



Technics

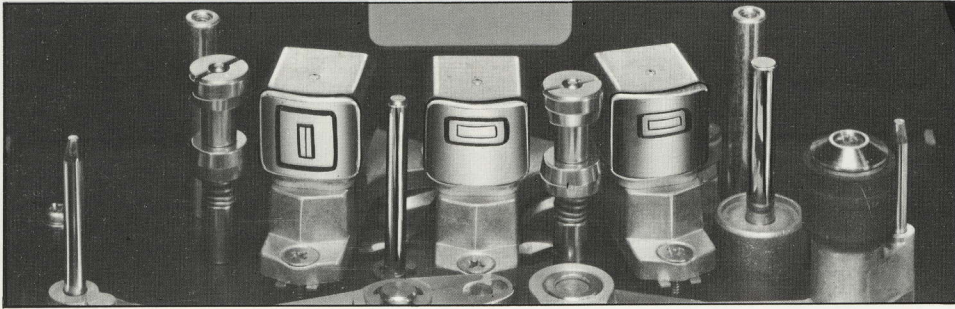
RS-7500US

High-Fidelity Stereo ELCASET
Tape Deck with 3-Head System
and Auto Tape Selection



RS-7500US

High Performance ELCASET Tape Deck with Advanced Automated Systems



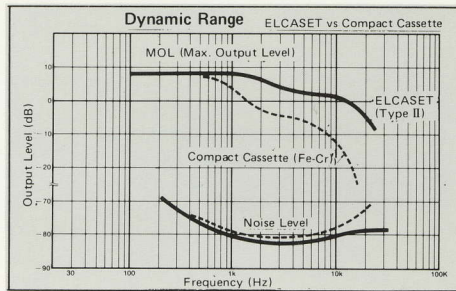
True 3-Head System for Maximum Quality and Versatility

The ultra-hard Super Permalloy record and playback heads, plus the faster tape speed and wider tape width, are major reasons for the outstanding performance achieved in the RS-7500US. The 10 μ -gap record head minimizes distortion over a much wider frequency range, and the 2- μ -gap playback head optimizes power output at much higher frequencies than would be possible in combined record/playback head systems. The "double-gap" extra-hard ferrite erase head ensures perfect erasure with all types of tapes, thus producing an even better S/N ratio. Other important advantages include direct and accurate tape monitoring of just-recorded material, and azimuth adjustment.

Unprecedented High Dynamic Range and Wide Frequency Response

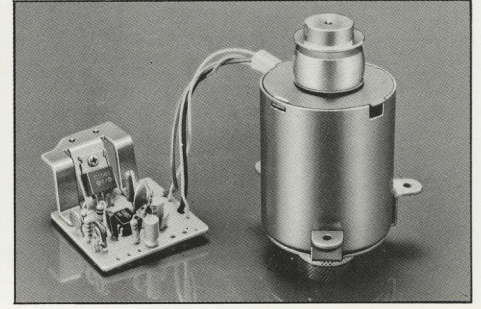
The superb naturalness of sound reproduction in the RS-7500US results from the extremely high dynamic range and wide frequency response gained through faster tape speed and wider tape width, and the improved design of the heads and transport system. A frequency response of 25–22,000 Hz, ± 3 dB with XA (chrome tape) is truly amazing for a compact tape deck. Even with normal low-noise tapes,

response is flat all the way up to 20,000 Hz. And maximum output level (MOL) is almost 15 dB higher at 10 kHz than levels attainable with cassette tape. Very few symphonic orchestras or other program sources will require reproduction performances better than this.



High Stability with FG Servo DC Motor

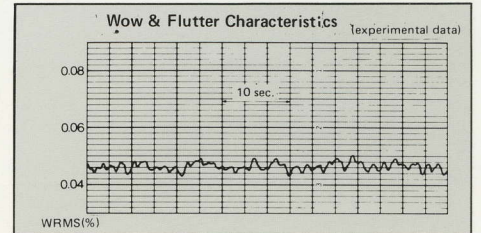
The high-torque frequency generator (FG) servo controlled DC motor, an absolute necessity for such a high-grade tape transport mechanism, features an electronically-controlled capstan motor to ensure rotational speed of a very high degree of accuracy, even during considerable changes in power supply voltage, load torque and surrounding temperature. The 4 mm ϕ capstan is coupled to a well-balanced high-inertia flywheel, giving the



