



Perfection

IN RECORD REPRODUCTION

GRAND PAPER

Perfection

IN RECORD REPRODUCTION

No component of the high fidelity system has been in such acute need of major improvement as the phonograph pickup. To this tiny apparatus is entrusted the vital duty of accurately translating the complex, microscopic pattern of the record groove into the corresponding electrical signal, which is fed to the amplifier and speaker. Should the pickup performance be anything less than perfect, the resulting sound must suffer, no matter how excellent the other components.

The sensational new ESL electrodynamic cartridge, with its patented D'Arsonval movement, provides listening at its best. The Audio League, America's authoritative consumer research organization devoted exclusively to high fidelity equipment, tested virtually every American and imported pickup before acclaiming ESL as "by far the finest phonograph reproducing instrument we have heard..." The ESL Professional and Concert series were unquestionably the smoothest, cleanest sounding cartridges tested... For sheer naturalness and undistorted ease, ESL has no peer... In A-B comparisons with its closest competitors, even persons who had never previously been exposed to high fidelity reproduction were struck by the superior definition of the ESL."*

No matter how respected nor how recent your pickup may be, you're missing plenty if you don't have the ESL—the world's most advanced phonograph cartridge.

For the music lover

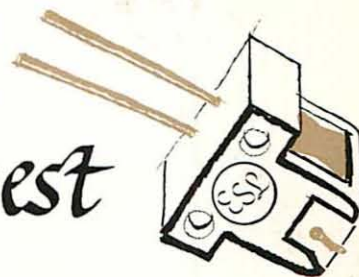
1. **Record preservation**—Record and stylus life is greatly extended by the ESL cartridge, which in this way saves the purchaser many times its own cost.
2. **Clarity**—Complex orchestral or choral passages are reproduced in superb detail when played with the ESL. Individual instruments can easily be followed as never before, and notes and parts not previously heard are revealed by the ESL.
3. **Strings**—Violins and other string instruments are reproduced for the first time in their characteristic silken sheen.
4. **Voices**—All the subtle characteristics of individual singers can be distinguished instantly by means of the ESL, which reproduces voices with astonishing naturalness.
5. **Piano**—Keyboard music regains its true grandeur and lyricism with the ESL.
6. **Percussions**—All percussion instruments, from highest triangle to lowest drum, are brought to life by the ESL with startling presence.
7. **Organ**—The full tonal range of the king of instruments is heard with the ESL in all its richness and brilliance.
8. **Other instruments**—The vivid hue of brasses, dark nasality of the oboe, reedy hollowness of the clarinet, and the characteristic timbre of other instruments are faithfully conveyed by the ESL.
9. **Listening fatigue**—The tiresomeness of extensive record listening is eliminated by the ESL, when used with associated components of similarly high quality. Hours of music reproduction become a refreshing treat.
10. **Hiss**—Record surface noise is reduced phenomenally by the ESL.
11. **Ruggedness**—All ESL cartridges are lightweight and rugged. They may be safely and easily handled.
12. **Styli**—The precision jewelled styli are optically ground. The unique ESL design protects the stylus from damage by dropping.
13. **Mounting**—The ESL Soloist and Concert series may be quickly and easily inserted in any changer or arm with standard mounting dimensions. The Professional Series must be used with its own arm. Professional Series cartridges of different stylus radii are instantly interchangeable.

For the technically minded

14. **Compliance**—Highest lateral compliance assures good tracking for maximum stylus excursion at the lowest frequencies, even though vertical stylus force is at a minimum. See performance data on last page.
15. **Dynamic mass**—Extremely low effective stylus mass results in superb high frequency response at minimum vertical stylus force. High compliance and low dynamic mass combine to reduce surface noise and to increase stylus and record life.
16. **Frequency range**—ESL frequency response greatly exceeds the range of human hearing.
17. **Highs**—Treble response extends well beyond audibility, without stridency or screeching.
18. **Lows**—Because of the very high compliance of the ESL vibratory system, bass response in a properly designed arm is virtually flat to the lowest audible notes. Low frequencies are dramatically clean, with no frequency doubling to muddy the bass.
19. **Non-resonant**—No resonances of any kind (inherent, groove compliance, nor between cable capacity and cartridge inductance) exist within the audio range.
20. **Distortion**—Intermodulation distortion is less than one-half of one percent with the Soloist Series. The distortion of the Concert and Professional Series is so small as to be beneath measurability with the finest test apparatus.
21. **Transient response**—Extraordinarily fine dynamic range and transient response is obtained with all ESL cartridges.
22. **Hum**—The design of the ESL cartridge reduces hum pickup to negligible values.
23. **Needle talk**—Needle talk is negligible with the Soloist Series. The Audio League reports it to be virtually inaudible with the Concert Series, and nonexistent with the Professional Series.
24. **Rumble**—ESL's D'Arsonval movement does not respond to vertical motion of the stylus, thus strikingly diminishing noise, rumble, and distortion associated with vertical motion of the stylus.
25. **Tracking**—The tracking ability of the ESL is unexcelled in normal use.
26. **Pull-free**—Because of the magnetic field leakage of the ESL design is at right angles to the surface of the turntable, magnetic attraction to a steel turntable is minimized, and vertical stylus force is little affected.
27. **Trouble-free**—The ESL is unaffected by temperature and humidity. Excellent performance is always maintained.
28. **Low impedance**—The low impedance (1.5 ohms) remains substantially constant throughout the entire frequency range.
29. **Cable**—Many feet of shielded cable may be used between the ESL and the preamplifier without loss of highs nor danger of hum pickup.
30. **Loading**—The extraordinarily low impedance of the ESL permits its direct connection to any input resistor present in a preamplifier, with no effect upon output level or frequency response. When used with an ESL transformer, it is recommended that the input resistor approach the impedance of the transformer.
31. **Inherently linear**—ESL's D'Arsonval movement provides a brilliant theoretical and practical approach to perfect linearity of performance.
32. **Quality control**—All ESL products are individually tested before shipment.
33. **Patented**—Fully protected under U. S. Patent 2591996, European patents, and pending patent applications.

