



Spectro Acoustics

HANDBOOK OF INSTRUCTIONS

THE SPECTRO ACOUSTICS MODEL
P-101 PRE-AMPLIFIER/EQUALIZER

The Spectro Acoustics P-101 has been designed and constructed to offer the true audiophile uncompromised performance and versatility at the lowest possible price. Its performance, both on the test bench and in the sound room, is comparable, if not superior, to any product available today at any cost.

The P-101 is the only totally monolithic preamplifier/equalizer available. The audio signal is internally processed by three dual channel integrated circuits, which have been specially designed for this application to insure the lowest possible noise and distortion. These integrated circuits contain a total of 165 transistors and 15 diodes.

To complement the operation of this integrated circuit signal path, nine specially selected silicon devices are employed, including two fets, six diodes and one light emitting diode.

Although we recommend using the P-101 in conjunction with a Spectro Acoustics power amplifier for optimum performance, we have taken care to insure that the P-101 is compatible with all commercially available power amplifiers, tuners, tape decks, receivers, speakers and magnetic cartridges.

Not only is the P-101 compatible with existing systems, but its studio quality graphic equalizer will allow the user to compensate for deficiencies in room acoustics and various equipment shortcomings.

The equalizer circuit is a state of the art version of the standard L-C symmetrical boost and cut arrangement which, besides being totally reliable and repeatable, is properly designed with 6 dB/octave slopes for minimum phase distortion and ringing. A recording studio analysis has shown that the P-101 equalizer has no detectable degradation of sound color due to phase distortion whereas a similar unit which boasts 12 dB/octave filters produced definite and audible phase distortion.

Dips and peaks in the listening system and acoustic environment can be gently smoothed to a response which is more realistic, or to the listener's taste, therefore, without adding any audible distortion or phase shift.

Standard features include pushbutton selection of any of four inputs, phone, aux, tuner and tape. Also featured is pushbutton mode selection for mono - stereo and tape monitor systems. Volume and balance controls are of the linear slide type, as well as the five graphic tone controls. These special control elements provide smooth, silent operation with guaranteed tracking between left and right channels.

Special care was taken in the design of the P-101 to eliminate all of the normal clicks and pops found during input and function switching in most other preamplifiers. Switching from one input to another or between mono and stereo or tape monitor and source is totally silent and smooth in the P-101.

The P-101 has eliminated on-off transients at its source with an original and exclusive circuit employing field effect transistors in a feedback shunting arrangement. Turn on thump is nearly inaudible, even with a super power amplifier with all volume controls wide open. Turn off thump simply does not exist.

A headphone jack, located on the front panel, will supply a drive signal capable of driving all but electrostatic headphones to moderate levels for monitor use and low level listening. We recommend that electrostatic or low impedance headphones be driven by a suitable power amplifier.

We are confident that as a user of the Spectro Acoustics P-101 you will find its performance and reliability, down to the smallest detail, absolutely unsurpassed by any product you have used, at any price.

AFTER UNPACKING

It will be advantageous to save all the packing materials. They have been designed to protect your investment should it ever become necessary to transport or ship the unit.

Please inspect the P-101 carefully for any signs of damage incurred in transit. It has undergone a very strict quality control inspection and performance tests prior to packing; thus it left the factory in perfect operating condition. If damage is discovered, notify the transportation company or the dealer immediately. Only the consignee may institute a claim with the carrier for damage during shipment, however, Spectro Acoustics, will cooperate fully in such an event. Save the carton as evidence of damage for their inspection.

INSTALLATION

1. SET THE FRONT PANEL CONTROLS

- A) Power Switch Off (Out)
- B) Volume Down 100%
- C) Balance and Graphics - Mid Position
- D) Mono/Stereo SW - Stereo (In)
- E) Monitor/Source SW - Source (In)
- F) Input Selector - Phono (In)

2. CONNECT TO REAR PANEL - SHIELDED CABLES

- A) Phono Cables to Phono Inputs
- B) Phono Ground to Chassis Ground Lug
- C) Stereo Tuner to Tuner Inputs
- D) Cassette Deck, Etc. to Aux Inputs
- E) Tape Recorder Outputs to Tape In
- F) Tape Recorder Inputs to Tape Out
- G) Power Amplifier to Main Outputs

3. AC CONNECTIONS

- A) Power Amp to Switched Accessory Outlet (Amplifiers Rated at 400 Watts Output or More - Should be Plugged Into The Unswitched Outlet)
- B) Turntable, Tuner, or Tape Deck to Switched Accessory Outlets
- C) Connect the P-101 Power Cord to a Source of 117 Volts 50/60 Hz

4. FINALLY

- A) Recheck All Previous Connections
- B) Select Your Favorite Record and Cue It Up
- C) Push Power On and Observe Green Pilot Lamp Come On
- D) Slide Volume Control Up Slowly and Equalize To Taste

FEATURES AND OPERATION

INPUT SELECTOR PUSHBUTTONS

Allows the following sources to be properly processed and directed for recording to tape output jacks, to an electronic crossover system, any of the four channel decoders presently available, or directly to a power amplifier.

