

"VARISLOPE STEREO" PRE-AMPLIFIER

by **LEAK** . . . the first name in High Fidelity



*Styled by Lonsdale-Hands for
enhanced appearance in your home.*

*Designed by Harold J. Leak to give
you OPTIMUM MUSICAL RESULTS
from:—*

Records Stereo and Monaural
Tape Stereo and Monaural
Radio Stereo and Monaural
Microphone . . . Stereo and Monaural

This pre-amplifier is the stereo version of the Varislope III monaural pre-amplifier which gained acceptance by professional communications engineers* and music-lovers throughout the world : it incorporates facilities which make it the most comprehensive pre-amplifier presently available.

FUNCTION

When used with any combination of two Leak monaural power amplifiers or with a 'Stereo 20' or 'Stereo 50' power amplifier this pre-amplifier reproduces stereophonically and monaurally from records, tape, radio and microphone, using any pickup, any tape head, any tuner and any microphone available in the world. This comprehensiveness gives two important advantages. First, you can use the finest pickups and microphones available in the world : this is not the case with cheaper low-gain pre-amplifiers. Second, when reproducing from tape you can do so directly from the tape head, thus saving the cost of amplifiers built into the tape mechanism. Note that the high sensitivity allows for the playback of the new quarter track tapes.

APPEARANCE

The 'Varislope Stereo' is styled by the world-famous designers, Richard Lonsdale-Hands Associates. The appearance is of restrained richness and dignity—"jewel-like" is the description by one user—whether the unit is used free-standing or whether it is cabinet mounted. The front panel will blend with any wood. These were major styling necessities.

The transparent front panel is engraved on the rear face in deep maroon, cream and gold, and the case is finished in light bronze. In appearance it matches the Leak "Trough-Line II" F.M. Tuner.

EASE OF OPERATION

A skilled electronic engineer has no advantage whatsoever over the layman in getting the best from the 'Varislope Stereo'. Though comprehensive and flexible, it was created by the world's best-known amplifier designer specifically for the use and enjoyment of the music-lover at home, for his wife and for his children. Simple-to-follow operating instructions are enclosed with the pre-amplifier, and five minutes practice will give you easy mastery.

CIRCUITRY

The two identical circuits are designated "L" (for the left-hand input signal) and "R" (for the right-hand input signal). Each circuit consists of a low-noise, low-distortion 2-stage feedback tone control pre-amplifier. The first stage is used to give record and tape compensation by the use of frequency selective negative feedback. The second stage embodies feedback tone control circuits which give continuously variable control of both bass and treble frequencies, and additionally, the famous LEAK "Varislope" filter circuitry.

All controls are of the single knob, dual-ganged, close-tolerance type, which give much greater ease of handling than the cheaper twin knob, dual-concentric, unganged type.

The pre-amplifier automatically draws its heater and anode supplies when plugged into a Leak power amplifier.



THE "SOUTHDOWN" CABINET

The 'Southdown' cabinet designed by Messrs. G.K.D. Ltd., provides an attractive housing for your high fidelity equipment. It is easy to fit Leak units as the correct cut-outs are provided.

All knobs are concealed from view yet are easily accessible when needed due to a unique spring-loaded drawer which hinges forward as required. It has been designed to match — and harmonise with — the Leak Sandwich speaker. Available in a choice of Sapele Mahogany or Dark Australian Walnut finish. The legs are fitted with height adjusters.

Price 27 gns.

* Leak amplifiers are the choice of professional engineers such as the B.B.C. (over 500 delivered), the South African Broadcasting Corporation (600), ITV and many other Commonwealth and overseas broadcasting and TV systems, who use them for transmitting and/or monitoring (quality checking) the broadcasts to which you listen. Also, many of the gramophone records you buy are cut via LEAK amplifiers.

SPECIFICATION, FACILITIES and PERFORMANCE

The sensitivities shown below give full output from Leak power amplifiers, 'Stereo 20' or 'Stereo 50', with a signal of 1,000 c/s, with tone controls at "FLAT" and the volume control at maximum.

