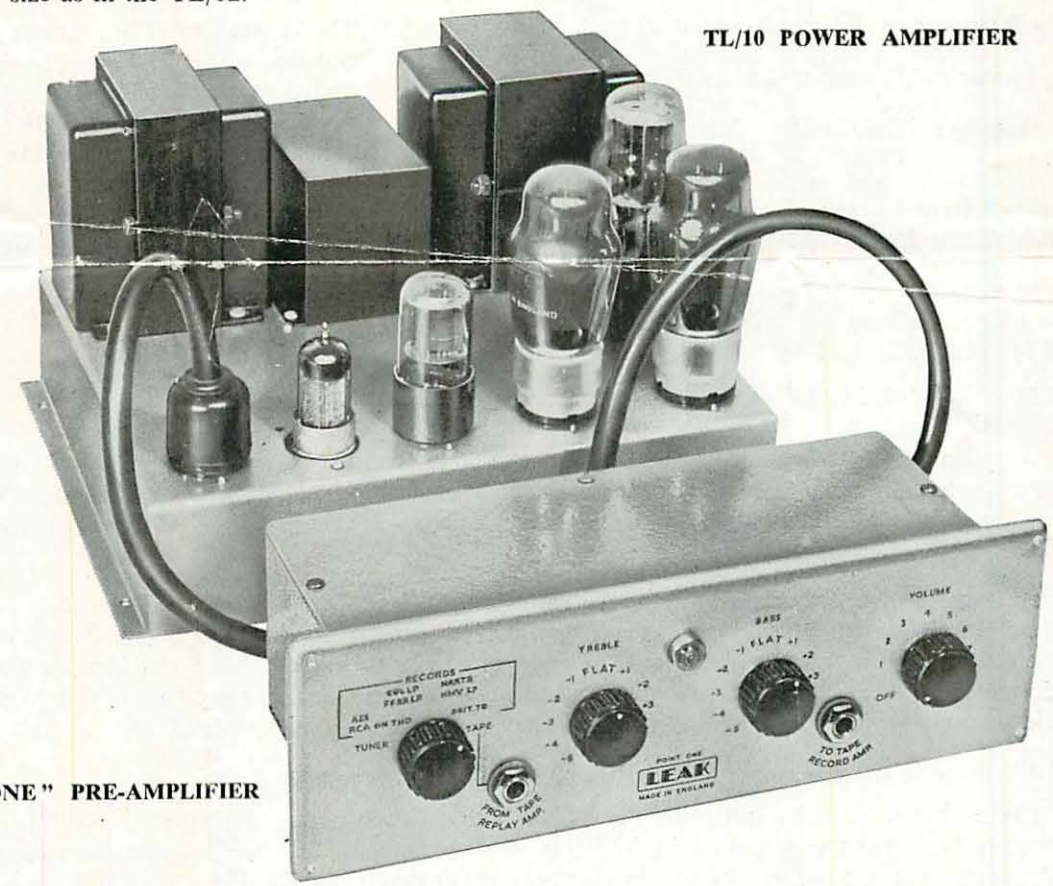
CRAFTSMANSHIP

"I can most certainly say at this stage that the workmanship and finish are of a quality which I have never before encountered in the radio industry, despite the fact that my association with the industry in one capacity or another extends back over 27 years. I think you are to be congratulated all the more on this achievement in view of the increasing tendency nowadays towards inferior workmanship and design."

Part of a letter from a purchaser of the TL/12 amplifier who is a very well-known engineer and whose identity is known to the Editor of "Wireless World."

The TL/10 amplifier maintains, in every respect, the world renowned Leak reputation for precision engineering, fine appearance and fastidious wiring. The triple loop feedback circuit employed is based on the famous TL/12 and the output transformer is the same size as in the TL/12.

TL/10 POWER AMPLIFIER



"POINT ONE" PRE-AMPLIFIER

"POINT ONE" is the Trade Mark of H. J. Leak & Co., Ltd. It was originally applied to the first power amplifiers having a total distortion as low as point one of one per cent., when, in June, 1945, H. J. Leak, M.BRIT.I.R.E., revolutionised the performance standards for audio amplifiers by designing the original "POINT ONE" series.

SPECIFICATION TL/10 AMPLIFIER

CIRCUITRY :

A Leak 3-stage triple loop feedback circuit, the main loop applying 26 db of negative voltage feedback over the complete amplifier from input to output terminals.

The output stage uses two high slope tetrode valves, the screens being fed from two tappings on the output transformer primary.

Power Output : Maximum power output, 10 watts.

Harmonic Distortion : Approximately 0.1% for 7.5 watts output at 1,000 c/s.

Hum and Noise : – 80 db referred to 10 watts, ±4 db.

