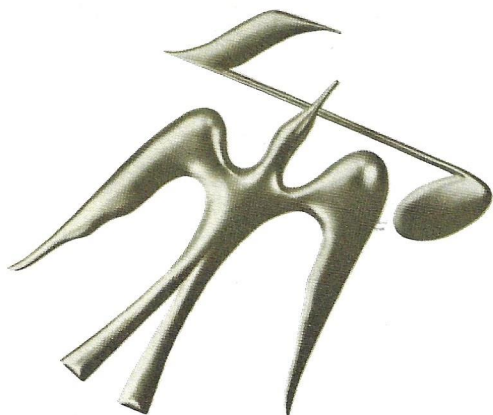


OPERATING INSTRUCTIONS AND WARRANTY



THE FISHER[®]

440-T
STEREOPHONIC
FM-Multiplex Receiver

**WORLD LEADER IN
STEREOPHONIC HIGH FIDELITY**

CONGRATULATIONS!

With your purchase of a FISHER instrument you have completed a chain of events that began many months ago, in our research laboratories. For it is there that the basic concept of the equipment you have just acquired came into being—its appearance, its functions, its quality of performance, its convenience of use.

But the end step—your purchase—is merely a beginning. A door has now opened, for you and your family, on virtually unlimited years of musical enjoyment. Recognizing that one of the keys to pleasurable ownership is reliability, we have designed this instrument to give long and trouble-free service. In fact, instruments we made over twenty-seven years ago are still in use today.

Remember always that we want this equipment to give you the best performance of which it is capable. Should you at any time need our assistance toward that objective, please write me personally.

AN IMPORTANT SUGGESTION

Many hours have been spent by our engineers and technical writers to create this instruction book for your guidance and enjoyment. If you want the **most** out of your FISHER, there is only one way to obtain it. With the equipment before you, please read this booklet carefully. It will be time well spent!

Avery Fisher

Founder and President

FISHER FIRSTS

Milestones In the History of High Fidelity Reproduction

- 1937 First high-fidelity sound systems featuring a beam-power amplifier, inverse feedback, acoustic speaker compartments (infinite baffle and bass reflex) and magnetic cartridges.
- 1937 First exclusively high fidelity TRF tuner, featuring broad-tuning 20,000 cycle fidelity.
- 1937 First two-unit high fidelity system with separate speaker enclosure.
- 1938 First coaxial speaker system.
- 1938 First high fidelity tuner with amplified AVC.
- 1939 First 3-Way Speaker in a high fidelity system.
- 1939 First Center-of-Channel Tuning indicator.
- 1945 First Preamplifier-Equalizer with selective phonograph equalization.
- 1948 First Dynamic Range Expander with feedback.
- 1949 First FM-AM Tuner with variable AFC.
- 1952 First 50-Watt, all triode amplifier.
- 1952 First self-powered Master Audio Control.
- 1953 First self-powered electronic, sharp-cut-off filter system for high fidelity use.
- 1953 First Universal Horn-Type Speaker Enclosure for any room location and any speaker.
- 1953 First FM-AM Receiver with a Cascade Front End.
- 1954 First low-cost electronic Mixer-Fader.
- 1954 First moderately-priced, professional FM Tuner with TWO meters.
- 1955 First Peak Power Indicator in high fidelity.
- 1955 First Master Audio Control Chassis with five-position mixing facilities.
- 1955 First correctly equalized, direct tape-head master audio controls and self-powered preamplifier.
- 1956 First to use Power Monitor in a home amplifier.
- 1956 First All-Transistorized Preamplifier-Equalizer.
- 1956 First dual dynamic limiters in an FM tuner for home use.
- 1956 First Performance Monitor in a high quality amplifier for home use.
- 1956 First FM-AM tuner with TWO meters.
- 1956 First complete graphic response curve indicator for bass and treble.
- 1957 First Golden Cascade FM Tuner.
- 1957 First MicroRay Tuning Indicator.
- 1958 First Stereophonic Radio-Phonograph with Magnetic Stereo Cartridge.
- 1959 First high-quality Stereo Remote Control System.
- 1959 First complete Stereophonic FM-AM Receiver (FM-AM tuner, audio control, 40-watt amplifier).
- 1959 First high-compliance plus high-efficiency free-piston speaker system.
- 1960 First to use MicroRay for FM tuning and as a Recording Audio Level Indicator.
- 1960 First complete stereo FM-AM receiver with 60-watt power amplifier and new 7591 output tubes.
- 1960 Smithsonian Institution, Washington, D.C. accepts for its collection America's first commercially manufactured high fidelity radio-phonograph, made by Avery Fisher in 1937.
- 1960 First reverberation device, for use in high fidelity equipment—The Fisher Dynamic Spacexpander.
- 1960 First stereo tuner with MicroTune.
- 1960 First FM tuner with six IF stages.
- 1960 First FM tuner with five limiters.
- 1960 First front panel antenna selector switch, 72-300 ohm, Local-Distant positions.
- 1961 First Multiplex units with STEREO BEACON and automatic switching, mono to stereo.
- 1961 First complete receivers with Multiplex.
- 1961 First FM-Stereo-Multiplex tuners with STEREO BEAM.
- 1961 First loudspeaker system with frameless woofer cone, eliminating all parasitic resonance.
- 1961 First internal switching system to permit immediate tape playback with use of all controls and switches.
- 1962 First simplified-operation Control-Amplifier, with infrequently used controls behind a front-panel cover, yet immediately accessible.
- 1962 First loudspeaker with eddy-current-damped voice coil.
- 1962 First bass speaker with combined serrated-aluminum and fiber cone.
- 1962 First FM Tuner Kit with separate d'Arsonval meter for tuning and separate cathode ray stereo broadcast indicator (STEREO BEAM).
- 1962 First Stereophonic FM Tuner with TUNE-O-MATIC Motor Tuning.
- 1962 First Supersonic Wireless Remote Control in a high fidelity component.
- 1963 First to use 8417 tubes with unique cavity-anode design.
- 1963 First power amplifier to use oscilloscope-type, frequency compensated input circuit.
- 1963 First amplifier kit with STRATABALANCE, visual dynamic balancing system.
- 1964 First multiplex adaptor with 'flywheel synchronization.' Closely approaches theoretical limit of noise rejection, and of all spurious responses.
- 1964 First AFC with strong locking on weak signals, with no pull-in from adjacent strong signals.

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The Model 440-T FM-multiplex receiver represents a major breakthrough in the design of compact, all-transistor receivers. It is a *first* in the industry: a completely transistorized FM-tuner section (no tubes, no nuvistors) that eliminates the overload and distortion problems previously associated with solid-state front ends – while providing a remarkably high degree of sensitivity and selectivity.

The 440-T combines – on one compact chassis – an extraordinary FM-multiplex tuner, a versatile, low-noise preamplifier-control unit, and an advanced-design power amplifier using high-reliability silicon output transistors. The multiplex section of the receiver incorporates the famous FISHER STEREO BEACON* which *automatically* switches between FM mono and FM stereo and automatically signals when you are receiving a stereo broadcast.

This combination results in an FM receiver capable of “pulling in” even the weakest FM stations as well as handling the most powerful local stations without overloading or distortion. Excellent stereo separation is maintained under all receiving conditions and enough clean reserve audio power is available for even the most inefficient speaker systems. The result – that effortless “transparent” sound that has become the hallmark of all FISHER transistorized components.

Reliability – this is another traditional FISHER hallmark. The superb performance of this receiver will last for years to come because of its inherently conservative design – all parts are rated for operating conditions far in excess of any likely to be encountered in normal use. As an extra precaution, the receiver’s output transistors and power supply are fuse-protected against damage caused by faulty speaker connections.

A final word – the 440-T, like any precision electronic instrument, will deliver its full capabilities only when it is allowed to do so by the user. For this reason, we cannot urge you too strongly to read this manual carefully before attempting to install and operate the receiver. If you simply can’t wait or if you have had previous experience with other high fidelity components and feel that you don’t need elaborate instructions, please read the section FOR THE MAN IN A HURRY – it’s vitally important.

