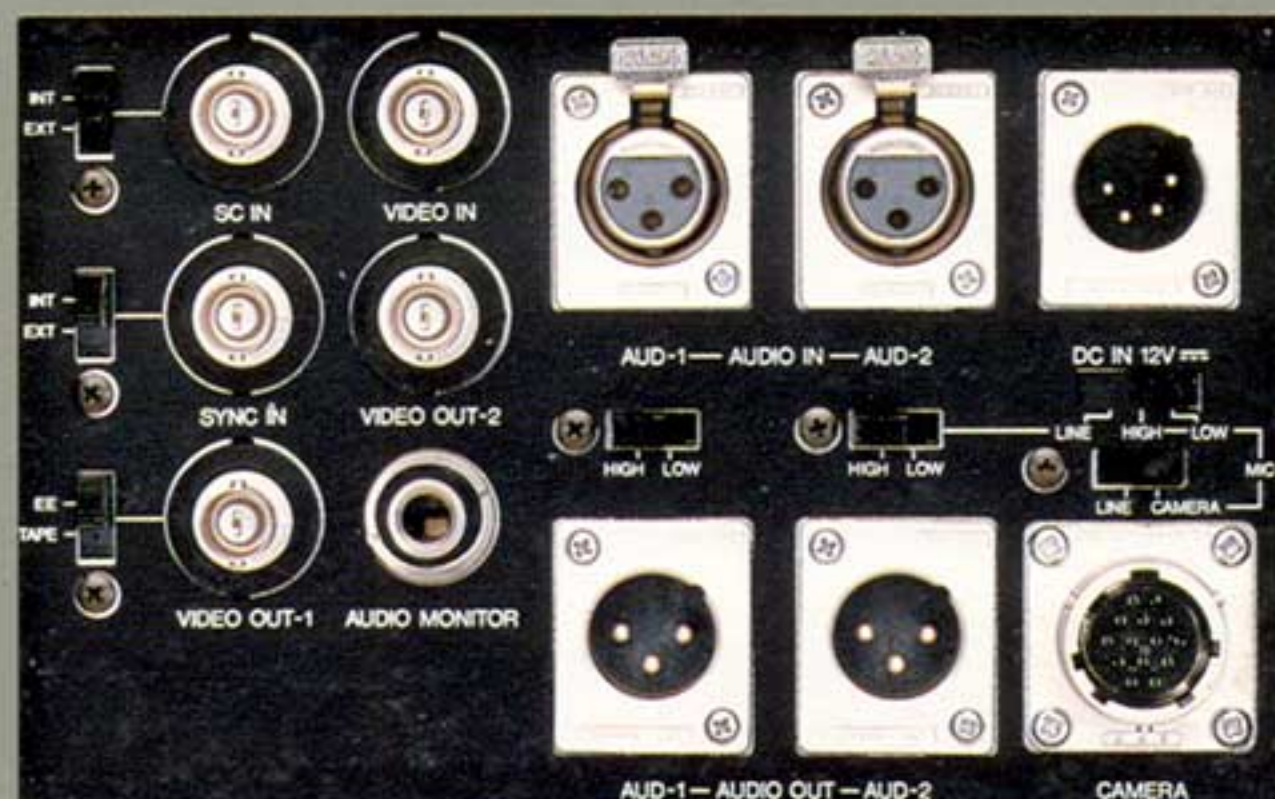
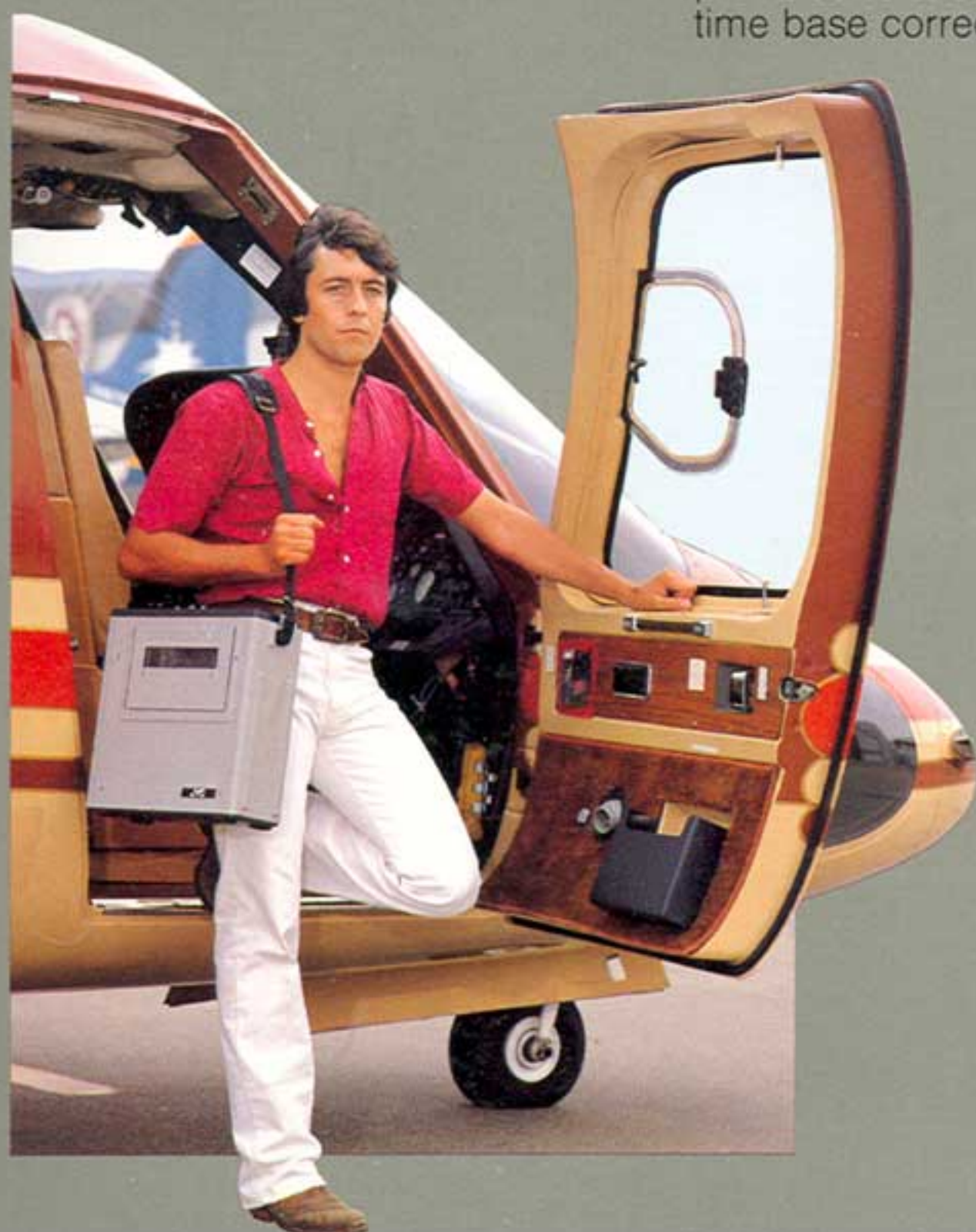
### Visual search

In playback, the picture can be seen with the tape running in either direction at about 10 times normal speed, for high-speed location of any section of the programme.

- Microprocessor-based logic control
- Audio dubbing on to channel 1
- Soft cassette eject mechanism
- Hour meter for indicating the running total of operating hours

### SPECIFICATIONS

Format: U-standard  
 Video recording system: Rotary two-head, helical scan system  
 Video signal system: PAL-type colour, 625 lines  
 Maximum recording time: 20 min. (KCS-20)  
 Tape speed: 9.53 cm/s  
 Power requirements: DC 12 V  $\pm$   
 Power consumption: 12 W (recording)  
 15 W (real-time monitoring)  
 19.3 W (Max.)  
 Temperature: Operating: 0°C to 40°C  
 Storage: -10°C to 60°C  
 Operating position: Horizontal or Vertical  
**VIDEO**  
 Input: 0.5 V to 2.0 Vp-p, 75 ohms, unbalanced  
 Output: 1.0 Vp-p, 75 ohms, unbalanced  
 Signal-to-noise ratio: More than 46 dB (Rohde & Schwarz noise meter)  
 Horizontal resolution: More than 260 lines  
 SC input: 2.0 Vp-p, 75 ohms, unbalanced  
 Sync input: 4.0 Vp-p, 75 ohms, unbalanced  
**AUDIO**  
 Input: Mic: -60 dBs, 600 ohms, balanced  
 Line: -20 dBs/-60 dBs (switchable), 600 ohms, balanced  
 Output level: 0 dBs, low impedance, balanced  
 Headphone output: Variable between -20 and -40 dBs, 8 ohms load, unbalanced  
 Signal-to-noise ratio: More than 48 dB  
 Frequency response: 50 Hz to 15,000 Hz  
**CONNECTORS**  
 Video/SC/Sync input/output: BNC  
 Audio LINE IN/OUT: XLR  
 Mic: LINE IN connectors are used for connecting microphones  
 Headphones: 6 mm jack  
 Dimensions: 349(W) x 139(H) x 352(D) mm (handle and protrusions not included)  
 Weight: 8.9 kg (with NB-P2U Battery pack and a KCS-20 Video cassette)  
 Standard accessories: NB-P2U Battery pack, Carrying handle, Shoulder strap



## 3/4" PORTABLE VIDEO CASSETTE RECORDER



This portable cassette recorder has been designed with built-in flexibility for the professional and semi-professional user. A durable mechanism and highly reliable circuitry are packed into a compact unit weighing only 11.2 kg, ideal for recording in out-of-the-way locations. Teamed up with a JVC camera, it's a total system for a wide variety of ENG and EFP applications.