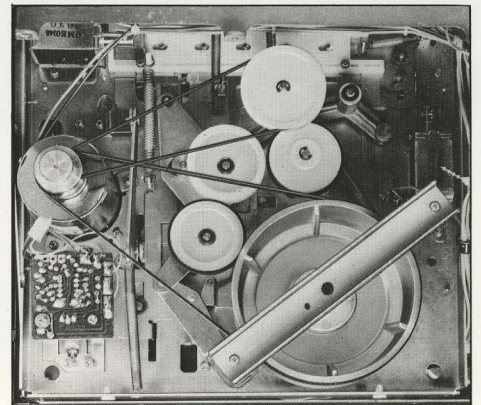
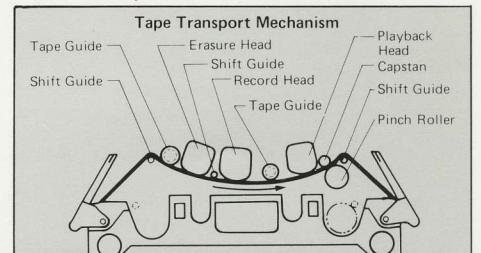
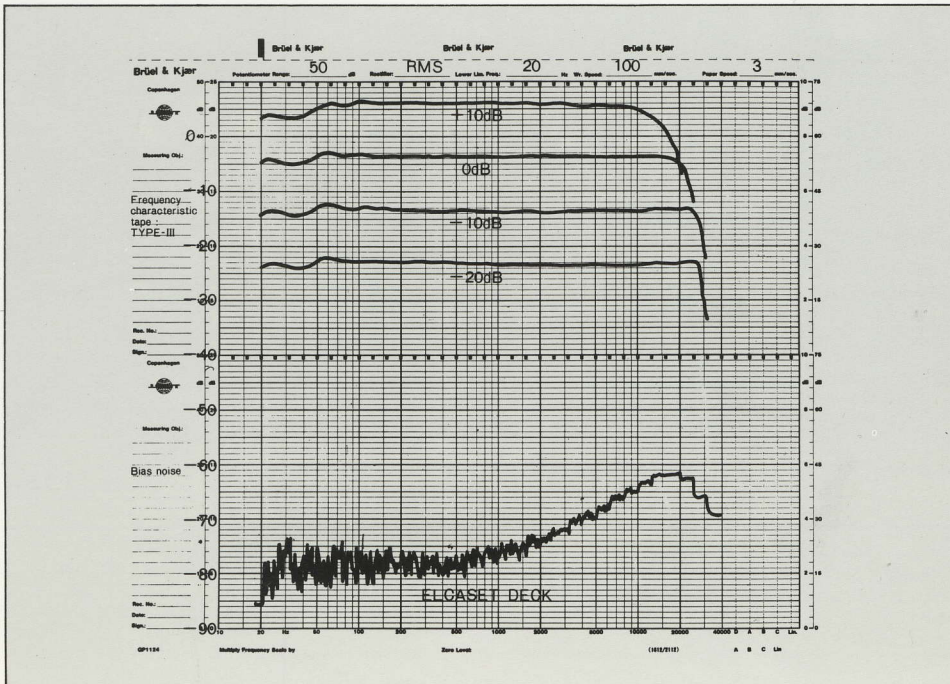
motor greater stability under changing load conditions, and almost negligible speed deviations.

