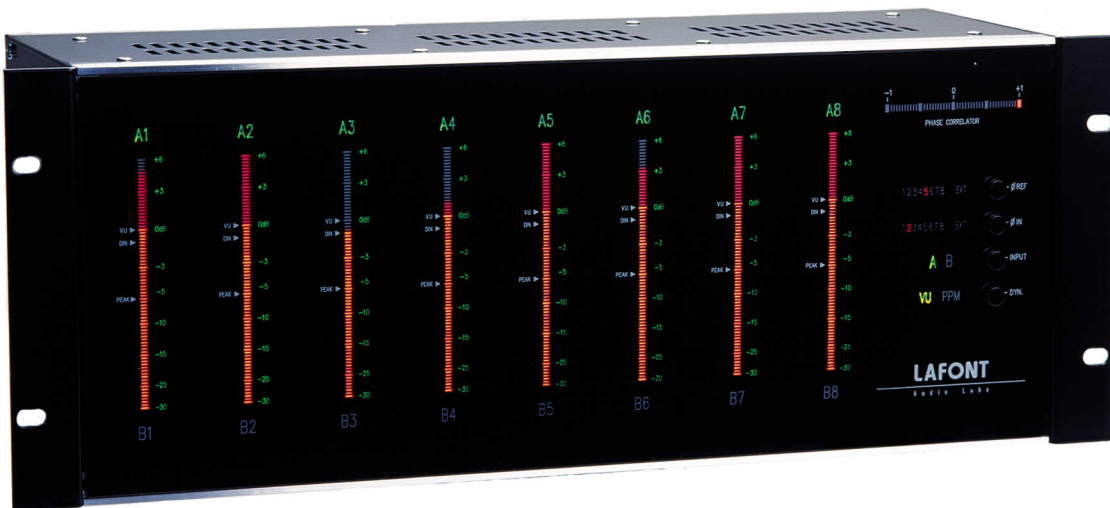


8 channel BARGRAPH LP-25

User's Manual



LAFONT AUDIO LABS

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Section 1. INTRODUCTION and PRECAUTIONS

1.1 Preface

Thank you for using this LAFONT product.

We have prepared this instruction manual to enable you to achieve optimum utility and performance from your new ADR/Foley processor LP-25.

We encourage you to read and make use of the material contained in this manual. Installation and operating of the LP-25 is not complicated but the flexibility provided by its operating features merits familiarization with its connections and controls. We welcome your suggestions and comments on our products and on this manual.

1.2 Unpacking and inspection

Your new LAFONT LP-25 was carefully packed at the factory. Save all the packing material - they will prove valuable should it become necessary to transport or ship this product.

We recommend careful examination of the shipping carton and its contents for any sign of physical damage which may have occurred during transportation.

If damage is evident, notify the transportation company without delay. Only you, the consignee, may institute a claim against the carrier for damage.

If necessary, contact your supplier or, as last a resort, your LAFONT importing agent who will fully co-operate under such circumstances.

Your shipping carton should contain :

The LP-25

The a/c. power cable.

This instruction manual.

1.3 Mounting

Do not install this unit in a location subjected to rain, moisture, dust or mechanical vibrations. If the unit is installed in an equipment rack, console or other area along with high heat producing equipment, adequate ventilation should be provided to assure longest component life. Also, while internal circuits susceptible to hum pickup is sufficiently shielded from moderate electromagnetic fields, avoid mounting the unit immediately above or below large power transformers or any radiating equipment.

1.4 Power connection

Connection is made by means of an IEC standard power socket. Before connecting the unit to the mains power, ensure that the operating voltage is correct for your local supply.

The rear panel voltage label indicates the voltage required for satisfactory operation of the unit. Mains voltage change should be carried out by a qualified service technician only. To change the mains voltage, please refer to Power supply section.

Should the fuse need replacement, it should be replaced only with the same type and value of fuse.

For 115Vac, use 500mA/250V - 5 x 20mm slow blow fuse.

For 230Vac, use 315mA/250V - 5 x 20mm slow blow fuse.

1.5 Safety warning

For safe operation the LP-25 must be connected to a good mechanical ground. This provides a current path for any voltage which might appear on the chassis due to an electrical fault in the network. Without this path the unit could be an electrical shock hazard. In addition a good quality ground on the chassis provides shielding from external fields and minimizes radiation of internal fields to the outside world.

