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RT-707

OPEN REEL 4-HEAD AUTO-REVERSE PLAYBACK 3-MOTOR AC SERVO
DIRECT-DRIVE STEREO TAPE DECK

 PIONEER®

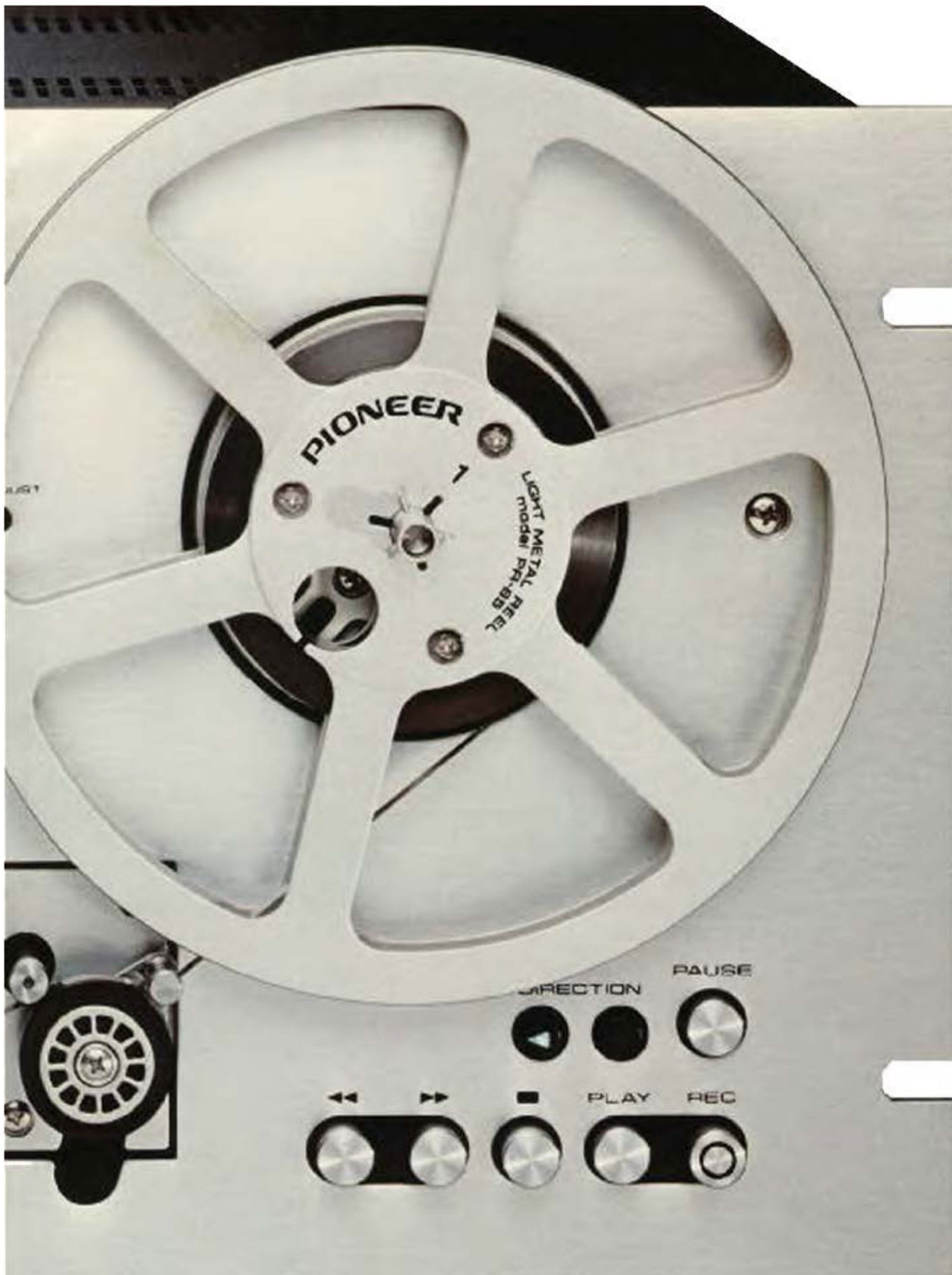


Rich "Old-Fashioned" Open Reel Musical Performance in A New Generation Auto-Reverse Playback/AC Servo 3-Motor, 4-Head Deck from Pioneer

Magnificent musical performance, compact and efficient size, unfailing electronics, stress-free mechanics. The RT-707 reflects Pioneer's stay-ahead success in hi-fi by offering all the things you know you need in an open reel deck, and then some.

