

JVC[®]
PROFESSIONAL

PROFESSIONAL S

**S-VHS FEEDER/
PLAYER**

BR-S525U

PROFESSIONAL S source feeder with Automatic Variable Tracking for noiseless variable-speed slow-motion playback, plus built-in TBC.



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INTRODUCING JVC'S BR-S525U — THE WORLD'S FIRST S-VHS FEEDER WITH AUTOMATIC VARIABLE TRACKING

At JVC, we're very proud of the recognition our PROFESSIONAL S "22-Series" products have garnered. Superior performance and broadcast-level capabilities have made PROFESSIONAL S the video system of choice in an ever-widening range of applications. Now we've added yet another world's first — the BR-S525U Professional S Player. This model is the world's first S-VHS machine to feature JVC's newly-developed automatic variable tracking system which offers the noiseless variable-speed pictures that are essential in sports and special-effects editing, with quality comparable to that offered by 3/4-inch equipment. With the RM-G870U Editing Controller, Variable Motion Control (VMC) is afforded, and in combination with the BR-S822U Editing Recorder, VMC-capable A/B roll editing is made possible. As with our other "22-Series" models, the BR-S525U brings a wide variety of broadcast-standard post-production features to a wide range of professional users. By professionals, for professionals — the BR-S525U, from JVC.



PICTURE IMPROVEMENT TECHNOLOGY

Flying pre-amp

To optimize the playback signal, we've installed a pre-amp on the upper head drum. This advanced configuration — similar to that used in 1-inch VTRs — significantly reduces transmission losses and helps eliminate edge noise.

Built-in digital dropout compensator (DOC)

Our primary goal in designing the BR-S525U was to ensure broadcast-level picture quality without additional external signal processing. One of the ways we achieved this was by installing an advanced digital DOC. Comparable to the DOCs incorporated in conventional TBCs, this sophisticated device performs dropout compensation for the luminance signal on an all-digital basis. With chroma dropout compensation also performed using a glass delay line, you get a stable, high-quality picture that stands up to comparison with anything produced by 3/4-inch U-VCRs.

Newly developed ECL demodulator

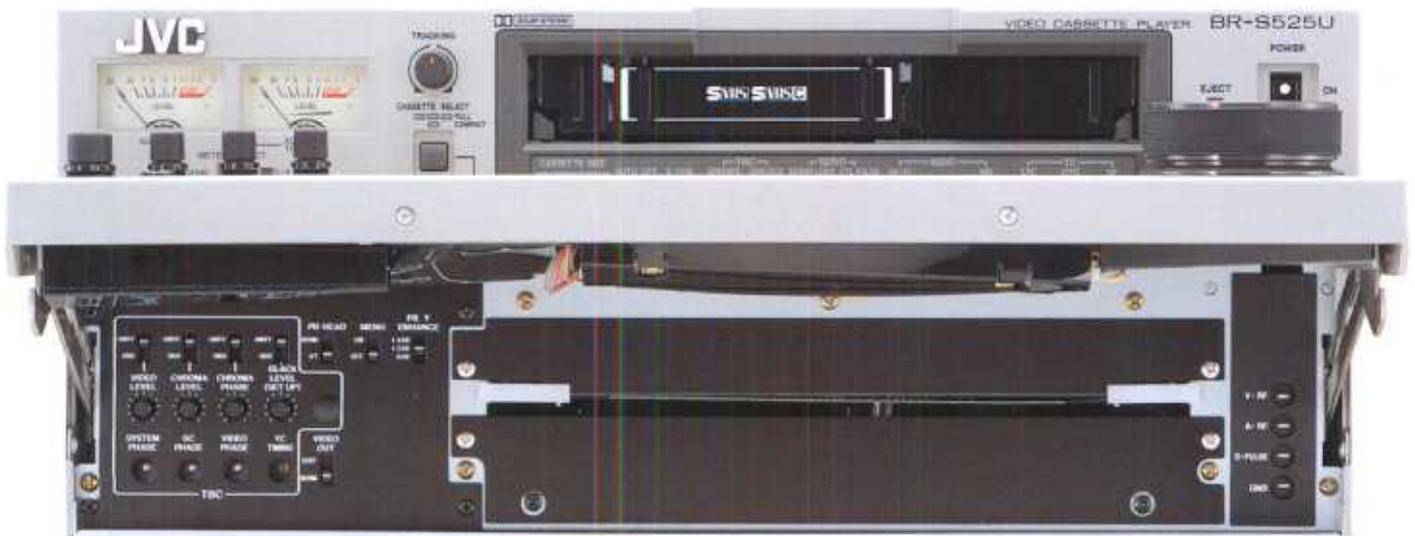
Instead of a conventional IC, the demodulator incorporated in the BR-S525U features a newly-developed ECL (Emitter Coupled Logic) element capable of operating at very high speeds. As a result, luminance smear is greatly reduced.

