

**LAFAYETTE
AM-FM
STEREO
MULTIPLEX
TUNER**

**MODEL
LT-325A**

(Stock No. 99-0133WX)



**INSTALLATION AND OPERATING
INSTRUCTIONS**

INTRODUCTION

The Model LT-325A is a deluxe AM and FM Stereo Multiplex Tuner designed to provide high quality reception of AM and FM broadcasts, or the full-dimension stereophonic FM broadcasts. Functioning as an AM or FM program source, the tuner is intended for use with any monophonic or stereophonic high fidelity amplifier that is equipped with tuner/radio input facilities.

In order that you may benefit from the many operating and performance features designed into this tuner, we recommend that you carefully read all the instructions contained in this manual. Also, we suggest that you keep the manual close at hand and in a safe place so that you can refer to it when necessary.

Ned. Ver. v. Historie v/d Radio



TUNER LOCATION

The LT-325A may be used in any convenient location such as a cabinet shelf, table or bookcase. Modern and attractive in appearance, the tuner lends itself to this type of installation.

Since all electrical equipment generates heat, provision must be made for proper ventilation. The tuner is well ventilated in itself, but sufficient space should be allowed around it to permit free air flow at all times. **DO NOT** place books or other objects on top of the perforated cover since this will restrict ventilation. Failure to observe these precautions will result in sharply reduced

component and tube life.

If you intend to place the tuner on a shelf in an equipment cabinet, special consideration should be given to the problem of ventilation. An open-back cabinet will provide the best ventilation. If the cabinet does not have a removable back, several large holes or slots should be made in the rear, as high up and as low down as possible. It should be remembered that, for effective ventilation, provision must be made for cool air to enter at the bottom and hot air to leave at the top.

ELECTRICAL CONNECTIONS

AC POWER

The tuner is designed to operate from a power source of 105-120 volts AC, 50-60 cycles. Do not attempt to use the unit on any other power source or damage will result.

AM ANTENNA

The ferrite loop-stick built into the receiver assures adequate reception of all local AM stations. However, in fringe areas, high noise areas, or where surrounding metal objects interfere with normal reception, a regular antenna lead should be connected to the terminal designated AM (see Fig. 1).

NOTE: The ferrite loop-stick is mounted on a swivel bracket. For maximum pickup, the loop-stick should be swung away from the chassis.

FM ANTENNA

The antenna is the single, most important factor in obtaining good, distortion-free FM reception. The finest, most sensitive tuner will not operate properly if it is fed with a poor FM signal. You should therefore give careful consideration to the selection of an antenna if you want the best results—particularly during FM stereo reception.

In areas close to the transmitter, a simple indoor dipole antenna ("or rabbit ears") may suffice. It should be remembered, however, that the pickup of reflections (similar to "ghosts" on

TV) will result in poor stereo reception. These reflections must therefore be reduced to a minimum, either by careful orientation of the indoor dipole antenna or, if this will not eliminate them, by using a more directional outdoor type.

In areas further from the transmitter, the use of an outdoor antenna is highly recommended. These are available in various type (see the Lafayette catalog). For reception of stations scattered in many directions, a non-directional type may have to be used. If the desired stations lie mostly in one direction, a highly directional type of antenna will provide better results. When using a directional antenna, always orient it for best reception of the desired station. The correct position will be indicated by maximum closure of the tuning indicator on the tuner.