Sensitivity : An input of 125mV at 1,000 c/s gives 10 watts output.

Input Impedance : 1 megohm, plus approximately 5 mmfd.

Frequency Response : ±1 db, 30 c/s to 20 kc/s.

Damping Factor : 25, measured at 1,000 c/s.

Stability Margins : Gain, 10db ±3db.
Phase, 20° ±10°.

Loudspeaker Impedances : Three tappings are available, and loudspeakers of any impedance between 3 ohms and 20 ohms may be used.

Valves : 1-EF86* (Z729), 1-6SN7* (ECC33 or B65); 2-KT61* (6AG6G), 1-5Z4*.

*Preferred type, supplied with amplifier.

Power Supply : 200-250V 50-100 c/s.
or (alternative model)
117V 50-100 c/s.

Consumption : 70 watts (75 watts with "Point One" pre-amplifier).

Spare Supplies : When the "Point One" pre-amplifier is also used, the following supplies are available for a tuner unit.

Heater : 6.3V., 1.5A A.C.

H.T. : 330V., 20mA D.C. (2V r.m.s. ripple).

The centre tap of the heater winding and the negative of the H.T. supply are internally connected to the chassis of the amplifier.

A socket marked "MOTOR" is fitted on the chassis as a convenient source of power supply for a gramophone motor.

Dimensions : $10\frac{7}{8}$" × $8\frac{1}{2}$" × 6" high (27.7 × 21.5 × 15.25 cms.).

Weight : 14.5 lbs. (6.58 kgs.).

Price : £17 17 0d.

The TL/10 amplifier when used with the best available complementary equipment gives to the music-lover a quality of reproduction unsurpassed by *any* equipment at *any* price. Even when the complementary equipment falls below that of the best obtainable, the use of our amplifiers will enable you to obtain very marked improvements in reproduction.

It is appropriate here to mention one of the basic principles of LEAK design. From long experience and by extreme attention to design details during development work on the pre-production models, we enable our labour force to achieve a high output per man-hour. The labour costs thus saved offset the increased costs incurred for high-grade materials, components and finishes, and this together with quantity production (made possible only by a world-wide market) explains how quality products may be sold at reasonable prices.

The difference in price between the TL/10 and the TL/12 is accounted for by :—

(1) The saving effected by designing the TL/10 with a lower output than that of the TL/12. It should be pointed out that the output of the TL/10 is ample for high quality home music systems and that the quality of reproduction obtained is equal in every respect to that of the TL/12.

(2) The saving effected by the TL/10 being built for use only in temperate climates. The TL/12 is suitable for tropical use.

(3) The saving effected by our being enabled to manufacture in much larger quantities because of the increased demand. The TL/10 amplifier and "Point One" pre-amplifier received such an excellent reception when they were first exhibited at the Audio Fair in New York in October, 1953 that we received an initial order for one thousand sets.

SPECIFICATION: "POINT ONE" PRE-AMPLIFIER

CIRCUITRY :

A low noise, low distortion two-stage feedback tone control pre-amplifier. The first stage is used to give record compensation by the use of frequency selective negative feedback. The second stage uses feedback tone control circuits which give continuously variable control of both bass and treble frequencies. The sensitivities given below relate to 10 watts output at 1,000 c/s with the tone controls level and the pre-amplifier plugged into the TL/10 power amplifier which supplies the heater and H.T. voltages.

Valves : 2-EF86* (Z729).

*Preferred type, supplied with amplifier.

Input Selector : A six position switch allows the choice of inputs from :—

TUNER.
Response, level.
Sensitivity, 80mV r.m.s. Input resistance varies from 100,000 ohms—250,000 ohms dependent on the position of the pre-set level control.

RECORDS.
Sensitivity, 14mV. Input resistance varies from 50,000 ohms—100,000 ohms dependent on the position of the pre-set level control.
There are four separate characteristics available, these being :—

(a) AES & RCA ORTHO. [Audio Engineering Society and RCA New Orthophonic].

(b) COL. LP & FFRR LP. [Columbia (U.S.A.) LP and Decca (London) FFRR LP].

(c) NARTB & H.M.V. LP. [National Association of Radio & Television Broadcasters and H.M.V. (Angel) LP].

(d) BRITISH 78.

TAPE.
Response, level. Sensitivity, 80mV r.m.s.
Input resistance, 100,000 ohms.

Treble Control : Continuously variable control of treble from +9 db to −15 db at 10 kc/s.

Bass Control : Continuously variable control of bass from +12 db to −13 db at 40 c/s.

Volume Control and Switch : The switch controls the power supply to the TL/10 (or TL/12) power amplifier.

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

"From Tape Replay Amp" : This input jack accepts signals from a tape replay amplifier (of any output impedance up to 50,000 ohms) embodying playback equalisation.