SC leak canceller

In repeated dubbing, noticeable deterioration can be caused by subcarrier leakage during chroma signal down-conversion. The result is usually faint and uneven coloration in areas where there should be no color. To prevent this, we've incorporated a newly developed SC leak canceller which detects and removes very low-level chroma signals on leaked carriers without interfering with overall signal quality.

High-precision chroma noise reducer (CNR)

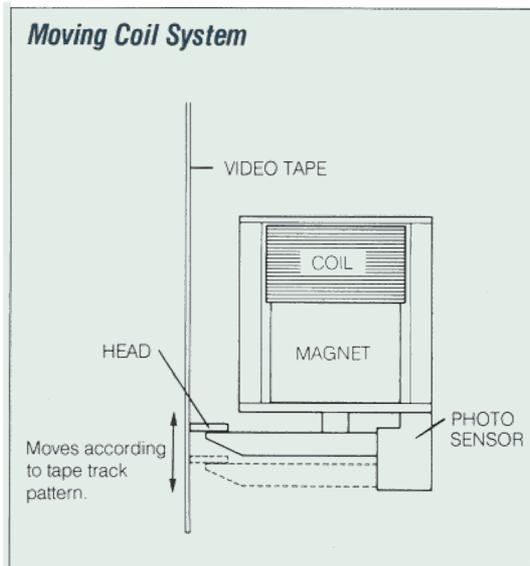
This new CNR represents a tremendous advance over previous CNRs. Instead of line-by-line detection of chroma noise that's non-correlative to luminance signals, this circuit conducts chroma noise detection on a pixel-by-pixel basis. This incredible degree of precision allows it to completely eliminate the color streaking normally caused by lags in CNR phase adjustment, ensuring a much-improved chroma S/N ratio in playback.



NEW AUTOMATIC VARIABLE TRACKING

New Variable Tracking System

With conventional tracking systems, video tracks can only be correctly traced during standard speed; during still and slow motion accurate tracking cannot be maintained and noise is produced. To avoid this problem, JVC's automatic variable tracking system was developed to precisely trace the track at various speeds. To accomplish this, the new system incorporates a photo sensor to detect the proper head position and a moving-coil actuator to change the head position of the two pairs of precision-machined VT (Variable-Tracking) heads. Better head-to-tape contact, greater accuracy, and higher resonance frequency than comparable systems are attained.



High-quality variable-speed playback

By virtue of JVC's new automatic variable tracking system, the BR-S525U is able to offer variable-speed playback at speeds ranging from -2 to $+3$ times normal. In combination with JVC's BR-S822U and RM-G870U, Variable Motion Control (VMC) editing is possible — offering high-quality slow-motion or reverse edits with instant, jitter-free starts from still frames. Noiseless variable-speed playback is invaluable for analysis of fast-moving action such as sports, field-by-field viewing and editing of computer graphics and special effects, as well as for research applications at institutes and universities.

