

MANUFACTURER'S SPECIFICATIONS
Frequency Response: Normal, 30-14,000 Hz; FeCr and CrO_2 , 30-15,000 Hz.

Wow & Flutter: 0.07 percent W rms.
S/N Ratio: 66 dB with Dolby.
Inputs: Mike, 0.25 mV; Line, 60 mV.
Output: 0.42 mV at 22 kilohms.

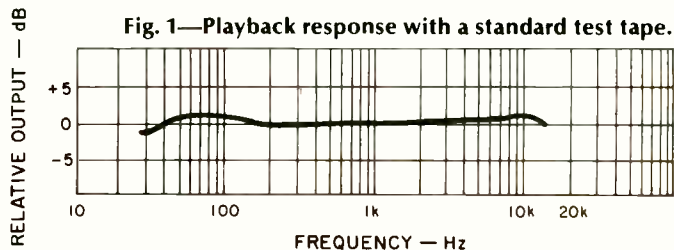
Headphone: 65 mV.
Motor: D.c., electronically controlled.
Bias Frequency: 90 kHz.
Price: \$200.00.

In spite of the decline of the American dollar on the world market and higher production costs in the Far East, the prices of audio components haven't risen very much at present. How long this situation will continue is anybody's guess, but it would seem that prices will have to show a sharp increase in the next year. At the moment, such items as direct-drive, turntables and cassette decks — especially those in the "budget" range — are available at remarkably low prices.

An example of this is the Technics RS-616 cassette deck which offers good all-round performance with specifications comparable to those decks costing a lot more. It is a front-loading deck, and the styling is similar to the more expensive Technics' models with the usual satin-finished aluminum panel and polished instrument-type controls to match. The

metal cover is finished in matte black, and the deck looks more expensive than its modest price would suggest. Among its features are a Dolby N/R system, fully automatic stop, and switches for changes in bias and equalization.

The vertical cassette compartment is on the left, and I was pleased to note that the door opens slowly . . . it doesn't throw the cassette out. Underneath are six tape-transport keys, plus one for *Eject*. To their right is a *Mike-Line* input



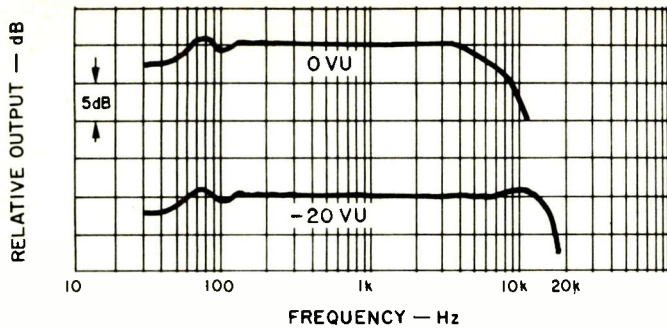


Fig. 2—Record/replay response with Maxell UDXL-1 tape.

switch followed by a *Dolby* switch. Then come the two three-position lever switches for bias and equalization, plus a large dual-concentric input control. Two standard quarter-inch mike jacks are at the extreme right, and a digital counter is at the far left. The *On-Off* switch is to the left of the cassette compartment with the headphone jack underneath it.

The motor is a d.c. type fed from a stabilized supply — but not servo controlled. Inside, all components are mounted on a single large circuit board with access from underneath. The case is constructed of strong, black-plastic moulding, and the overall dimensions measure 17 in. (43.2 cm) x 10½ in. (27 cm) x 5½ in. (14.3 cm).

Measurements

Figure 1 shows the frequency response from a standard test tape, while Fig. 2 shows the record-replay response with the Maxell UDXL-1 tape, with the *Normal* setting on the *bias* switch and equalization set to 120 μ S. The -3 dB point was at 14.3 kHz, and the low end was well maintained down to 30 Hz. Next the *Bias* switch was changed to *CrO₂*, and the equalization was set to 70 μ S for the TDK SA tape, which is a chrome-substitute formulation. As shown in Fig. 3, the frequency response was fairly similar to the Maxell UDXL-1 tape. Finally a Sony C-46 FeCr cassette, which came with the deck, was tested after the *Bias* was changed to *FeCr*, and the results are shown in Fig. 4. The high frequency response extended to 15.3 kHz, with a slight reduction in high frequency saturation at 0 Zero, VU. The three tapes were then tested for distortion at 1 kHz (see Fig. 5) and then distortion vs. frequency (see Fig. 6). The latter was measured at 0 VU (1 kHz)