This unit is fitted with 3-pin power socket. The earth lead should not be disconnected. Do not use a ground-lifting adapter and never cut the ground pin on a three-prong plug.

There are some instances where a hum or buzz will be introduced due to a phenomenon known as a ground loop. This results when there is a significant potential between the audio ground of the previous piece of equipment and the mechanical ground to which the LP-21 has been connected. If you encounter a problem with earth loops, remove the ground-lift link located inside the unit to isolate the signal earth from the chassis earth. Refer to Power supply section.

To prevent shock or fire hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not remove cover. Refer servicing to qualified personnel only.

Section 2

WARRANTY

Lafont Audio Labs warrants to the original purchaser all parts, except front panels, knobs, cases and cabinets of every Lafont product to be free from defects in materials or workmanship, as hereinafter provided, for one year from the original date of purchase.

Lafont Audio Labs will at his option, repair or replace any equipment covered by this warranty, which becomes defective, malfunctions or otherwise fails to conform with this warranty under normal use and service during the term of this warranty, at no charge for parts and labor.

This warranty does not cover defects, malfunctions or failures resulting from shipping or transit accidents, abuse, misuse, operation with faulty associated equipment, modification, alteration, tampering or normal wear and tear.

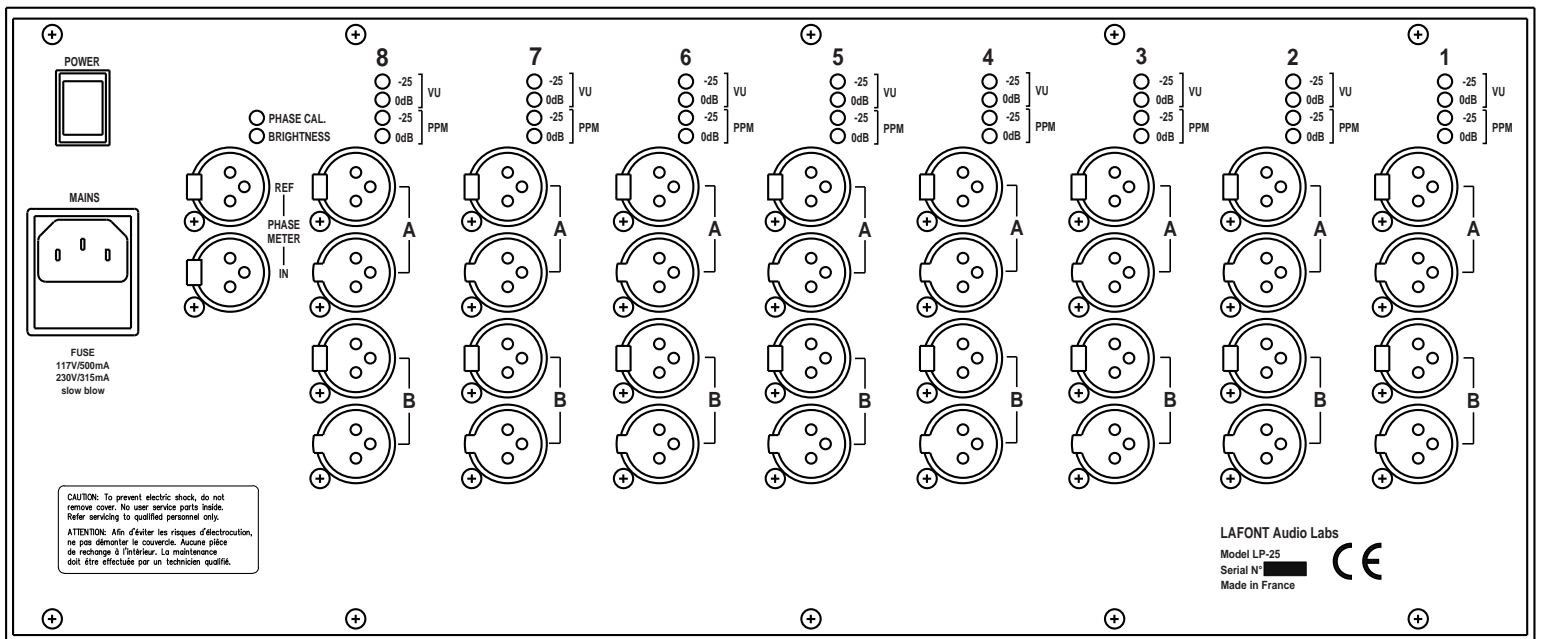
Lafont Audio Labs shall not be responsible for any incidental or consequential damages sustained by any customer as a result of or any cause associated with products including without the limitation the delivery or non-delivery thereof or the performance or non-performance thereof.