- PHONO : Low level magnetic phono inputs equalized to fit the standard RIAA curve
- TUNER : High level inputs from an AM or FM stereo tuner
- AUX : High level inputs from tape cassette deck, TV, guitar amps, electric pianos, public address mixers, etc.
- TAPE : High level tape playback

MONITOR/SOURCE PUSHBUTTON

Allows Normal Listening with outputs for tape recording available at tape outputs when in source position (in).

Allows monitoring of tape recorder's output while recording from the selected input source when in monitor position (out).

MONO/STEREO PUSHBUTTON

Combines left and right channels internally for monaural listening while in mono position (out).

Allows full separation between left and right channels for stereo listening or use with a four channel decoder while in stereo position (in).

GRAPHIC EQUALIZER CONTROLS

Allows fifteen decibels of boost or cut over five selected audio frequency ranges for full "tone" control. Each slide control effects both channels identically with mid position corresponding to a flat response.

BALANCE CONTROL

Allows full panning of stereo or mono source image, left to right, to facilitate speaker balance and A/B comparisons.

VOLUME CONTROL

Dual tracking control allows volume changes from zero to full while maintaining balance within 1 dB.

HEADPHONE JACK

Capable of driving all types of headphones except electrostatics to moderate listening levels. Electrostatics, of course, must be driven by a suitable power amplifier. This and all outputs on the P-101 are fully short circuit proof.

SPECIFICATIONS

FREQUENCY RESPONSE: HI LEVEL INPUTS

\pm 0.5 dB 20 Hz to 20 KHz

\pm 3 dB 5 Hz to 50 KHz

FREQUENCY RESPONSE: PHONO INPUTS

Within 0.5 dB of standard RIAA curve

DISTORTION AT 2.5 VRMS OUTPUT:

THD less than 0.05% 20 Hz to 20 KHz
IM less than 0.01% 4 : 1 @ 60 & 700 Hz

MAXIMUM OUTPUT:

10 VRMS into 10 K load

HUM and NOISE: PHONE INPUTS

88dB below full output (PHONO) ASA standard "A" weighting

SENSITIVITY: ALL CONTROLS BOOSTED FULL

HI LEVEL - 60 millivolts for 1VRMS output

PHONO - 1 millivolt for 1VRMS output

ALL CONTROLS FLAT

HI LEVEL - 350 millivolts for 1VRMS output

PHONO - 5 millivolts for 1VRMS output

IMPEDANCES

Phono input 47K OHMS, HI LEVEL inputs 47K OHMS, main output 200 OHMS or less, compatible with all commercially available Hi-Fi equipment.

TONE CONTROLS

Graphic equalizer with \pm 15 dB adjustment over five bands

SEMICONDUCTOR COMPLEMENT

3 I.C.'s containing a total of 165 monolithic transistors and 15 diodes.

SEMICONDUCTOR COMPLEMENT - con't.

2 Discreet F.E.T.'s
4 Power Diodes
2 Zener Diodes
1 L.E.D.

DIMENSIONS:

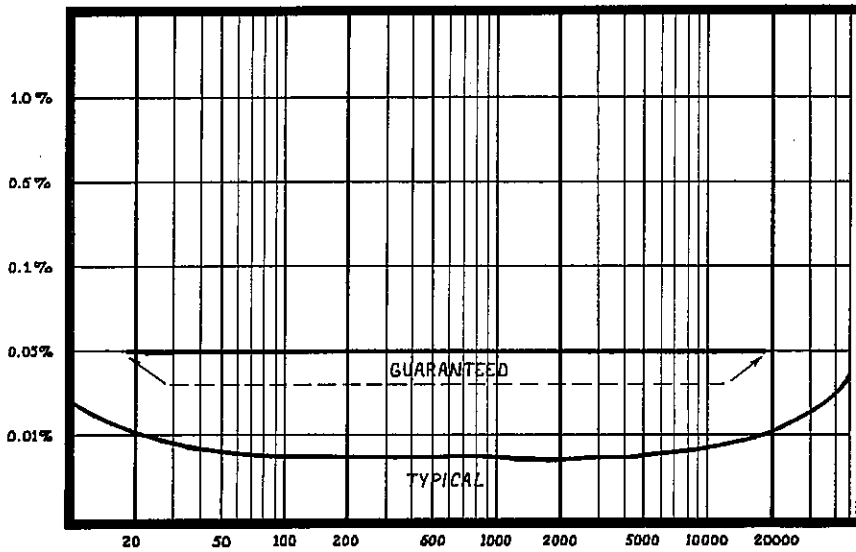
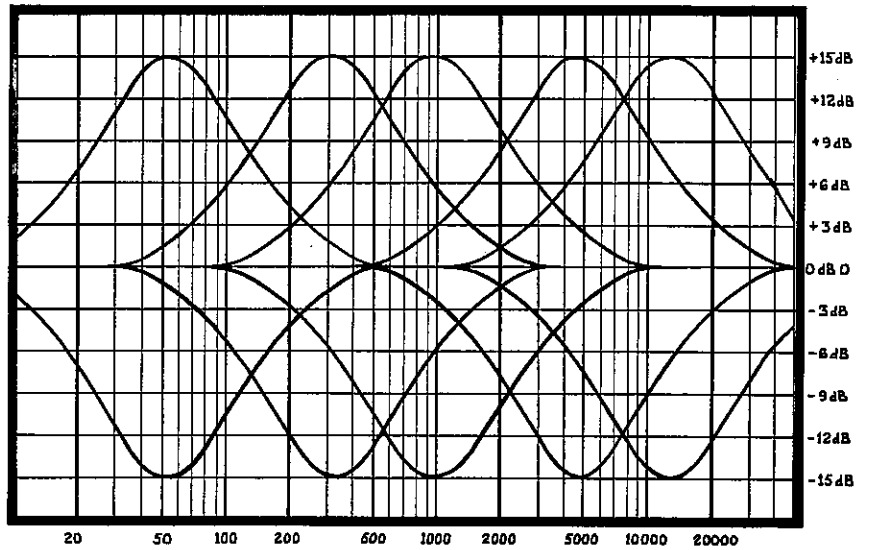
15 x 6 x 8 1/2"
L H D