*Patent Pending

WHAT IS STEREOPHONIC SOUND?

Stereophonic sound (stereo) is a method of reproducing sound by means of two independent channels, left and right, so that a spatial feeling of direction and depth is recreated. It is the extension of high fidelity sound into three dimensions. In fact, it offers the closest approach to true high fidelity yet achieved because it comes closest to the ultimate aim of all high fidelity systems – a perfect recreation of the original live sounds. Thus, good stereophonic sound *is* high fidelity in the truest sense of the term.

This feeling of dimension is lost with monophonic (single channel) reproduction, because our ears help determine the relative position of separate instruments in an ensemble only if each hears a slightly different version of the sound, just as visual depth perception depends on the two separate, slightly different pictures received by the eyes. Merely using two or more speakers on a single amplifier does not solve the problem; it only spreads the single sound source without providing the all-important different “aural viewpoints.”

True stereo sound, then, requires the use of two independent sound paths from the origin to your ears, kept separate at all times during recording, transmission and reception. This requires the use of two separate sets of recording amplifiers, a means of keeping the channels apart during recording and radio broadcasting, and finally, two independent amplifier and speaker systems in the home. For optimum stereo, it is best to have the equipment used in each channel as alike as possible. In a stereo record, each wall of the groove contains a separate signal, and the stereo cartridge is designed to pick up each of these two channels separately. The new system of FM stereo broadcasting (known as “multiplex”) utilizes a separate ultrasonic signal, in addition to the main signal. By combining these two signals in a multiplex decoder, the original left and right channels are recovered. Stereo tape recordings are made by impressing the two channels on separate parallel tracks running along the length of the tape.

The two channels are not kept completely separate acoustically. In a live performance, your left ear hears many of the sounds on your right, and vice versa. Thus, keeping the channels totally apart from the original recording session to the final playback in your home would result in an unnatural effect. But enough separation is maintained so that a definite feeling of direction occurs as you listen to the reproduced sound. The result is a remarkably vivid illusion of great depth and spaciousness, such as is normally obtained only at a live performance.

FM MULTIPLEX STEREO

FM broadcasting has a frequency range far in excess of the normal hearing range. For example, Fisher wide-band tuners have a frequency range which extends to 75 kc, while the normal hearing range does not exceed 17 kc. This extra “space” in the frequency range has now been put into service for the transmission of a second and third signal simultaneously with the main signal. The third (and highest frequency) signal is used in commercial applications (for background music) and will not be received on home high fidelity equipment. The other two signals, however, are used for the reception of stereo programs. During stereo multiplex broadcasts, the main signal, which can be received by any FM tuner or receiver, contains the sum or blended signal from both stereo channels (left plus right). The second, ultrasonic signal contains the additional information necessary to recreate the stereophonic sound. This “compatible” system makes it possible for an ordinary FM set to receive a fully balanced monophonic program even during a stereo multiplex broadcast. At the same time, however, the multiplex circuits of the 440-T derive the left and right stereo channels from the main and ultrasonic signals, thus providing you with all the added realism of full stereo sound.

Because FM stereo multiplex broadcasts require new equipment and new techniques at FM stations, it is to be expected that not all programs will be of the same technical calibre during the first few months of their operation. Such occasional problems as may arise initially will no doubt be solved quickly, as the stations gain experience with the new procedures.

FOR THE MAN IN A HURRY

We realize that you are anxious to play your new FISHER receiver and, frankly, we're quite flattered. At the same time we must warn you that a few precautionary measures are in order; those few extra minutes spent now in installing the receiver correctly will avoid needless disappointment later on and will assure years of enjoyable, trouble-free listening. To simplify your job, we have prepared a special pictorial procedure entitled FOR THE MAN IN A HURRY – it will enable you to install and operate the receiver in the least possible time with a minimum number of external connections. We do recommend, however, that you read the rest of this manual at your earliest convenience to insure that you derive maximum possible enjoyment from your receiver.

CAUTION: Because transistors cannot bear heavy overloads without being destroyed, the speaker-output circuits of this unit have been fused and a special safe-check hook-up procedure has been incorporated into these step-by-step instructions. Follow these instructions exactly to avoid wasted time and unnecessary trouble and fuse failure.

INSTALLATION

POWER REQUIREMENTS

The FISHER 440-T operates on 105-120 volts, 50 to 60 cycles *only*, and consumes 135 watts (155 VA) at full power output. Two auxiliary power outlets are provided on the rear panel for connecting the power cords of a record player, tape recorder, or other auxiliary equipment. Both of these outlets are controlled by the AC power switch on the Volume control. Therefore, components connected to these outlets will be switched on and off together with the 440-T.

PLACEMENT

The 440-T may be installed in different ways. The most usual is the open-shelf installation, where the unit is simply placed on a free-standing shelf or on a shelf in a bookcase or other cabinet and then connected to the other components in your system. Since the receiver has its own integral metal cover, its appearance is elegant enough to complement your finest furniture. Should you desire a wood cabinet, the FISHER Model 100-U component cabinet, specially designed for the 440-T, is available from your authorized FISHER dealer.

CAUTION: Adequate ventilation is absolutely essential for proper, long-life operation of this receiver. When shelf-mounting the 440-T, leave a minimum of two inches of open space around the sides and rear of the unit, and about four inches above its top cover. In addition, do not place the receiver on soft or yielding material; this could impede proper ventilation through the underside of the chassis. FAILURE TO OBSERVE THESE PRECAUTIONS WILL VOID ALL WARRANTIES ON THIS INSTRUMENT.

The receiver may also be custom-mounted in a cabinet or enclosure of your own choice. Although the receiver is usually mounted horizontally in this case, vertical mounting is also possible. In either event, custom mounting requires that special consideration be given to installation and ventilation. Please refer to the Custom Mounting section of this manual before attempting to make any installation other than the open-shelf type described above.

ANTENNAS

The twin-lead antenna supplied with this unit is suitable

for good reception from most local, or moderately remote FM-broadcast stations. To receive stations that are further away, and particularly when the receiver is inside a steel-reinforced concrete building, an outdoor antenna is a necessity. Some increase in reception is possible by coupling to a nearby TV antenna – however, if a long connecting lead is required it may not give a noticeable improvement in reception.

Roof-top antennas available for FM reception are omnidirectional and should therefore give you improved reception from almost all stations. The TV-type antennas will improve reception – but only in one direction, that of the TV stations to which they are pointed. To receive stations in different locations, a rotatable directional antenna can be used to obtain maximum signal strength and minimum distortion – multi-path distortion caused by reflections that are similar to TV ghosts. Generally, best reception will always be obtained with an antenna system that is as high as possible – with a lead-in that is as short as possible.

Please note that there are two ways of connecting the antenna to this receiver. Our recommended initial procedure is to connect the antenna leads to the ANT DIST terminals. This connection takes full advantage of the inherently high sensitivity of the receiver, permitting reception of very weak and distant stations. However, if you hear a strong local station at several points along the dial, the receiver is being overloaded. In such cases, change the connections to the LOC terminals.

LOUDSPEAKERS

Placement – Speaker systems are usually positioned along a wall, with the provision that no large pieces of furniture block the sound path between the speakers and the listening area. Placing the speakers on the floor and in a corner will emphasize the bass (low frequency) tones.