Design is 4-head, 3-motor, 2-speed (19/9.5 cm/sec), auto-reverse (playback only), continuous play with pitch-controllable AC Servo Direct-Drive capstan. Format is quarter-inch, 4-track, 2-channel stereo. Performance is 0,05% WRMS wow/flutter, 58dB signal-to-noise, 20 to 28,000Hz frequency response. And

the extras are 2-step Bias, 2-step EQ, $\pm 6\%$ Pitch Control, Permalloy heads, independent mic/line with mixing, wide-throw VUs, auto-reverse/infinite play and auto-reversing index, electronic switching (logic circuit), Pause, REC ON/OFF switching for each channel, and lots more. This new Pioneer SERIES 700 open reel deck sounds as good as it looks—the rich and dependable sound of the best old-fashioned decks, plus the technical advantages and conveniences of the new generation of hi-fi tape machines. Stay ahead in hi-fi with Pioneer.



A NEW APPROACH TO AUTO-REVERSE CONVENIENCE

Non-stop, no-hassle music. Open reel decks with auto-reverse features have promised this in the past. But now new advances, in deck engineering at Pioneer live up to this promise of convenience without compromising high fidelity playback standards. With the RT-707 you enjoy the same high quality musical reproduction from open reel tapes in both forward and reverse directions, allowing you to hear both directions of your tape without the need to flip the reel or punch a button. Simply attach a



strip of standard sensing foil on the tail end of the tape (i.e. the end of side one) — or at any other point on the tape — and you're all set. With an ordinary 7" reel at 19cm/sec you get the whole hour and a half of music automatically.

AUTO-REPEAT PLAY, TOO



With a strip of sensing foil attached at the end of the tape, and with the Repeat button locked IN, the Pioneer RT-707 will perform endless forward and reverse play automatically on a tape between the point where the sensing foil is attached and the point where the four digit tape index counter is set for 0000.

until you disengage the button or set the mode to STOP.

RACK YOUR ROCK 'N' ROLL

Youngsters taught the automobile industry that "customized" cars offered streamlined performance and good looks as well. Young hi-fi fans have taught the component designers at Pioneer that the "total system" look in home high fidelity systems offers streamlined performance plus the clean and compact efficiency of professional sound studio equipment. Our Pioneer matched component systems have enjoyed tremendous popularity among young buyers in Europe, Japan and America for that very reason. The RT-707 is designed for rack mounting according to the EIA (Electronics Industry Association) standard dimensions/mounting holes — neat, solid and a far cry from the monster decks of the past.



The above EIA audio rack (JA-R2S) is optional.

DIRECT-DRIVE CAPSTAN

"Direct-Drive" technique isn't only found in Pioneer turntables. It gives you much of the same advantages in the open reel RT-707 as well. A Frequency-Generation (FG) type AC Servomotor with high rotational accuracy drives the single capstan shaft directly in both forward and reverse directions and at 19cm/sec speed with a minimal wow/flutter of less than 0.05% WRMS. The high rotational accuracy of the motor, combined with the use of a precision-finished shaft and a large flywheel (7,600g-cm² inertia) with excellent dynamic balance, adds up to superb musi-



cal performance. Separate, high-speed motors are used for Fast-Forward and Rewind.

ADVANTAGES OF DIRECT DRIVE

Decks using drive belts or pulleys to rotate the capstan shaft tend to show their age early. Belts flutter, sag and slap, pulleys stretch, twist and slip. Pioneer's direct-drive motor has none of these drawbacks.

(1) Rotational accuracy is enhanced because the transfer and control of the drive force is direct, and relies on no extra mechanisms or frills. Stability over long life.

(2) Signal-to-noise ratio is improved because the extra-low speeds of the motor generate less vibration and rotational noise.

(3) Less power consumption is a bonus advantage, along with the reduction of induction hum and heat.

(4) Pitch Control is possible—and easy—because the direct-drive motor is the servo type with a frequency generated reference.