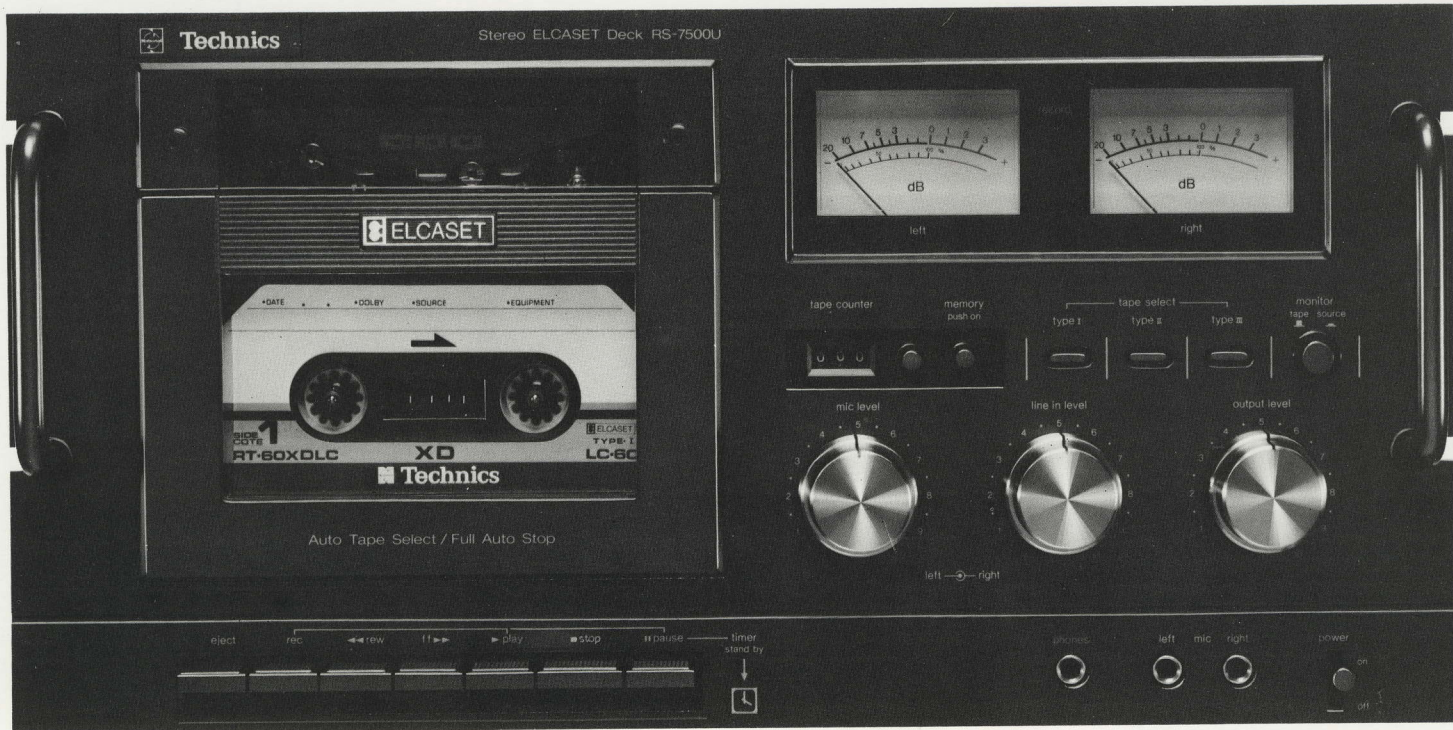
Wow and Flutter 0.06% WRMS, $\pm 0.15\%$ DIN

The high-grade quality of the RS-7500US is further accentuated by the extremely low wow and flutter and speed fluctuation ratings. The very high stability of the FG servo DC motor, and the faster tape speed have gone a long way to reduce wow and flutter to an insignificant level.

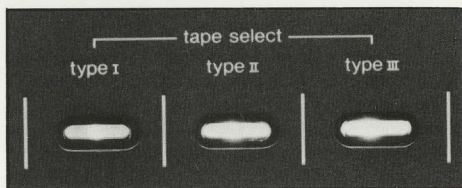


Furthermore, mechanical parts like the capstan, tape guides, and the heads are all stationary, thus eliminating a common cause of such problems as modulation noise and crosstalk. Another factor contributing to greater stability and lower wow and flutter has been the adoption of an independent reel drive system which effectively isolates take-up reel torque from the capstan.





Automatic Tape Selector Marks Further Advance in Automation



There are 3 types of ELCASET tapes available, corresponding to normal, ferri-chrome and chrome. The RS-7500US automatically detects the type of tape (via sensor wells along the back edge of the ELCASET tape case) and switches over to the appropriate equalization and bias circuits immediately. Tape type is shown by means of colored lamps on the front panel—no user adjustments are required whatsoever. And all equalization and bias switching is performed by transistors, thus eliminating possible switching noise and connection failures.