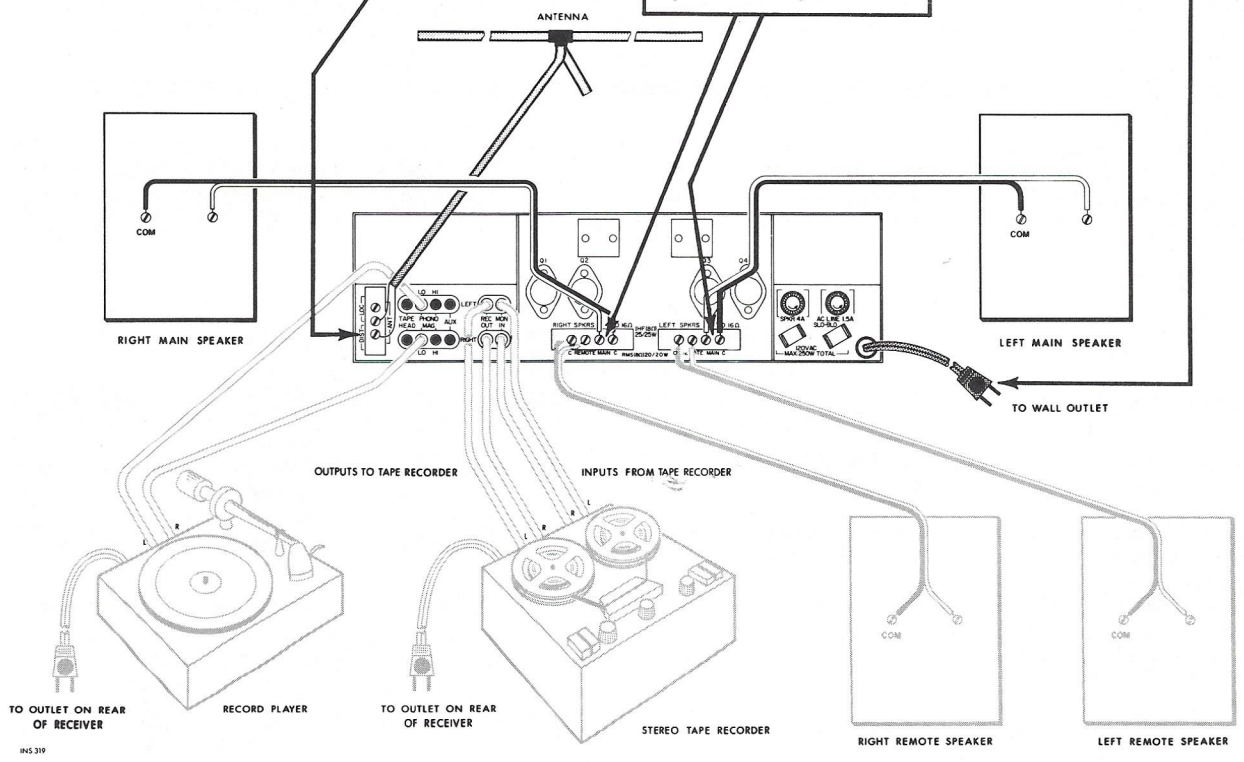
In a stereo system, the speakers should be placed opposite the listening area. If the listening area is about 10 feet away from the speakers, the stereo-speaker systems should be at least 5 to 10 feet apart. Increasing the distance between the speakers will increase the stereo effect – bringing them closer together will make the stereo effect less noticeable. Experiment with several

1 Make sure that the controls and switches on your receiver are set to the positions shown in this illustration.

2 Connect the antenna to the ANT DIST terminals. For further details, refer to the Antenna Installation section.

3 Connect the speakers exactly as shown; never connect the left- and right-channel COM terminals together or to ground. Do not insert the speaker fuse yet.

4 Plug the power cord into a 105-120 volt, 50-60 cps outlet.



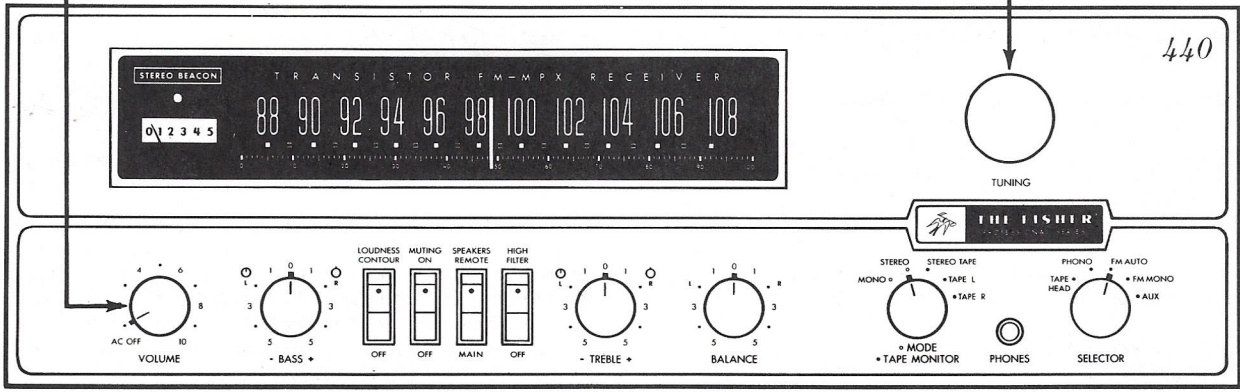
FOR THE MAN IN A HURRY

5 Turn the VOLUME control clockwise until it clicks; advance the control a little further.

6 Tune in an FM station with the TUNING control.

7 Check the sound levels at both speakers; they should be approximately equal (but low) and may be distorted. *This is normal at this point.* For further details, refer to the instruction card.

8 Turn the instrument off. Insert the speaker fuse (with cap) into its appropriate receptacle (SPKR 4A) and turn the receiver on again. Now sit back, enjoy incomparable sound—and read the rest of this manual.



4 THE FISHER 440-T

speaker arrangements before making the positions permanent.

Occasionally some furniture arrangements, irregular room dimensions or echoes from adjacent hallways or rooms will affect the sound quality. These are individual problems — there is no cure-all — just experiment.

Cable Requirements — for distances of 50 feet or less you may use ordinary lamp cord or antenna twin line. Heavier gauge wire should be used for greater distances to prevent power losses in the wiring. DO NOT remove more than a half-inch of insulation from the ends of the speaker cables. Any greater length of exposed wire is likely to cause short circuits at either the speaker terminals on the rear of the chassis or those on the backs of the speakers themselves, and may cause a fuse to blow. Twist all exposed strands of wire tightly, so that the ends of the wires become easy to handle.

To simplify connections (and speaker phasing) use a cable that will help you to identify the individual wires. Some types of cable have a ridge, or groove, molded on one side of the insulation, another type has a colored thread under the insulation of one lead.

DO NOT drive nails through the speaker-cable insulation if you attach it to the wall, unless the wires are well separated. Shorts made this way can cause intermittent defects or permanent shorts — that remain even after the nail is removed from the point where it went through the insulation.

Connections — Observe the following general precautions when connecting loudspeakers to this receiver:

(1) Make sure that the receiver is turned off and disconnected from the AC outlet *before* you connect the speakers.

(2) Make sure that the speakers you are about to use have a rated impedance of *not less than* 4 ohms. A lower value may cause the SPKR 4A fuse to blow.

(3) To prevent annoying hum and noise, *never* connect the left- and right-channel COM terminals together or to ground. Whether you use one or more speakers, use a separate wire from each COM terminal to the "Com" or "Gnd" terminal of its corresponding speaker.

(4) Check your connections both at the speakers and at the receiver. Remove stray strands of wire shorting one terminal to an adjacent terminal or to the receiver chassis; these shorts can also blow the SPKR 4A fuse.

One Speaker — If you are temporarily using only one speaker, connect it to the terminals on the LEFT SPKRS

terminal board marked MAIN and COM. Next, make sure that the Speakers switch on the front panel is set to MAIN; then set the Mode/Tape Monitor switch to MONO and turn the Balance control fully *counterclockwise*. This will permit full monophonic reproduction of all program sources (both stereo and mono) through the single speaker connected to the left-channel amplifier of your receiver. (The right-channel amplifier is not used with this arrangement.)