HIGH-SPEED, HIGH-STABILITY REEL DRIVE

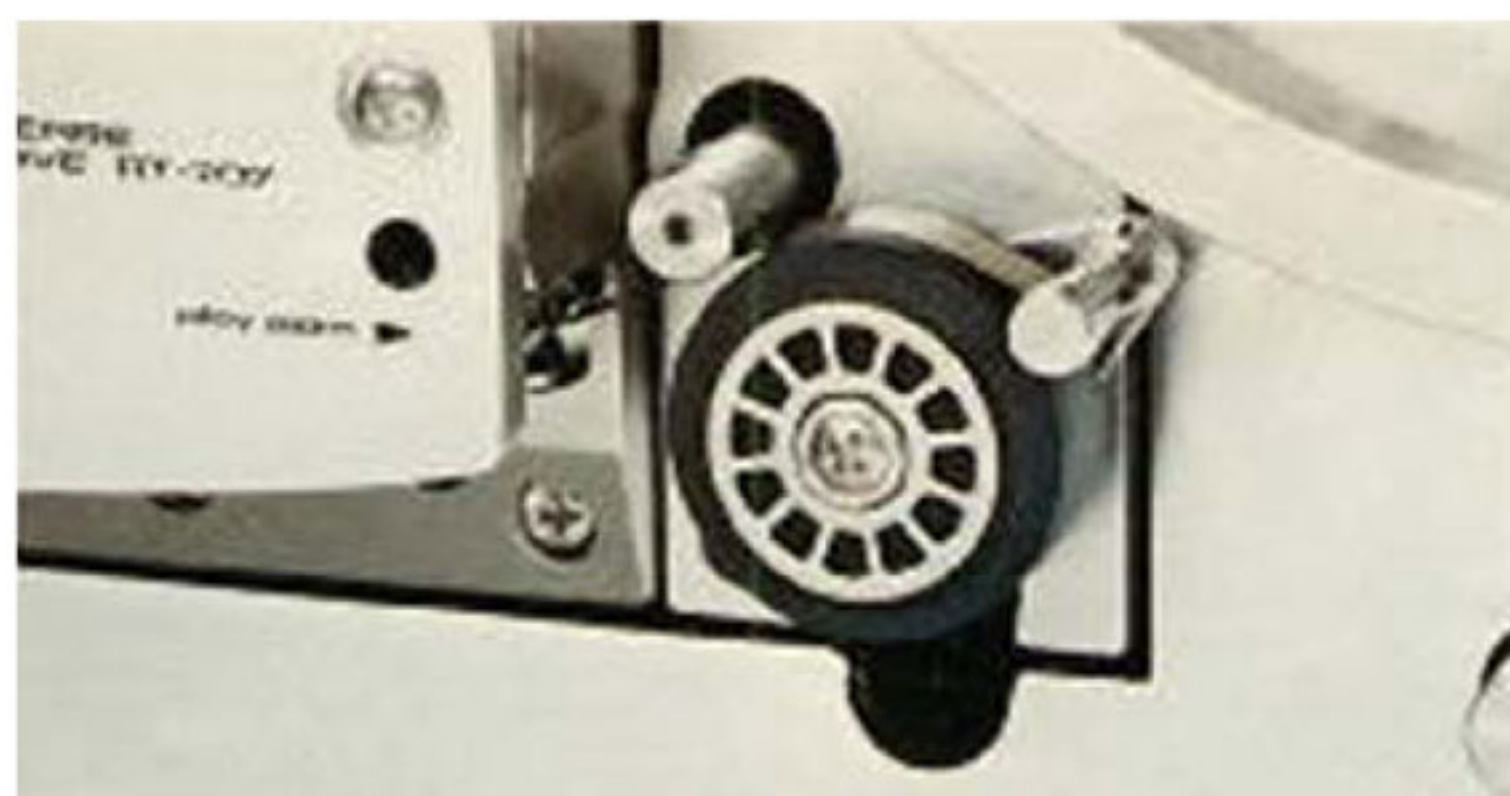
Separate motors are used in the 3-motor system of the RT-707 for reel take-up and high-speed Rewind/Fast-Forward. The tape path is designed with very precise tolerances and built to stay that way: the front panel is a thick 5mm sheet of tough aluminum covering the rugged die-cast frame. Precision fabricated die-cast pinch roller arm construction and tension arm stand up to more-than-normal abuse with strength. Tape tension and tape-to-head contact is kept ideal with the use of a time-tested tape tension regulation system which provides equal tape tensions by identical tension regulators both at the supply side and take-up side.