VALVES (Tubes) :

4—EF86 or Z729 or 6267 (International standard types of world-wide availability).

PICKUP SELECTOR

A 2-way switch on the front panel allows the choice of :-

"Pickup 1"

Sensitivity 3.5mV at 50k ohm or 35mV at 100k ohm selected by use of the switched input attenuator which is fitted on the rear panel.

"Pickup 2"

Sensitivity 3.5mV at 50k ohm or 350mV at 100k ohm selected by use of the switched input attenuator which is fitted on the rear panel.

This selector when used in conjunction with the Function Switch permits the use of one of the following combinations :-

- (1) Any two stereo pickups
- (2) Any stereo pickup and any two monaural pickups
- (3) Any four monaural pickups.

INPUT SELECTOR

An eight position switch allows the choice of inputs from :

PICKUP, monaural and stereo

There are four playback characteristics, covering all records ever made :-

- (a) RIAA. The world standard for LP records since early 1955.
- (b) NARTB. For pre-1955 LP's and U.S.A. 78's.
- (c) 78OE (Old European). For pre-1955 78's.
- (d) 78NE (New European). Since 1955, world standard for Coarse-groove (78 records). This position also suits U.S.A. Columbia LP's prior to 1955.

TUNER, monaural and stereo :

Sensitivity, 50mV at 70k ohm or 300 mV at 150k ohm selected by use of the switched input attenuator which is fitted on the rear panel.

Characteristic, flat.

TAPE HEAD, monaural and stereo :

Sensitivity, 3mV r.m.s.

Characteristic, CCIR with treble control at "FLAT", bass control at "+2"; NARTB with treble control at "-2", bass control at "+3". With moderately priced heads, properly aligned, the playback response will be level within plus or minus 1db from 50-10,000 c/s when using EMI 7½ ins./sec. test tape SRT.13. This can usually be extended from 40-12,000 c/s by slight manipulation of the tone controls. The best heads, accurately aligned, will extend the response to 15,000 c/s. Input impedance, 120,000 ohms approx.

MICROPHONES, monaural and stereo :

Sensitivity, 2mV r.m.s.

Characteristic, flat.

Input impedance, 120,000 ohms approx.

EXTRA, monaural and stereo :

Sensitivity, 50mV at 100k ohm or 1.2V at 500k ohm selected by the use of the switched input attenuator which is fitted on the rear panel.

For (1) Any radio tuner,

(2) TV sound, or

(3) The output from equalised tape reproducers or the like.

Characteristic, flat.

FUNCTION CONTROL

A five position switch allows the choice of :-

- (1) Stereo.
- (2) Stereo reverse (i.e. one can change the left-hand side of the orchestra over to the right, and vice versa).
- (3) Monaural PU (this converts a stereo pickup so that it may play monaural LP records).
- (4) R (monaural, connects both channels to the "Right" input device).
- (5) L (monaural, connects both channels to the "Left" input device).

BASS CONTROL

Single knob, dual-ganged, close-tolerance, operative on both channels simultaneously. Continuously variable, plus or minus 14 db at 50 c/s.

TREBLE CONTROL

Single knob, dual-ganged, close-tolerance, operative on both channels simultaneously. Continuously variable, plus or minus 14 db at 20,000 c/s.

FILTER and SLOPE CONTROLS

The "FILTER" knob can be used to give very comprehensive control of the treble frequencies. When the control is turned to "9" a filter is switched into circuit, the turnover frequency being 9 kc/s (i.e. the frequency at which the response falls 3 db). Other turnover frequencies of 6 kc/s and 4 kc/s are also obtainable. The "SLOPE" control varies the rate of attenuation above the turnover frequency between 5 db per octave (fully clockwise) to 25 db per octave (fully anti-clockwise).