Two Speakers — When two speakers or speaker systems are used in the same listening area, they must be connected so that their cones move back and forth *in unison*. This is known as phasing the speakers; it is essential for proper stereo and mono reproduction. To do this, connect the speaker systems exactly as shown in the illustration, FOR THE MAN IN A HURRY. Specifically, note that the identified or marked terminal on the left-channel main speaker is connected to a particular terminal on the LEFT SPKRS terminal board (in this case, one of the COM terminals). Similarly, the marked terminal on the right-channel main speaker is connected to the corresponding COM terminal on the RIGHT SPKRS terminal board. In other words, the two speakers are connected in an identical manner. You may, if you wish, connect the marked terminals on your speakers to the appropriate MAIN terminals on the receiver (the speakers will still operate properly); again, the important factor to keep in mind is that both speakers must be connected the same way. To check for correct speaker phasing, turn the receiver on, set the Selector switch to FM AUTO, and adjust the Tuning control until you hear a symphonic or orchestral program. With the Mode/Tape Monitor switch set to MONO, listen to the deep bass tones. If they sound normal, the speakers are in phase. If, on the other hand, the program sounds "tinny" or deficient in bass, simply reverse the connections at *one* of the speakers and listen to the difference.

Remote Speakers — Your 440-T has provisions for connecting two extra loudspeakers for use in remote listening areas. They may be used as a pair for stereo or mono listening in the same remote listening area or singly for *mono listening only* in two separate listening areas. In either case, full monophonic reproduction can be obtained only by setting the Mode/Tape Monitor switch to MONO. Use the illustration, FOR THE MAN IN A HURRY, as a connection guide; if you use both speakers in the same remote listening area, make sure that they are operating in phase. (Refer to the phasing instructions in the previous paragraph.)

ADDITIONAL COMPONENTS

RECORD PLAYERS

Turntables and record changers using magnetic phonograph cartridges can be played through the 440-T by means of the PHONO MAG LO (low level) and HI (high level) jacks. These jacks will accommodate most of the phonograph pickup cartridges that operate on the magnetic principle. They are commonly known as magnetic cartridges but sometimes are called moving-coil, moving-magnet and variable-reluctance cartridges. Some cartridges have higher output voltages than others. The LO input is for low-output-voltage cartridges — the HI jack is for cartridges with high output voltage. DO NOT

connect units to both the PHONO MAG LO and PHONO MAG HI inputs at the same time.

If the rating of the cartridge is not known, plug the leads into the HI jacks — the average sound output should be just about the same as the sound from the FM radio stations. Should it be much lower (if you have to turn the Volume control further clockwise for PHONO — to get volume equal to that from FM) the leads to the MAG PHONO jacks should be switched to those labeled LO. Sometimes the position of the Volume control for FM will be about halfway between the positions used for the

two MAG PHONO inputs — in this case use the HI input jacks.

The instructions that come with your record player will normally tell you which cable to connect to the right and left inputs. If you cannot determine which of the two output cables from the record player is the LEFT (A) channel and which is the RIGHT (B) channel, connect them temporarily and listen for normal placement of the musical instruments on a stereo symphonic record. The violin section should usually be louder in the left speaker. Another method of checking for the proper stereo connections is to use one of the many special stereo-demonstration records that are available.

Weak or distorted sound from the record player may indicate that the connections to the cartridge are wrong — out of phase. To correct this it is a simple matter of interchanging the leads for *one* stereo channel. Generally, this is just switching a pair of push-on connectors which can be grasped with tweezers or long-nose pliers.

TAPE RECORDERS, DECKS AND TRANSPORTS

The 440-T may be used with virtually every type of tape device for recording and playback, as well as for monitoring purposes (if the tape unit has monitoring facilities.) The type of tape machine you have will determine how you should connect it to the receiver. The following definitions are included to help you make the proper connections for your particular machine:

- (1) A *tape recorder* is a complete, self-contained device. It contains the recording electronics required for making a tape recording from your 440-T. It also contains its own playback amplifiers and speakers, but it may be connected to the *high-level* inputs of the 440-T for superior reproduction. Which type of high-level input (MON IN or AUX) you use depends basically on whether or not the recorder has monitor facilities. Refer to the appropriate connection procedures below for further details.
- (2) A *tape deck* contains recording and playback pre-amplifiers only. Like a tape recorder, it can make recordings from the 440-T (as well as from other sources). Unlike a tape recorder, it *must* be connected to the high-level inputs of the 440-T for playback. Again, which type of high-level input (MON IN or AUX) you use depends on whether or not the tape deck has monitor facilities. Refer to the appropriate connection procedures below for further details.
- (3) A *tape transport* contains no electronics whatsoever. It is intended for playback only (with prerecorded tapes) and *must* be connected to the TAPE HEAD inputs of the 440-T. Refer to the appropriate connection procedures below for further details.

Tape Recorders or Tape Decks Without Monitor Facilities — Connect your tape recorder or tape deck to the 440-T as follows:

- (1) Connect the left-channel (A or 1) output of the tape unit to the LEFT AUX jack on the rear of the receiver. (If your tape unit is monophonic, connect its single output to this same LEFT AUX jack and use the receiver monophonically.)
- (2) Connect the right-channel (B or 2) output of the tape unit to the RIGHT AUX jack on the rear of the receiver.
- (3) Connect the left-channel *high-level* input of the tape unit to the LEFT REC OUT jack on the rear of the receiver. (If your tape unit is monophonic, connect its high-level input to this same LEFT REC OUT jack and use the receiver monophonically.)

(4) Connect the right-channel *high-level* input of the tape unit to the RIGHT REC OUT jack on the rear of the receiver.

NOTE: Tape recorders or tape decks connected in the above-mentioned manner can be played through the 440-T by setting the Selector switch on the front panel to AUX. If you encounter any difficulties (electronic feedback, interruption of the recording process, etc.), use the connections listed below for tape recorders or tape decks *with* monitor facilities.

Tape Recorders or Tape Decks With Monitor Facilities — Connect your tape recorder or tape deck to the 440-T as follows:

- (1) Connect the left-channel (A or 1) output of the tape unit to the LEFT MON IN jack on the rear of the receiver. (If your tape unit is monophonic, connect its single output to this same LEFT MON IN jack and use the receiver monophonically.)
- (2) Connect the right-channel (B or 2) output of the tape unit to the RIGHT MON IN jack on the rear of the receiver.
- (3) Connect the left-channel *high-level* input of the tape unit to the LEFT REC OUT jack on the rear of the receiver. (If your tape unit is monophonic, connect its high-level input to this same LEFT REC OUT jack and use the receiver monophonically.)
- (4) Connect the right-channel *high-level* input of the tape unit to the RIGHT REC OUT jack on the rear of the receiver.

NOTE: Tape recorders and tape decks connected in the above-mentioned manner can be played through the 440-T by setting the Mode/Tape Monitor switch on the front panel to STEREO TAPE (for stereo tape playback) or to TAPE L or TAPE R (for monophonic playback from either a stereo or mono tape unit).

Tape Transports — Connect your tape transport to the 440-T as follows:

- (1) Connect the left-channel (A or 1) output of the transport to the LEFT TAPE HEAD jack on the rear of the receiver. (If your transport is monophonic, connect its single output to this same LEFT TAPE HEAD jack and use the receiver monophonically.)
- (2) Connect the right-channel (B or 2) output of the transport to the RIGHT TAPE HEAD jack on the rear of the receiver.

NOTE: Tape transports connected in the above-mentioned manner can be played through the 440-T by setting the Selector switch on the front panel to TAPE HEAD.

AUXILIARY COMPONENTS

The AUX jacks on the rear of the 440-T can accommodate a wide variety of auxiliary components other than the tape recorders and tape decks mentioned previously. They will accept any high-level, high-impedance program source (either mono or stereo) such as audio from a TV set*, shortwave or multiband receiver or tuner*, or an electronic organ. If the source is monophonic, connect it to the LEFT AUX jack and play the receiver monophonically (Mode/Tape Monitor switch set to MONO, Selector switch set to AUX).

***CAUTION:** If your TV set or receiver does not have output jacks intended specifically for use with external high fidelity equipment, consult a qualified service technician; he can make the simple modifications required.

In addition, have him determine whether or not the receiver incorporates a power transformer — devices not having this feature, often referred to as “AC/DC” or “transformerless” sets, can cause serious hum problems as well as shock hazards unless certain precautionary measures are taken first. **DO NOT** connect a TV set or receiver to your FISHER receiver if you are in doubt about its characteristics.