**AEF (Automatic Editing Function) mechanism**

Back-spacing takes place every time the tape is stopped by the camera start/stop switch or recorder pause key.

**Built-in full colour recording and playback circuitry**

No adapters are needed to record from a camera or to play back onto a TV receiver/monitor.

**Fully portable and light in weight**

Employment of ICs results in a compact and lightweight unit. 3-Way power supply — battery pack, AC line, car battery — provides complete outdoor mobility.

**Economical power consumption**

Only 14 watts — helps prolong the life of the PBP-1 battery pack.

**Pause/still facility**

The pause/still button permits stopping the tape temporarily during recording, and viewing still pictures during playback.

**Multi-purpose meter**

The CR-4400E uses a multi-purpose meter on the panel of the unit to check the battery power, video level, audio levels and servo lock. This convenience goes a long way to give the operator confidence while engaged in the rapid "on-the-spot" live news gathering process.

## Drop-out compensator built in

Compensates for recording aberrations caused by such tape faults as oxide drop-outs.

## Audio dubbing

Sound tracks can be separately recorded or changed, independently of video.

## Excellent tape dubbing quality

Playback mode switch with dubbing position provides stable tape copying with high colour picture quality.

## External V-lock playback

External V-lock playback facility further extends the range of applications.

## SPECIFICATIONS

Video recording system: Rotary two-head, helical scanning system

Luminance: FM recording

Colour signal: Converted subcarrier direct recording

Video signal system: PAL-type colour and CCIR B/W signals, 625 lines

Operating temperature: 5°C to 40°C

### VIDEO

Input: 0.5 V to 2.0 Vp-p, 75 ohms, unbalanced

Output: 1.0 Vp-p, 75 ohms, unbalanced

Signal-to-Noise ratio: More than 45 dB (Rohde & Schwarz noise meter)

Horizontal resolution (Auto mode):

Colour 240 lines

Monochrome 320 Lines

### AUDIO

Input: Mic -70 dBm, 600 ohms, balanced

Line -20 dBm, 220 k-ohms, balanced

Output: -10 dBm, 600 ohms, unbalanced

Signal-to-Noise ratio: More than 40 dB

Frequency response: 80 Hz to 12,000 Hz

Power requirement: DC 12 V  $\pm$  13.5 W

Dimensions: 336(W) x 141(H) x 369(D) mm

Weight: 11.2 kg (with PBP-1, KCS-20)

Accessories: PBP-1 Battery pack, Video cassette, Shoulder strap, Crystal earphone



## TRIPLE-SYSTEM 1/2" VIDEO CASSETTE RECORDER



Half-inch video is increasingly used for information transfer in a wide range of areas: in training, in medicine, in sales — it's a long list that's getting longer every day. As the originator of the VHS system, JVC is totally committed to its success; the institutional VHS recorder presented here is another demonstration of our determination.

### **Dual-system recording/Triple-system playback**

For flexibility, the BR-6400TR can record PAL and SECAM signals and can play back PAL, SECAM and 4.43 MHz NTSC signals. These features make it ideal for people involved in international communications and allow prerecorded cassettes from different countries to be played back.

### **Direct-drive motors**

The motor used to drive the head drum is a direct-drive, servo-controlled, brushless DC motor,

while the capstan and reels have independent direct-drive DC motors. This system minimises jitter, down to an absolute minimum, contributing to stable pictures and more reliable operation.

### **4-Head system**

The BR-6400TR has two pairs of video heads; one pair for recording and normal speed playback, the other pair for search and variable-speed playback. This is in keeping with JVC policy; as well as assuring that recording is of the highest possible quality, it makes a major

contribution to the steadiness of pictures in all playback modes.

### **Shuttle search at up to 10 times normal speed in either direction**

No more guesswork in locating the particular section you want to view; you can scan through a whole 3-hour programme in about 18 minutes. Run the tape at about 10 times normal speed either forward or in reverse while watching the speeded-up picture on the screen. This takes you to the scene you want quickly and accurately.

## Playback at any speed from still to 5 times normal in either direction

When controlled from either of the optional remote control units, the playback speed can be varied continuously from still to 5 times normal in both forward and reverse directions. This is a great help in editing; you can accurately and quickly locate any required frame. It also allows more detailed analysis of action.

## Capstan servo and external sync capability

Because of its capstan servo mechanism and the fact that it can accept external sync signals to which playback is synchronised, the BR-6400TR can easily be incorporated in an existing video system.

## Two-channel audio track and Dolby\* noise reduction

Two audio channels make the system more versatile and increase the range of applications. Either of the two channels can be played and recorded independently; stereo recording and playback are also possible.

## Remote control and random access options

A choice of cable and infrared full-function remote control units using microprocessors is optionally available; choose the one which meets your needs best. As well as giving control over tape operations, they also control high-speed picture search and variable-speed playback. An optional random access unit equipped with a digital fluorescent display allows you to input any tape address for quick retrieval of any scene.

## Electronic tape counter/lap timer with fluorescent display

4-digit tape counter provides a convenient means of addressing tape segments. The display doubles as a 5-digit lap timer showing tape running time in hours, minutes and seconds.

## Audio level control with meters

To prevent over-level recordings, an audio limiter circuit is provided in each of the audio channels. The limiter circuits can be switched on and off. In either condition, manual level control referring to the meters is possible.

## Editing control interfacing

For increased flexibility, the BR-6400TR has been designed to interface with the RM-86U editing controller. This permits editing from 1/2" to 3/4" and (assemble† only) 3/4" to 1/2".

## Additional features

- Automatic back-space assemble editing
- Automatic rewind at tape end
- Counter search and counter repeat
- Automatic repeat of entire tape
- Electronic tape tension control
- Tracking meter
- Tape end warning
- Condensation detector and built-in condensation prevention heater
- BNC video and RCA audio connectors
- Front panel connectors for remote control, two microphones and stereo headphones
- 8-pin connector for TV monitor
- 45-pin connector for editing control unit
- Audio monitor output selectable (CH-1, CH-2 or MIX)

\*Dolby is a trademark of Dolby Laboratories Licensing Corporation.

†There may be some chroma interference at the edit point.

- Rugged diecast aluminium chassis
- Motorised front cassette loading
- Microprocessor full-logic control
- Two-channel selectable audio dubbing
- Easy serviceability

## SPECIFICATIONS

### GENERAL

Format: VHS 1/2" (12.65 mm)  
Power requirement: AC 100/120/220/240 V~, ±10%, 50/60 Hz  
Power consumption: 81 W (with the Automatic Editing Control Unit, DC 12 V~, 0.55 A)  
Dimensions: 440(W) x 164(H) x 448(D) mm  
Weight: 17.9 kg  
Operating temperature: 5°C to 40°C  
Storage: -20°C to 60°C  
Operating position: Horizontal only  
Tape speed: 23.39 mm/sec (PAL/SECAM) 33.35 mm/sec (NTSC)  
Search speed: Shuttle FWD/REV ±10X, Variable 0 - ±5X, ±10X (with a remote control unit)

### VIDEO

Recording & Playback system: Rotary two-head, helical scanning system  
Luminance: FM recording  
Colour Signal: Phase shift, converted subcarrier direct recording  
Video signal system: Rec: PAL/SECAM  
Playback: PAL/SECAM/NTSC 4.43 MHz  
Input Line/TV: 0.5 to 2.0 Vp-p, 75 ohms, unbalanced  
Output Line/TV: 1.0 Vp-p, 75 ohms, unbalanced  
Signal-to-noise ratio: Monochrome: 43 dB (Rohde and Schwarz noise meter)  
Horizontal resolution: Monochrome: 250 lines (PAL position), 240 lines (SECAM position)  
Sync input: 0.5 to 4 Vp-p, 75 ohms, unbalanced  
Input select: TV/LINE  
Sync select: INT/EXT

