

Alpine AL-90 test



Alpine's top model, the AL-90 has three heads to allow off tape monitoring, auto tape setting-up with calibration, mic/line input mixing, Dolby B and C noise reduction, and the addition of record and replay break points for external processors, and many other unusual features. In addition to the auto biasing, Alpine provide a user-adjustable fine bias control.

Record level metering is with conventional meters, a switch being provided to give peak or VU type readings. In the peak position short transients read correctly but longer ones over-read quite badly. In the VU position, longer peaks were about right, but short ones under-read by as much as 15dB. Since there was no slow-fallback circuitry, the meter was very difficult to read on programme as it danced about wildly.

On the front panel there is a centre indented pitch control (playback only, $\pm 8\%$), separate left and right short-throw faders for 'mic in' and 'line in', with a slightly longer-throw ganged master fader. I did not like these much as they were awkward to adjust. A ganged stereo output level control is provided and this also controls headphone levels — plenty of volume here for all normal headphone types. Other switches select noise reduction (B, C, off, or external), tape types (metal, chrome, ferrichrome and normal), fine bias set with centre indent, timer start (play/off/record), auto-play and auto-rewind and repeat

functions, multiplex filter, tape/source monitoring, and VU/peak metering. 'Write' 'call' and 'execute' buttons are provided to memory use, allowing cycling, for example, ci any passage. Another button controls the tape timer (stop-watch or normal mode).

Deck functions are completely conventions operating with light touch buttons at the bottom of the cassette compartment (which incidentally had a slightly sharp edge). Holding play and wind or rewind down together allows cueing. The pause control stops but does not restart a function. Pressing record during play allows dropping into record, but you cannot drop back to play. Three small buttons are provided for operating the auto cal/memory facility, one starting calibration, one to write the result into memory and one to choose auto cal or memory parameters or factory stored memory parameters.

The microphone inputs were rather insensitive but quite quiet, whilst line inputs were sensitive, having no clipping problem although distortion was a little high at 6V input

Replay azimuth was set adequately and head and guides satisfactory. Replay hiss measurements were all very good, but these was some very low frequency rumble which might be audible on some large speaker. The replay amp clipping margin was inadequate, signals above +10 dB being clipped.

Quite a high level was available on the outputs which might be useful, Dolby level reading correctly on the meter. Replay responses were very good, although very low extended (thus the LF flicker noise noted) Maxell UD penned extremely good and well-extended charts with Dolby out and in. Despite some lab figures which show a poor MOL at 315Hz and 3.15kHz, with staggeringly good saturations at 10kHz (these indicating under-biasing), the sound quality subjectively was thought extremely good throughout. Listeners did not hear the poor MOLs, and the HF quality was highly praised. Modulation noise measured extremely well, and overall noise measurements were excellent.

BASF Chrome II penned reasonable charts, and whilst background noise was extremely low throughout, distortion varied from disastrous to fair seeming dependent on the temper of the auto cal system! Our first hearing produced some of the worst distortion comments however, but the re-test alignment was better. Maxell XLII in the lab gave appalling LF MOLs but excellent HF saturation, with noise measurements very good indeed. Quite clearly the bias distortion compromise designed in Alpine's auto cal is very weird. Turning to metal tape, Maxell MX gave LF MOLs which were most disappointing, but as expected, HF saturations went almost through the roof, especially with Dolby C! Responses were very flat. Overall quality was excellent throughout, HF being particularly clean. Overall noise measured extremely well, particularly with Dolby C.

No wow and flutter was ever heard on the programme, and it measured extremely well which is most creditable. Normal speed was extremely accurate, and spooling time around average. Torque was slightly high and just a little juddery. Note that in this design the cassette's built-in pressure pads are moved away from the tape by the head assembly, as in Nakamichi decks.

There are many good things about this model, but I would have expected much more for the price. The metering is not good enough, and I personally disagree with Alpine's biasing equalisation philosophy for the model. I would have preferred more bias and more record equalisation overall which would have allowed a better distortion compromise.

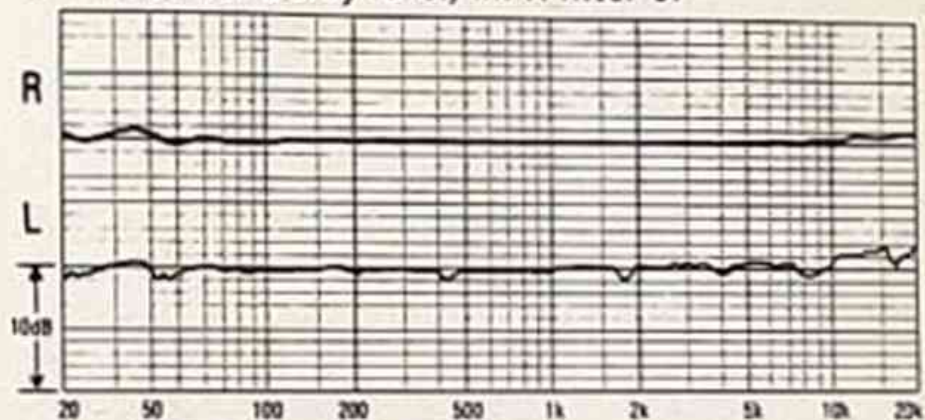
Incidentally, lab measurements on BASF Chrome II, very close to IEC II reference, were a total disaster area with negative MOLs and saturations throughout! Despite its many positive attributes,

I cannot recommend this.