The "TREBLE" control is also operative at the same time, and it can be seen that all these three controls give increasing high-frequency attenuation as they are turned anti-clockwise. These controls are very useful when reproducing music in which there is high distortion at high frequencies, making it possible to remove much of the offensiveness whilst losing a minimum of the musical content.

The "SLOPE" control is inoperative when the "FILTER" is at "OFF".

VOLUME CONTROL WITH ON/OFF SWITCH

Single knob, dual-ganged, close-tolerance, operative on both channels simultaneously. The switch controls the power supply to the remotely placed Leak power amplifier.

BALANCE CONTROL

Single knob, dual-ganged, close-tolerance. Any degree of balance may be obtained, as either channel can be faded to zero output without affecting the other.

RUMBLE FILTER SWITCH

Turnover, 70 c/s; for use with the cheaper type of turntable.

PANEL LIGHT

This is fitted as a visual reminder that the power supply is on when the lamp is alight.

FACILITIES ON THE REAR PANEL

- (1) Outlets for Tape Recording: Situated on the rear, allowing for stereo or monaural recording from records, tape, radio, microphone and whatever device is connected to the "EXTRA" input.
- (2) Standard international type co-axial plugs and sockets are provided for all input connections.
- (3) Switches are provided for the adjustment of the level of the input signals from "PICKUP 1", "PICKUP 2", "TUNER", and "EXTRA".
- (4) An octal male socket, marked "FROM AMPLIFIER" accepts the female plug termination of the 4 ft. cable which is supplied for connecting the pre-amplifier to the Leak power amplifier.
- (5) A 2-pin socket marked "SWITCH" accepts the plug and cable which connects to the Leak power amplifier to control its A.C. supply.
- (6) A special U-shaped bracket and wing-nut are provided for rapid and easy fixing of the "Varislope Stereo" in a cabinet.

TOTAL HARMONIC DISTORTION

Less than 0.01% for 125mV output (which will load any Leak power amplifier).

Less than 0.1% for 1.25V output (ten times the requirement for feeding a Leak power amplifier).

HUM AND NOISE

When plugged into a Leak power amplifier approximately 60 db below full power output on "TUNER" and "EXTRA" positions, and approximately 52 db below on other inputs, with tone controls at "FLAT" and volume at "MAX".

CROSS TALK

Between L & R channels, approx. -50 db up to 1,000 c/s and approx. -30 db at 10,000 c/s.

DIMENSIONS

Front panel, $11\frac{1}{2}'' \times 4\frac{1}{8}''$ (29.2 x 11.2 cms.).

Chassis, $10\frac{1}{2}'' \times 3\frac{1}{2}'' \times 6\frac{1}{2}''$ deep (26.6 x 9.5 x 16.5 cms.).

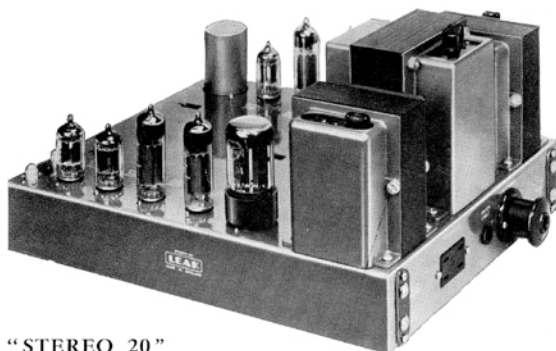
This unit may be used free-standing (as on a table or book-case), or it may be cabinet mounted on a panel of any thickness through a cut-out of $10\frac{1}{2}'' \times 3\frac{1}{2}''$ (27 x 9.85 cms.).

WEIGHT: 6 lbs. (2.7 kgs.).

PRICE: £25 · 0 · 0

INSTALLATION, OPERATION and MAINTENANCE

Each amplifier is accompanied by detailed instructions and circuit drawings. Installation and operation are simple, as explained in the text.



"STEREO 20"
POWER AMPLIFIER

Price 29 gns.

We shall be pleased to send you details of the "Stereo 20" and other LEAK products



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(ESTABLISHED 1934)

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