HEADPHONES

Stereo headphones may be plugged into the jack located between the Mode/Tape Monitor and Selector switches.

The plug that mates with this jack must be wired as shown in Figure 1. When using the headphones for the first time, turn the Volume control to minimum before plugging them in. Readjust the volume control for a comfortable *headphone* listening level and use this control setting as a reference for future use.

CAUTION: Do not leave the headphones plugged in when playing the loudspeakers at high volume levels; the large amounts of audio power required by the speakers at these levels can overload and permanently damage the headphones.

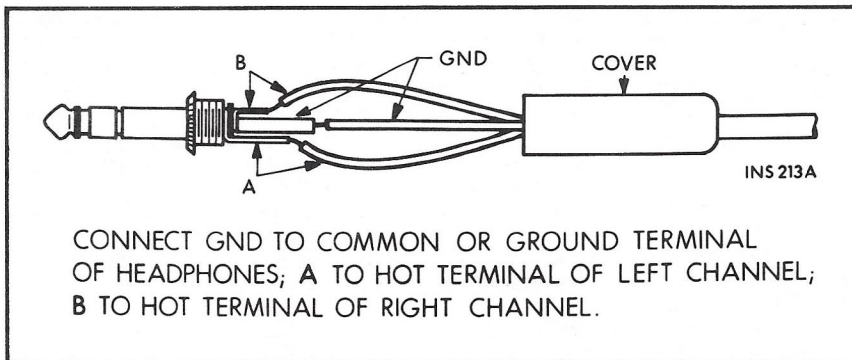


Figure 1. Headphone Plug Wiring

OPERATION

AC OFF/VOLUME

This single control turns on the power (as it is turned clockwise from its extreme counterclockwise position) and controls the volume of both channels. Advance the control a little at a time until you are familiar with the position needed for normal volume. While your fully-transistorized receiver will start operating instantly, other units connected to it may use vacuum tubes and therefore will require a short warm-up time.

SELECTOR

This control is used to choose the source of entertainment — either the built-in FM tuner or one of the components connected to the jacks on the rear of the receiver chassis.

Tape Head — Selects a tape transport connected to the TAPE HEAD jacks and provides the correct preamplification and equalization for tapes played at a speed of 7½ inches per second.

Phono — Selects a turntable or record changer connected to the PHONO MAG LO or PHONO MAG HI jacks and provides the necessary preamplification and RIAA equalization for the magnetic cartridge in the turntable or changer.

FM Auto — The position which will be used for almost all FM reception. When a stereo broadcast is tuned in, the STEREO BEACON indicator will light and the receiver will automatically switch to stereophonic reproduction. (The Mode/Tape Monitor switch must be in the STEREO position). If you retune to a monophonic broad-

cast, or the station changes to a monophonic program, the STEREO BEACON indicator will go out. Some receiving conditions, such as a weak signal, interference or even broadcasting difficulties may cause the STEREO BEACON indicator to flicker off and on — each time, the receiver will switch from stereo to mono. In this case, using the FM MONO position will permit enjoyable listening — monophonically. When the broadcasting difficulties are cleared, or you tune to a station with a stronger signal, FM AUTO can be used for normal stereophonic reception.

There is no noticeable switching sound as the STEREO BEACON goes on and off — there is just a loss of stereo effect. The speakers will seem to move apart with a stereophonic program and merge as soon as the monophonic mode takes over.

FM Mono — This position (as already explained) is to be used only when the FM AUTO position does not give acceptable reception. In this position, the automatic circuits are locked in the monophonic mode and will not switch back and forth with changing signal strength, multipath signals or other forms of interference. Monophonic reception does not need as strong a signal as that required for good stereophonic listening.

Aux — Selects any auxiliary component connected to the AUX jacks.

MODE/TAPE MONITOR

This switch combines two basic functions. The main function, Mode, selects either the stereo or monophonic

mode of operation for the *audio amplifier* section. The other function, Tape Monitor, provides convenient means for playing a tape deck or tape recorder connected to the MON IN jacks or — depending on the design of your recorder — for monitoring the tape *while recording*.

Mono — This position must be used to play all monophonic signal sources when the Selector is set to the PHONO or AUX position, or if only one speaker is connected to the output terminals. When listening with the Selector switch in the FM AUTO or FM MONO positions, this switch should always be set to STEREO. (The automatic circuits do the switching between FM stereophonic and FM monophonic programs.) It is not possible to have FM stereophonic sound with the Mode switch in the MONO position.

Stereo — Use this position for all stereophonic listening. The switch must be in the STEREO position when listening to all stereophonic sources. If the MONO position is used, only monophonic reproduction will result — even if the Selector is set to FM AUTO and a stereophonic program is received.

Stereo Tape — When the switch is set to this position, program material originating in either the FM-tuner section, a record player, or any device connected to the AUX jacks is internally disconnected from the tone and volume control circuits of the receiver. In their place, the MON IN jacks are connected. The signals from a tape deck or recorder connected to these jacks will now be heard through your speaker systems. While this feature can be used with almost all tape decks or recorders, it is especially useful with units having monitor facilities (separate record and playback circuits and heads). When recording with such a tape unit, you can instantly compare the quality of the original source signal to that of the recorded signal *while recording* by alternating the setting of the Mode/Tape Monitor switch between STEREO (source) and STEREO TAPE (tape).

Tape L — Use this position when playing from a monophonic tape recorder or tape deck connected to the LEFT MON IN jack. If you own a four-track stereo/mono tape recorder or tape deck, this position will permit you to play either track 1 or track 4 through both speakers monophonically.

Tape R — This position will permit you to play either track 2 or track 3 of a four-track tape recorder or tape deck through both speakers monophonically.

TUNING

Basically, the TUNING knob lets you select any station broadcasting between 88 and 108 MHz (mc)* when the Selector switch is set to either the FM AUTO or FM MONO position. The slide-rule dial is calibrated so that you may select your stations by frequency — just as they are listed in the radio section of the newspaper. The “logging” scale (calibrated 0 to 100) at the lower portion of the dial can be used to relocate your favorite stations — by noting the position of the pointer on this scale you can retune to this number instead of to a “frequency.” Many people find this method more convenient than remembering the exact frequency for a particular station. Regardless of the scale you use, accurate tuning is essential for undistorted, noise-free reception and — in the case of FM-stereo — for maximum stereo separation. To help you tune to the point of best reception (center of channel) for any FM station, we have incorporated a highly sensitive and accurate tuning meter. To reach

this center-of-channel point for a given station, always tune for the *maximum* meter reading obtainable for that station. The *actual value* of the reading will depend on the relative distance and signal strength of the station.

***NOTE:** The Institute of Electrical and Electronic Engineers (IEEE) has recently adopted the designations Hz (Hertz), kHz, and MHz as units of frequency measurement. These designations, already in standard use throughout the rest of the world, are synonymous with cps, kc, and mc, respectively.

BASS

The Bass control increases the amount of bass tones (such as those of tuba or bass viol) that you hear. With the Bass control in the mid-position (marked 0), the bass tones will sound exactly as they did when they were recorded or picked up for broadcast. If you wish to emphasize the bass, simply turn the Bass control clockwise. To decrease the prominence of the bass tones, turn the Bass control counterclockwise. Normally, the entire Bass control rotates as one unit, but if you wish to adjust the bass separately for each channel (as you might, for instance, if you are using a different type of speaker in each channel), hold one of the knobs in place while adjusting the other.

TREBLE

The Treble control adjusts the intensity of the treble tones (such as the highest notes of the violin or piccolo) that you hear. As with the Bass control, the mid-position (marked 0) will result in the reproduction of treble tones exactly as they appear in the program source. The relative strength of the treble tones (with respect to the rest of the program material) can be increased by rotating the Treble control clockwise. Turning the control counterclockwise decreases the relative amount of treble tones. The Treble controls may also be individually adjusted for each channel by holding one knob while rotating the other.

