

average woofer, and his ability to put together viable hybrid designs has been helped by the new unit's bandwidth capability extending down from the previous limit of around 1,200Hz to 500Hz. The new range of Shackman systems includes four models, ranging in price from £1,050 per pair for the Wide Range ESL down to £285 per pair for the baby of the family, the Shackman Ministatic reviewed here.

With cabinet dimensions of only 445 × 260 × 206mm and only a 200mm (8-inch) moulded-fibre cone woofer, the Ministatic has naturally a less extended bass response than its larger brothers. The hand-veneered cabinet has a handsome walnut finish with metal-stud feet and a fixed brown grille-cloth. The back is sealed, with a 2-metre two-wire mains lead to generate the required 1,000 volts DC polarizing voltage via a built-in rectifier, and a recessed panel carrying 4mm colour-coded sockets. The interior of the cabinet has fibre wool damping on three surfaces, while the 200 × 160mm electrostatic driver plate assembly (bent into an arc-shape) has its own sealed compartment. Construction seems adequate rather than luxurious.

How it performed

Listening tests, using good quality discs and tapes with excellent playback equipment revealed

an above-average clarity and definition in the treble register covered by the electrostatic driver. In-room plots with warble-tones indicated a very gradual downward slope on-axis of the sort which I normally associate with a natural-sounding response, and the treble output was not unduly directional in the horizontal or vertical planes. The result was well-articulated sounds and very good stereo imaging.

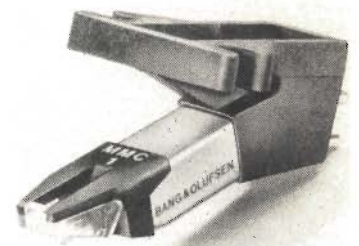
The small cabinet dimensions did set a limit to the bass response, but the treble did not over-balance the sound as so often happens. I did find that speaker placement was fairly critical, however. A box-like effect was always in evidence if the speakers were placed on low floor-stands and this was exaggerated on a shelf against the wall. The most uncoloured sound was obtained with the speakers mounted quite high, and a metre or so out from the wall.

Sensitivity was a little above average for speakers of this size and no amplifier matching problems should arise, the effective impedance remaining at or above the nominal 8 ohms over most of the range. This new bookshelf speaker is worth investigating for its crisp treble performance and excellent imaging. At £285 per pair, it is above the £200 mark at which quite a number of decent bookshelf models can be found: therefore a listening test before buying would seem to be indicated.

JOHN BORWICK.

Smaller B&O cartridges

Bang & Olufsen UK Ltd., Eastbrook Road, Gloucester GL4 7DE announce a new range of MMC (Moving Micro-Cross) moving-iron cartridges weighing only 1.6 grams, or 3.3g in the standard 12.3mm fixing bracket. Several million B & O MMC cartridges have been sold over the



B&O MMC1

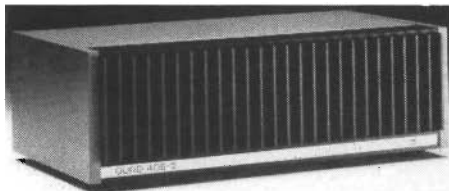
past 25 years and the principle has now been miniaturized to give an effective tip mass of around 0.25mg. The new range comprises five models, from the MMC 1 with a pure sapphire tube cantilever, line contact diamond stylus and 30µm/mN compliance down to the MMC5 with elliptical stylus and 20µm/mN compliance. All are supplied with calibration cards and accessories.

New Products



Quad Mark 2

The Acoustical Manufacturing Company Ltd., Huntingdon, Cambs PE18 7DB are changing their Quad 405 power amplifier to the Quad 405-2 (£247) with immediate effect. This Mark 2 version of their successful design (more than 60,000 have been sold) employs the same current-dumping

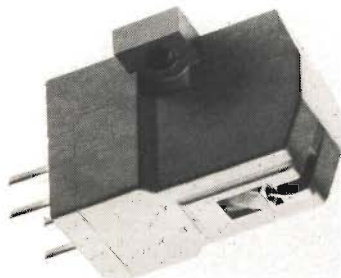


Quad 405-2

circuitry, but with a new design of protection circuit enabling higher currents to be delivered. Up to 8.5A peak can be sent to even 'difficult' loud-speaker loads but the protective thick-film integrated circuit senses the five variables—voltage, current, phase, temperature and time. Any unfavourable combination of values causes the current to be progressively reduced—and automatically restored when the excessive demand is removed.

Goldring moving-coil

The long-awaited launch of a moving-coil cartridge from Goldring Products Ltd., Anglian Lane, Bury St Edmunds, Suffolk IP32 6SS has now taken place. The Goldring Electro II (£125) is a high-output moving-coil, rated at 2.5mV for



Goldring Electro II

a recorded velocity of 5cm/s, so that no transformer or booster preamplifier is necessary. A special interlock construction, avoiding the use of adhesives, gives the diecast aluminium body extra rigidity. Fine gauge (15µm) copper wire is used for the coils and the stylus has the van den Hul tip shape used successfully by Goldring in other cartridge designs.

Reproduction gramophone

The Vintage Gramophone Co., 21 Station Road, Studley, Warwick B80 7HR, dealers in old acoustic gramophones, have decided to put on the market reproductions of early models, begin-



The Sinfonia reproduction gramophone

ning with the Sinfonia (£195 including carriage, box of needles and a 78rpm record). Original sound-boxes and refurbished spring motors are used, the cabinet being mainly of oak and the horn of solid brass sheet. The company also offers vintage gramophones at from £35 to £300 or more, and stocks thousands of 78rpm records at prices from 40p each, list available.

New Wharfedale range

Perhaps to reinforce the message that they are still very much in business, though under new ownership, Wharfedale Loudspeakers, Wharfedale Works, Highfield Road, Idle, Bradford BD10 8SF have just announced a new range of Laser Series loudspeakers. These are all two-way



The new Wharfedale Laser Series

systems, and the four models announced range from the Laser 30 with a 9-litre enclosure, 160mm fibrous-cone bass unit and 50mm cone tweeter, up to the Laser 110 with a 32-litre enclosure, 200mm mineral-filled homopolymer of propylene cone bass unit and soft-dome tweeter.

Loudspeaker stands

A new company, Stand and Deliver, PO Box 8, London, NW6 1BT, are marketing a range of loudspeaker stands designed to meet specific aims including extreme rigidity, correct centre of gravity and stability, optimum vertical tilt and floor interface. Arc-welded steel is used, with a braced top-plate and semi-matt brown finish. Three versions of the stands are currently available, the SDQ63 (£59 per pair) for the Quad ESL63, the SDS (£42.50) for large speakers such as the Sendor BC1 and Rogers Studio, and the SDU (£39.50) for small speakers such as the KEF Coda, Celestion SL6 and Rogers LS3/5a.