QUICK-ACTION PAUSE

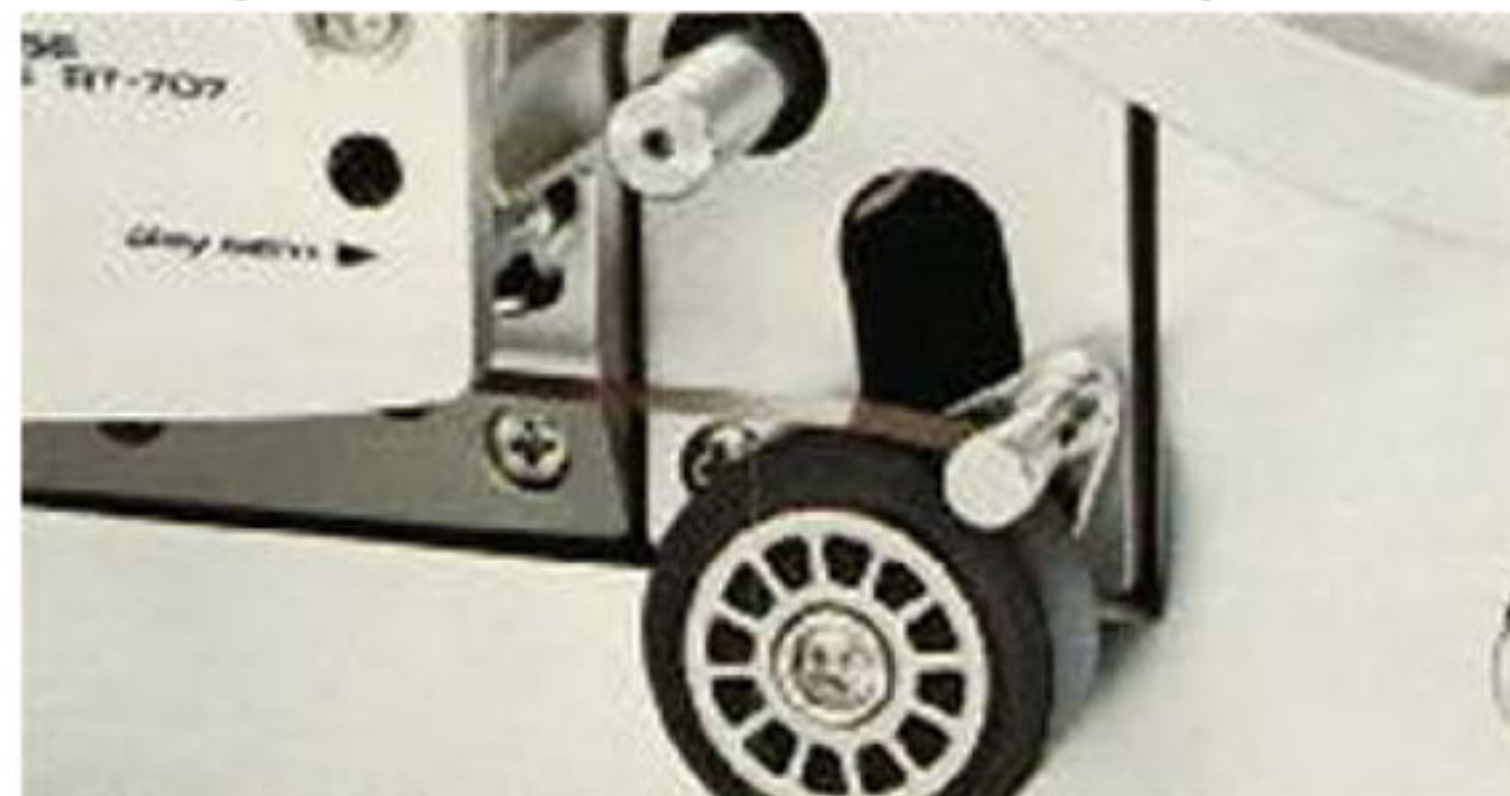
"Human-engineering" concepts are employed throughout the RT-707, as in the quick-action Pause mechanism. We know how and how often you need or want to use Pause. We have figured out a way to make it work best for you. Push



PLAY/RECORD MODE: A tape tension regulator assures perfect head-to-tape contact.