NOTE: The Bass and Treble controls have no effect on tape recordings made from the REC OUT jacks.

BALANCE

Ideally, the volume from both speaker systems should sound equal. Sometimes differences in room layout, dissimilarities in the speaker systems, or your listening position (too close to one speaker, too far from the other) cause an audible imbalance. Adjusting the Balance control will compensate for any of these differences.

LOUDNESS CONTOUR

When this switch is ON, the low (bass) and high (treble) tones are emphasized as the volume is turned down. This compensates for the natural inefficiency of the human ear in the extreme bass and treble ranges at low volume levels. A more natural sound results and it is not necessary to play the unit at full volume to maintain the proper tonal balance.

MUTING

To eliminate the hiss and static heard between stations when tuning, the Muting may be switched ON. Weak-signal stations are also muted — these broadcasts are difficult to tune in, almost impossible to listen to in stereo and do not have the static-free reception that is possible only with stronger signals. Weak signals can result from: a distant station; a directional antenna pointing in the wrong direction; a defective antenna. If the antenna is defective, or connections improperly made, it is possible

that all stations may be muted and nothing will be heard. Generally a tuning meter indication greater than 2 to 2½ is required for good reception.

SPEAKERS

Set this switch to MAIN when you wish to hear program material played through your main speakers (the speakers connected to the MAIN and C terminals on the rear of the receiver chassis). If, instead, you prefer to hear the same material played through your remote speakers (the speakers connected to the REMOTE and C terminals), set the switch to REMOTE. If there are no remote

speakers connected to the receiver, you may use the REMOTE position as a convenient means of silencing the main speakers.

HIGH FILTER

A high-frequency filtering circuit is controlled by this switch. In the ON position, this filter removes or reduces annoying record scratch, hiss, and other high-frequency noise, without reducing the crispness of the treble tones. It may also be used to eliminate noise on FM multiplex-stereo broadcasts from weaker stations. This filter does not affect the signals appearing at the REC OUT jacks.

HOME MAINTENANCE

CAUTION: Disconnect the receiver from the AC power outlet before performing any of these maintenance or replacement procedures.

CLEANING THE DIAL GLASS

(1) Remove all control knobs from the front panel by grasping each knob in turn and pulling it towards you *gently*. If you have difficulty in removing the Bass and Treble knobs, try removing the outer section of each knob first.

(2) Remove the three hex nuts fastened to the Volume, Selector, and Tuning control shafts in that order; lift off the front panel.

(3) Loosen or detach one end of each vertical foam-cushion strip; these strips are fastened to the dial-glass retaining clips.

(4) Loosen (*do not remove*) the screws that hold the dial-glass retaining clips; swing the clips aside and lift off the dial glass. Because the dial glass is held from behind by two adhesive rubber strips, it may be necessary to apply a gentle prying force at the ends.

(5) Remove dust with a dry rag. If you wish to clean more thoroughly, use a soap and water solution only; a stronger cleaning agent may damage the markings on the glass.

(6) Replace the dial glass. Make certain to reset it by placing it firmly against the *lower left-hand* corner of the Bakelite end frame.

(7) Replace the front panel, hex nuts, and control knobs.

REPLACING DIAL LAMPS

(1) Remove all control knobs from the front panel by grasping each knob in turn and pulling it towards you *gently*. If you have difficulty in removing the Bass and Treble knobs, try removing the outer section of each knob first.

(2) Remove the three hex nuts fastened to the Volume, Selector, and Tuning control shafts in that order; lift off the front panel.

(3) Remove the burned-out lamp from its spring-clip mounting; replace it with a new dial lamp from your FISHER dealer (Part Number I50441-1).

(4) Replace the front panel, hex nuts, and control knobs.

REPLACING THE TUNING-METER LAMP

(1) Remove the Phillips-head screws that secure the top cover; lift off the cover.

(2) The lamp is bracket-mounted directly behind the tuning meter. Remove the lamp (together with its metal shade) by pushing it into its socket and twisting it

counterclockwise until it disengages. Keep the shade for use with the replacement lamp (No. 18470F, available at your authorized FISHER dealer or at any electronics parts dealer).

(3) Install the new lamp (with shade) by pushing it into the socket and twisting it *clockwise* until it engages.

(4) Replace the top cover and Phillips-head screws.

STEREO BEACON LAMP

This lamp is a long-life device which should not require replacement with normal use. *Do not* attempt to replace it yourself; consult your authorized FISHER dealer or serviceman for further information.

REPLACING FUSES

CAUTION: Two spare fuses, enclosed in a plastic bag, are included with the receiver. These fuses are not electrically identical; using the wrong fuse in the wrong receptacle can cause serious damage to the receiver. Examine the metal ends of each fuse to determine its particular characteristics. The 1.5-amp slow-blow fuse is marked 1.5A SLO-BLO; the 4-amp fuse is marked 4A. When purchasing replacement fuses for future use, get exact replacements; do not substitute conventional fuses for slow-blow fuses or vice versa.

Power Fuse — The AC power input of the receiver is fused to protect it against abnormal power-line surges and other adverse conditions sometimes encountered by electronic equipment. If the dial and meter lamps don't light when the receiver is connected to the AC power outlet and the Volume control is switched on, the AC power fuse may have blown. This fuse is in the rear-panel black receptacle marked AC LINE 1.5A SLO-BLO. To replace it, proceed as follows:

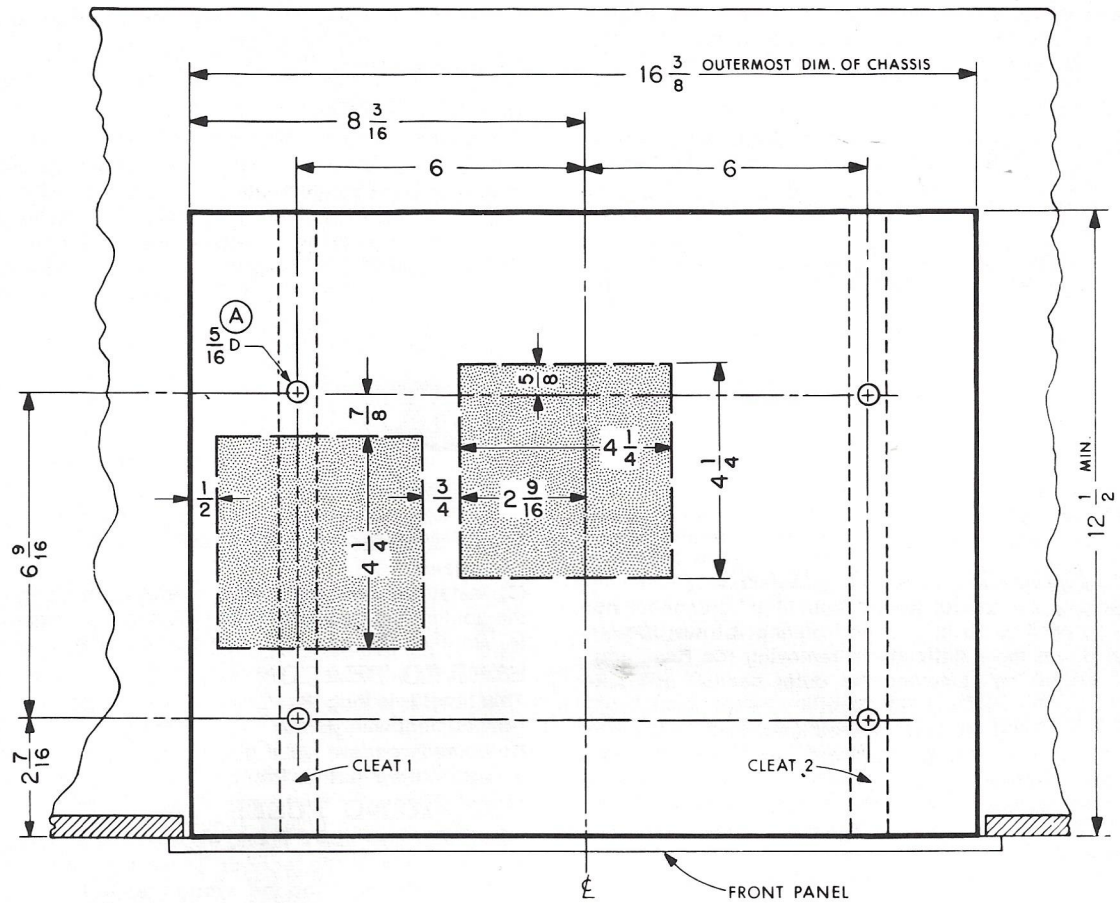
(1) Turn the receiver off and disconnect the power cord from the AC outlet.