### AUDIO

Input Line: -6/-20 dBs (selectable) 10 k-ohms, unbalanced (CH-1/CH-2)  
Mic: -70 to -60 dBm, 600 ohms, unbalanced  
TV: -20 dBs, 10 k-ohms, unbalanced  
Output Line: -6 dBs, into 10 k-ohms, unbalanced  
Monitor: 0 dBs, into 10 k-ohms, unbalanced (CH-1/CH-2)  
Headphone: HIGH/MED/LOW, 8 to 300 ohms, unbalanced  
TV: 0 dBs, low impedance, unbalanced  
Signal-to-noise ratio: More than 47 dB (NR-on), 42 dB (NR-off) (at 3% distortion level)  
Frequency response: 40 to 12,000 Hz  
Input select: TV/LINE  
Monitor output select: CH-1/MX/CH-2  
Audio dubbing select: CH-1/CH-2

### CONNECTORS

Video input/output: BNC-type connectors  
SYNC input: BNC-type connector  
TV input/output: EIAJ 8-pin TV connector  
Audio Line input/output: RCA-type pin jack  
Mic: 6 mm jacks  
Monitor out: IEC/DIN 5-pin  
Headphone: 6 mm jack  
Remote control: 45-pin connector (rear), 7-pin IEC/DIN connector (front)  
AC in: 3-wire AC connector  
Accessory: Monitor cable, Dust cover



## TRIPLE-SYSTEM 1/2" VHS VIDEO CASSETTE PLAYER



Designed for use in a wide range of VHS applications, either on its own or teamed up with the BR-6400TR, the BP-5300TR has a performance that meets the standards required of 1/2" institutional video.

Its rugged construction, ultra-reliable direct-drive head drum, capstan and reel motors, sophisticated tape indexing system, and remote control options make it ideal for use in a heavy-duty 1/2" videotape editing system.

### **PAL/SECAM/NTSC triple-standard playback**

Both PAL and SECAM colour signals and CCIR monochrome signals can be played back, with automatic switching. NTSC colour (modified) and EIA monochrome signal playback are also possible using a triple-standard TV monitor with built-in 4.43 MHz NTSC decoder.

### **Direct-drive system**

The head drum is directly driven by a servo-controlled brushless DC motor, while the capstan and reels are all driven directly by independent DC motors, contributing to minimal jitter, stable pictures and more reliable operation.

### **Aluminium diecast chassis**

The rugged, durable diecast aluminium chassis gives positive

support, increasing the reliability of the mechanisms used in the BP-5300TR; its strength and rigidity are assets in any situation.

### **4-Head system**

The BP-5300TR uses two pairs of video heads, one pair for normal speed playback and the other for slow-motion, still picture and search playback. As well as achieving high quality at normal speed, this

results in stable still, slow and fast playback.

## High-speed search up to 10 times normal speed in both directions

No more guesswork in locating the particular section you want to view on a long recording. Run the tape at a speed 10 times normal in either forward or reverse direction while watching the picture.

## Variable-speed playback from still to 5 times normal in either direction

A key editing feature of this VHS institutional player is that when the BP-5300TR is controlled via a remote control unit (RM-P54 or RM-P53) the tape playback speed can be varied continuously from still to 5 times normal in both forward and reverse directions. Accurately and quickly centre in on the correct frame for precise editing or detailed analysis.

## Capstan servo and external sync capability

Since it incorporates a capstan servo and accommodates external reference signals to which its playback can be locked, the BP-5300TR can adapt well to any other video system.

## Still-frame playback

By pressing the still button, a stable still picture can be displayed on the TV screen. This is very useful when you need to examine the details of a selected scene.

## Flexible search and repeat functions

By means of the counter search function, the BP-5300TR can be set for automatic search for the counter "0000" position. The counter repeat function enables repeated playback either between the beginning of the tape and the counter "0000" reading or between the counter "0000" reading and the end of the tape. Moreover, rewind at tape-end is automatic and automatic repeat and playback of the entire tape can be selected.

## Electronic tape counter/lap time indicator with fluorescent display

The built-in 4-digit tape counter employs fluorescent display tubes for clear, easy-to-read indication, providing a convenient means for numerical addressing of tape segments. And since the display

doubles as a 5-digit lap time indicator, hours, minutes and seconds of running time can be used for playback timekeeping.

## Microprocessor-based remote control and random access units

A choice of compact control units are optionally available for the BP-5300TR. Select either a wireless remote control unit (RM-P54) or a connectable remote control unit (RM-P53) to meet your needs. Besides allowing full-function tape operation, they include high-speed picture search and variable-speed playback. The random access unit (RM-P500) with its own digital fluorescent display allows easy access to any section on the tape.

## Editing control interfacing

For more elaborate editing, direct interfacing with JVC's Automatic Editing Control Unit RM-86U is possible, enabling 1/2"-to-3/4" edits to be made quickly and accurately.

## More features

- Electronic tape tension control
- Timer playback with commercially available clock/timer
- Dolby\* noise reduction
- Condensation detector and built-in condensation preventive heater
- Built-in RF converter
- BNC-type video and RCA-type audio connectors
- Front panel remote control connector and headphone jack
- 8-pin TV monitor connector
- 45-pin editing/remote control connector
- Audio monitor output selectable — CH-1, CH-2 or MIX
- AC outlet

\*Dolby is a trademark of Dolby Laboratories Licensing Corporation.

- Motorised automatic front cassette loading
- Microprocessor-based full logic control

- Two audio channels
- VCR/TV antenna select

## SPECIFICATIONS

### GENERAL

Format: VHS 1/2" (12.65 mm)

Power requirement:

AC 100/120/220/240 V~, 50/60 Hz

Power consumption: 76 W (in the reverse shuttle mode with the Automatic Editing Control Unit, DC 12 V~, 0.55A)

Dimensions: 440(W) x 164(H) x 448(D) mm

Weight: 17.5 kg

Operating temperature: 5°C to 40°C

Storage: -20°C to 60°C

Operating position: Horizontal only

Tape speed:

23.39 mm/sec (PAL/SECAM)

33.35 mm (NTSC)

Search speed: Shuttle FWD/REV  $\pm 10X$

Variable 0 —  $\pm 5X$ ,  $\pm 10X$

### VIDEO

Playback system: Rotary two-head, helical scanning system

Video signal system:

PAL/SECAM/NTSC 4.43 MHz

Output Line/TV: 1.0 Vp-p, 75 ohms, unbalanced

Signal-to-noise ratio:

Monochrome: 43 dB (Rohde and Schwarz noise meter)

Horizontal resolution:

Monochrome: 250 lines (PAL), 240 lines (SECAM)

Sync input: 0.5 to 4 Vp-p, 75 ohms, unbalanced

Sync select: INT/EXT

### AUDIO

Output Line: -6 dBs, into 10 k-ohms, unbalanced

Monitor: 0 dBs, into 10 k-ohms, unbalanced (CH-1/MIX/CH-2)

Headphone: HIGH/MED/LOW, 8 to 300 ohms, unbalanced

TV: 0 dBs, low impedance, unbalanced

Signal-to-noise ratio: More than 47 dB (NR-on), 42 dB (NR-off) (at 3% distortion level)

Frequency response: 40 to 12,000 Hz

Monitor output select: CH-1/MIX/CH-2

### CONNECTORS

Video output: BNC-type connector

SYNC input: BNC-type connector

RF output: Aerial

TV output: EIAJ 8-pin TV connector

Audio Line input/output:

RCA-type jacks (output)