Programmable playback

Playback time can be compressed and expanded in steps of 0.1 % over a range of ± 20 %. This indispensable feature lets the playback time be adjusted to precisely match the length of a musical score or program time slot.

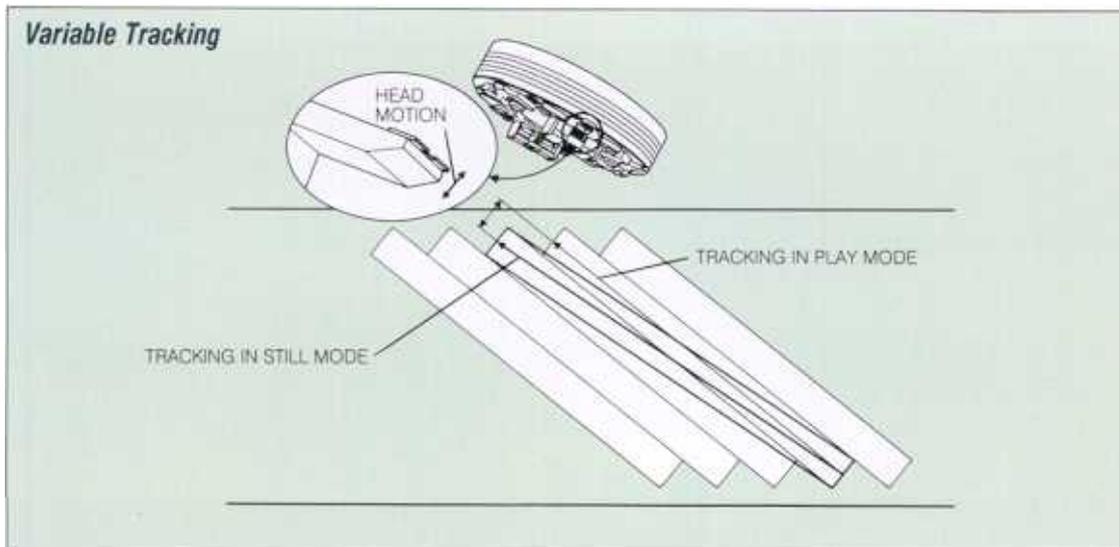
Field by field playback

Unlike other S-VHS players which skip every other field in the search/frame advance modes, the BR-S525U's double-azimuth variable tracking heads ensure that every field is displayed in the variable speed mode. This is invaluable in scientific and medical imaging, as well as in sports applications requiring field-by-field analysis.

Built-in TBC

With the BR-S525U's variable-speed tracking capability, the importance of playback picture stability becomes particularly significant. To assure maximum stability, this model is equipped with an advanced digital time base corrector with full-field memory capacity to eliminate timebase errors across the widest range. COMPONENT OUT connectors are provided for direct transmission of the component signal to M-II or BETACAM SP* equipment, as well as COMPOSITE OUT and Y/C 358 OUT connectors.

* BETACAM SP is a trademark of Sony Corporation.



OPERABILITY

On-Screen Menu system for easy setup and trouble-free operation

To permit the incorporation of a full array of professional functions, the BR-S525U incorporates an On-Screen Menu system with built-in memory which allows simple dial setting and switching of most basic functions while referring to the counter or on-screen display. Mode selection and initialization are all possible via the menu display, and even functions normally requiring DIP switch resetting can be switched directly via the menu display. Over 40 items are selectable including TBC mode, Dolby NR, audio limiter, and preroll times. Besides reducing the number of external switches, this system reduces the chances of function settings being accidentally switched on or off as is possible with external switches. A full set of LED indicators on the front panel assure you that the desired functions are engaged. On-screen mode check and warning indications are also provided.

Large function buttons with easy-to-see LED indicators

Color-coded for easy identification, large pushbutton controls are provided for all tape transport functions including the Variable Tracking mode. Each of them has its own individual LED to indicate ON/OFF status. LED indicators are also provided beneath the cassette loading slot to show cassette size, TBC mode, servo lock, CTL pulse, Hi-Fi, Dolby NR, and time code mode.