(2) Push the fuseholder cap in and twist it *counterclockwise* until it disengages. Remove the fuse from the cap and replace it with a 1.5-amp slow-blow fuse only.

(3) Push the cap and fuse into the proper receptacle and twist the cap *clockwise* until it engages. Plug the power cord into the AC outlet and turn the receiver on.

CAUTION: If the receiver still does not operate or if the replacement fuse blows immediately, do not attempt to replace the fuse again. Contact your authorized FISHER dealer or serviceman.

Speaker Fuse — Power transistors can be easily destroyed by improper or careless methods of connecting loudspeakers. Both the output transistors and the power supply in this receiver are fused to protect them from damage in such instances. If the sound from your loud-



NOTES:

(A) REPRESENTS LOCATIONS OF FOUR $\frac{5}{16}$ INCH HOLES.

SHADED AREAS REPRESENT VENT HOLES IN MOUNTING BOARD WHICH ARE DESIRABLE BUT NOT NECESSARY.

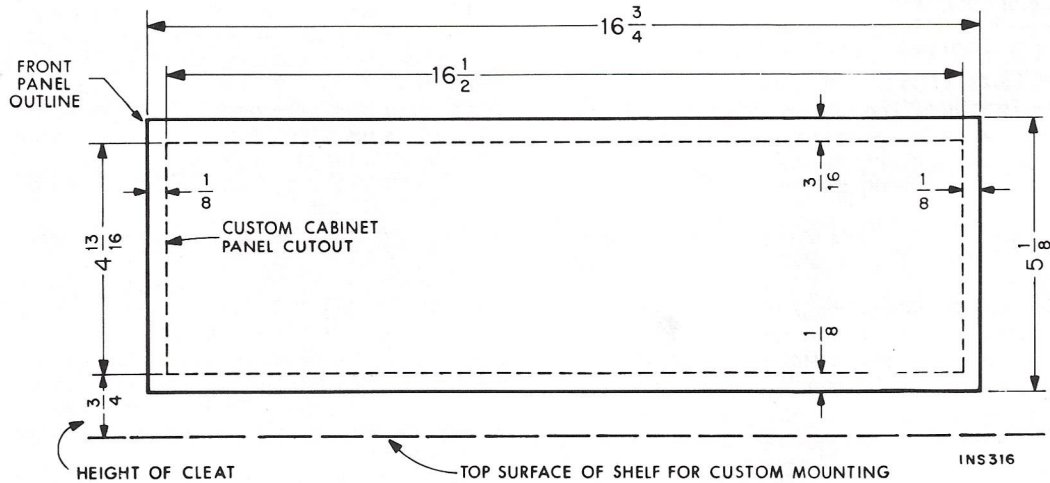


Figure 2. Horizontal Installation

speakers is weak and distorted, especially when the Volume control is at a fairly high setting, the speaker fuse may have blown. *Before you attempt to replace the fuse, try to find out what caused it to blow.* Proceed as follows:

(1) Turn the receiver off and disconnect the power cord from the AC outlet.

(2) *Check all connections at the SPKRS terminals on your receiver and at the terminals on the speakers themselves. Look especially for loose strands of wire that may be shorting one terminal to an adjacent terminal or to the chassis of the receiver.*

(3) Extract the fuse in the rear-panel black receptacle marked SPKR 4A. To do this, push the fuseholder cap in and turn it *counterclockwise* until it disengages. Remove the fuse from the cap and replace it with a 4-amp fuse only.

(4) Push the cap and fuse into the proper receptacle and twist the cap *clockwise* until it engages. Plug the power cord into the AC outlet and turn the receiver on.

CAUTION: If the sound from your loudspeakers is still weak and distorted or if the replacement fuse blows immediately, do not attempt to replace the fuse again. Contact your authorized FISHER dealer or serviceman.

CUSTOM MOUNTING

HORIZONTAL INSTALLATION

CAUTION: Do not attempt to install this receiver in a custom cabinet or enclosure unless the enclosure is open at the rear and far enough from a wall or other obstruction to permit free-flowing air to reach the receiver. In addition, the receiver chassis must be raised from the mounting shelf with wooden cleats as specified in the following instructions. To avoid damage to components inside the chassis, do not use screws that are more than 1/4 inch longer than the thickness of the wood pieces they pass through. **FAILURE TO OBSERVE THESE PRECAUTIONS WILL VOID ALL WARRANTIES ON THIS INSTRUMENT.**

(1) Cut two cleats 10 inches long from a piece of 3/4-inch square wood stock.

(2) Fasten the two cleats to the top of the mounting shelf with two *flat-head wood screws* as shown in Figure 2. If possible, insert the screws from the underside of the mounting shelf; if you must drive the screws through the cleats from above, make certain that the screw heads are countersunk below the top surfaces of the cleats.

(3) Locate and drill four 5/16-inch holes (A) through the mounting shelf and cleats as shown.

(4) Saw a cutout through the front panel of your cabinet to the dimensions shown.

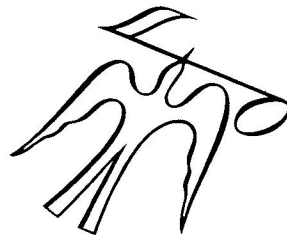
(5) Insert the receiver chassis through the front-panel cutout. Slide the chassis into the cabinet until the control panel of the receiver is tight against the front panel of the cabinet. *Make certain that the plastic mounting feet have been removed from the bottom of the receiver.*

(6) Secure the receiver chassis to the mounting board and cleats; use the screws that formerly held the plastic feet. If they are too short, use 1 1/2- or 1 3/4-inch 8-32 machine screws (available at any hardware store). Remember, make certain that the screws do not protrude more than 1/4 inch above the cleats.

NOTE: For additional ventilation, you may cut optional vent holes in the mounting shelf as indicated by the shaded areas in Figure 2. These vent holes are desirable but not necessary.

VERTICAL INSTALLATION

Heat is the greatest enemy of electronic equipment; therefore, your component *must* be mounted in an *open-back* cabinet only. The rear of the cabinet *must* be several inches from the wall. Heat build-up in a component can ruin it and other nearby components — a fan or blower *must* be used to provide forced ventilation. **FAILURE TO OBSERVE THESE PRECAUTIONS WILL VOID ALL WARRANTIES ON THIS COMPONENT.** Specific mounting instructions may be obtained by writing to Richard Hamilton, Customer Relations, Fisher Radio Corporation, Long Island City 1, N.Y.



