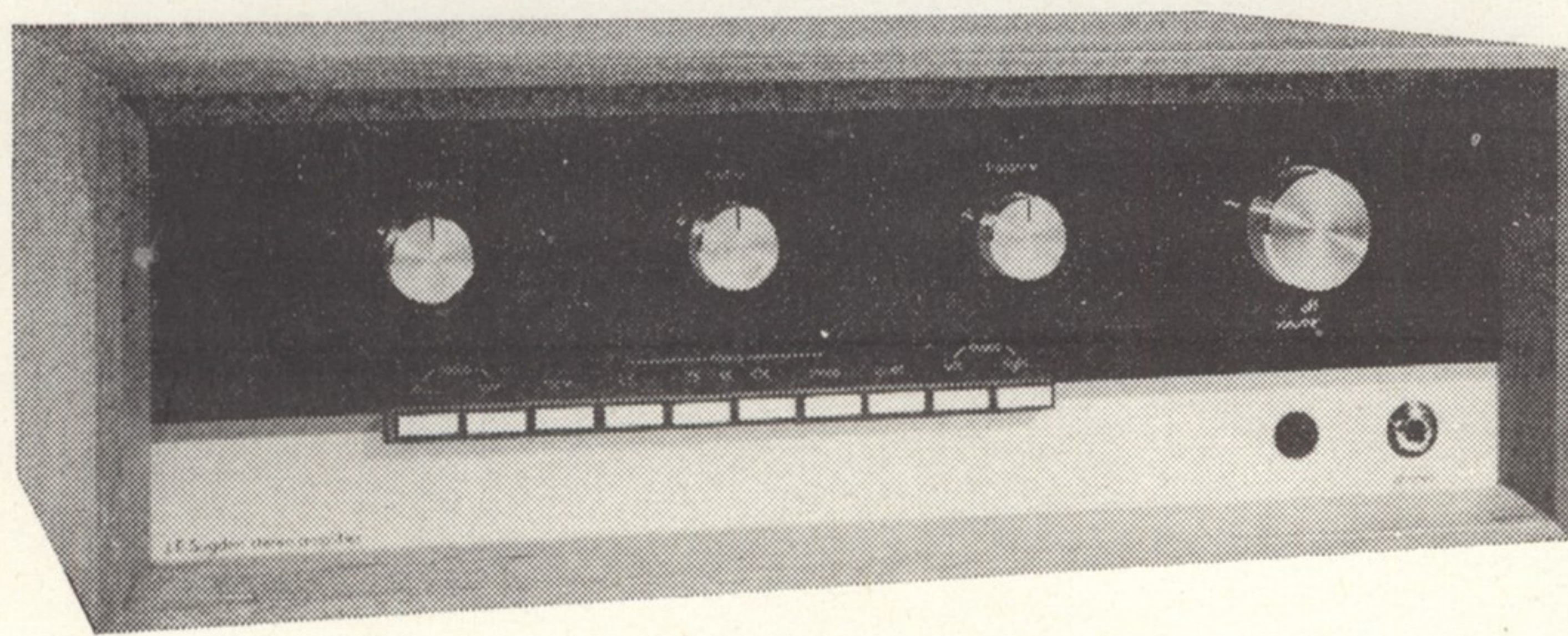


# SUGDEN A48

amplifier

JOHN GARDNER



JAMES SUGDEN IS foremost an engineer and one with both feet on the ground. His amplifiers are a masterpiece of common sense: they have all the facilities one could reasonably ask for, yet there is a cunning simplicity to the control layout which belies the versatility of the equipment. Sugden was at one time an engineer with EMI Studios and the A48 is very much a reflection of the professional approach: there is no waste, little to criticise and much to admire.

All Sugden equipment is hand built in a small factory where the construction of a whole instrument or amplifier is entrusted to a single employee. This 'old style' approach combined with elaborate quality control enables the firm to offer a lifelong guarantee against defective workmanship. There is also a year's unconditional guarantee on all component parts and a second year free of all labour charges.

It is quite a large amplifier, measuring  $15\frac{1}{2} \times 5 \times 9$  inches and weighing 24lbs but its design is as simple and elegant as anything I have encountered. There are just four rotary controls and below these there is a bank of 10 push buttons. The fascia panel is predominantly black with a silver section below the row of push buttons. The panel has a mirror finish and the control legends are printed in silver. There are no calibrations or other markings around the skirts of the knobs and this is a policy with which I agree: it is assumed that the user will set the controls to suit his individual taste and according to what he hears, making calibrations irrelevant. The only markings are on the knobs themselves to indicate either the centre or the limit of rotation, as appropriate.