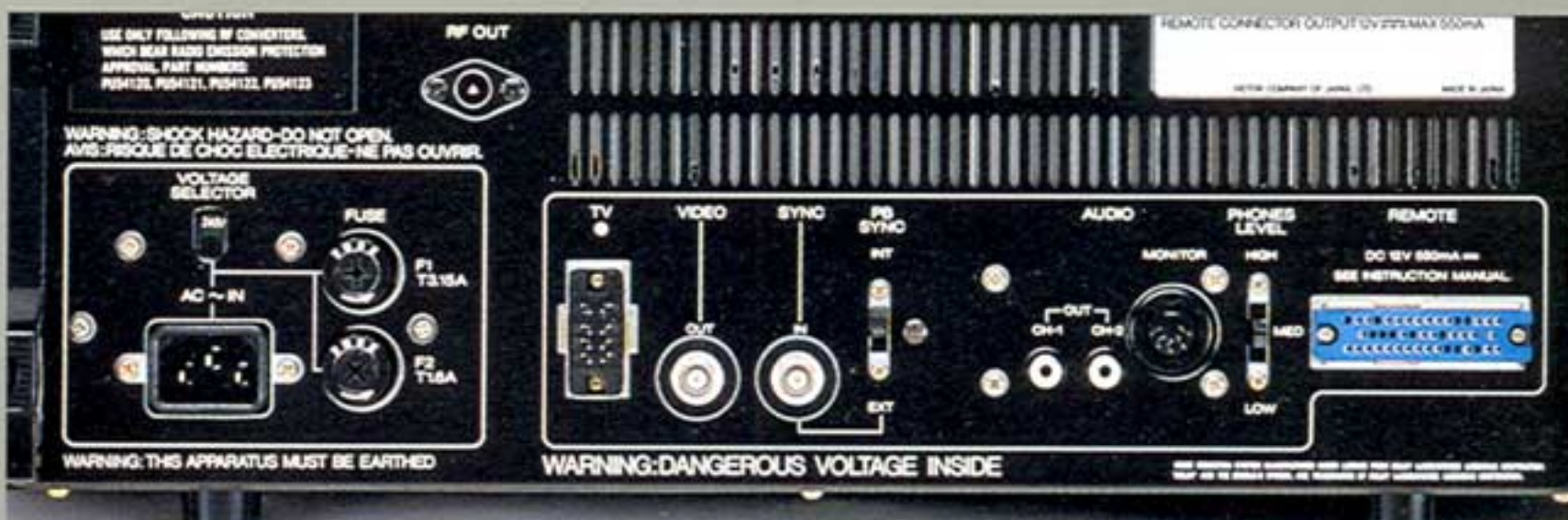
Monitor out: IEC/DIN 5-pin

Headphone: 6 mm jack

Remote control: 45-pin connector

AC in: 3-lead AC connector

Accessory: Monitor cable, Dust cover



## 1/2" VHS PORTABLE VIDEO CASSETTE RECORDER



In sales, education, medicine and all types of business communication, the half-inch VHS video format has earned extensive acceptance for its cost-effective, high-impact communications capability.

JVC's portable BR-6200E possesses the technological features and the rugged, reliable construction to provide years of trouble-free service in the widest variety of professional and institutional applications.

### **Easy connection to professional equipment**

Professional-type BNC video input and output jacks are provided on the BR-6200E for direct connection to other professional video equipment.

### **Power economy**

The low power-consuming design of the BR-6200E is enhanced by a unique REC LOCK power economy switch. This feature allows the operator to shut down power for

indefinite periods and then return to the record mode, with smooth edits.

### **Full-logic operation**

Microprocessor control over all functions allows direct change-over between modes and feather-touch push-button operation.

### **Two-channel audio track and Dolby\* noise reduction**

This two-channel system enhances production flexibility, allowing the recording of "voice-over" narration,

bilingual soundtracks or full stereo sound. Dubbing can be performed independently on the left channel only, or simultaneously on both.

### **Advanced editing functions**

During recording, backspace editing pre-rolls the tape between takes so that the end of the previous segment is neatly synchronised to the beginning of the next one, thereby minimising distortion at the edit points in assembled recordings. The



# BR-6200EG/EK/EA

BR-6200E's improved editing capabilities permit programme segments from different video and audio sources to be edited into a previously recorded tape with minimum distortion at the start and end of the new material.

## Shuttle search

This JVC-developed high-speed visual scanning system lets you view the tape at about 9 times normal speed in either direction, for quick and easy access to any desired part of a video programme.

## Flexible power supply system

Rechargeable Ni-Cad battery packs (NB-P1) are the basic power source for the BR-6200E; their compact yet high-capacity design makes it easy to carry extras for on-location applications. Power can also be supplied from regular household AC outlets or a car battery, via appropriate adapters.

## Full-function wireless remote control

All functions of the BR-6200E can be controlled by coded infrared signals generated by the remote control unit, which can also be attached by wire to the recorder when unusual situations make it difficult to direct the infrared beam accurately, or when the BR-6200E is to be remote-controlled through a camera (specific camera models only).

## More features:

- Frame-by-frame advance
- Built-in RF converter for connection to the aerial terminal of any TV receiver
- LCD (Liquid Crystal Display) 4-digit tape counter with memory function
- LED tape running, insert editing and audio dubbing indicators
- Battery depletion and moisture condensation warning indicators
- Automatic quick review function

\*Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

## SPECIFICATIONS

Format: VHS standard  
Video signal system: PAL-type colour and monochrome signals  
Video recording system: Rotary, slant azimuth, two-head helical scan system  
Tape width: 12.65 mm (1/2 inch)  
Tape speed: 23.39 mm/sec  
REW/FF time: Approx. 5 minutes with E-180 video cassette  
Shuttle search speed: Approx. 9 times normal speed  
Video input: 0.5 to 2.0 Vp-p, 75 ohms (Video/Sync ratio should be normal)  
Video output: 1.0 Vp-p, 75 ohms  
Video S/N ratio: Better than 43 dB (with Rohde & Schwarz noise meter)  
Picture resolution: 250 lines  
Audio mic input: -67 dBs, high impedance, unbalanced  
Audio line input: -20 dBs, 50 k-ohms, unbalanced  
Audio line output: -6 dBs, less than 1 k-ohm, unbalanced  
Audio frequency range: 100 Hz to 10 kHz ( $\pm 6$  dB)  
Audio S/N ratio: Better than 46 dB weighted (Dolby\* NR on)  
RF converter  
RF output channel  
BR-6200EK/EG: UHF 32 - 40 (adjustable)  
BR-6200EA: VHF 3 or 4 (switchable)  
Channel setting  
BR-6200EK/EG: Set to UHF 36 prior to shipment  
BR-6200EA: Set to VHF 4 prior to shipment  
Output level: 70 dB $\mu$ , 75 ohms  
Power requirement: DC 12 V  
Power consumption: 9 W (21 W with camera)  
Weight: 5.0 kg  
Dimensions: 270(W) x 103(H) x 313(D) mm  
Temperature: Operating: 0°C to 40°C  
Storage: -20°C to 60°C  
Camera connector output: DC 12 V  $\pm$ , 12 W maximum  
Accessories: Aerial cable, Shoulder strap, Carrying handle, Infrared remote control, Cable (remote), NB-P1 Battery pack  
Remote control unit  
Power supply: DC 3 V  $\pm$  ("R6" battery x 2)  
Dimensions: 63(W) x 130(H) x 21(D) mm  
Weight: 120 g (incl. batteries)  
Operating distance: 10 m max.  
Accessories: "R6" battery x 2, Metal latch



## AUTOMATIC EDITING CONTROL UNIT



The RM-86U is a compact video editing control unit embodying JVC's extensive experience in video technology. It is designed so that it can easily be incorporated in any VHS or 3/4" post-production system, and provides the fully automated editing functions that video professionals require to produce quality results quickly and accurately.

### **Operation in conversational manner**

Editing procedure is easier to follow than ever because you are kept informed of the next button to be pressed by the flashing of its LED indicator.

### **Confirmation with electronic alarm**

An electronic alarm beeps when tape control buttons are pressed, or at the start of preview, perform and review, or at edit-in and edit-out points so that you can confirm

the operation. The alarm also gives warnings of abnormalities of the tape transport.

### **Dial search control for both the recorder and player**

Two search dials, one for the player and the other for the recorder, vary the tape playback speed continuously from still to 5 times normal in either direction. In the fully-turned position, they allow search at the deck's fastest search speed.

### **Automatic control of edit-in and edit-out points**

Edit points can be entered in a variety of ways with the tape in the still position or while the tape is moving (on the fly). When any three edit points are entered, the fourth point is automatically computed, thus making possible back-timed edits.

### **Switchable tape counter/lap time**

Two displays are provided, giving independent indication for the

# RM-86U

player and recorder. Edit points held in memory or the duration of an edit (the time from the edit-in point to the edit-out point) can be displayed. With the LAP button pressed to ON, the elapsed time from the edit-in point is indicated in frames.

## Audio monitor level adjustment

The audio monitor level controls permit the sound level in the high-speed search mode to be reduced.

## Easy location of edit points

The new "go-to" function lets you call up the edit points of the recorder and player to be checked on the monitor screen.

## Frame-by-frame edit-point correction

The SHIFT button makes it easy to correct the entered edit-in or edit-out point in frames.