TECHNICAL SPECIFICATIONS

THE FM TUNER SECTION:

Usable Sensitivity (IHF standard)	2.0 uV
Harmonic Distortion (at 100% modulation and 400 cps*)	0.5%
Stereo Separation (at 400 cps*)	35 db
Signal-to-Noise Ratio (at 100% modulation)	68 db
Selectivity (alternate channel)	50 db
Capture Ratio (at 1 millivolt)	2.2 db
Spurious Response Rejection (at 100 mc*)	80 db

THE AUDIO SECTION:

Music Power (IHF standard; both channels at 1 kc*)	
Speaker impedance 4 ohms	70 watts
Speaker impedance 8 ohms	50 watts
Harmonic Distortion (at 1 kc*)	
At rated power	0.8%
At 3 db below rated power	less than 0.4%
IM Distortion (60/7000 cps*, 4:1)	
At rated power	0.8%
At 3 db below rated power	less than 0.4%
Frequency Response	
Overall	20 to 22,000 cps* \pm 1.5 db
Power amplifier section	18 to 25,000 cps* \pm 0, -2 db
Hum and Noise	
Amplifier section (volume control in minimum position)	80 db
Phono input (6mV reference)	55 db
Auxiliary input (350 mV reference)	65 db
Input Sensitivity (1 kc*, for rated power at 8 ohms)	
PHONO MAG LO (low-level magnetic phono input)	4.5 mV
PHONO MAG HI (high-level magnetic phono input)	13.5 mV
TAPE HEAD	3 mV
AUX (auxiliary input)	350 mV
MON IN (monitor input)	400 mV
Bass Control (total variation at 50 cps*)	26 db
Treble Control (total variation at 10 kc*)	22 db
High-Frequency Filter	
Attenuation (at 5 kc*)	-3 db
Attenuation (at 10 kc*)	-10 db
Fixed Low-Frequency Filter	12 db per octave below 20 cps*
Power Line Requirements	105-120 volts AC, 50-60 cps*
Total Power Consumption	10 watts, 23 VA (idling) 135 watts, 155 VA (at full output)

*NOTE: The units of frequency measurement, cps, kc, and mc, may be replaced by the designations Hz (Hertz), kHz, and MHz, respectively. These new designations, already in standard use throughout the rest of the world, have recently been adopted by the Institute of Electrical and Electronic Engineers (IEEE).

BECAUSE ITS PRODUCTS ARE SUBJECT TO CONTINUOUS IMPROVEMENT, FISHER RADIO CORPORATION RESERVES THE RIGHT TO MODIFY ANY DESIGN OR SPECIFICATION WITHOUT NOTICE AND WITHOUT INCURRING ANY OBLIGATION.

WARRANTY TO OWNER

The warranty on a product reflects the confidence of its maker in the quality of materials and workmanship that go into it. The unique FISHER warranty has been established to protect your investment. Please read it carefully.

All FISHER equipment is fully guaranteed to the original using purchaser against defects in materials and workmanship, subject to the following:

All parts (except tubes) are guaranteed for two years. Tubes are guaranteed for one year. Any defective part will be repaired or replaced without charge. During the first ninety days there is no charge for warranty labor.

Defective parts or equipment must be returned properly packed, transportation prepaid, to the FISHER dealer from whom it was originally purchased, or to a FISHER Authorized Service Center, or, after written authorization, to the FISHER plant. All warranty service is F.O.B. the dealer, service center, or FISHER plant.

The warranty is void if our inspection shows that the equipment has been tampered with, or installed, altered or repaired at variance with factory-designated procedures, subjected to negligence, misuse or accident, damaged by excessive line voltage or insufficient ventilation, or had its serial number altered, defaced or removed.

This warranty is in lieu of all other warranties, express or implied, and all other obligations or liabilities on the part of FISHER. No person, including any dealer, agent or representative of FISHER, is authorized to assume for FISHER any liability on its behalf or in its name except to refer purchasers to this warranty.

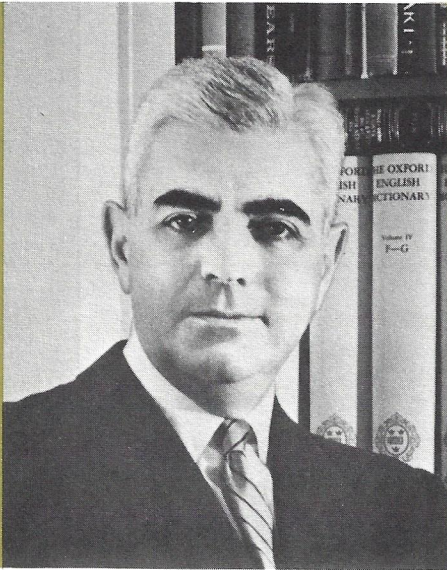
This warranty takes effect only if the warranty-registration card has been fully and properly filled out and returned to FISHER RADIO CORPORATION within ten (10) days from the date of purchase.

Be Sure to Register Your FISHER Equipment and Enjoy the Following Advantages:

- Full benefits of the FISHER warranty.
- Prompt handling of correspondence with our Customer Service Department.
- Assistance in finding your equipment or establishing its value in case of loss through theft, fire, etc.
- Receipt of FISHER news bulletins on important developments in high fidelity equipment.

FOR WARRANTY SERVICE, CONSULT YOUR DEALER

THE MAN BEHIND THE PRODUCT



AVERY FISHER

Founder and President,
Fisher Radio Corporation

Twenty-seven years ago, Avery Fisher introduced America's first high fidelity radio-phonograph. That instrument attained instant recognition, for it opened a new era in the faithful reproduction of records and broadcasts. Some of its features were so basic that they are used in all high fidelity equipment to this day. One of these models is now in the permanent collection of the Smithsonian Institution as an example of the earliest high fidelity instruments commercially available in this country.

The engineering achievements of Avery Fisher and the world-wide reputation of

his products have been the subject of descriptive and biographical articles in Fortune, Time, Pageant, The New York Times, Life, Coronet, High Fidelity, Esquire, The Atlantic, and other publications. Benefit concerts for the National Symphony Orchestra in Washington and the Philadelphia Orchestra, demonstrating recording techniques, and the great advances in the art of music reproduction, used FISHER high fidelity instruments both for recording and playback, to the enthralled audiences. FISHER equipment formed the key part of the high fidelity demonstration at the American National Exposition in

Moscow, July 1959. FISHER FM and FM-AM tuners are the most widely used by broadcast stations for monitoring and relay work, and by research organizations—under conditions where absolute reliability and maximum sensitivity are a 'must.'

The FISHER instrument you have just purchased was designed to give you many years of pride and enjoyment. If you should desire information or assistance on the installation or performance of your FISHER, please write directly to Avery Fisher, President, Fisher Radio Corporation, Long Island City 1, N. Y.



FISHER RADIO CORPORATION
LONG ISLAND CITY 1 · NEW YORK
(C) www.fisherconsoles.com



FILL OUT THIS CARD



SAVE FOR REFERENCE

For **FACTORY SERVICE** and **REPLACEMENT PARTS**

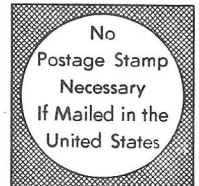
Write or Call

Service Department, **FISHER RADIO CORPORATION**
11-40 45th Road • L. I. City, N. Y. 11101
(212) 937-2100

NOTE: FISHER replacement parts are taken from the original production supplies used in the manufacture of your equipment, and are therefore identical in every respect to the original.

For prompt attention, give the following information when writing us.

MODEL _____ SERIAL NO. _____ PURCHASE DATE _____



BUSINESS REPLY MAIL

FIRST CLASS PERMIT No. 493, LONG ISLAND CITY, N. Y.

FISHER RADIO CORPORATION

11-40 45th Road

Long Island City, N.Y. 11101



IMPORTANT! PROTECT YOUR PURCHASE!

THIS WARRANTY IS VOID UNLESS COMPLETED AND RETURNED WITHIN 10 DAYS AFTER DATE OF PURCHASE.

As a Fisher owner, you are entitled to all the benefits and advantages of the unique Fisher warranty.

Protect your purchase by filling out the warranty card immediately. Mail today.

WE WILL BE GLAD TO MAIL YOUR FRIENDS DESCRIPTIVE LITERATURE IF YOU WILL SEND US THEIR NAMES AND ADDRESSES BELOW. WE PAY THE POSTAGE.

Gentlemen:

I have received the descriptive folders on THE FISHER High Fidelity Equipment. I believe this literature will also be of interest to those of my friends whose names are listed below.

PLEASE PRINT

My name _____

Address _____

City _____ State _____

Please send copies of your literature to:

Name _____

Address _____

City _____ State _____

Name _____

Address _____

City _____ State _____

Name _____

Address _____

City _____ State _____

You may use my name.

Please do not use my name.