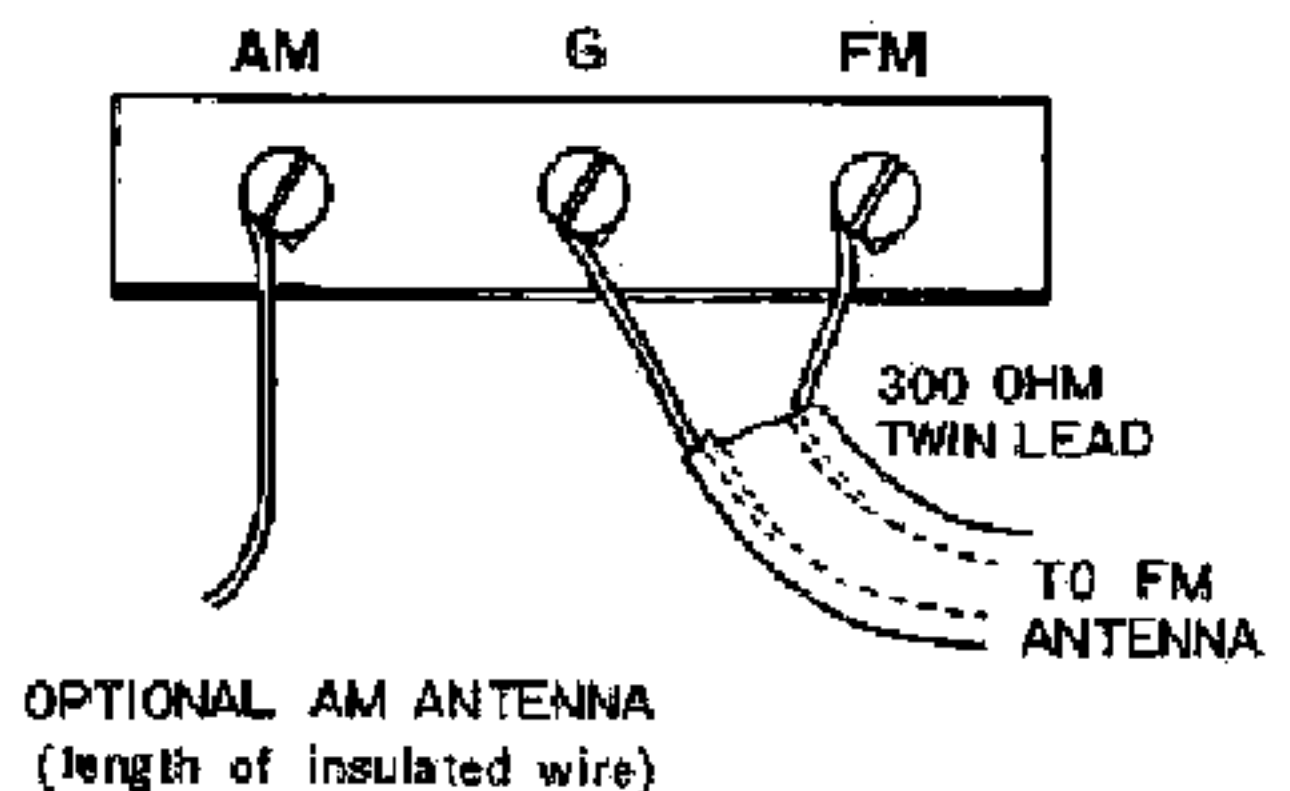


Figure 1. Antenna Connections

If you presently use an outdoor TV antenna, it may be utilized to provide good reception of