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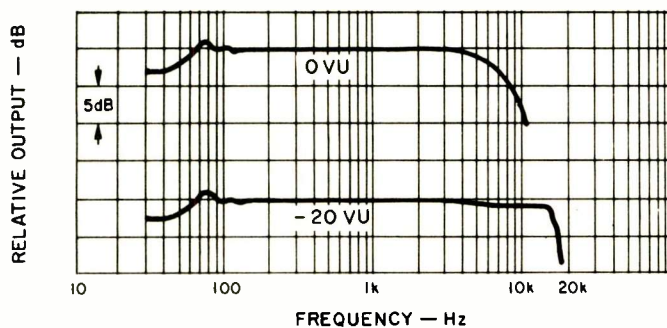
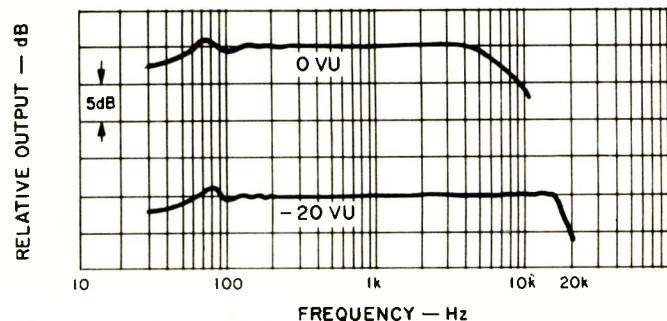


Fig. 3—Record/replay response with TDK SA tape.

Fig. 4—Record/replay response with C-46 Sony FeCr tape.



and the input level was kept constant. However, the VU meters indicate an equalized signal so they read 1 dB less at 100 Hz, -10 dB at 50 Hz, and 20 dB down at 30 Hz. This method, used on several other decks, works well, but care must be taken to avoid overloading when recording organ or electronic music.

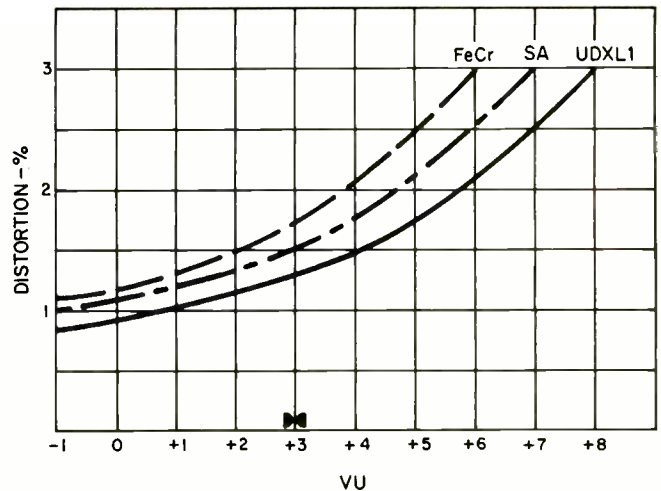
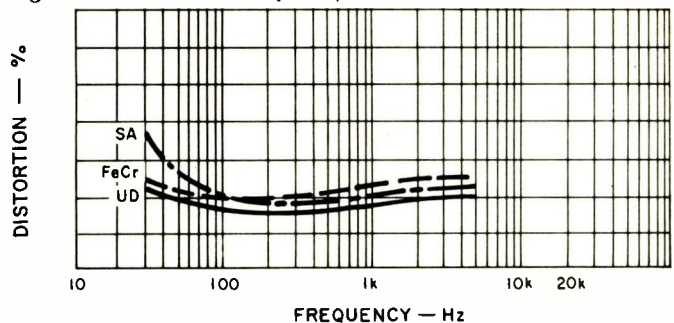


Fig. 5—Distortion at 1 kHz.

Fig. 6—Distortion vs. frequency.



Signal to noise measured 60 dB ("A" weighting, 3 percent THD reference) for the Maxell UDXL-1 and Sony FeCr, while the TDK SA clocked in at 61.0 dB. Switching in the *Dolby* N/R increased the figures for the UDXL-1 and SA to 69 dB, and 68 dB for the FeCr. The *Dolby* tracking was within 1.5 dB down to -40 dB. The input signal for 0 zero VU was 70 mV line and 0.26 mV for mike, and when the latter was switched in the S/N ratio decreased by some 9 dB. Output varied between 400 and 440 mV depending upon the tape used. Erase efficiency was better than 70 dB.

Wow & flutter measured 0.06 percent (DIN 45-507) and tape speed was less than 0.03 percent slow. Rewind time for a C-90 cassette was 95 seconds.

Listening & Use Tests

As you might expect, the low price means that some compromises are inevitable, but they are surprisingly few . . . there is no output control, peak indicator, or memory switch, and you cannot switch from *Fast Forward* to *Playback* modes without pressing the *Stop* button first.

However, in terms of frequency response, distortion, and S/N ratio, the RS-616 compares quite favorably with decks costing a lot more . . . in fact the noise level is lower than most. I found the transport control keys a little too close for comfort, but other than that I have no criticisms to make. As I mentioned before, this cassette deck is really an excellent value for the money, and with the present currency crises, there is a chance that this low price will show a substantial increase in the very near future.

George W. Tillett

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