## Preview and review editing

Using the preview function, rehearsal of editing is possible. After editing, the review function rewinds the tape in the recorder to the edit-in point and automatically starts playback for checking the edit.

## Auto-tag speeds up editing

After completion of one edit, the recorder automatically returns to the edit-out point and enters the Still mode. If the "PERFORM" or "PREVIEW" button is pressed, this point automatically becomes the next edit-in point, speeding and simplifying the editing process.

## 25-frame/30-frame compatibility

A rear panel switch is provided for switching between 25- and 30-frame systems so that the RM-86U can be used with any of the world's television standards.

## SPECIFICATIONS

Power source: DC 12 V  $\pm$  (supplied from VCR)

Operating temperature range: 5°C to 40°C

Dimensions: 430(W) x 73(H) x 241(D) mm

Weight: 4.0 kg

### VCR CONTROLS

Control buttons: PLAY, REC, FF, REW, STOP, PAUSE/STILL, SEARCH

Dial search: Continuously variable from still to 5 times normal speed, with maximum search speed also possible (determined by the VCR), in both directions.

## EDITING CONTROLS

Edit modes: Assemble and Insert

Edit-point memory: Edit-in and edit-out point held in memory (Preview, perform and review possible)

Edit-point shift: Possible by frame in both directions

## COUNTER DISPLAY

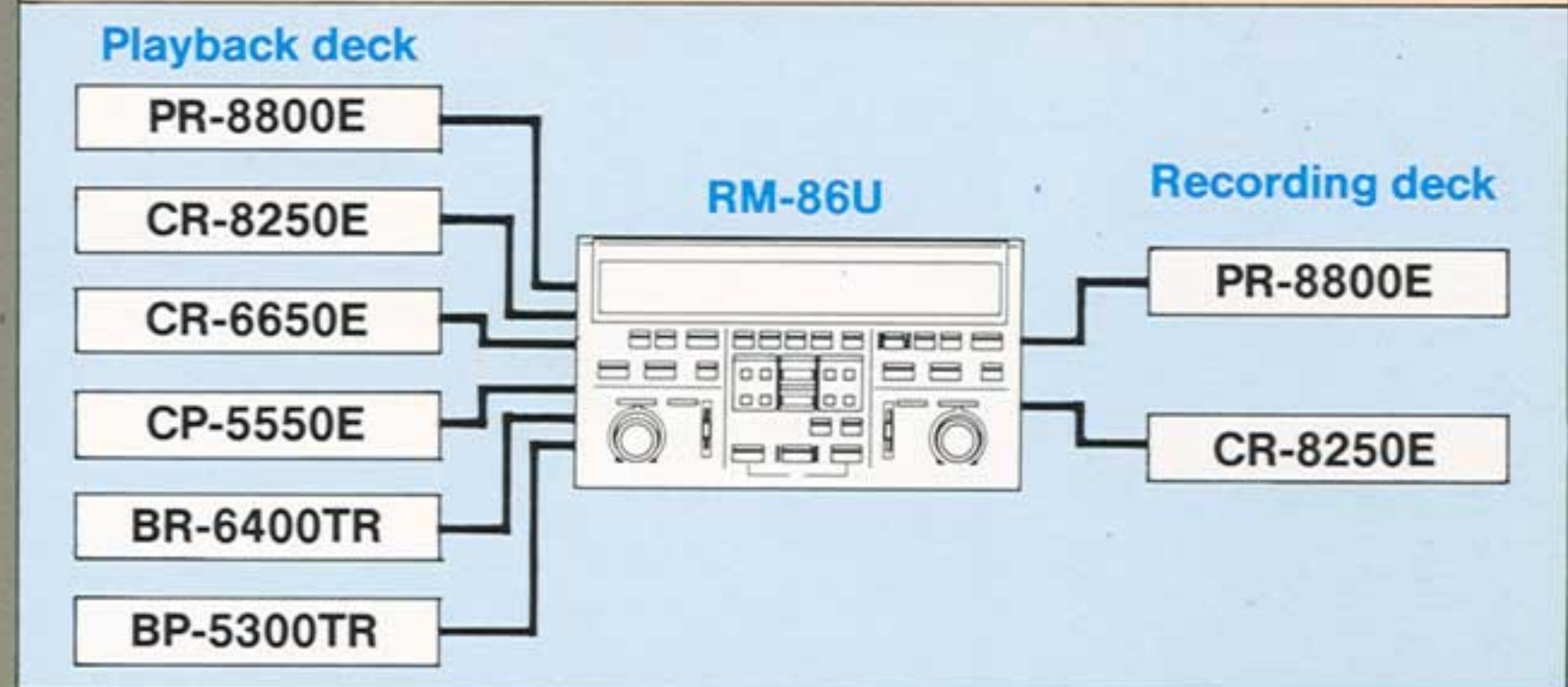
Time counter: Up to 9 hours, 59 minutes, 59 seconds, 29 frames

Display: Total time/elapsed time of an edit/edit-in and out points/edit duration

Display medium: LED

Accessories: Remote control cable x 2 (5 m)

## Possible editing configurations using the RM-86U





**KCA-30/60U** 3/4" U-VCR video cassettes. Playing time: 30 minutes/60 minutes.



**KCS-20U** 3/4" U-VCR small video cassette for portables. Playing time: 20 minutes.



**DYNAREC** 1/2" VHS video cassettes. Playing time: from 4 hours to 30 minutes.



**TG-P47E** Time code generator exclusively for PR-4800E.



**RM-70U** Remote control unit for CR-8250E, CR-6650E and CP-5550E. Also usable with BR-6400TR and BP-5300TR VHS units. Variable-speed dial search provided.



**RM-60U** Remote control unit for CR-6060ET/E and CP-5060ET. Cord length: 5 m.



**RM-P47U** Remote control unit for CR-4700E. Equipped with 4-digit LCD tape counter.



**RM-P53U** Remote control unit for BR-6400TR and BP-5300TR. Variable-speed dial search provided.



**RM-P54U** Infrared remote control unit for BR-6400TR and BP-5300TR. Comes with a receiver that plugs into the remote control jack.



**RM-P500U** Random access control unit usable with BR-6400TR and BP-5300TR. (Also usable with PR-8800E, CR-8250E, CR-6650E and CP-5550E with audio connector conversion from RCA to XLR.)



**PBP-1U** Rechargeable battery pack for CR-4400E.



**NB-P2U** Rechargeable battery pack for CR-4700E and PR-4800E.



**NB-P1U** Rechargeable battery pack for BR-6200E and TM-22EG/EK



**AA-P44E** AC power adapter for CR-4400E. Also recharges PBP-1 battery pack.



**AA-P47E** Multi-charger for charging 4 NB-P2U battery packs simultaneously. Also usable as an AC power adapter for CR-4700E and PR-4800E.



**AA-P26EG/EK/EA** AC power adapter for BR-6200E. Also recharges NB-P1 battery pack.

# ACCESSORIES



**BA-P47U** External battery case used to attach one battery pack to the side of the CR-4700E or PR-4800E.



**KR-250EG/KR-250EK** RF converters for CR-4400E, CP-5060ET, CR-6060ET/E, CP-5550E and CR-6650E. **EG:** Continental Europe/**EK:** United Kingdom.



**TU-26EG/EK/EA** Tuner/AC adapter enables off-air TV programmes to be recorded with the BR-6200EG/EK/EA.



**SC-P2U** Shoulder cart for portables.



**VC-228** Remote control extension cable for extending the connection between the RM-60U and the CR-6060ET/E or CP-5060ET.