PAUSE MODE: A pinch roller is close to the capstan, while tape is in contact with heads. Start-up is instant.



STOP/FAST FORWARD/REWIND MODE: Pinch rollers are far away from tape path, to enable easy tape loading and smooth tape transport.

it and the pinch rollers move away from the tape instantly; push it again and they resume contact for smooth tape transport. The gap between tape and capstan is kept narrow, and the mechanism kept hair-triggered, so that you don't drop the downbeat of the music you're recording or editing.

HEADS AND AMPS

Hard Permalloy playback heads (2) and recording head (1) and tough ferrite erase head further improve long-life performance. Tonal quality, wear factors and noise suppression are among the considerations leading to the selection of these particular, mirror-polished units. Equal care is taken in the recording amps and playback. Pioneer-exclusive ICs boost high power resistance, lower noise and provide better S/N and still better dynamic range (30dB over the norm). The separate microphone input amp accepts mic impedance as low as 600 ohms for live recording at its realistic best,



INDEPENDENT BIAS/EQ SELECTION

Two 2-step buttons are provided, one for Bias selection, the other for Equalization selection. There is thus a total of four different Bias/EQ values to let you use all types of open reel tape on the market, including the ones which exhibit excellent high-spectrum characteristics and minimal distortion.



INDEPENDENT L/R RECORDING MODE

Left only, Right only or Stereo. You select the channel (s) you want to record by pushing either or both of the buttons at the left of the array above the VUs. Switches may be used at any time during recording, as often as you like. Change the amp connections on the rear panel and you can create sound-on-sound and other effects easily.

DIRECT-CHANGE TRANSPORT BUTTONS

Move from mode to mode without going through STOP. Tape-safe mechanism allows you to go from, say, FAST-FORWARD to PLAY without fear of jamming or tape breakage by a logic circuitry. This system does permit timer-assisted recording.



PITCH CONTROL

The effective speed control range is $\pm 6\%$ (semitone), enough to change the musical pitch of a recorded instrument significantly. Say you're playing a tape made on an old and not-to-dependable deck, and it sounds sluggish or too sharp. The RT-707 brings you back to perfect pitch at a touch. A built-in protection circuit automatically cancels the pitch control adjustment during recording: you don't accidentally record at an incorrect pitch.

THERE'S MORE THAN MEETS THE EYE

On the back panel of the Pioneer RT-707 is a stereo output control to let you adjust then forget—the output level of the deck. Make your volume adjustments through your amp or receiver, the way you usually do. Other conveniences include:

- (1) Independent MIC and LINE input level controls, L/R separated.
- (2) Clear, well-illuminated, long-throw VU meters.
- (3) Indicator lights for REC. PAUSE, DIRECTION.
- (4) One-touch reel clamps.
- (5) 300W AC outlet.
- (6) Designer's bonus—an empty take-up reel with each deck.