This is the only warranty applicable to Lafont products. In the interest of continuous product improvement and development Lafont Audio Labs reserves the right to change and modify any specification or feature whenever in our opinion, such a change produces an advantage mutual to our customers and ourselves without incurring any obligation to change or improve products manufactured prior thereto.

Section 3

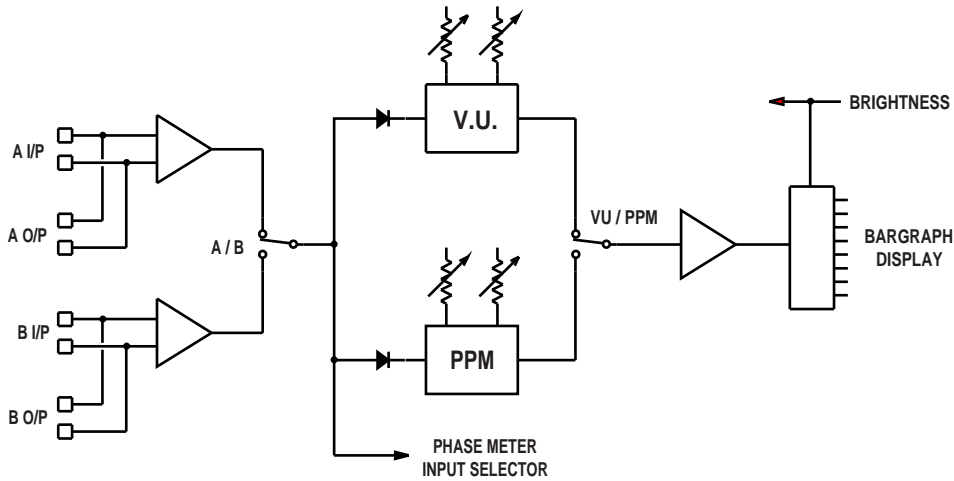
SIGNAL CONNECTIONS

The inputs and the outputs of the LP-21 are fully balanced on XLR connectors. Current IEC wiring convention calls for pin 2 to be high/hot and pin 3 low/cold. In a balanced system, the distinction is arbitrary provided there are no phase inversions through the unit ; the LP-21 maintains phase. When inputs and/or outputs should be unbalanced, it is unimportant which of the two signal pin is grounded, so long as the same convention is used on all inputs and outputs. Nevertheless, in the interests of maintaining international standardization, we suggest the IEC recommendation is followed.



We recommend that two conductor shielded cable be used even in an installation using unbalanced wiring. This takes advantage of the ability of the input to reject common-mode noise (hum) and reduces the possibility of radio interference (RFI). Do not depend on the shield wire itself to complete the signal connection.

Section 4 OPERATING PROCEDURES

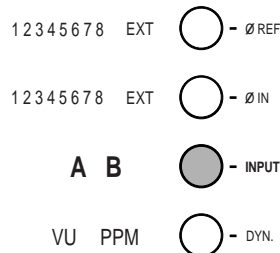
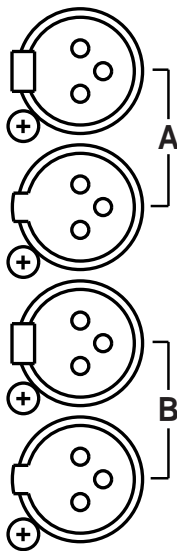


The model LP-25 is intended for tape machine and mixing console monitoring. Applications include multitrack recording, film & television post production, broadcast, transfer and mastering. Formats include 8 channel discrete, LCRS, 5.1, DTS, SRD, 7.1 and SDDS. This unit includes eight high resolution bargraphs and a phase correlation meter.