**VC-102/103/104** Video cables. UHF (male) – UHF (male). Length: 5 m/10 m/20 m.



**VC-202U** Monitor cable. 8-pin (male) – 8-pin (male). Length: 2 m.



**PU-41446** AC cable. Length: 2.5 m.



**VC-224U** Monitor cable. 2 UHF + 2 RCA – 8-pin (male). Length: 3 m.



**CN-309** Audio cable. 5-pin DIN (male) and 4 RCA pin plugs. Length: 2 m.



**VC-3U** Car battery cord for CR-4400E, Length: 3 m.



**AP-P4E** Car battery cord for BR-6200E.



**CB-P47U** Carrying bag for CR-4700E and PR-4800E.



**CB-34U** Carrying bag for CR-4400E.



**CB-56U** Metal carrying case for CR-4400E plus AA-P44E.



**CB-P62U** Carrying bag for BR-6200E.

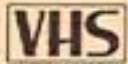
# CONNECTORS

| MODEL              | VIDEO |     | AUDIO                |                      | MONITOR      |              |       |       | REMOTE          | RF OUT     | DOC | TIME CODE |     | SYNC IN | SC IN | MIC                  | AC IN      | CAMERA | DC IN        | FM DUB |     | POWER                       |
|--------------------|-------|-----|----------------------|----------------------|--------------|--------------|-------|-------|-----------------|------------|-----|-----------|-----|---------|-------|----------------------|------------|--------|--------------|--------|-----|-----------------------------|
|                    | IN    | OUT | IN                   | OUT                  | PHONES       | AUDIO        | TV    | VIDEO |                 |            |     | IN        | OUT |         |       |                      |            |        |              | IN     | OUT |                             |
| CP-5550E           | —     | BNC | —                    | XLR-3-32<br>XLR-3-32 | Phone        | XLR-3-32     | 8-pin | —     | 45-pin          | Aerial (M) | —   | —         | —   | BNC     | BNC   | —                    | 3-wire IEC | —      | —            | —      | BNC | 110/127<br>220/240<br>V, AC |
| CR-6650E           | BNC   | BNC | XLR-3-31<br>XLR-3-31 | XLR-3-32<br>XLR-3-32 | Phone        | XLR-3-32     | 8-pin | —     | 45-pin          | Aerial (M) | —   | —         | —   | BNC     | BNC   | Phone<br>Phone       | 3-wire IEC | —      | —            | BNC    | BNC | 110/127<br>220/240<br>V, AC |
| CR-8250E           | BNC   | BNC | XLR-3-31<br>XLR-3-31 | XLR-3-32<br>XLR-3-32 | Phone        | XLR-3-32     | 8-pin | BNC   | 45-pin          | —          | —   | —         | —   | BNC     | BNC   | Phone<br>Phone       | 3-wire IEC | —      | —            | BNC    | BNC | 110/127<br>220/240<br>V, AC |
| PR-8800E           | BNC   | BNC | XLR-3-31<br>XLR-3-31 | XLR-3-32<br>XLR-3-32 | Phone        | XLR-3-32     | 8-pin | BNC   | 45-pin          | —          | BNC | RCA       | RCA | BNC     | BNC   | Phone<br>Phone       | 3-wire IEC | —      | —            | BNC    | BNC | 110/127<br>220/240<br>V, AC |
| PR-4800E           | BNC   | BNC | XLR-3-31<br>XLR-3-31 | XLR-3-32<br>XLR-3-32 | Phone        | —            | —     | BNC   | 12-pin          | —          | —   | 8-pin     |     | BNC     | BNC   | XLR-3-31<br>XLR-3-31 | —          | 14-pin | XLR-4-32     | —      | —   | 12 V, DC<br>NB-P2U          |
| CR-4700E           | BNC   | BNC | XLR-3-31<br>XLR-3-31 | XLR-3-32<br>XLR-3-32 | Phone        | —            | —     | BNC   | 12-pin          | —          | —   |           |     | —       | BNC   | XLR-3-31<br>XLR-3-31 | —          | 14-pin | XLR-4-32     | —      | —   | 12 V, DC<br>NB-P2U          |
| BR-6400TR          | BNC   | BNC | RCA<br>RCA           | RCA<br>RCA           | Phone        | 5-pin<br>DIN | 8-pin | —     | 45-pin<br>7-pin | Aerial (M) | —   | —         | —   | BNC     | —     | Phone<br>Phone       | 3-wire IEC | —      | —            | —      | —   | 100/120<br>220/240<br>V, AC |
| BP-5300TR          | —     | BNC | —                    | RCA<br>RCA           | Phone        | 5-pin<br>DIN | 8-pin | —     | 45-pin<br>7-pin | Aerial (M) | —   | —         | —   | BNC     | —     | —                    | 3-wire IEC | —      | —            | —      | —   | 100/120<br>220/240<br>V, AC |
| BR-6200EG<br>EK/EA | BNC   | BNC | RCA<br>RCA           | RCA<br>RCA           | Mini         | —            | —     | —     | Mini            | Aerial (M) | —   | —         | —   | —       | —     | Mini<br>Mini         | 3-wire IEC | 10-pin | 14-pin       | —      | —   | 12 V, DC<br>PBP-1U          |
| CR-4400E           | UHF   | UHF | RCA                  | RCA                  | Mini<br>Mini | —            | —     | —     | Mini            | Mini       | —   | —         | —   | —       | —     | Mini<br>Mini         | —          | 10-pin | 4-pin<br>DIN | —      | —   | 12 V, DC<br>PBP-1U          |
| CP-5060ET          | —     | UHF | —                    | 5-pin<br>DIN         | —            | —            | 8-pin | —     | 20-pin          | Aerial (F) | —   | —         | —   | —       | —     | —                    | 3-wire IEC | —      | —            | —      | —   | 110/127<br>220/240<br>V, AC |
| CR-6060E           | UHF   | UHF | 5-pin<br>DIN         |                      | —            | —            | 8-pin | —     | 20-pin          | Aerial (F) | —   | —         | —   | —       | —     | Phone<br>Phone       | 3-wire IEC | —      | —            | —      | —   | 110/127<br>220/240<br>V, AC |
| CR-6060ET          | UHF   | UHF |                      |                      | —            | —            | 8-pin | —     | 20-pin          | Aerial (F) | —   | —         | —   | —       | —     | Phone<br>Phone       | 3-wire IEC | —      | —            | —      | —   | 110/127<br>220/240<br>V, AC |

|        |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                     |                                                                                     |
|--------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Socket | BNC                                                                                   | Aerial (M)                                                                            | Aerial (F)                                                                            | 5-pin DIN                                                                             | 4-pin DIN                                                                           | Plug                                                                                |
|        |    |    |    |      |    |                                                                                     |
| Plug   |    |    |    |     |    |                                                                                     |
| Socket | 8-pin                                                                                 | 20-pin                                                                                | 45-pin                                                                                | Phone                                                                                 | Mini                                                                                | UHF                                                                                 |
|        |   |   |   |   |   |   |
| Plug   |  |  |  |   |  |  |
| Socket | XLR-3-32                                                                              | XLR-3-31                                                                              | XLR-4-32                                                                              | 10-pin                                                                                | 14-pin                                                                              | 3-wire IEC                                                                          |
|        |  |  |  |  |  |  |
| Plug   |  |  |  |   |  |  |