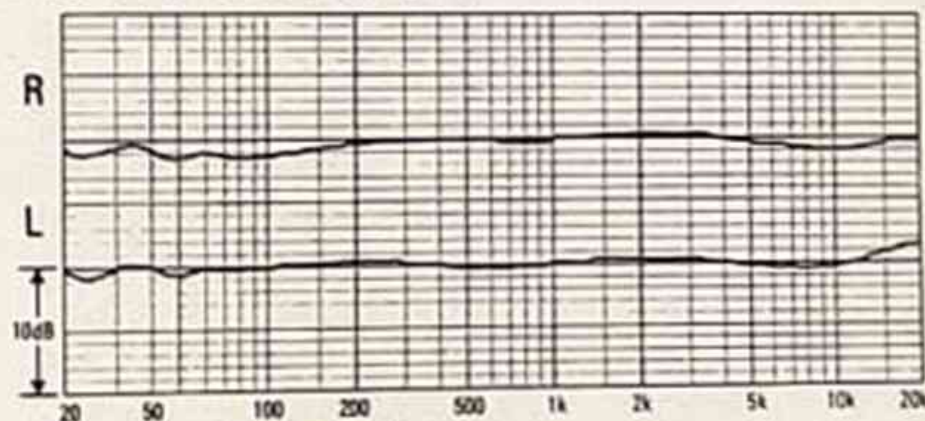
GENERAL DATA	
Replay azimuth deviation from average	+ 25°
Line input sensitivity	64.9mV
Worst audible replay hum component	- 73.8dB (150Hz)
Replay noise ferric CCIR/ARM weighted (NR out)	- 59.5dB
Replay noise chrome position CCIR/ARM weighted (NR out)	- 63.6dB
Replay amp clipping ref DL	+ 10dB
Max replay level for DL	+ 1.0v
Wow and flutter average (peak weighted DIN)	0.06%
Speed average	- 0.1%
Meters over-read	6dB on 64ms, under-read 1dB on 8ms
Overall 10kHz sat ferric L/R ref DL	- 1.0/ - 1.1dB
Overall Dolby C 10kHz sat ferric L/R ref DL	+ 1.7/ + 1.5dB
Overall MOL ferric L/R for 5% dist @ 315Hz ref DL	+ 3.5/ + 3.0dB
Overall 10kHz sat, chrome position L/R ref DL	- 2.9/ - 2.8dB
Overall 10kHz sat, Dolby C, chrome, L/R ref DL	- 0.2/ - 0.4dB
Overall MOL chrome L/R for 5% dist @ 315Hz ref DL	+ 1.9/ + 2.8dB
Overall 10kHz sat metal L/R ref DL	+ 1.9/ + 1.3dB
Overall 10kHz sat, Dolby C, metal L/R ref DL	+ 4.8/ + 4.2dB
Overall MOL metal L/R for 5% dist @ 315Hz ref DL	+ 5.8/ + 6.2dB
Overall noise ferric NR out (CCIR/ARM) ref DL	- 50.8dB
NR improvement Dolby B/C	10.1/19.2dB
Overall noise chrome NR out (CCIR/ARM) ref DL	- 53.3dB
NR improvement Dolby B/C	9.9/18.3dB
Overall noise metal NR out (CCIR/ARM) ref DL	- 52.9dB
NR improvement Dolby B/C	9.8/19.1dB
Modulation noise ferric broad/close ref 3kHz tone	- 41.2/ - 39.3dB
Line input noise floor, gain min ref DL (CCIR/ARM)	- 82.7dB
Line input noise floor ref 160mV/DL (CCIR/ARM)	- 78.8dB
Spooling time (C90)	1 min 42 sec
Dynamic range ferric/chrome/metal	73/74/78dB
Noise reduction system	Dolby B/C
Tapes used	Maxell UD/Maxell XL-II/Maxell MX
Typical retail price	£750

OVERALL FREQUENCY RESPONSES

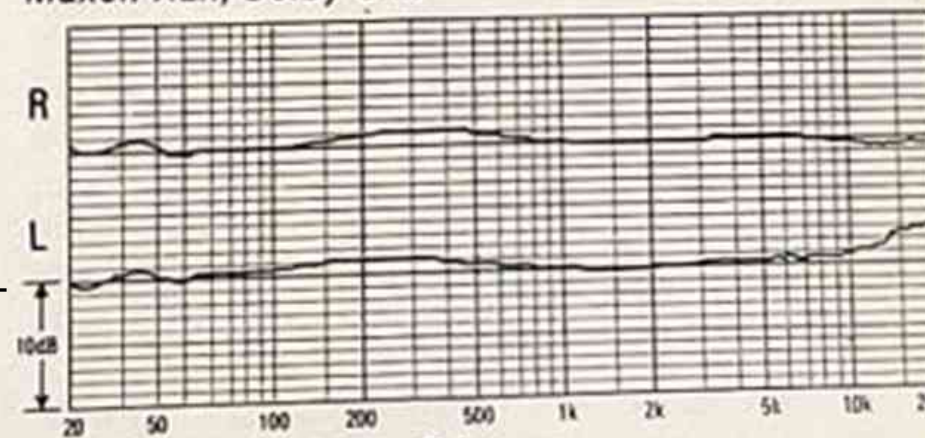
at -20dB ref Dolby level, MPX filter of



Maxell UD ferric, Dolby off



Maxell XLII, Dolby C in



TDK MA metal, Dolby C in



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