

Technics RS-1520

by Panasonic

Quartz-Locked, "Isolated Loop"
Three-Motor Direct-Drive Open-Reel
Tape Deck with Fine-Adjustment
Controls for Bias and Equalization



Professional Series

RS-1520

2-Track Studio Model

The RS-1520 is a tape deck designed to meet the needs of professional recordists ... the original RS-1500US plus a number of additional features and functions to make taping exceptionally convenient and with a superb professional touch. Performance at a very high level is assured by including one of the most advanced tape transport systems—the “Isolated Loop”. This is combined with a three motor direct-drive system utilizing quartz phase-locked control for the capstan motor, and tape tension control for the reel motors. The full IC logic control system and the feather-touch solenoid operation convenience make operational performance and reliability extremely high. The amplifier section has a superb dynamic margin and a high signal-to-noise ratio. The RS-1520 has most of the excellent features and functions which have made the RS-1500US so successful worldwide...plus a great many new and exciting features sure to please the professional recordist. Our engineers, when designing the RS-1520 were actually able to add 10 additional features and functions (described on these pages) while dropping only two: DC operation (with optional battery adaptor) and the meter-scale selector (+3 dB/+6 dB).

Built-in Test-Tone Oscillator (1 kHz/10 kHz)

With 3 positions (off/1 kHz/10 kHz), this oscillator is ideal for generating a test-tone for use when making minute adjustments of bias and recording equalization.

- The recording level of the test-tone can be adjusted by using the front panel line input level controls (left/right): giving a recording level of about -10 VU at the “5” position, and 0 VU or higher at the “10” position (with the meter sensitivity selector set to the “normal” position).
- Because the test-tone signal can be taken out from the line output terminals (3 sets) on the rear panel, the oscillator can also be used as a test-tone oscillator for checking other equipment, and moreover, the output level can be changed by using the line output level controls (left/right).
- Distortion of test-tone signal is held to less than 3%.

Meter Sensitivity Selector

This selector can be used to make very precise adjustments, by increasing sensitivity of the meters by 10 VU, when using the built-in test-tone oscillator for fine-adjustment of the bias and recording equalization.

- For fine-adjustment of the bias or recording equalization, the recording level of the test-tone is -10 VU, but because the calibrations of the meters are approximate in the -10 VU vicinity, this selector can be used to increase sensitivity by 10 VU, thus making it possible to make the adjustment more precise at 0 VU vicinity.
- This sensitivity selection is possible only when the test-tone oscillator switch is set to the “1 kHz” or “10 kHz” position. If it is set to the “off” position, meter indication would be the same as for ordinary use even if the selector is set to the “+10 dB” position. This is to prevent incorrect level settings for ordinary recording.

VU Meters

Compared to other types of meters, VU meters have less “overshoot,” and feature precise indication accuracy, conforming to ASA standards for “attack” time, frequency response and scale precision.

Playback Equalization Selector (NAB/IEC)

Playback equalization characteristics can be selected for the 15 ips tape speed to meet either NAB or IEC standards. For 7-1/2 ips and 3-3/4 ips, the same playback equalization characteristics are used for both NAB and IEC.

• NAB Position

Recording equalization of the RS-1520 is pre-adjusted to conform to NAB standards, so the selector can be set to this position for ordinary recording and playback.

• IEC Position

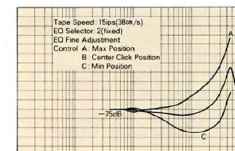
Set to this position only when playing back a tape recorded on another tape deck which has IEC recording equalization characteristics.

Bias Fine-Adjustment Control (-50% ~ +20%)

The RS-1520 has a 3-position bias selector, thus making it possible to increase and decrease the bias current value in 10% increments. In addition, because fine-adjustments can be made within a range of -50% to +20%, left/right adjustments are possible for each reference value of almost any type of tape currently available. And, because the control knobs have a center “click” position, it is always possible to return precisely to the reference value.

Equalization Fine-Adjustment Control

In the same way as for the bias selector, this control also has 3 position settings, and moreover, independent left and right fine-adjustments are possible. This feature thus assures that the RS-1520 can obtain the optimum equalization parameters for any tape used.