WEIGHT:

POWER REQUIREMENTS:

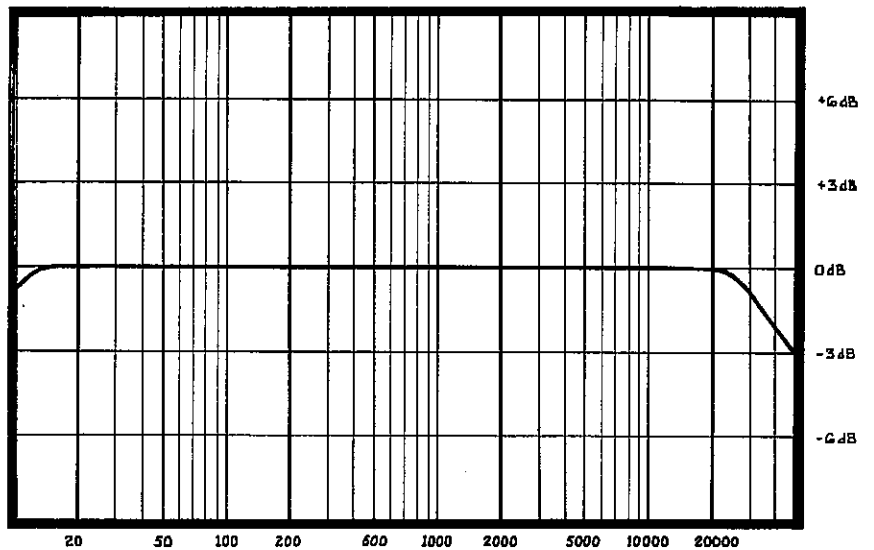
100 to 130 volts, 50/60HzAC, 5 watts

RANGE OF GRAPHIC
EQUALIZER



GRAPH SHOWING TOTAL
HARMONIC DISTORTION.

FREQUENCY RESPONSE
CURVE OF P-101



WARRANTY PROCEDURE

5 YEAR WARRANTY

This warranty is effective only when the warranty-registration card is fully and properly filled and returned to the factory within ten (10) days of delivery.

If the equipment has been damaged in transit, you should report the fact immediately to your dealer. Spectro Acoustics reserves the right to modify or change the equipment, in whole or in part, at any time prior to delivery thereof, in order to include therein electrical or mechanical refinements deemed appropriate by Spectro Acoustics, but without incurring any liability to modify or change any equipment previously delivered, or to supply new equipment in accordance with earlier specifications.

WARRANTY

Spectro Acoustics warrants to the original using purchaser that all new audio equipment shall be free from defects in workmanship and material under normal and proper use and service for a period of five years from date of delivery to original using purchaser and agrees to repair or replace all parts thereof showing such defects, subject to all of the following provisions.

Inspection shall disclose to Spectro Acoustics' satisfaction that the defects are as above specified and that the equipment has not been altered or repaired by other than factory approved procedures, subjected to negligence, misuse or accident, or damaged by excessive current or otherwise, or had its serial number or any part thereof altered, defaced or removed, or has been used contrary to Spectro Acoustics written instructions.

SOLE WARRANTY

This warranty is expressly in lieu of all other warranties, expressed or implied, and all other obligations or liabilities on the part of Spectro Acoustics. No person, including any dealer, agent or representative of Spectro Acoustics, is authorized to assume for Spectro Acoustics any liability on its behalf or in its name except to refer purchases to this warranty. In no event shall Spectro Acoustics be liable for claims, demands or damages of any nature, however, denominated; Spectro Acoustics' sole warranty liability shall be to repair defective items or to supply replacement parts in accordance with the terms of this warranty.