|                           | PR-8800E                                                                                   | PR-4800E                                                                          | CR-8250E                                                                              | CR-6650E                                                                            | CP-5550E                                                                            | CR-6060ET                                                                                                                                             |                |
|---------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|                           |           |  |    |  |  |                                                                    |                |
| <b>GENERAL</b>            |                                                                                            |                                                                                   |                                                                                       |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Power requirement         | 110/127/220/240 V AC,<br>50/60 Hz, 140 W<br>(152 W with Remote<br>Control Unit)            | 12 V DC, 19.3 W<br>(45 W with Camera)                                             | 110/127/220/240 V AC,<br>50/60 Hz, 125 W<br>(135 W with Remote<br>Control Unit)       | 110/127/220/240 V AC,<br>50/60 Hz, 120 W<br>(130 W with Remote<br>Control Unit)     | 110/127/220/240 V AC,<br>50/60 Hz, 105 W<br>(115 W Remote<br>Control Unit)          |                                                                                                                                                       |                |
| Temperature               | Operating<br>Storage                                                                       | 5°C to 40°C<br>-20°C to 60°C                                                      | 0°C to 40°C<br>-20°C to 60°C                                                          | 5°C to 40°C                                                                         |                                                                                     |                                                                                                                                                       |                |
| Operating position        | Horizontal only                                                                            | Horizontal or Vertical                                                            | Horizontal only                                                                       |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Tape speed                | 9.53 cm/sec                                                                                |                                                                                   |                                                                                       |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Recording (Playback) time | Max. 60 min.                                                                               | Max. 20 min.                                                                      | Max. 60 min.                                                                          |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Fast forward/Rewind time  | Within 4 min. 30 sec.<br>for 60 min. tape                                                  |                                                                                   | Within 4 min. 30 sec. for 60 min. tape                                                |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Dimensions (W x H x D)    | 56.4 x 22.1 x 52.0 cm                                                                      | 34.9 x 13.0 x 35.2 cm                                                             | 56.4 x 22.1 x 47.1 cm                                                                 | 56.4 x 22.1 x 47.1 cm                                                               | 56.4 x 22.1 x 47.1 cm                                                               | 52.6 x 19.5 x 45.0 cm                                                                                                                                 |                |
| Weight                    | 34.8 kg                                                                                    | 9 kg (with NB-P2U<br>Battery Pack and<br>a KCS-20 video cassette)                 | 30.6 kg                                                                               | 30.6 kg                                                                             | 30.6 kg                                                                             | 27.0 kg                                                                                                                                               |                |
| <b>VIDEO</b>              |                                                                                            |                                                                                   |                                                                                       |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Format                    | High-Band U-standard                                                                       |                                                                                   |                                                                                       |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Recording system          | Rotary two-head, helical<br>scanning system,<br>PAL colour &<br>CCIR monochrome<br>signals | Rotary two-head, helical<br>scanning system,<br>PAL colour                        | Rotary two-head, helical scanning system,<br>PAL colour & CCIR monochrome signals     |                                                                                     | —                                                                                   | Rotary two-head, helical<br>scanning system,<br>PAL/SECAM colour &<br>CCIR monochrome<br>signals                                                      |                |
| Luminance                 | FM recording                                                                               |                                                                                   |                                                                                       |                                                                                     | —                                                                                   | FM recording                                                                                                                                          |                |
| Colour<br>signal          | Converted subcarrier direct recording                                                      |                                                                                   |                                                                                       |                                                                                     | —                                                                                   | Converted subcarrier                                                                                                                                  |                |
| Playback system           | Rotary two-head, helical<br>scanning system,<br>PAL colour &<br>CCIR monochrome<br>signals | Rotary two-head, helical<br>scanning system,<br>Pal colour                        | Rotary two-head, helical scanning system, PAL colour & CCIR monochrome signals        |                                                                                     |                                                                                     | Rotary two-head, helical<br>scanning system,<br>PAL/SECAM colour &<br>CCIR monochrome<br>signals,<br>NTSC 4.43 MHz colour & EIA<br>monochrome signals |                |
| Input                     | Line/TV                                                                                    | 0.5 – 2.0 Vp-p, 75 ohms, unbalanced                                               |                                                                                       |                                                                                     |                                                                                     | —                                                                                                                                                     | 0.5 – 2.0 Vp-p |
|                           | FM dubbing                                                                                 | 0.5 Vp-p, 75 ohms                                                                 | —                                                                                     | 0.5 Vp-p, 75 ohms                                                                   |                                                                                     | —                                                                                                                                                     |                |
| Output                    | Line/TV                                                                                    | 1.0 Vp-p, 75 ohms,<br>unbalanced                                                  |                                                                                       |                                                                                     |                                                                                     |                                                                                                                                                       |                |
|                           | FM dubbing                                                                                 | 0.5 Vp-p, 75 ohms                                                                 | —                                                                                     | 0.5 Vp-p, 75 ohms                                                                   |                                                                                     |                                                                                                                                                       |                |
| Signal-to-Noise ratio     | More than 46 dB (colour),<br>More than 47 dB (B/W)<br>(Rohde & Schwarz<br>noise meter)     | More than 46 dB<br>(Rohde & Schwarz<br>noise meter)                               | More than 46 dB (colour)<br>More than 48 dB (B/W)<br>(Rohde & Schwarz<br>noise meter) |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Horizontal resolution     | Monochrome: more than<br>370 lines,<br>Colour: more than<br>270 lines                      | Colour: more than<br>270 lines                                                    | Monochrome: 330 lines, Colour: 250 lines                                              |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| SC input                  | 2.0 Vp-p, 75 ohms, unbalanced                                                              |                                                                                   |                                                                                       |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Sync input                | 0.5 to 4.0 Vp-p, 75 ohms                                                                   | 4.0 Vp-p, 75 ohms,<br>unbalanced                                                  | 0.5 to 4.0 Vp-p, 75 ohms                                                              |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Time code input/output    | 1.0 Vp-p, 10 k-ohms,<br>unbalanced/2.0 Vp-p, low<br>impedance, unbalanced                  |                                                                                   | —                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Input select              | TV/LINE/FM DUB                                                                             | —                                                                                 | TV/LINE/FM DUB                                                                        |                                                                                     | —                                                                                   | TV/LINE                                                                                                                                               |                |
| Video mode select         | COLOUR/AUTO/BW                                                                             | —                                                                                 | COLOUR/AUTO/BW                                                                        |                                                                                     |                                                                                     | AUTO/DUB/BW                                                                                                                                           |                |
| Sync select               | EXT/VIDEO (INT)                                                                            | —                                                                                 | EXT/VIDEO (INT)                                                                       |                                                                                     | EXT/INT                                                                             | —                                                                                                                                                     |                |
| <b>AUDIO</b>              |                                                                                            |                                                                                   |                                                                                       |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Input                     | Line                                                                                       | -20/0 dBs, 10 k-ohms,<br>balanced                                                 | -20/-60 dBs, 600 ohms,<br>balanced                                                    | -20/0 dBs, 10 k-ohms,<br>balanced                                                   | —                                                                                   | -20 dBs, 50 k-ohms,<br>unbalanced                                                                                                                     |                |
|                           | Mic.                                                                                       | -70 dBm, 600 ohms,<br>unbalanced                                                  | -60 dBs, 600 ohms,<br>balanced                                                        | -70 dBm, 600 ohms,<br>unbalanced                                                    | —                                                                                   | -70 dBm, 600 ohms,<br>unbalanced                                                                                                                      |                |
|                           | TV                                                                                         | -20 dBs, 10 k-ohms,<br>unbalanced                                                 | —                                                                                     | -20 dBs, 10 k-ohms,<br>unbalanced                                                   |                                                                                     |                                                                                                                                                       |                |
| Output                    | Line                                                                                       | -20/0 dBs, low<br>impedance, balanced                                             | 0 dBs, low impedance,<br>balanced                                                     | -20/0 dBs, low impedance, balanced                                                  |                                                                                     |                                                                                                                                                       |                |
|                           | Monitor                                                                                    | 0 dBs, low impedance,<br>balanced                                                 | —                                                                                     | 0 dBs, low impedance, balanced                                                      |                                                                                     |                                                                                                                                                       |                |
|                           | Headphone                                                                                  | -28 dBs, 8 ohms load,<br>unbalanced                                               | Variable between -20<br>and -40 dBs, 8 ohms,<br>unbalanced                            | -28 dBs, 8 ohms load, unbalanced                                                    |                                                                                     |                                                                                                                                                       |                |
|                           | TV                                                                                         | 0 dB, low impedance,<br>unbalanced                                                | —                                                                                     | 0 dBs, low impedance, unbalanced                                                    |                                                                                     |                                                                                                                                                       |                |
| Signal-to-Noise ratio     | More than 48 dB (3% distortion level)                                                      |                                                                                   |                                                                                       |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Frequency response        | 50 to 15,000 Hz                                                                            |                                                                                   |                                                                                       |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| Input select              | TV/LINE/MIC                                                                                | —                                                                                 | TV/LINE/MIC                                                                           |                                                                                     | —                                                                                   |                                                                                                                                                       |                |
| Monitor output select     | CH-1/MIX/CH-2                                                                              |                                                                                   |                                                                                       |                                                                                     |                                                                                     |                                                                                                                                                       |                |
| ACCESSORIES               | Monitor Cable, Dust Cover                                                                  | NB-P2U Battery Pack,<br>Carrying Handle,<br>Shoulder Strap                        | Monitor Cable, Dust Cover                                                             |                                                                                     |                                                                                     |                                                                                                                                                       |                |