Full-loading mechanism

For faster operation, the BR-S525U incorporates a full-loading mechanism with STAND BY ON/OFF selection possible.

Tiltable control panel

The user-friendly design of the 22-series extends even to the control panel. The BR-S525's control panel can be pulled out and tilted up to 90° — and locking is possible at angles of 25°, 50°, and 75°. This comfortable keyboard-type approach greatly eases editing operations.

Rack mounting

The BR-S525U conforms to the 19-inch EIA rack mount standard.

RELIABILITY

Heavy-duty mechanism

For improved stability and protection against external shock, all critical components are mounted in a rugged diecast aluminum chassis. Independent direct-drive motors for the head drum, capstan, and reels assure long-term operational reliability with minimal downtime.

Self-diagnostic warning system

A sophisticated array of microprocessor-controlled sensors and detectors monitor all internal operating conditions. Whenever a problem is detected in such areas as the drum and capstan servo system, the tape path, or the loading system, a warning code is immediately displayed on the front panel digital display and on the monitor screen. An AUTO OFF LED indicator is also provided.

Front-access test points

Test points for the video head and FM audio head output signals are conveniently located on the front sub-panel.

Automatic head cleaning

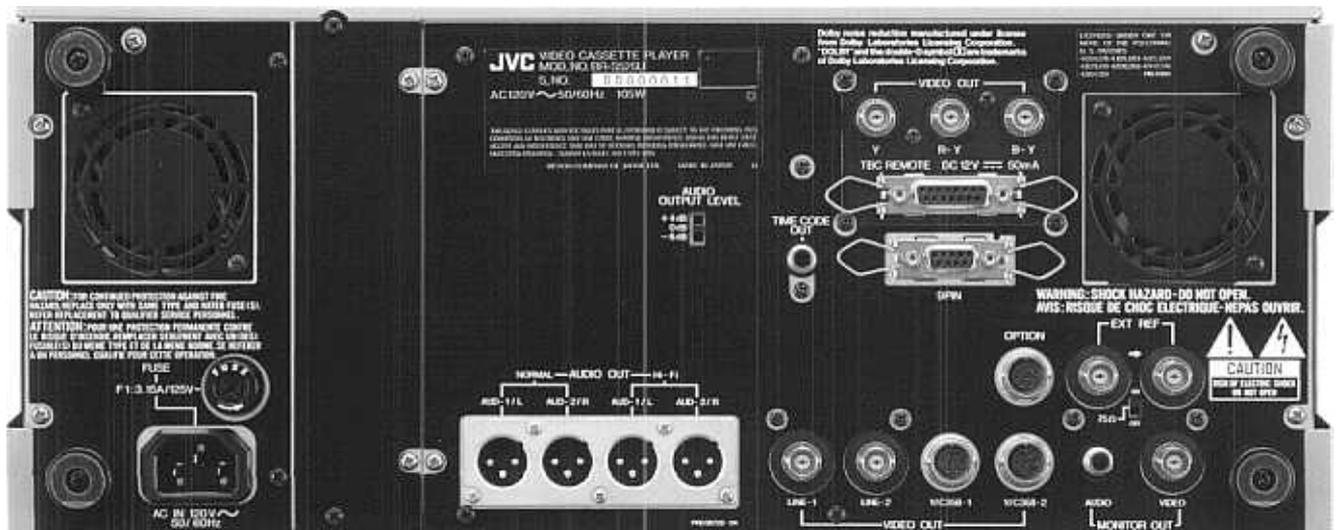
Head clogging and abrasion are prevented by an auto head cleaning mechanism which automatically cleans the video and FM audio heads whenever a tape is loaded or unloaded.

Hour meter

In addition to TC and CTL, the 8-digit counter display can also be switched to an hour meter showing not only total operating time up to 9999 hours, but also the estimated working times for the capstan, drum, and reel.