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RT-707 SPECIFICATIONS

Drive System:	3-motor drive system	(3) Automatic repeat play (connected with tape counter)
Operations:	Solenoid drive, direct switchable function buttons and pre-set function buttons for timer recording and playback	(4) Independent right/left recording mode selectors
Motors:	FG Servo AC direct drive motor x 1 (capstan drive). 8-pole inner-rotor special induction motor x 2 (reel drive)	(5) Tape selectors: Bias x 2 (STD/LH) EQ x 2 (STD/LH)
Tape Heads:	4-track, 2-channel erasing head x 1, 4-track, 2-channel recording head x 1, 4-track, 2-channel playback head x 1, 4-track, 2-channel reverse playback head x 1	(6) LINE/MIC mixing (7) Output level controls (rear panel) (8) Pause Indicator lamp
Maximum Reel Size:	7-inch reel	Power Requirements: For U.S.A. and Canada: 120V 50-60Hz. For other countries: 220V/240V (switchable) 50-60Hz
Tape Speeds:	7-1/2 ips (19cm/sec.), 3-3/4 ips (9.5cm/sec.) $\pm 0.5\%$	Power Consumption 120 watts (max.)
Fast Rewinding Time:	Approximately within 100 seconds (7-inch reel, 370m)	Dimensions: Without package: 18-29/32(W) x 9-1/16(H) x 14-1/32(D) inches 480(W) x 230(H) x 356(D)mm
Wow and Flutter:	No more than 0.05% WRMS (at 7-1/2 ips, 19cm/sec.) No more than 0.08% WRMS (at 3-3/4 ips, 9.5cm/sec.)	Weight: Without package: 43 lb. 10 oz./19.8kg
Signal-to-Noise Ratio:	More than 58dB	Accessories: (1) 7-inch metal reel (PR-85) x 1 (2) Connecting cable (stereo) x 2 (3) Head cleaning kit x 1 (4) Splicing tape x 1 (5) Sensing tape x 1
Distortion:	No more than 1% (at 7-1/2 ips, 19cm/sec.)	
Frequency Response:	7-1/2 ips (19cm/sec.): 20 to 28,000Hz (30 to 24,000Hz ± 3 dB) 3-3/4 ips (8.5cm/sec.): 20 to 20,000Hz (30 to 16,000Hz ± 3 dB)	NOTES: (1) Reference tape: Scotch No. 206. (2) Reference recording level: meter 0dB level. (NAB standard reference level) (3) Reference signal: 1kHz, (4) Wow and Flutter: JIS (3kHz, weighted RMS). (5) Frequency Response is measured at -20dB level (7-1/2 ips) from reference recording level. (6) Signal-to-Noise ratio is measured at +6dB level from reference recording level. (7) Total harmonic distortion is measured at the reference recording level. (8) Channel separation is measured at the reference recording level (JIS). (9) Crosstalk is measured at +1 2dB (JIS) from the reference recording level. (10) Sensitivity: Input level (mV) required for the reference recording level measured with input (recording) level control set at maximum position. With the level meter set at 0dB. (11) Maximum allowable input level is measured at the point where the output signal wave starts to clip while gradually increase the input level at the input terminal at the same time, turning down the input level control to keep 0dB on the meter. (12) Reference output level: meter 0dB level. (13) Maximum output (playback) level: Output level to the reference recording level measured with an output (playback) level control set at maximum position.
Crosstalk:	More than 50dB	
Stereo Channel Separation:	More than 50dB	
Erasing Coefficient:	More than 70dB	
Bias Frequency:	125kHz	
Equalizer:	NAB curve (7-1/2 ips, 19cm/sec., 3-3/4 ips, 9.5cm/sec.)	
Input (Sensitivity/Maximum allowable level/Input impedance):	MIC x 2: 0.25mV/125mV/27 K ohms, 6mm \emptyset jack, LINE x 2: 50mV/26V/100 K ohms, pin jack, DIN: 18mV/8V/1.3 K ohms, DIN standard	
Output (Reference level/Maximum level/Load impedance):	LINE x 2: 450mV/700mV/50 K ohms, pin jack, DIN: 450mV/700mV/50 K ohms, DIN standard, HEADPHONES: 70mV/8 ohms, 6mm \emptyset stereo jack	
Semiconductors:	ICs: 5 Transistors: 67 (Including 4 FETs) Diodes: 47 (including 1 Thyristor, 2 Varistors, 4 Zener Diodes and 2 LEDs)	
Other Features:	(1) Pitch control (variable $\pm 6\%$, only playback) (2) Automatic (with sensing tape) and Manual reverse playback	

NOTE: Specifications and design subject to possible modification without notice.



PIONEER ELECTRONIC CORPORATION / 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
 U.S. PIONEER ELECTRONICS CORP. / 75 Oxford Drive, Moonachie, New Jersey 07074, U.S.A.
 PIONEER ELECTRONIC (EUROPE) N.V. / Luithagen-Haven 9, 2030 Antwerp, Belgium
 PIONEER AUSTRALIA SERVICES PTY. LTD. / 178-184 Boundery Road, Braeside, Victoria 3195, Australia