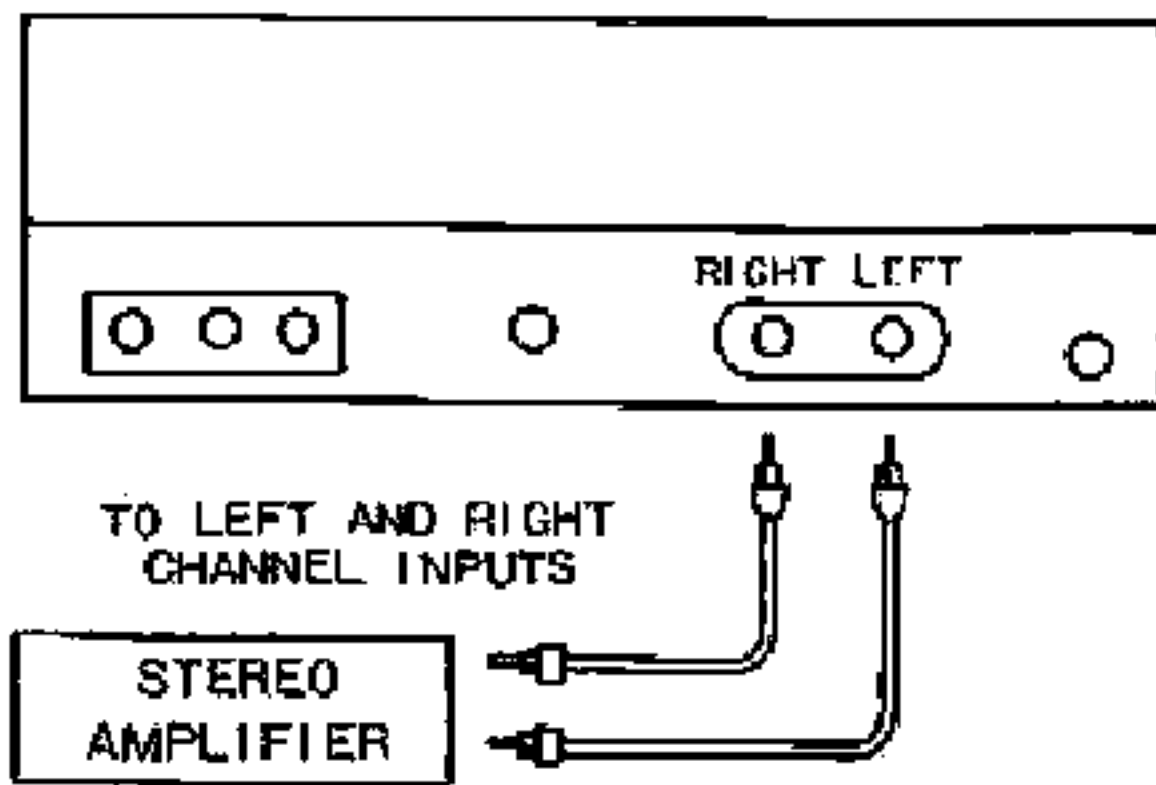


Figure 2. Connections to A Stereo Amplifier

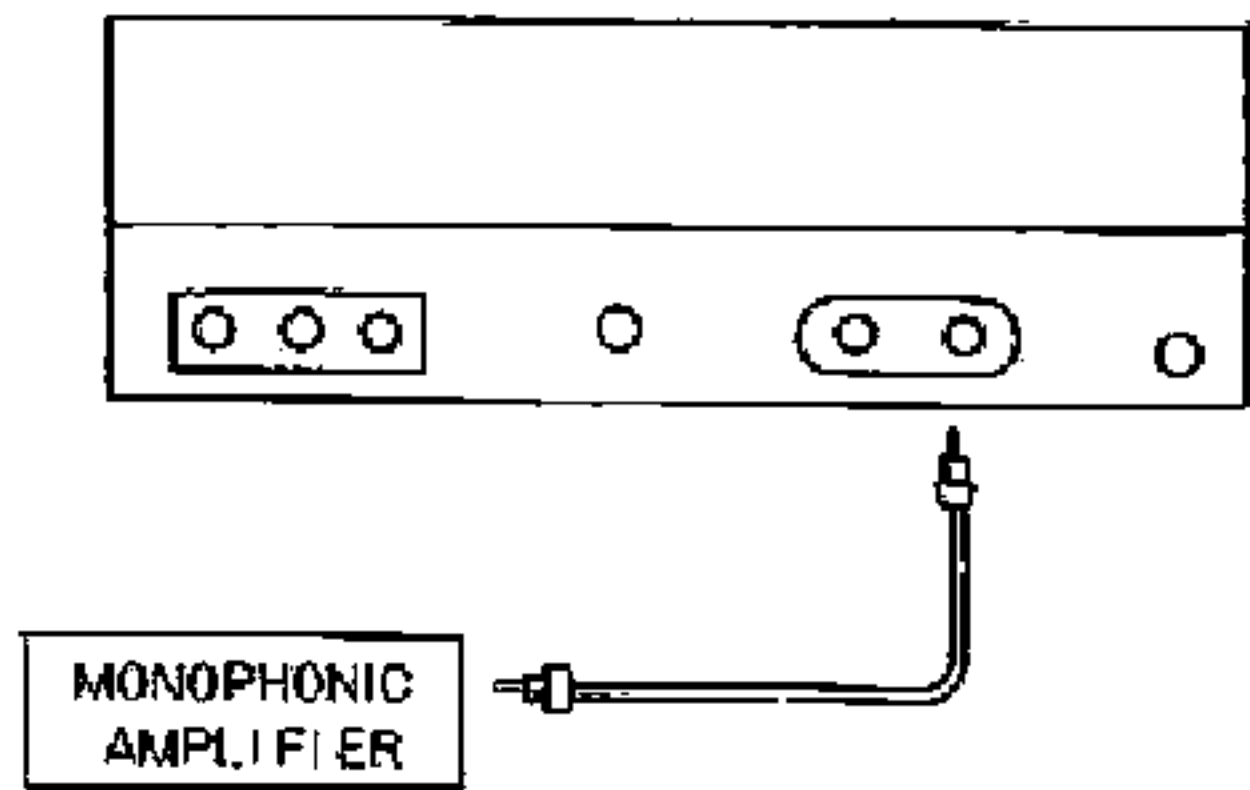


Figure 3. Connection to A Monophonic Amplifier

FM stations. Simply connect a 300 ohm twin lead between the receiver and TV antenna lead-in, using a 2-set antenna coupler such as the Lafayette TS-326 (Stock No.99-4004).

You should remember, however, that some TV antennas are designed to attenuate signals in the FM band (the FM band is located between channels 6 and 7) to minimize interference on TV from FM stations. In such cases, it will be

necessary to install a separate FM antenna.

FM ANTENNA CONNECTIONS

There are two screw-terminals provided for the FM antenna—FM and G. The 300 ohm twin lead from the antenna should be connected to these terminals, as shown in Figure 1.

CONNECTIONS TO A STEREO AMPLIFIER

This tuner supplies sufficient signal voltage to operate any conventional amplifier. Connections should be made from the Left and Right output jacks at the rear of the tuner to the Left and

Right tuner or radio input jacks of your stereo amplifier, as shown in Figure 2. Use shielded cables terminated with phono-type plugs and keep the cables as short as possible.

CONNECTIONS TO A MONOPHONIC AMPLIFIER

If this tuner is used in conjunction with a monophonic amplifier, simply connect any one of the tuner outputs to the single amplifier input

using shielded audio cable, as shown in Figure 3.

CONTROLS AND THEIR FUNCTIONS

SELECTOR SWITCH

AM — In this position, AM programs are produced at both of the tuner output jacks.

FM MONO — In this position, monophonic FM

programs are produced at both of the tuner output jacks.

SEARCH (STEREO) — Special circuitry is switched in which will cause an audible tone to be heard when you are tuned to a stereo

TUNING INDICATOR

Shows when an AM or FM station is properly tuned in. Always tune for maximum closure (minimum shadow area.)

AM TUNING SCALE

Used for tuning over standard AM broadcast band (550 to 1600 Kc). Shows frequency to which unit is tuned on AM.

FM TUNING SCALE

Used for tuning over FM band (88 to 108 Mc). Shows frequency to which the unit is tuned on FM.

STEREO FUNCTION LIGHT

Indicator light comes on when the Selector switch is placed in the FM stereo mode—signifies that the tuner is ready for FM stereo reception.

SELECTOR SWITCH

Determines the mode of operation for the tuner.

POWER SWITCH

Switches the tuner on.