OTHER FEATURES

- Search/jog dials
- High-speed visual search at up to 32x (10x with C-size cassettes)
- External sync input for reference video
- Wide-format (16:9) playback capability



Digital Y/C separator*

To ensure that the luminance and chrominance signal components are separated as accurately as possible, our Y/C separator incorporates an advanced new IC with a digital filter. "Oblique" or perceived resolution is significantly improved, and even with composite input, picture quality is almost the same as it would be with separate Y/C inputs.

Digital luminance noise reducer (YNR)

To prevent vertical resolution deterioration in playback, the BR-S525U incorporates a non-recursive type digital YNR which operates on a 3-line correlation basis. This improves the S/N ratio by about 2 dB.

Luminance signal enhancer

For increased picture sharpness in playback, a 3-step switch allows you to select frequency responses of 0 dB, +2 dB, and +4 dB with the luminance signal at 2.5 MHz. Using a delay line and working on the aperture principle, this system is able to respond accurately to changing pulse-like signals so high resolution is maintained even in multi-generation dubbing. In addition, an automatic equalizer is provided to prevent deterioration of the luminance signal frequency response with worn heads, or when using tapes that have different characteristics or have been overplayed.

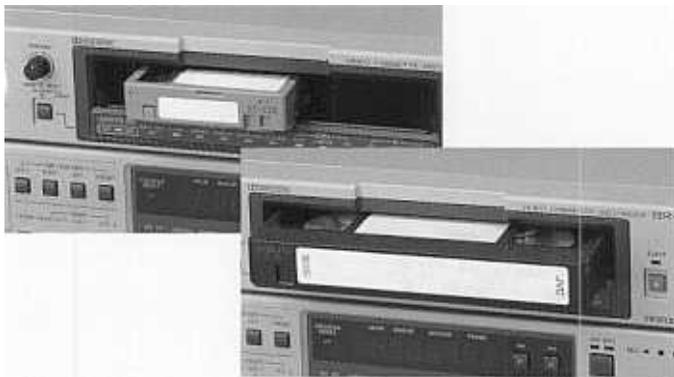
Improved chroma enhancer

To ensure a sharper chroma edge with no color spreading even after repeated dubs, the BR-S525U incorporates a chroma enhancer** which restores the chroma bandwidth lost during playback. For even greater accuracy and improved response to low amplitudes, a limiter has been added to the part of the circuitry responsible for detecting the edge components of the Y signal.

* A Y/C filtering technique incorporated under license from PARODIA Laboratories.

** Employs chroma-enhancing technology co-developed by JVC and PARODIA Laboratories and modified for S-VHS applications.

SYSTEMS FLEXIBILITY



Picture shows the BR-S822U.

Full-size/compact compatible cassette loading mechanism

Similar in principle to the loading mechanisms employed in M-II, 3/4-inch, and other high-performance professional equipment, the BR-S525U's cassette loading mechanism can directly accept both regular and compact S-VHS cassettes. The tape transport system has also been improved to provide faster search speeds and more stable transport. C-sized cassettes are already popular in image acquisition — as exemplified by the success of JVC's new-concept GY-X1 Professional S-VHS-C camcorder — and are expected to assume a more important role in distribution, on-air transmission, and other applications. Now, with the full-size/compact cassette loading mechanism, you won't have to transfer C-size source material to full-size cassettes or use an adapter; you'll be able to edit directly from the original recording.

Built-in RS-422 interface

The BR-S525U features a built-in 9-pin serial remote control interface. Conforming to the RS-422 protocol, this connector is compatible with a wide range of professional equipment and allows greater flexibility in the choice of a controller, as well as permitting direct machine-to-machine editing without an additional editing controller. Industry-standard variable motion commands are also implemented via the RS-422. If you need 45-pin control compatibility for use with JVC's 45-pin remote control systems, an extension board slot is provided on the rear panel. This can accept the optional SA-K28U* 45-pin remote control board.