"To Tape Record Amp" : This jack is connected across the output of the pre-amplifier and permits the user to record on to tape from radio or records when using a recorder embodying a low level recording amplifier.

The following components are mounted on the rear of the pre-amplifier chassis :—

(1) Co-axial plugs and sockets are provided for tuner and pick-up connections.

(2) Separate continuously variable pre-set controls are provided for the adjustment of the level of the input signals from tuner and pickups.

(3) A terminal strip, marked "Optional load resistor" is provided to which a load resistor may be fitted for the correct matching of various types of pickups.

(4) An octal socket, marked "Tuner," is provided from which H.T. and L.T. supplies may be drawn for a tuner unit.

(5) An octal male socket, marked "From amplifier," accepts the female plug termination of the 3 ft. cable which is supplied for connecting the pre-amplifier to the TL/10 (or TL/12) power amplifier.

Dimensions : Front panel, $10\frac{3}{4}'' \times 3\frac{1}{2}''$ (27.3 × 8.9 cms.).
Chassis, $9\frac{3}{8}'' \times 2\frac{3}{4}'' \times 3\frac{3}{4}''$ deep (23.8 × 7 × 9.6 cms.).
This unit will mount on a motor-board or other panel of any thickness, through a cut-out of $9\frac{5}{16}'' \times 3\frac{1}{32}''$ (24.3 cms. × 7.7 cms.).
Five wood-screws (one spare) are supplied for fixing the pre-amplifier to a cabinet.

Weight : 3.4 lbs. (1.54 kgs.).

Finish : The front panel is finished in gold with black lettering and black knobs. The front panel presents a handsome appearance and blends with all woods.

Price : £10 10 0d.

Note : Any Leak pre-amplifier may be used with any Leak power amplifier.

SERVICE SHEETS.

Each amplifier is accompanied by detailed circuit drawings showing values of components and voltage readings. Physical lay-out drawings are also supplied.

THE LEAK DYNAMIC PICKUP

This new pickup will be available in June, 1954. We think that it may well earn recognition as the best pickup in the world.

SPECIFICATION

THE ARM.

This is of advanced design having very low inertia. Friction is kept to a minimum by using a single pivot bearing. The arm is counter-weighted and has provision for plug-in interchangeable heads. An arm rest is provided.

GENERATING SYSTEM.

Dynamic (moving-coil). Coil impedance approximately 6 ohms, 1,000 c/s.

STYLUS.

Material : Diamond only.
Stylus sizes : 0.001″ radius + nothing −0.0001″.
0.0025″ radius ±0.0001″.

PLAYING WEIGHTS.

Between 2 and 3 grammes for L.P.
Between 5 and 6 grammes for 78.
Automatically adjusted by the weight of the head.

FREQUENCY RESPONSE.

Total variation ± 1 db 20,000 c/s to 40 c/s with the L.P. head, including transformer.

Low frequency resonance :
20 c/s ±5 c/s, with our very lightweight arm.

High frequency resonance :
0.001″ radius on Vynil, 21,000 c/s ± 2,000 c/s.
0.0025″ radius on shellac, above 27,000 c/s.

No grease or rubber is used, and the frequency response is independent of temperature.

RECORD AND STYLUS WEAR.

These are lower than on any pickup of which we have cognisance.

OUTPUT.

The shielded step-up transformer delivers an output of 11mV for each cm/sec. r.m.s. recorded velocity. This means that an amplifier with a sensitivity of 40mV at 1,000 c/s will be easily loaded by the pickup from commercial records.

DIMENSIONS.

From the centre of the fixing stem to the front of the pickup head, 9¼″. From the centre of the fixing stem to the rear of the arm, 2″. The height of the pickup is adjustable and it can be used with any turntable.

MOUNTING.

The distance from the centre of the fixing hole to the centre of the turntable spindle is 8$\frac{17}{32}$″. The fixing hole is $\frac{5}{8}$″ and the stem contains a miniature socket which accepts the plug leading to the transformer : thus there are no trailing leads to restrict the free movement of the arm. The turntable may be magnetic, in which case a spacer of $\frac{1}{8}$″ should be used.

PRICES.

The arm :
£2 15 0d. plus **19/3d.** Purchase Tax.

L.P. head with diamond stylus :
£5 15 0d. plus **£2 0 3d.** Purchase Tax.

78 head with diamond stylus :
£5 15 0d. plus **£2 0 3d.** Purchase Tax.

Mumetal-cased transformer :
£1 15 0d.

The motor-board has been cut away to show the simplicity of mounting.

HIGH FIDELITY
HOME MUSIC SYSTEMS

H. J. LEAK & CO., LTD.

BRUNEL ROAD • WESTWAY FACTORY ESTATE • LONDON, W.3

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