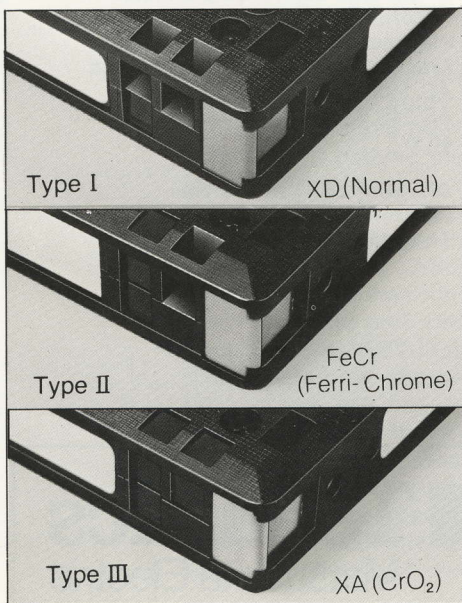


Photo-Electronic Full Auto-Stop Mechanism Eliminates Strain

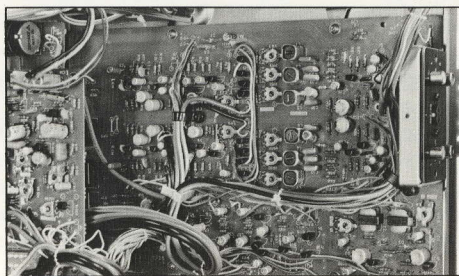
Another advantage of the ELCASET tape is the transparent leader sections at both ends of the tape, and the tape-end detector window. The LED plus photosensitive transistor system in the RS-7500US detects the leader immediately, bringing tape drive to a rapid, but smooth halt, without the slightest hint of strain on tape or transport mechanism.



Special torque limiters fitted to both take-up and supply reels, eliminate the high degree of strain normally acting when tape is stopped during fast forward and rewind modes. Such careful attention given to the preservation of tapes further improves reliability and operational life.

Low-Noise High-Linearity Amplifier Section

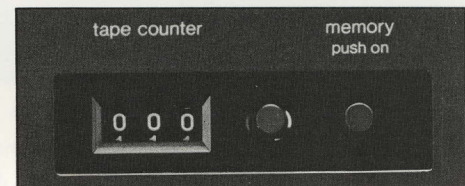
Design and performance priorities in the amplifier section have significantly improved S/N ratio and reliability. Separate amplifiers for mic and line inputs, and for recording and playback heads, all feature a liberal infusion of FET's and other low-noise transistors, and highly accurate resistors. A 6-transistor constant voltage



circuit supplies amplifiers with constant voltage, while a dual power supply is employed for the more important playback amplifier.

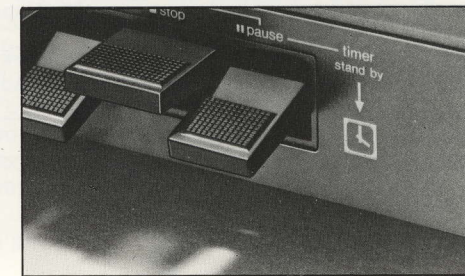
Memory Rewind Improves Recording Efficiency

Tape is returned rapidly and automatically to any desired pre-selected point, simply by setting the tape counter to "000", and pressing the memory push-on button. Special low-noise switching transistors ensure noiseless, reliable operation.



Timer Recording and Playback for Automatic Operation

Unattended recording and automatic playback open up a very wide range of possibilities, such as recording midday FM programs when away at the office, and "order-made" morning alarm melodies. All that is needed is an additional timer unit. A special solenoid in the timer stand-by mechanism is designed to release the pause control when the timer unit switches the power on. And during the first couple of seconds, an electronic muting circuit "holds" the record or playback mode until the amplifiers have warmed up to optimum operating conditions.

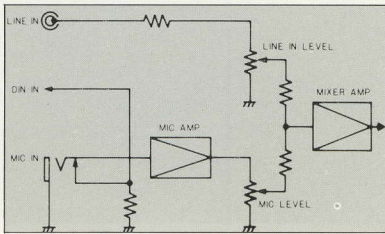


Immediate Tape Monitoring During Actual Recording Session

Because the RS-7500US features a true 3-head system, direct monitoring of the program being recorded becomes possible. Simply press the tape/source monitor button for direct comparison with the program source. And to remind the user, a built-in lamp will indicate when "source" is being monitored.