4.1 Inputs

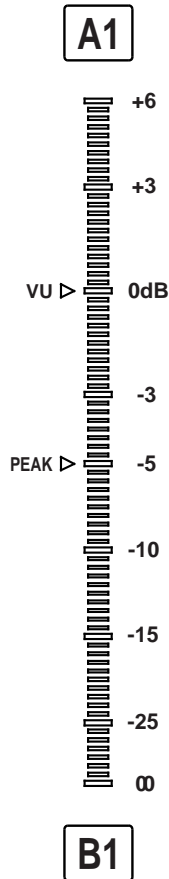
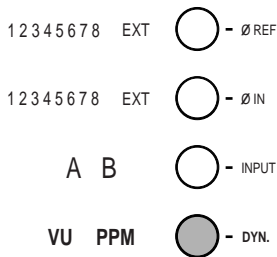
Each bargraph has two inputs and each input is paralleled to an output connector for easy insertion of the unit in an existing chain. All inputs and outputs are balanced.

A master switch toggles between inputs for bus/tape, A/B monitoring. Illuminated indicators labeled A1 to A8 (green) above the display and B1 to B8 (red) below the display indicate status of the A/B selection. Nominal input level is +4dBm as standard, but the unit can accommodate input signals varying between -6dBu to +10dBu (see calibration).



4.2 Display

The bargraph scale is four inches long, ranging from -30dB to +6dB. Level indicators are illuminated in green. Dynamic response is switchable in VU or PPM modes. Both VU and PPM uses the same scale. Input signal amplitude is displayed in orange below 0dB and in red above. Brightness is adjustable (see calibration).



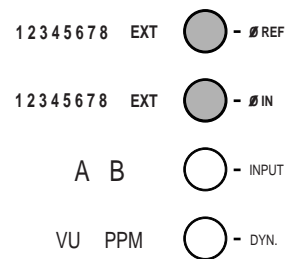
4.3 Ballistics

The VU mode complies with the ANSI-C 16.5 standard which specifies that a sinusoidal source of 1.228 volts at a frequency between 35Hz and 10kHz applied at the input will produce a rise time of 300 milliseconds to reach 99% of the 0dB scale with an overshoot of at least 1% but not more than 1.5%. Fall time is also 300 milliseconds and display is fully stabilized in less than 380 milliseconds. Transients shorter than 300 milliseconds are not fully displayed and should not be monitored with a VU meter.

The PPM mode satisfies with DIN 45406 and IEC 268-10 standards. Rather than respond instantaneously to peak, PPM specifications require a finite integration time so that only peaks wide enough to be audible are displayed. DIN 45406 specifies a response of 1dB down from steady state for a ten milliseconds burst of 1kHz tone and 4dB down for a three milliseconds tone burst. IEC 268-10 requires 2dB down for a five milliseconds and produces a fall time of 1.5 seconds from 0dB to -20dB.

4.4 Phase correlator

Two push button selectors enable any combination of signal source to be assigned to the inputs of the phase correlator. In addition to the eight internal sources, two balanced external inputs are assignable to the phase correlator.



The LED phase correlation meter functions in the same manner as most console phase meters, on a green and red scale from right (+1, in phase) to left (-1, out of phase).



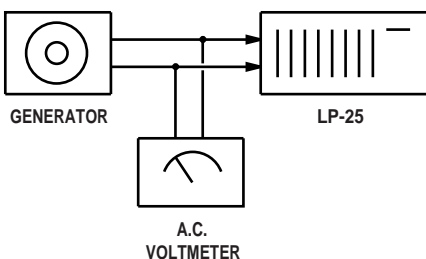
PHASE CORRELATOR

Section 5

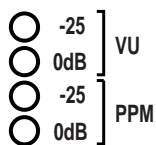
CALIBRATION

The unit should be powered for about 30 minutes to reach optimal operational temperature prior to calibration.

The calibration of the LP-25 requires a signal generator with a balanced output capable of delivering a sine signal at 1kHz with an amplitude adjustable from -21dBu to +10dBu. An a.c. voltmeter and a trimming tool are also necessary.



Four calibration 20 turns potentiometers are accessible from the rear panel, above each column of connectors. There is no internal calibration and no serviceable parts inside the unit.



The procedure described below is intended for a nominal input level of +4dBu = 0dB VU = 1.228 Volts. If you are using a different reference level it is recommended that you establish a corresponding level table before calibration.

