

*Changes for the Better*



ISO 9001  
JQA-0521

INDUSTRIAL-USE VIDEO CASSETTE RECORDER

MODEL

# HS-MD3000U

## Experience Superior Video Reproduction

Introducing Mitsubishi industrial-use VCRs.

Clean signals for clear, vivid image reproduction every time.

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**S**VHS®

HS-MD3000U



# Professional-use VCR packed with digital technologies for superior

Medical services demand high quality, and that's what Mitsubishi HS Series S-VHS VCRs provide. The S-VHS ET function is available on the S-VHS ET function devices used for medical services.

Only with S-VHS Superior Image Reproduction and Consistency

## Super High Picture Quality

Easy-to-Operate Recording

## Super-Fast

**Over 400 Lines of Horizontal Resolution  
"Even with VHS tape (HG)"**

Compliant with S-VHS standard for new S-VHS ET recording technology. Obtain high picture quality equivalent to S-VHS recording using VHS tapes.

### S-ET Play back Compatibility

Recorded tape	Play back VCR		
	S-VHS VCR	S-VHS VCR	VHS VCR
S-VHS Play back (recorded on S-VHS tape)	◎	◎	○*
S-ET Play back (recorded on VHS tape)	◎	◎	○*
VHS Play back (recorded on VHS tape)	○	○	○

\*need SQPB function

◎: 400 lines resolution, S-VHS quality

○: 240 lines resolution, VHS quality

**Exquisite Still & Slow-Motion Reproduction  
"Vertical Resolution Maintained"**

With the built-in digital frame memory, priority is given to images in still frames and blurring is controlled in still fields. Proper switching ensures the reproduction of high-quality still and slow-motion images free of blurring.

**Quick Fast-Forward & Rewind  
"Entire Tape within Approx. 120 sec"**

Find the images to be reviewed in no time at all with ultra-quick fast-forward and rewind. Furthermore, the fan has been eliminated owing to the introduction of energy-saving circuitry and a drive silencer has been added, thus allowing a quiet environment for medical services to be maintained.

### Analog Unit Loaded with Digital Technologies

- Digital 3D Noise Reduction: Noise is cut when tape is played, providing clean data signals even if the tape is old.
- Digital 3D Y/C Separation: Highly precise separation of Y (luminance) and C (colour) signals is provided at the time of recording to ensure clear, vivid images when tape is played.
- Digital TBC: Ensures stable, clear picture by removing flicker and distortion in replayed image.

## Operation Ease and Convenience a Step Above the Rest – Impressive Lineup of Advanced Functions

### Self-Diagnostics System

**"Automatically detects abnormal operation"**

Checks for abnormal internal operations automatically. If a malfunction in operation occurs within the unit, information about the abnormality is displayed on the LCD panel or monitor screen.

### Hi-Fi Audio Recording and Editing (Narration)

**"Insert narration with images"**

The VCR is equipped with two-channel Hi-Fi recording and has one additional monotone channel for the addition of narration for images after initial recording has been completed (use microphone plugged into mic terminal on the front of the unit).

### Flying Erase Head

**"Smooth, clean frames transition"**

After recording has been stopped, the flying erase head traces back over the image track and erases rainbow noise and distorted images before beginning to record again, thus ensuring smooth, clean connection of image recordings.

### Dual Jog Dial Shuttle

**"Quickly search for recorded images"**

Use the inner jog dial to control forward and reverse frame movement and the outer dial to control search speed. Combine the two and quick search of specific images is easier than ever. Setting the menu is easy too.

### Linear Tape Counter/End-of-Tape Display

**"Easily check remaining tape time"**

Tape usage is monitored and displayed an easy to read hr:min:sec format. A bar-type display indicator also shows the amount of tape remaining, which helps to prevent recording mistakes due to shortage of tape.

### Multiple Search Patterns

**"Quick leader tape search"**

"Blank Search" searches for sections of tape that have not been recorded automatically. "Time/Date Search" searches recorded data by time and date imprints. "Index Search" quickly searches for the leader tape at the start of each recording session. Choose the search method most convenient for the purpose at hand.

### Illuminated Keys

**"Lighted keys for easy operations in the dark"**

Large numerical display, easy-to-read panel and illuminated keys provide easy recognition in the dark.

### Other Functions

- Digital Tracking
- Long Pause
- Automatic Head Cleaning
- Automatic Replay
- Used Time Display
- 2-Way Mode Lock

rior picture quality, operation ease and external remote control.

tion ensures images recorded will have superior picture quality. Optional interface board allows connection with other

ing and Play Functions

## Fast Drive

ultra-quiet operation

**Fast Recording Start Time**  
"Approx. 0.7 sec"  
(drum motor on)

A quick-action high-speed mechanism has been installed to ensure recording start immediately. Even if the drum is turned off, recording will start in 2.3 sec.

Impressive Operation Ease even in Special-Use Environments

## Energy-Efficient & Lightweight, Compact

**Amazingly Low Electricity Use**  
"Approx. 0.4–0.2A"

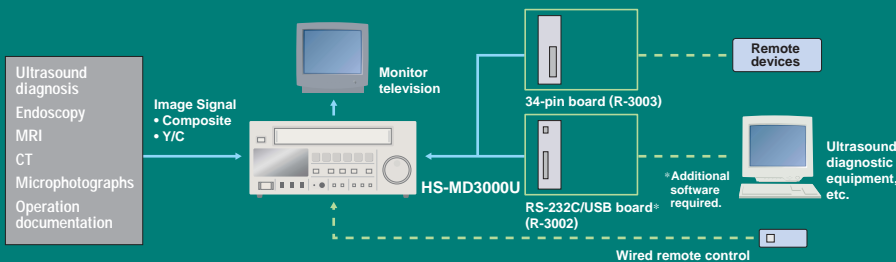
Industry leading energy efficiency has been achieved using original circuit technology, allowing the limited electricity capacity available in medical environments to be utilized efficiently.