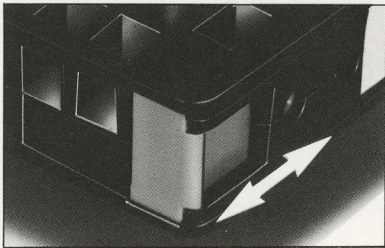
Mic/Line Mixing Free of Mutual Interference

The NPN-PNP 2-stage direct-coupled high-linearity low-noise mic amplifier is driven by a constant-voltage dual power supply, achieving noise-free reproduction with optimum fidelity. The output of this amplifier is mixed with the line input in a FET-equipped high-input impedance operational amplifier which ensures absolute minimal mutual interference and almost negligible mixing loss. This provides complete freedom to re-adjust either recording level when mixing inputs, without any worry about possible interference noise occurring.



Reversible Erase Prevention

Unlike conventional cassettes, where the erase prevention feature



required breaking off a plastic tab along the back of the case, ELCASET tapes are equipped with reversible slide-in slide-out erase prevention devices. This permits ready re-editing and up-grading of tapes at any time.

Streamlined Tape Loading/Unloading System

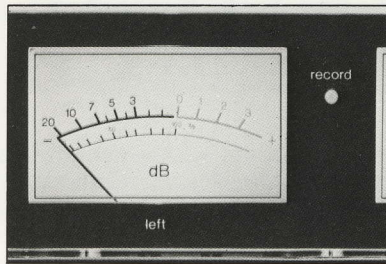
When the ELCASET tape is inserted, and the compartment door closed, the tape is automatically lifted out of its case, and set into stand-by position. Consequently, only the slightest touch is required to operate the transport mode keys, further improving the efficiency and reliability of this tape deck. When the eject key is pressed to unload the tape at the end of play, the tape is returned quickly, but smoothly, back into its case, and the silicon oil-damped compartment door opens with a very gentle and quiet motion.

Electronic Muting Eliminates Clicks and Pops

The disconcerting click and pop noises occurring when the power supply is turned on and off, and also when starting and finishing a recording session (which rudely announces itself every time the recording is played back) are completely eliminated in the RS-7500US, thanks to the adoption of an 11-transistor electronic muting circuitry.

Large VU Meters Alleviate Level Setting Worries

These large easy-to-work-with VU meters have been designed for critical recordists who demand a



high degree of accuracy in their recordings, and who therefore appreciate the ease of working with larger meters. High-quality response mechanisms and full-range scales permit greater precision in level settings, whether giving priority to the high dynamic range provided by ELCASET tapes, or to obtaining maximum S/N ratio.

Illuminated Window for Clear Indication of Remaining Tape

The larger window of the ELCASET tape case, and the direct illumination from behind the tape, gives very clear indication of the amount of tape on either reel, especially during the last few minutes when a neat ending, or an interesting fade-out to the recording is required.

Transparent Removable Head Cover

Actual tape travel across the heads can be observed directly, permitting the user to check conditions as regularly as desired without need to remove or open up any parts at all. Cleaning and other maintenance is also further enhanced.

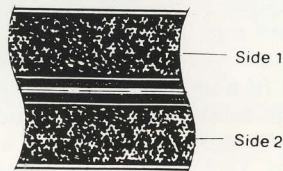
Separate Output Level Control

The output level of the RS-7500US can be readily adjusted to the same output level as other audio components (such as turntable) connected to the same amplifier or receiver. Switching between different components for comparison purposes etc. is thus made more accurate, and safer.

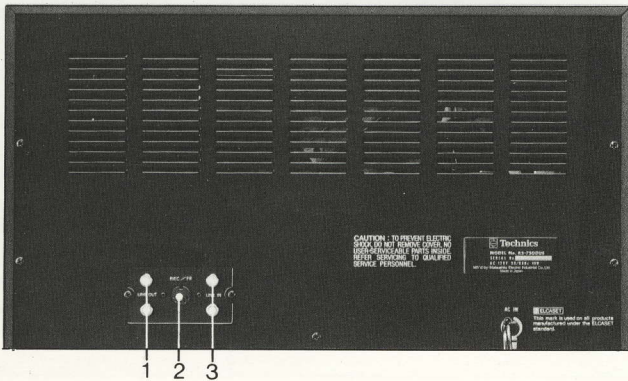
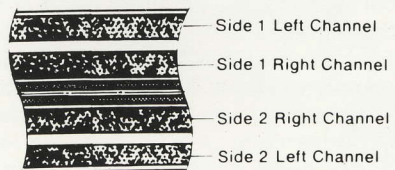
The Same Stereo/Mono Compatibility as in Cassette Tapes

Since left and right stereo channels are recorded on the same side (i.e. adjacent tracks), and not in alternate tracks as in open-reel equipment, ELCASET tapes maintain complete stereo/mono compatibility.