If you wish to receive free ESL Technical Bulletins as they are released, please send your request to ESL's Technical Information Service

For listening at its best





Musicians, engineers, and music lovers are replacing their old-fashioned phonograph pickups with the sensational new ESL electrodynamic cartridge—because only ESL reproduces the full realism and naturalness of the original sound.

ESL PROFESSIONAL SERIES ARM & CARTRIDGE · Acknowledged as the world's finest



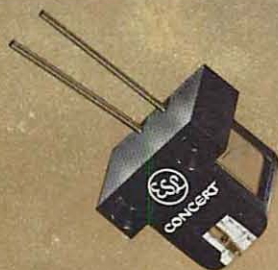
Breathtaking perfection of reproduction for the most critical broadcast, recording, and laboratory use is now made possible by this superlative reproducer. Utilizing the same principles as the other ESL cartridges, the Professional Series is the ultimate in compromise-free design, plus matchless Danish hand craftsmanship. This arm and cartridge must be used together.

ESL-310 arm (15 3/4") with diamond cartridge \$106.50
Additional cartridges, any stylus radius \$49.50

FREQUENCY RESPONSE
INTERMODULATION DISTORTION
MINIMUM COMPLIANCE
DYNAMIC MASS
VERTICAL STYLUS FORCE
OUTPUT IMPEDANCE
MINIMUM OUTPUT VOLTAGE

1.6 to beyond 30,000 cps
Immeasurably small
6.8 x 10⁻⁶ cm/dyne
.001 grams
2 to 7 grams
1.5 ohms
1.2 mv (1 kc at 10 cm/sec)

ESL CONCERT SERIES CARTRIDGE · For the audio connoisseur

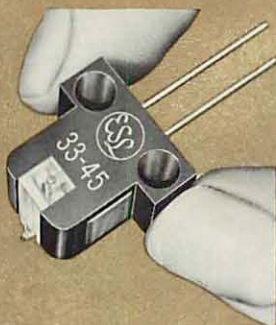


The most advanced electronic technology and mechanical skills have created in the ESL Concert Series cartridge a magnificent instrument for the reproduction of sound. This superb cartridge, which is used for quality control by leading record manufacturers, can improve the finest music reproducing systems. It will fit any standard mounting arrangement.

Diamond: ESL-C1 (.001") or ESL-C3 (.003") \$35.95

1.6 to beyond 30,000 cps
Immeasurably small
6.8 x 10⁻⁶ cm/dyne
.001 grams
3 to 7 grams
1.5 ohms
0.8 mv (1 kc at 10 cm/sec)

ESL SOLOIST SERIES CARTRIDGE · For high quality installations



This newest member of the ESL family is revolutionizing home music reproduction with its brilliant performance, its rugged suitability for any arm or record changer, and its extraordinary compliance which prolongs record and stylus life. Like all ESL cartridges, the Soloist Series has the patented D'Arsonval movement which insures clean, faithful reproduction. Record and stylus life is greatly increased.

Diamond: ESL-SD1 (.001") or ESL-SD3 (.003") \$29.95
Sapphire: ESL-SS1 (.001") or ESL-S3 (.003") \$14.95

20 to beyond 25,000 cps
Less than 0.5%
5 x 10⁻⁶ cm/dyne
.002 grams
3 to 10 grams
1.5 ohms
1.2 mv (1 kc at 10 cm/sec)

ESL MATCHING TRANSFORMERS · For flexibility of application



ESL-201F

A high quality ESL step-up transformer is recommended for use with each ESL cartridge; the 201 Series for preamplifiers having low level inputs, and the 211 with insensitive amplifiers.

ESL-201 7.5 mv output at 50 ohms, or 15 mv at 200 ohms \$7.50
ESL-201M An ESL-201 mounted; wired for 200 ohm output and instant plug-in connection \$11
ESL-201F Same as 201M, plus supersonic filter and switch \$15
ESL-211 .2 volts output at 90,000 ohms \$6.25

**ELECTRO-SONIC
LABORATORIES, INC.**

35-54 36th Street
Long Island City 6, N.Y.

For listening at its best

PRINTED IN U.S.A.