* Variable motion control is not available via the SA-K28U.

Time code reading

High-quality editing requires absolute precision and accuracy. To facilitate this, the BR-S525U has been designed for easy "slot-in" installation of the optional SA-R22U Time Code Reader. This permits reading of SMPTE-standard LTC and VITC time codes. User bits are also provided. No additional equipment is required as all controls and switches are provided on the TC module and the BR-S525U itself. For connection to an existing TC reader, an LTC time code output connector is also provided.

PERFORMANCE

Stable pictures

To provide the level of picture stability required by broadcast and institutional applications, a TS (Tape Stabilizing) head drum with improved drum motor is employed. As a result, pictures are extremely stable and free of jitter or color snaking.

Switching noise masking

For improved playback and special-effects picture performance, a switching noise masking system is also provided. Especially effective with digitally processed special-effects pictures, this sets the switching point 1.5H lower than normal, completely eliminating on-screen switching noise.

Superior high-fidelity sound

Superior audio performance characteristics — including wider frequency response, dynamic range of more than 90 dB, and minimal wow and flutter — are ensured by two rotary FM audio heads dedicated exclusively to Hi-Fi VHS playback.

Flexible sound reproduction

For added flexibility, two-channel normal (linear) audio track playback is also possible. To improve performance on the normal audio track, the BR-S525U features built-in Dolby* B noise reduction circuitry. Audio output is selectable between Hi-Fi and NORMAL while an audio monitor select switch allows independent monitoring of all four channels (Hi-Fi x 2, normal audio x 2).

Professional-standard XLR balanced audio connectors

To ensure professional-standard compatibility and audio quality, only high-performance XLR balanced audio connectors are used. Input and output levels are selectable from +4 dB, 0 dB, and -6 dB.

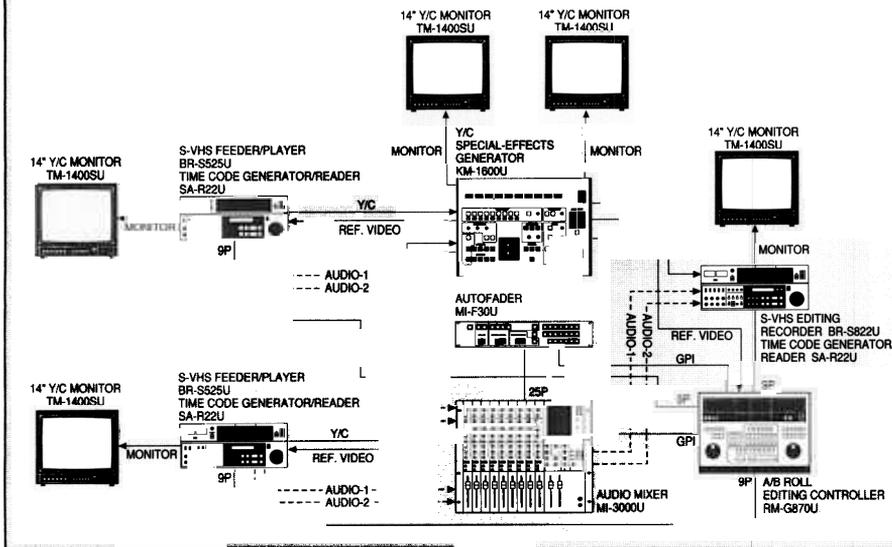
Auto H phase lock

To prevent edit flagging, this automatically locks the horizontal phase of the BR-S525U's output signal to that of the recording tape.