NOISE FILTER

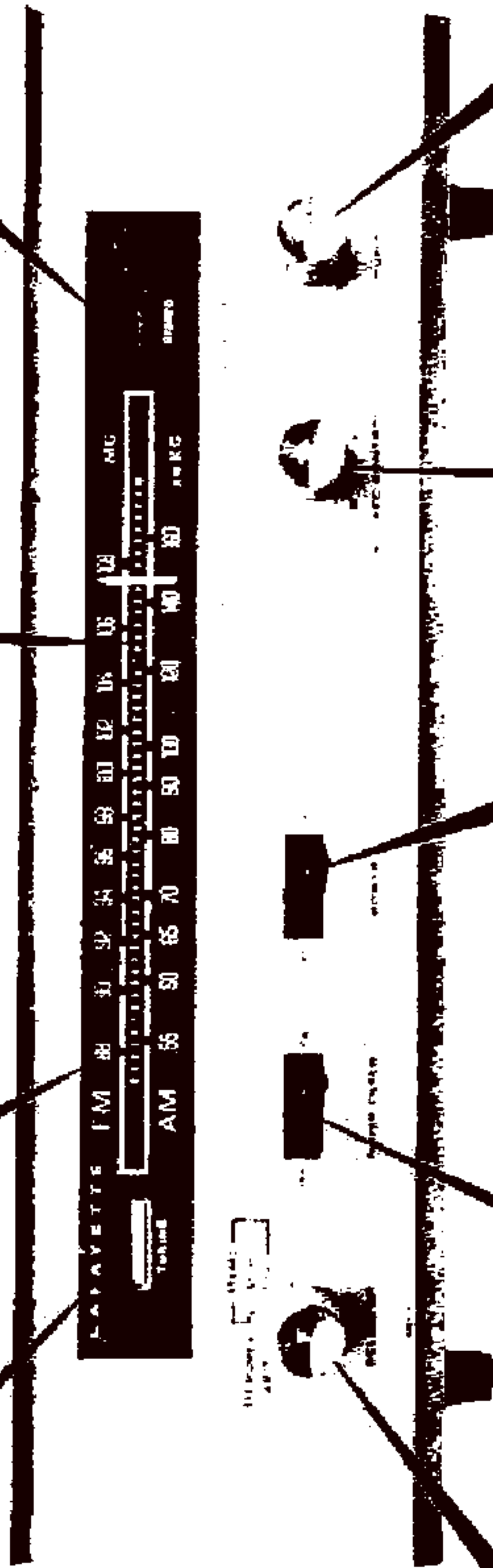
Used to eliminate any high frequency noise that may occur during FM stereo reception.

AFC CONTROL

Used to counteract any frequency drift that may occur after station is properly tuned in - "locks" the station in.

TUNING CONTROL

Used to tune to desired AM or FM stations.



station. This position is used as an aid in locating stereo stations (for complete information on this feature, see section headed "Locating FM Stereo Stations").

FM (STEREO) — In this position, the stereo indicator light will go on, and the multiplex circuit will be switched into operation. If the tuner is set at the frequency of a station broadcasting an FM multiplex signal, decoded stereophonic signals will be available at the tuner's Left and Right output jacks.

AFC CONTROL

Your receiver is equipped with an effective AFC (Automatic Frequency Control) circuit which may be used to counteract any frequency drift that may occur on FM. The AFC control is continuously adjustable from zero (TUNE) to maximum (LOCK), and thus permits varying amounts of AFC to be applied, as necessary. To gain a better understanding of the action of this circuit, tune in a strong FM station with the Selector switch in the "FM MONO" position and the AFC control in the "Tune" position. Proper tuning to the center of the station signal is indicated by maximum closure of the electronic tuning indicator bar. The sound at this point should be clear and undistorted. Detune (slightly) until the station becomes noisy and undistorted and the tuning indicator bar widens. Now rotate the AFC control to "LOCK" — you will notice that the station sound clears up and that the tuning indicator registers proper tuning again as if the receiver had been manually retuned. This "retuning" has been carried out automatically by the AFC circuit.

Generally, all FM tuning should be carried out with AFC control off ("Tune" position). This will enable you to tune more accurately to the center of the station signal because AFC, when on, has a broadening effect on tuning. After accurate tuning has been carried out using the tuning indicator (maximum closure), the AFC control may then be adjusted to provide only that amount necessary to prevent drift.

Certain conditions, however, may make the use of AFC undesirable. For example, applying AFC when tuning in a weak station which is adjacent to a strong one may cause the tuning to be pulled toward the stronger station. For optimum reception of any weak station that is next to a stronger station, it is therefore re-

commended that AFC control be set to its minimum position (TUNE).

MPX NOISE FILTER

This switch inserts a filter into the circuit which will effectively reduce any high-frequency noise that may occur during FM stereo reception. It is therefore only operative when the SELECTOR is in the FM (STEREO) position. Under normal conditions, however, this switch should be left in the "off" position to permit full reproduction of the high frequencies.