**Lightweight & Compact**  
"Approx. 14.3 lbs (6.5kg)"

Our HS-MD Series models are some of the smallest and lightest professional-use VCRs in the industry. The simple, sleek system design has no slots or holes, thus preventing the radiation of internal heat.



### Example of External Control System **USB compliant—industry first**



### ● Simple Interface System— Compliant with all interfaces

Compatible with RS-232C/USB and 34-pin parallel interfaces allows remote control when connected to ultrasound diagnostic equipment or other devices.

## INDUSTRIAL-USE VIDEO CASSETTE RECORDER HS-MD3000U

**S VHS**



# Mitsubishi Industrial-Use S-VHS Video Cassette Recorder

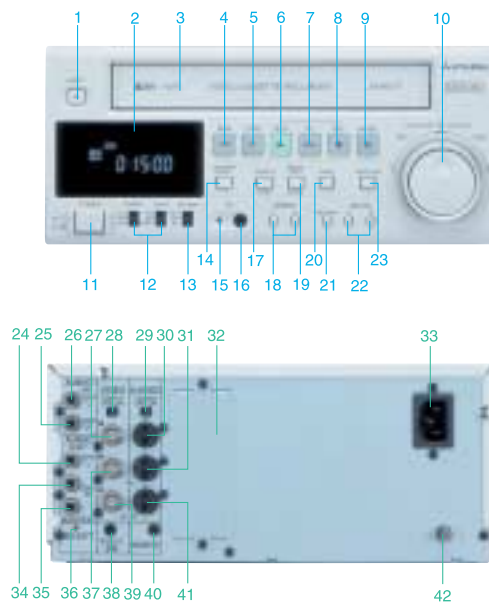
## Specifications

Power Supply	Input voltage: 100–230VAC ±10%, 50/60Hz Power consumption: Approx. 0.4–0.2A
Signal System	EIA standard 525 lines 60 fields NTSC-type colour signal
Recording System	Luminance signal: FM system Colour signal: Low-pass conversion
Videotape	S-VHS, VHS cassette
Tape Speed	33.35mm/sec
Recording Time	120min (using 120min tape)
Fast-forward/Rewind Time	approx. 120 sec (using 120 min tape)
Audio Channels	2-channel Hi-Fi, 1-channel monotone
Image Input	S-video (Y-signal): 1.0V (p-p), 75Ω (C-signal): 0.286V (p-p), 75Ω BNC terminal: 1.0V (p-p), 75Ω
Image Output	S-video (Y-signal): 1.0V (p-p), 75Ω (C-signal): 0.286V (p-p), 75Ω BNC terminal: 1.0V (p-p), 75Ω
Horizontal Resolution	S-VHS/S-VHS ET mode: Over 400 TV lines VHS mode: Over 240 TV lines
Image S/N	Over 45dB
Audio Input	Line-in (CH-1, CH-2): 346mV (rms), 47kΩ (RCA pin×2) Mic input, 0.775mV (rms), 600Ω (Mini-jack×1)
Audio Output	Line-out (CH-1, CH-2): 346mV (rms), 1kΩ (RCA pin×2) Monitor output (mono): 346mV (rms), 1kΩ (RCA pin×1)
Dynamic Range	Over 90dB (Hi-Fi audio)
Dimensions (W×D×H)	10.6×14.4×4.9 inch (270×366×125mm)
Weight	14.3lbs (6.5kg)

## Optional Parts



## Parts Location and Name



- 1 Eject button - 2 Display panel - 3 Tape slot - 4 Rewind button - 5 Stop button - 6 Play button - 7 Fast-forward button - 8 Record button - 9 Pause button - 10 Jog Dial Shuttle - 11 Main power switch - 12 Audio monitor switch - 13 Lock switch - 14 Tape counter reset button - 15 Mic input level indicator - 16 Microphone jack - 17 Search/Clear button - 18 Tracking button - 19 Frame/Field selection button - 20 Menu button - 21 Program button - 22 Mark A/B button - 23 After recording button - 24 Audio output terminal (CH-1/L) - 25 Audio input terminal (CH-2/R) - 26 Audio input terminal (CH-1/L) - 27 Video input through out terminal (BNC) - 28 75Ω end terminal switch (BNC-in) - 29 75Ω end terminal switch (S-in) - 30 Video input through out terminal (S) - 31 Video input terminal (S-in) - 32 Optional board, battery storage section - 33 Power supply cord terminal - 34 Audio output terminal (CH-2/R) - 35 Audio monitor output terminal (mono) - 36 Reset button - 37 Video input terminal (BNC-in) - 38 Foot switch terminal - 39 Video output terminal (BNC-out) - 40 Remote control terminal - 41 Video output terminal (S-out) - 42 Other equipment terminal

## Overall Dimensions



## Safety Warning

To ensure proper use of the products listed in this catalog, please be sure to read the instruction manual prior to use.