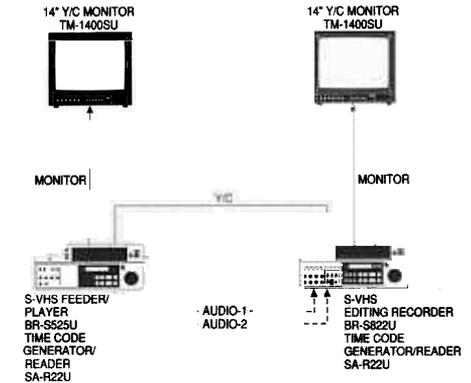
* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. Dolby and the Double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

EDITING SYSTEM CONFIGURATIONS

VMC-capable A/B Roll Editing System



Machine-to-Machine Editing System



SPECIFICATIONS

GENERAL

Format: VHS/S-VHS NTSC standard
 Power requirement: AC 120 V, 50/60 Hz
 Power consumption: 105 watts
 Dimensions: 429(W) x 188(H) x 565(D) mm
 (16-3/4" x 7-1/2" x 22-1/4")
 Weight: 23 kg (51 lbs)
 Operating temperature:
 5°C to 40°C (41°F to 104°F)
 Storage temperature:
 -20°C to 60°C (-4°F to 140°F)
 Tape speed: 33.35 mm/sec
 Playback time: Max. 120 min. with JVC T-120/ST-120,
 max. 20 min. with JVC T-C20/ST-C20
 Fast forward/Rewind time:
 Less than 2.5 min. for 120 min. tape

VIDEO

Playback: Rotary two-head, helical scanning system
 Luminance: FM recording
 Color signal: Phase shift, converted sub-carrier direct recording
 Video signal system: NTSC-type color signal
 NTSC-type Y/C signal

Output

Line: 1.0 Vp-p, 75 ohms, unbalanced
 YC358 Y: 1.0 Vp-p, 75 ohms, unbalanced
 C: 0.286 Vp-p, 75 ohms, unbalanced (Burst)

Signal-to-noise ratio:

More than 47 dB (S-VHS)
 More than 46 dB (VHS)

Horizontal resolution:

More than 400 lines (S-VHS)
 More than 240 lines (VHS)

Reference video input: 1.0 Vp-p, 75 ohms, unbalanced
 (with one loop-through, with TBC)

AUDIO

Output

Line: -6/0/+4 dBs, Low impedance, balanced (Hi-Fi/Normal)
 Monitor: -6 dBs, Low impedance, unbalanced
 Phones: ∞ to -12 dBs, 8 ohms
 Signal-to-noise ratio: More than 44 dB (NR-off) (Normal at 3% distortion)
 Dynamic range: More than 90 dB (Hi-Fi)
 Frequency response: 20 to 20,000 Hz (Hi-Fi), 40 to 12,000 Hz (Normal)
 Wow and flutter: Less than 0.005% WRMS (Hi-Fi)
 Less than 0.25% RMS (Normal)

TIME CODE

Output: 0 dB ±3 dBs, Low impedance, unbalanced

CONNECTORS

Video

Line output: BNC-type connectors
 YC358 output: 7-pin connectors
 Monitor: BNC-type connector
 Composite output (Y/R-Y/B-Y): BNC-type connector

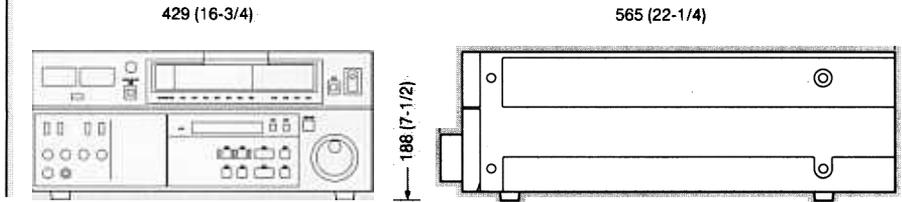
Audio

Hi-Fi output: XLR connectors
 Normal output: XLR connectors
 Monitor: RCA connector
 Remote control: 9-pin connector
 TBC remote: 15-pin connector

ACCESSORIES

Provided accessory: Power Cord

DIMENSIONS Unit: mm (inches)



Design and specifications subject to change without notice.

JVC

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