POWER

This switch is used to apply AC input power to the tuner. To switch the tuner on, simply depress the "on" side of the switch.

TUNING

Tuning for either AM or FM is carried out with the single control designated TUNING. An electronic tuning indicator bar on the receiver permits accurate tuning of all stations. This is particularly important on FM — poor tuning will result in noise and distortion. On FM stereo, poor tuning will also result in a loss of channel separation. Always tune for maximum closure (smallest shadow area with the selector in FM MONO, FM (STEREO) or AM position.

AM LEVEL (REAR)

This control provides a means of adjusting the AM output level. It should be adjusted to provide the same output level on AM operation as on FM. In this way, a great change in speaker output level will not occur when switching from FM to AM, or vice versa.

LOCATING FM STEREO STATIONS

The "SEARCH" circuit on your tuner offers a simple and fast means of locating FM stations which are broadcasting a stereo program. Operation is simple — you just tune over the FM band with the SELECTOR switch in the "Search" position and listen for a single-frequency tone

in the loudspeakers. Monophonic stations will produce no definite tone — you will hear only a “rushing” noise and other miscellaneous sounds. A station broadcasting a stereo program will produce a clearly audible tone, however. When a stereo station is thus located, simply switch the Selector to “FM (STEREO)”, allowing the program to be heard, and then tune in the station accurately.

On occasion, you may receive a stereo indication on a station which sounds as if it is broadcasting a monophonic program. This condition is usually encountered during an announcement or newscast, and can be explained as follows: During stereo broadcasts, the complex FM wave transmitted from the station includes a component known as the “Pilot” signal. This signal (which is never heard) is used to synchronize the receiver to the transmitter. The pilot signal is also utilized by the “Search” circuit to provide an indication that a stereo program is in progress. Announcements or newscasts during a musical stereo program may actually be transmitted monophonically from the station, so that the sound heard from your left speaker will be identical to that heard from your right speaker.

During such periods however, the station frequency retains the Pilot signal in the transmitted wave since it is inaudible anyway. In such a

case, your tuner will produce an indication of stereo, even though the announcement or newscast is heard as a monophonic broadcast.

It should also be remembered that musical program being transmitted from the station may have varying degrees of channel separation, depending on the musical selection which, most frequently, is reproduced from records. Since few record companies use the same stereo recording techniques, the amount of channel separation available will vary from one record to another. However, there is more to stereophonic sound than the mere division of musical instruments between the left and right channels. There is a subtle depth and spaciousness to the music with the sounds of various instruments distributed over a broad area. This particular characteristic will become more apparent if you make the following listening test. Set all amplifier controls for normal stereo operation, but place the tuner’s SELECTOR in the “FM Mono” position. Tune in a known stereo station and adjust tonal controls on the amplifier for desired reproduction. The sound you will hear from both speakers is monophonic. Now switch the SELECTOR on the tuner to “FM (STEREO)” and note the change that takes place. By switching between “FM (STEREO)” and “FM Mono”, the added depth and spaciousness of stereophonic sound will soon become apparent.

SERVICE

The LT-325A should require very little service except for occasional tube replacement which may become necessary in some cases. For problems of a more serious nature, we recommend that you return the unit to the Lafayette store from which it was purchased. As an aid to qualified

technicians this manual contains a schematic diagram complete with normal operating voltages.

If the unit is to be shipped to our main office for service, please read the instructions which follow.