2-Track Mono



4-Track Stereo



Rear Panel Facilities

1. Line Output Jacks
2. Rec/PB DIN Jack
3. Line Input Jacks



Open-Reel Performance Plus Cassette Convenience

When cassette tapes first appeared on the market many years ago, many deck fans (open-reel, of course) must have marvelled at their handling simplicity (if nothing else). Today's cassette decks have come a long way since then, but have just about reached their limit as far as performance is concerned. To bridge the gap between cassettes and open-reel, ELCASET was developed—incorporating the handling ease of cassettes, and the high-grade performance of open-reel. Technics ELCASET tape deck, RS-7500US, a classic example of rapid adaptation to the new tape format, has been expertly designed to take full advantage of the great new range of features in ELCASET tapes. Because tape width is the same as standard audio tape used in open-reel decks, and tape speed is twice as fast as cassette tapes, ELCASET attains greater dynamic range and wider frequency response. And the tape is

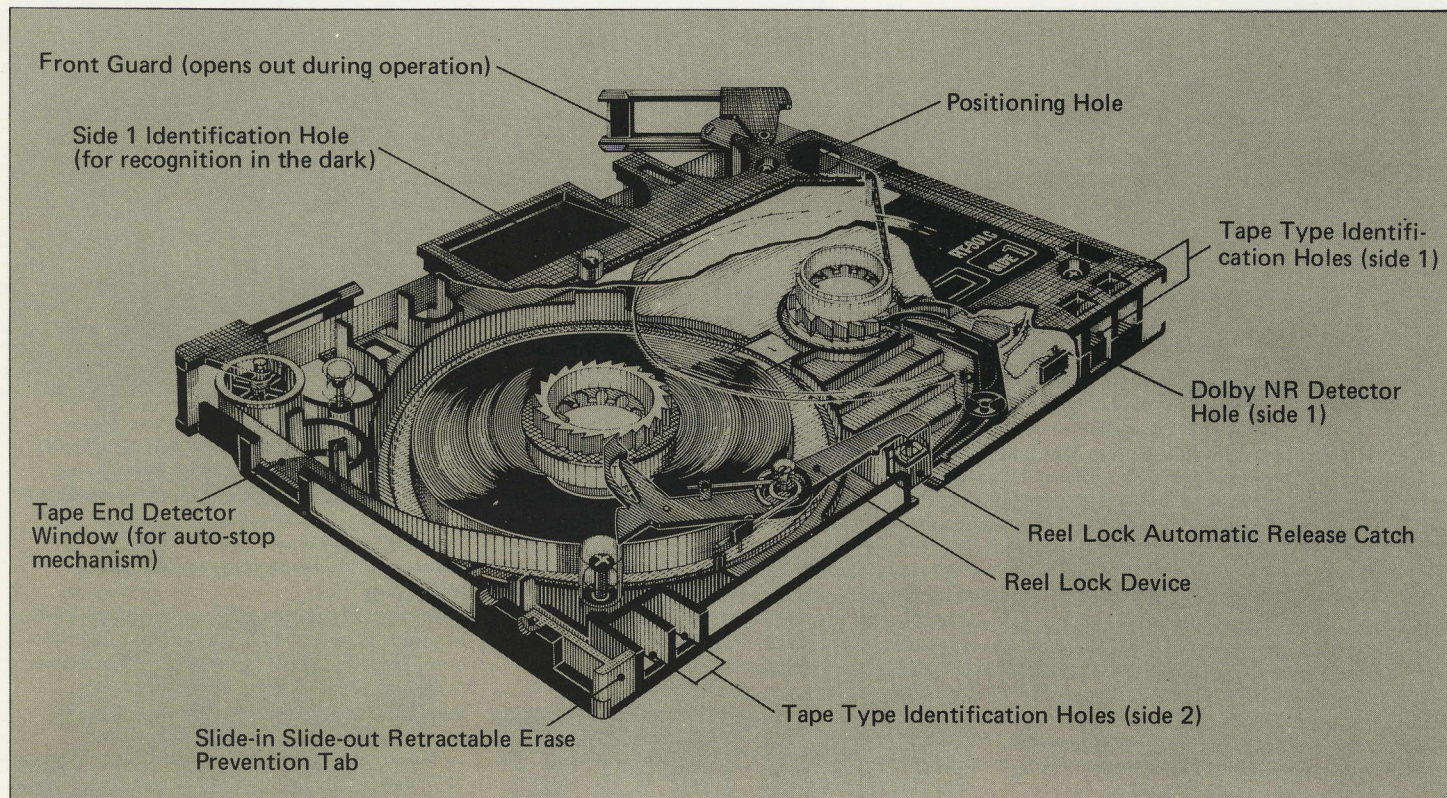
actually lifted out of the case over to the heads (another open-reel similarity). Mechanical parts like the capstan, tape guides and the heads themselves remain stationary, thus assuring ultra stable tape transport. Technics' high-sensitivity ultra-long-life Super Permalloy record and playback heads optimize sound quality by attaining a frequency response of 25 to 22,000 Hz, ± 3 dB (chrome tape), an unprecedented figure in "compact" tape decks. The precision designed FG servo DC motor adds tenacity to the already solid stability in the transport system, minimizing wow and flutter to 0.06% WRMS, $\pm 0.15\%$ DIN. Even the "convenience" of cassettes has been superseded by such advanced automated systems as the automatic tape selector with indicator lamps. In every way, the RS-7500US represents a very significant advance in tape technology, offering "quality in simplicity."