Recording Equalization Fine-Adjustment Characteristics

Cue/Edit Switch

The RS-1500US includes an edit dial and tape position marker to make tape editing extremely easy. In addition, the RS-1520 is designed so that editing is very practical because the edit switch functions when the cue lever is pushed all the way to the left and locked.

- After the Cue/Edit Switch is locked “on” with tape transport stopped, the playback button is to be pushed, or the switch can be set to the “on” position during playback. Either way, the tape continues to be moved by the capstan and pinch roller without interruption, and, because the take-up reel remains stopped, the part of the tape not to be used is not wound onto the reel. Thus, editing can be done efficiently.
- After the part of the tape not to be used has been taken out, the tension roller switches will be activated when the stop button is pushed, and the tape transport mechanism is thus set to the Auto-Shut-Off mode. Thus, even if other operation buttons are pushed, the tape won’t be damaged.
- If the tape is being taken out in this way, and the fast-forward, rewind or any other button is accidentally pushed, the IC logic control circuitry will automatically set the unit to the stop condition, and thus protecting the tape.

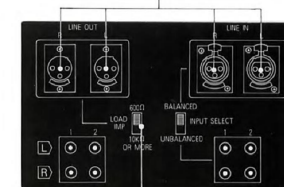
Recording Mode Indicators

When the recording mode switches are set to the “on” position, the L and R lamps illuminate. This is an especially useful convenience for assuring that the recording mode switches have not accidentally been left in the “off” position when the RS-1520 is to be used to make a timer-activated recording.

Balanced Connectors

The RS-1520 has 3 sets of terminals for line input and line output, with one set of each equipped with balanced connectors. They are widely used on broadcasting and measuring equipment. And assure firm connection. The remaining two sets of terminals contain the ordinary unbalanced phono (pin) type jacks.

- A slide switch is located on the rear panel for easy selection of either balanced or unbalanced line inputs.
- For line outputs, parallel connections are made so that output can be taken at the same time from all 3 sets of line output terminals (1 balanced and 2 unbalanced).



Load Impedance Selector (600Ω/10 kΩ or more)

This selector can be used to select either 600Ω or more than 10 kΩ impedance, according to the impedance of the equipment connected to the Cannon-type output terminals.



RS-1500US

2-Track 2-Channel Record/Playback and 4-Track 2-Channel Playback with 3 Speeds

RS-1506US

4-Track 2-Channel Record/Playback and 2-Track 2-Channel Playback with 3 Speeds



RS-1700

Auto-Reverse 4-Track 2-Channel Record/Playback with 3 Speeds

RS-1520 Technical Specifications (tentative)

Track System:	2-track 2-channel record/playback and 4-track 2-channel playback
Motor:	Quartz phase-locked DC brushless direct-drive motor
Capstan:	2-tape tension controlled DC brushless direct-drive motor
Reel Table:	10-1/2", 7" and 5" (outside diameter)
Reel Size:	15 ips, 7-1/2 ips and 3-3/4 ips
Tape Speed:	(38 cm/s, 19 cm/s and 9.5 cm/s)
Wow and Flutter (Rec./PB):	
15 ips (38 cm/s);	0.018% WRMS
7-1/2 ips (19 cm/s);	0.03% WRMS
3-3/4 ips (9.5 cm/s);	0.06% WRMS
Speed Deviation:	±0.1% at 15 ips
Speed Fluctuation:	0.05% at 15 ips
Frequency Response:	
15 ips (38 cm/s);	30—30,000 Hz ±3 dB
	(-10 dB rec. level)
7-1/2 ips (19 cm/s);	20—25,000 Hz ±3 dB
	(-20 dB rec. level)
3-3/4 ips (9.5 cm/s);	20—15,000 Hz ±3 dB
	(-20 dB rec. level)
Signal-to-Noise Ratio:	Weighted, 1 kHz (185 nWb/m +6 dB)
15 ips (38 cm/s);	60 dB
7-1/2 ips (19 cm/s);	60 dB
3-3/4 ips (9.5 cm/s);	58 dB
Distortion (THD):	
measured via tape at 400 Hz (at any speed)	
Operating level (0 VU);	less than 0.8%
Dimensions (H × W × D):	19-3/4" × 18" × 10-1/8"
	(50.2cm × 45.6cm × 25.7cm)

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