The first three knobs are of uniform size and control bass, treble and balance. To the right of these is a larger one combining on/off and volume functions. This economical approach is used to great effect on the push buttons without sacrifice of flexibility and without any loss of operational convenience. Firstly there are three input selectors — disc, aux and tape — but if disc and aux are pressed together the radio input is selected. As is customary the tape button allows A-B monitoring when using a three-headed tape recorder. The following four buttons give comprehensive filtering: there is an LF filter having a slope of 18dB/octave below 70Hz. This is followed by HF filters with turnover frequencies of 4kHz, 7kHz and 10kHz and a slope of either 6 or 18dB/octave. Slopes and turnover frequencies are extremely well chosen and should satisfy all but the most knob-happy of enthusiasts. It may not take a MENSA brain to design filter circuits but it takes a special sort of mind to choose the designs so wisely and to accommodate them on a minimum of switch contacts.

In place of the accursed 'loudness compensator' we have a 'quiet' switch: when this is cancelled the volume control operates normally and when selected it reduces mid-frequencies by 16dB and low frequencies by 8dB, relative to the control setting, the responses being tailored to the ear's equal loudness contours. Finally there are two buttons giving mono/stereo switching:

there is a choice of normal stereo, left input to both channels, right input to both channels or mono. There are no other controls, just a standard  $\frac{1}{4}$ -inch headphone jack at the bottom right with a green pilot lamp to its left. The amplifier is cased in a well finished teak sleeve.

Apart from very substantial heat sinks the rear panel is quite bald, yet everything one requires is there except DC fuses. There is a voltage selector, earthing terminal for auxiliary equipment, a mains outlet, three core mains cable, 4mm banana sockets for loudspeakers feeds and DIN inputs for disc, aux, tape and radio. It is debatable whether 4mm banana sockets have any advantage over DIN for loudspeaker connection, but I would not care to make an argument of it. Nothing is wasted: on the early models James Sugden found he had a couple of pins going spare on the auxiliary socket, so pins 1 & 4 now carry a record output similar to that available at the tape socket but attenuated to provide an output suitable for most cassette recorders.

For a formal record of the test results one could merely say 'see manufacturers specification' but a few details are worth enlarging upon. Distortion was comfortably below the specified 0.1% at all power levels and frequencies; the power bandwidth (between -3dB points) was from 8Hz to 35kHz and the power output with both channels sine wave driven was just 40W. When the inputs were driven at their nominal sensitivity (*ie* 2.5mV for disc) the maximum output was 25W. Equalization on the disc input was virtually flat from 30Hz to 20kHz with an excellent overload margin of 110mV. By changing a couple of wire links on the equalization board alternative sensitivities of 5 or 10mV are available and there is a proportional increase in overload capability.

The unweighted signal-to-noise figures on all inputs were better than specified and weighted readings were obtained of 74dB on disc and 84dB on other sources. These are excellent figures and are matched by first-class square wave and transient response. Subjectively the amplifier gave some of the most satisfying listening I have experienced for a long time, with no sign of aural fatigue during prolonged listening sessions. It will be found that the amplifier runs hot compared with most of its contemporaries, as was found with all pure Class A amplifiers. The A48 has Class A operation for the driver transistors and these feed complementary output pairs. Presumably the heat, even under no signal conditions, is produced by the driver stages. This should not cause any embarrassment provided there is an adequate air flow around to the heat sinks.

The only realistic criticism one can make is that the case has to be removed to gain access to the DC fuses: at the same time it does give one an opportunity to admire the quality of construction! When removing the case care must be taken not to bend or mark the fascia panel.

In all this is a thoroughbred amplifier which would be a joy to own. It is obviously designed by a man who cares about his customers and understands their requirements: at the same time he respects their pockets. There is nothing ostentatious about the A48 and there are no superfluous facilities — nor any significant omissions. It is good to know that firms such as Mr Sugden's still operate despite the contemporary commercial jungle.

## SPECIFICATION

**Power Output:** 40 Watts RMS into 8 ohms per channel, both channels driven. **Total Harmonic Distortion:** Less than 0.1% at max. power. **Frequency and Power Response:**  $\pm 1$ dB 30Hz to 20kHz. **Output to Tape Recorder:** 200mV from disc input when correctly loaded at average modulation. **Input Sensitivity:** Disc — 2.5mV into 47k.ohm. Aux, Tape, Radio — 100mV into 200k.ohm. **Weighted Signal-to-Noise:** Disc — 70dB. Aux, Radio, Tape — 80dB. **Rumble Filter:** 12dB/octave below 30Hz on disc input. **Bass:**  $\pm 14$ dB at 40Hz. **Treble:**  $\pm 14$ dB at 10kHz. **Filters:** LF 18dB/octave below 70Hz. HF Turnover at 4, 7 or 10kHz: slope 6 or 18dB/octave. **Functions:** Mono, Stereo, Input Right, Input Left. **Power Consumption:** 140 Watts max. **Size:**  $15\frac{1}{2} \times 5 \times 9$  inches. **Weight:** 24lbs. **Manufacturers:** JE Sugden & Co Ltd, Carr Street, Cleckheaton, Yorkshire. **Price:** £99.