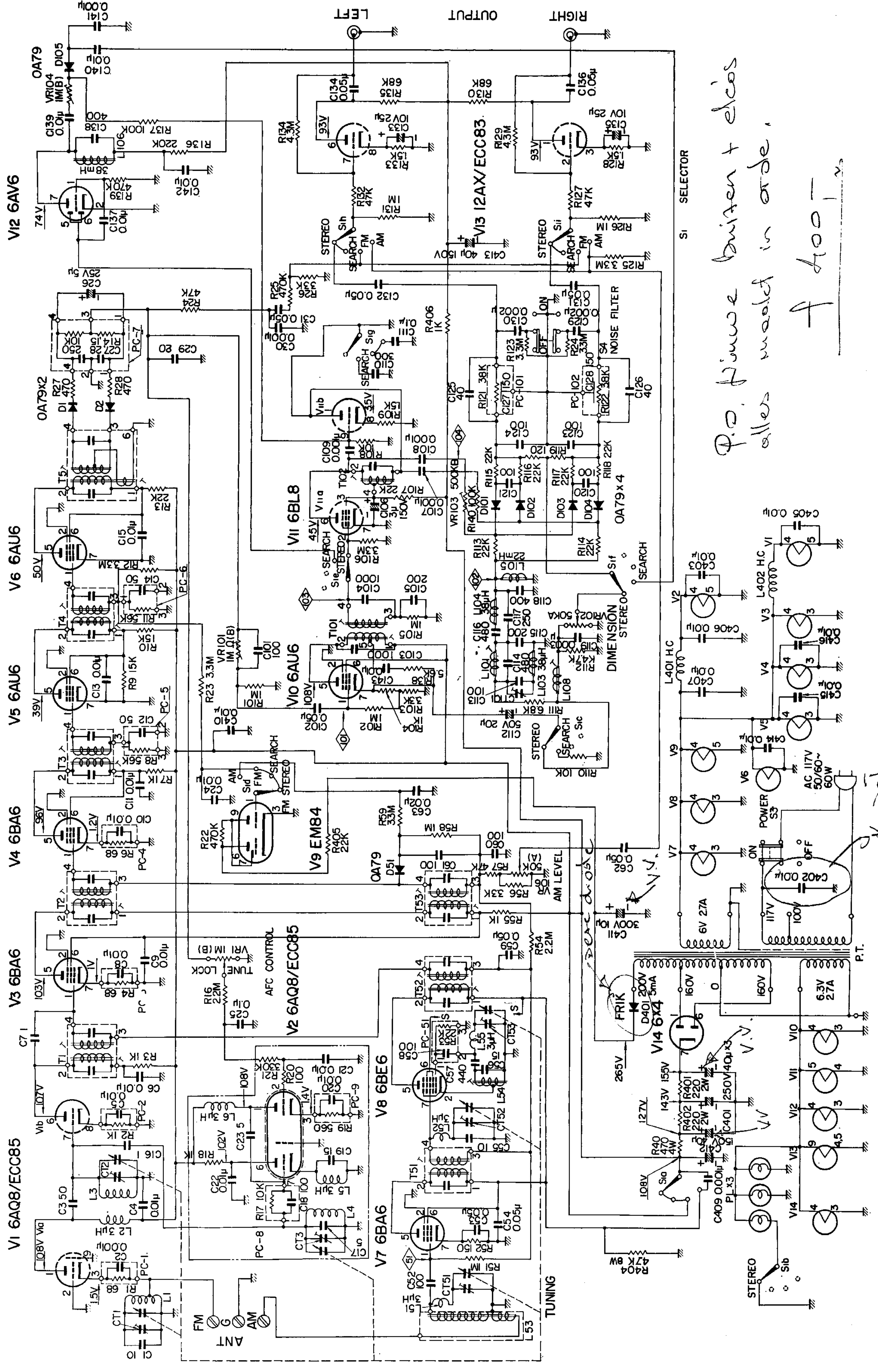
SHIPPING INSTRUCTIONS

Pack the unit very carefully to avoid damage in transit, preferably in its original carton. If the original carton is not available, use a sturdy carton with at least 3 inches of shredded paper or excelsior around the unit. Ship by prepaid express if possible and mark ELECTRONIC EQUIPMENT — FRAGILE. Clearly address the

carton as follows:

SERVICE DIVISION
LAFAYETTE RADIO ELECTRONICS CORP.
111 JERICHO TURNPIKE
SYOSSET, L.I., N.Y.

SCHEMATIC DIAGRAM LT-325A



**LAFAYETTE
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CORPORATION**

111 JERICHO TURNPIKE
SYOSSET, L. I., NEW YORK