5.1 VU meter calibration

Select the VU mode and inject a 1kHz sine signal at -21dBu (69mV) in either A or B input as selected).

- Adjust the -25dB potentiometer until the bar reaches approximately the -25dB indication.
- Raise the generator output level to +4dBu. Turn the 0dB potentiometer until the bar matches with the VU ref arrow (0dB scale).
- Set the generator output level back to -21dBu and re-adjust the -25dB pot for better scale matching.

5.2 Peak Program Meter calibration

The procedure is similar to the VU meter calibration described above.

- Inject a 1kHz sine signal at -16dBu (123mV). Adjust the -25dB pot to reach the -25dB scale indicator.
- Increase the generator output level to +4dBu (1.228v). Adjust the 0dB potentiometer to reach the Peak ref arrow.
- Set the generator level back to -16dBu back and re-adjust the -25dB pot to match with the -25dB scale indicator.

5.3 Phase meter calibration

- Inject a 1kHz sine signal on one of the two phase meter inputs or on any bargraph input. Select appropriate input. Adjust the phase cal. potentiometer to light the orange led in the middle of the display.

5.4 Brightness

Inject a signal to any input in order to obtain a readable level on the corresponding bar. (Do not hesitate to fill the bar up to +10dB).

Set the ambient light to normal condition. Adjust the brightness potentiometer for a comfortable readout of the bar displayed. Note : excessive brightness settings uses more current and may cause overheating of the unit if it is not properly ventilated.



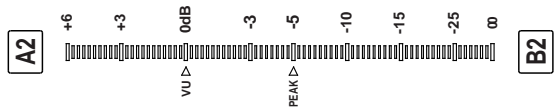
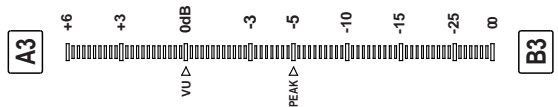
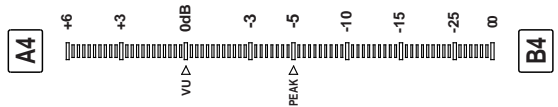
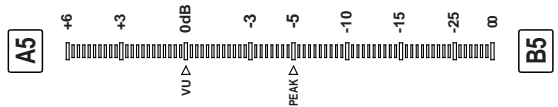
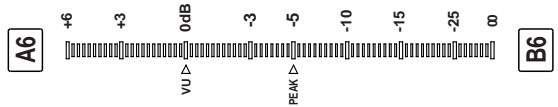
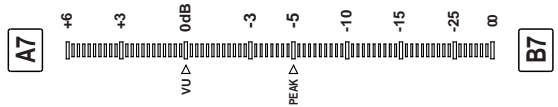
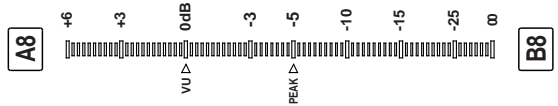
1 2 3 4 5 6 7 8 EXT - Ø REF

1 2 3 4 5 6 7 8 EXT - Ø IN

A B - INPUT

VU PPM - DYN.

LAFONT
A U D I O L A B S



SPECIFICATIONS:

Input impedance: 50kohms balanced

Scale accuracy: 0.2dB

Frequency linearity: 30Hz/16kHz +/-0.2dB
20Hz/20kHz +/-0.5dB

VU meter ballistics: ANSI-C16.5

PPM ballistics: DIN 45406, IEC 268-10

Power requirements: 115VAC/60Hz, 240VAC/50Hz, 50watts.

Physical size: 19"x 4U rack cabinet (483x177x165mm).

In the interest of continuous product improvement and development LAFONT Audio Labs reserves the right to change and modify any of the above specification or feature whenever, in our opinion, such a change produces an advantage mutual to our customers and ourselves.

Warranty

Lafont Audio Labs warrants its products to be free from defects in workmanship and material under normal use and service. Said warranty is to extend for a period of twelve months after date of purchase. LAFONT Audio Labs shall not be liable or responsible for any incidental or consequential damages sustained by any customer as a result of or any cause associated with products including without limitation the delivery or non-delivery thereof or the performance or non-performance thereof.

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