# SPECIFICATIONS

| CR-6060E                                                                          | CP-5060ET                                                                                                  | CR-4700E                                                                          | CR-4400E                                                                           | BR-6400TR                                                                                        | BP-5300TR                                                                           | BR-6200EG/EK/EA                                                                               |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
|  |                           |  |  |               |  |            |
| 110/127/220/240 V AC, 50 Hz, 110 W                                                |                                                                                                            | 12 V DC, 12 W                                                                     | 12 V DC, 13.5 W                                                                    | 100/120/220/240 V AC, 50/60 Hz, 81 W (with Automatic Editing Control Unit)                       | 100/120/220/240 V AC, 50/60 Hz, 76 W (with Automatic Editing Control Unit)          | 12 V DC, 9 W (21 W with camera)                                                               |
|                                                                                   |                                                                                                            | 0°C to 40°C                                                                       |                                                                                    | 5°C to 40°C                                                                                      |                                                                                     | 0°C to 40°C                                                                                   |
| -20°C to 60°C                                                                     |                                                                                                            | -10°C to 60°C                                                                     |                                                                                    | -20°C to 60°C                                                                                    |                                                                                     |                                                                                               |
|                                                                                   |                                                                                                            | Horizontal or Vertical                                                            | Gyroscopic                                                                         | Horizontal only                                                                                  |                                                                                     | Horizontal or Vertical                                                                        |
|                                                                                   |                                                                                                            |                                                                                   |                                                                                    | 23.39 mm/sec (PAL/SECAM), 33.35 mm/sec (NTSC)                                                    |                                                                                     | 23.39 mm/sec                                                                                  |
|                                                                                   |                                                                                                            | Max. 20 min.                                                                      |                                                                                    | Max. 4 hours                                                                                     |                                                                                     |                                                                                               |
| Within 4 min. for 60 min. tape                                                    |                                                                                                            |                                                                                   |                                                                                    |                                                                                                  |                                                                                     | Approx. 5 min. with E-180 video cassette                                                      |
| 52.6 x 19.5 x 45.0 cm                                                             | 52.6 x 19.5 x 45.0 cm                                                                                      | 34.9 x 13.9 x 35.2 cm                                                             | 33.6 x 14.1 x 36.9 cm                                                              | 44.0 x 16.4 x 44.8 cm                                                                            | 44.0 x 16.4 x 44.8 cm                                                               | 27.0 x 10.3 x 31.3 cm                                                                         |
| 26.0 kg                                                                           | 24.8 kg                                                                                                    | 8.9 kg (with NB-P2U Battery Pack and a KCS-20 video cassette)                     | 11.2 kg (with PBP-1 Battery Pack and a KCS-20 video cassette)                      | 17.9 kg                                                                                          | 17.5 kg                                                                             | 5.0 kg                                                                                        |
| U-Matic                                                                           |                                                                                                            |                                                                                   |                                                                                    | VHS                                                                                              |                                                                                     |                                                                                               |
| Rotary two-head, helical scanning system, PAL colour & CCIR monochrome signals    | —                                                                                                          | Rotary two-head, helical scanning system, PAL colour signal                       | Rotary two-head, helical scanning system, PAL colour & CCIR monochrome signals     | Rotary two-head, helical scanning system, PAL/SECAM colour & CCIR monochrome signals             | —                                                                                   | Rotary slant azimuth, two-head, helical scanning system, PAL colour & CCIR monochrome signals |
| FM recording                                                                      | —                                                                                                          |                                                                                   |                                                                                    | FM recording                                                                                     | —                                                                                   | FM recording                                                                                  |
| direct recording                                                                  | —                                                                                                          |                                                                                   | Converted subcarrier direct recording                                              |                                                                                                  | —                                                                                   | Converted subcarrier direct recording                                                         |
| Rotary two-head, helical scanning system, PAL colour & CCIR monochrome signals    | Rotary two-head, helical scanning system, PAL/SECAM colour & CCIR monochrome signals, NTSC 4.43 MHz colour | Rotary two-head, helical scanning system, PAL colour signal                       |                                                                                    | Rotary two-head, helical scanning system, PAL/SECAM/NTSC 4.43 MHz colour & EIA monochrome signal |                                                                                     | Rotary slant azimuth, two-head, helical scanning system, PAL colour & CCIR monochrome signals |
| 75 ohms, unbalanced                                                               | —                                                                                                          |                                                                                   | 0.5 – 2.0 Vp-p, 75 ohms, unbalanced                                                |                                                                                                  | —                                                                                   | 0.5 to 2.0 Vp-p, 75 ohms (Video/Sync ratio should be normal)                                  |
|                                                                                   |                                                                                                            |                                                                                   | 1.0 Vp-p, 75 ohms, unbalanced                                                      |                                                                                                  |                                                                                     |                                                                                               |
|                                                                                   |                                                                                                            |                                                                                   |                                                                                    |                                                                                                  |                                                                                     |                                                                                               |
| More than 45 dB (Rohde & Schwarz noise meter)                                     |                                                                                                            | More than 46 dB (Rohde & Schwarz noise meter)                                     | More than 45 dB (Rohde & Schwarz noise meter)                                      | Monochrome: 43 dB (Rohde & Schwarz noise meter)                                                  |                                                                                     |                                                                                               |
| Monochrome: 300 lines, Colour: 240 lines                                          |                                                                                                            | Colour: 260 lines                                                                 | Monochrome: 320 lines, Colour: 240 lines                                           | Monochrome: 250 lines (PAL position) 240 lines (SECAM position)                                  |                                                                                     | Colour: 250 lines                                                                             |
| —                                                                                 |                                                                                                            | 2.0 Vp-p, 75 ohms, unbalanced                                                     |                                                                                    | —                                                                                                |                                                                                     |                                                                                               |
| —                                                                                 |                                                                                                            | 4.0 Vp-p, 75 ohms, unbalanced                                                     | —                                                                                  | 0.5 to 4.0 Vp-p, 75 ohms, unbalanced                                                             |                                                                                     | —                                                                                             |
|                                                                                   |                                                                                                            |                                                                                   |                                                                                    |                                                                                                  |                                                                                     |                                                                                               |
| TV/LINE                                                                           | —                                                                                                          |                                                                                   | LINE/CAMERA                                                                        | TV/LINE                                                                                          | —                                                                                   |                                                                                               |
| AUTO/DUB/BW                                                                       | —                                                                                                          |                                                                                   | AUTO/DUB/BW                                                                        | —                                                                                                | —                                                                                   | —                                                                                             |
| —                                                                                 | —                                                                                                          |                                                                                   |                                                                                    | INT/EXT                                                                                          | —                                                                                   | —                                                                                             |
| -20 dBs to +10 dBs, 50 k-ohms, unbalanced                                         | —                                                                                                          | -20/-60 dBs, 600 ohms, balanced                                                   | -20 dBs, 220 k-ohms, unbalanced                                                    | -6/-20 dBs (selectable) 10 k-ohms, unbalanced (CH-1/CH-2)                                        | —                                                                                   | -20 dBs, 50 k-ohms, unbalanced                                                                |
| -70 dBm to -40 dBm, 600 ohms, unbalanced                                          | —                                                                                                          | -60 dBs, 600 ohms, balanced                                                       | -70 dBm, 600 ohms, unbalanced                                                      | -70 to -60 dBm, 600 ohms, unbalanced                                                             | —                                                                                   | -67 dBs, high impedance, unbalanced                                                           |
| —                                                                                 |                                                                                                            |                                                                                   |                                                                                    | -20 dBs, 10 k-ohms, unbalanced                                                                   | —                                                                                   |                                                                                               |
| 0 dB, high impedance, unbalanced                                                  |                                                                                                            | 0 dB, low impedance, balanced                                                     | -3 dBs, high impedance, unbalanced                                                 | -6 dBs, into 10 k-ohms, unbalanced                                                               |                                                                                     | -6 dBs, less than 1 k-ohm, unbalanced                                                         |
|                                                                                   |                                                                                                            |                                                                                   |                                                                                    | 0 dBs, into 10 k-ohms, unbalanced (CH-1/MIX/CH-2)                                                |                                                                                     | —                                                                                             |
| —                                                                                 |                                                                                                            | Variable between -20 and -40 dBs, 8 ohms load, unbalanced                         | —                                                                                  | HIGH/MED/LOW, 8 to 300 ohms, unbalanced                                                          |                                                                                     |                                                                                               |
|                                                                                   |                                                                                                            |                                                                                   |                                                                                    | 0 dBs, low impedance, unbalanced                                                                 |                                                                                     | —                                                                                             |
| More than 40 dB                                                                   |                                                                                                            | More than 48 dB                                                                   | More than 40 dB                                                                    | More than 47 dB (NR-on) 42 dB (NR-off) (3% distortion level)                                     |                                                                                     | More than 46 dB (NR on)                                                                       |
| 50 to 12,000 Hz                                                                   |                                                                                                            | 50 to 15,000 Hz                                                                   | 80 to 12,000 Hz                                                                    | 40 to 12,000 Hz                                                                                  |                                                                                     | 100 to 10,000 Hz (±6 dB)                                                                      |
| LINE                                                                              | —                                                                                                          |                                                                                   | LINE/CAMERA                                                                        | TV/LINE                                                                                          | —                                                                                   | —                                                                                             |
| CH-1/MIX/CH-2                                                                     |                                                                                                            |                                                                                   | CH-1/MIX/CH-2 variable                                                             | CH-1/MIX/CH-2                                                                                    |                                                                                     | —                                                                                             |
| Dust Cover, Aerial Cable, Monitor Cable                                           |                                                                                                            | NB-P2U Battery Pack, Carrying Handle, Shoulder Strap                              | PBP-1 Battery Pack, KCS-20 Video Cassette, Crystal Earphone                        | Monitor Cable, Dust Cover                                                                        |                                                                                     | *R6* Battery x 2 Metal Latch x 1                                                              |

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