

start at 88MHz. Then in 50kHz steps it stops at each station above a certain signal level, stays for about 5 seconds and then searches for the next. At each stop, the signal strength indicator is illuminated in one of five steps, and a small red LED glows if the station is transmitting a stereo programme.

In addition to the measurements shown in the Table, the five steps of the signal level indicator required the following input signals: One bar 2µV, two bars 20µV, 3 bars 31µV, 4 bars 50µV and 5 bars 200µV. The audio output was measured at 1kHz for 75kHz deviation and found to be 0.57V per channel. The audio frequency response is shown in Fig. 1

and the tuner sensitivity for both mono and stereo signals in Fig. 2.

Using an external FM aerial mounted on a rotator, I had no difficulty in receiving a few Continental stations free from background noise or interference, which compares very favourably with the performance of the Yamaha CT 7000, a tuner often quoted as being one of the finest ever produced. However, most people do not use a stereo FM tuner to search the ether, but to enjoy the more local programmes. Where one receives a direct transmission from a studio or concert hall, except for the restricted dynamic range, the overall performance can be almost as good as the finest Compact Disc.

The frequency response is well extended, with the pilot tone some 48dB below the 1kHz test signal. The accuracy of the digital frequency display was checked against a highly accurate frequency meter reading to eight significant figures. Measured at 88, 95, 100 and 108MHz, the Hafler digital display was always within the accuracy of the digital counter; for example the 100MHz tuner display read 100.000,08.

Using a pair of headphones, which automatically cuts out the signal to the pre-amplifier, I felt that a slightly higher audio output voltage would be an advantage, although the output is adequate to load the Hafler DH110 pre-amplifier.

To sum up, the Hafler DH-330 stereo FM tuner gave an outstanding performance and is of excellent sensitivity, responding to weak signals even in the presence of a powerful local transmitter. The unique Hafler 'Auto filter' certainly allowed one to enjoy more distant stations and, having placed one's favourite stations in the non-volatile memory, a gentle touch on the appropriate button ensured precision tuning. Although the dollar-to-pound ratio makes the Hafler tuner appear to be rather expensive, there are few other tuners in this price category which can approach its outstanding performance.

JOHN GILBERT.

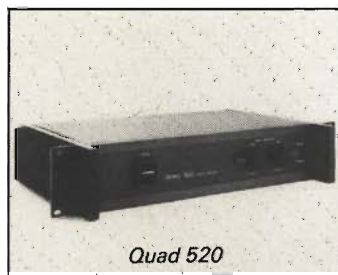
NEW PRODUCTS

AUDIO



Marantz CD

Marantz Audio UK Ltd., 15/16 Saxon Way Industrial Estate, Moor Lane, Harmondsworth, Middx. UB7 0LW have added a new Compact Disc player to their range. The CD63B (£299) is based on their successful CD63, but is finished in black instead of the usual Marantz gold colour and has a much improved track access time. The microprocessor has also been made more flexible to enable the pause control to be used for quick-start cueing. Error correction too is said to have been made more effective.



Quad 520

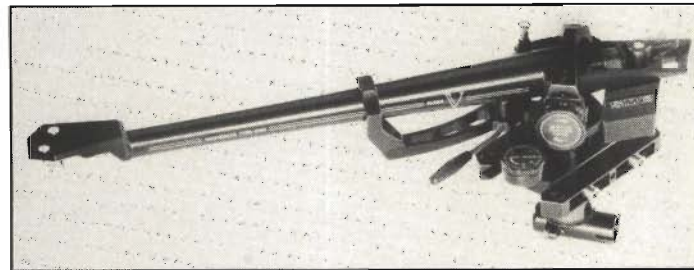
Quad power amps

Quad Electroacoustics Ltd., Huntingdon PE18 7DB have introduced mono and two-channel power amplifiers in a 19-inch rack format for professional use. The Quad 510 mono unit has a 600-ohm bridging input and a tapped output transformer. It will deliver at least 100 watts into any load from 2 to 100 ohms, matching being selected by a plug-in card, and includes provision for 70 or 100 volt distribution systems. The Quad 520 is a two-channel amplifier delivering 100 watts-per-channel into 8 ohms, with optional balanced inputs.

SME Series V

The revolutionary new Series V pickup arm from SME Ltd., Steyning, Sussex BN4 3GY (previewed by John Borwick in our September 1984 issue, page 395) has now been officially announced—though deliveries, at a price around £800 plus VAT, are not expected until the second quarter of 1985. A principal feature of the tonearm is its tapered magnesium tube giving exceptional resistance to torsional or flexing vibration modes, with a high self-damp-

ing factor. Typical effective mass at the stylus is 10-11 grams. Tracking force can be varied over the range 0.3 grams in 0.125g steps by rotating a graduated drum enclosing a stainless steel hairspring. The anti-skating control has the same calibrated range and can be adjusted while a record is being played. Horizontal tracking alignment uses a toothed rack having key-adjustment by ± 9 mm. A fluid damper is incorporated and internal wiring uses linear crystal-oxygen free copper wire.



Shure "Encore"

HW International, 3/5 Eden Grove, London N7 8EQ are bringing in a new "Encore" series of five Shure cartridges. These are basically re-designed versions of previous popular Shure cartridges, but have been reduced in price as a result of more cost-effective production

methods. The new cartridges are as follows: ME70B (£10.95), ME75EJ (£16.95), ME75ED (£21.95), ME95ED (£24.95) and ME97HE (£39.95). Changes are mainly cosmetic, though the last two models have a new stylus grip configuration.

We are testing these cartridges and a review will appear shortly.



Shure "Encore" cartridges



ATH-70 headphones

Audio-Technica cables

Audio-Technica Ltd., Hunslet Trading Estate, Low Road, Leeds 10 are one of the first companies to market cables based on the new Linear Crystal-Oxygen Free copper wire which is claimed to reduce signal losses in all audio applications. The AT635 LC-OFC loudspeaker cable costs £6.75 per metre and is in a stranded parallel twin format (75 strands of 0.12mm wire per lead) with individual shielding. The new technology has also been applied to the AT625 pickup leads costing £4.95 per set.

New Audio-Technica headphones have also been announced. These are the ATH-70 electret (£125.95) with self-power transformer switch-box, and the ATH-V7 dynamic (£69.75) circumaural open-back model.

B&O antenna

Bang & Olufsen UK Ltd., Eastbrook Road, Gloucester GL4 7DE have introduced an 'active' AM aerial to give improved reception on the medium and long wavebands. The mains-powered Active Antenna 10 (£27.50) has two ferrite-rod aerials and an amplifier housed in a round 245mm plastic box.

Also new from B&O are a couple of compact loudspeakers designed for shelf or wall mounting, with cabinets of extruded aluminium in natural or black anodised finish. The CX50 (£135 per pair) is a two-way system measuring 120 x 205 x 205mm, while the larger CX100 (£189) has three drive units on angled baffles and measures 120 x 320 x 205mm.