ELCASET The New Audio Tape System

ELCASET is a new high-grade cassette-like recording tape developed by a consortium of Japanese audio manufacturers. In size, it is roughly 2-1/2 times larger than the conventional Philips cassette tape, making it about the same size as a small paper-back novel. Tape width is the same as

standard audio tape used in open-reel tape decks—that is, 6.3 mm (1/4"). While at 9.5 cm/sec (3-3/4 ips), tape speed is twice as fast as in cassettes. ELCASET features greater dynamic range, wider frequency response, and better quality of sound, but still maintains the

same simple handling ease as cassettes. The Technics RS-7500US has been designed to take full advantage of all these great improvements, while including additional unique features to make this one of the easiest-to-use high-quality tape decks available today.



Technical Specifications

Track System: 3-head, 4-track, 2-channel ELCASET system

Tape Speed: 9.5 cm/s (3-3/4 ips)

Wow and Flutter: 0.06% (WRMS), $\pm 0.15\%$ (DIN)

Frequency Response: 25–20,000 Hz ± 3 dB (tape type I)
20–22,000 Hz (DIN) (tape type I)
25–22,000 Hz ± 3 dB (tape type II and III)
20–25,000 Hz (DIN) (tape type II and III)

Signal-to-Noise Ratio: 60 dB (tape type I, 315 Hz peak level)
63 dB (tape type II and III, 315 Hz peak level)

Distortion: 0.8% (tape type III)

Inputs: MIC; sensitivity 0.25 mV, applicable microphone impedance 400 ohms–20 kilohms
LINE; sensitivity 60 mV, input impedance 100 kilohms

Outputs: LINE; output level 580 mV, load impedance 22 kilohms
HEADPHONE; output level 60 mV, load impedance 8 ohms

Rec/PB Connection: 5-pin DIN

Motor: 1-FG Servo controlled DC motor

Heads: Recording; Super Permalloy head
Playback; Super Permalloy head
Erasure; Double-Gap Ferrite head

Power Requirements: AC 110/125/220/240 V, 50/60 Hz
AC 240 V, 50 Hz (England only)

Power Consumption: 45 W

Dimensions (W x H x D): 48.3 cm x 25.3 cm x 35 cm
(19" x 10" x 13-3/4")

Weight: 14 kg (30-7/8 lbs)



Look for this mark on all products manufactured under the ELCASET standard.



Technics
Matsushita Electric