PIONEER®

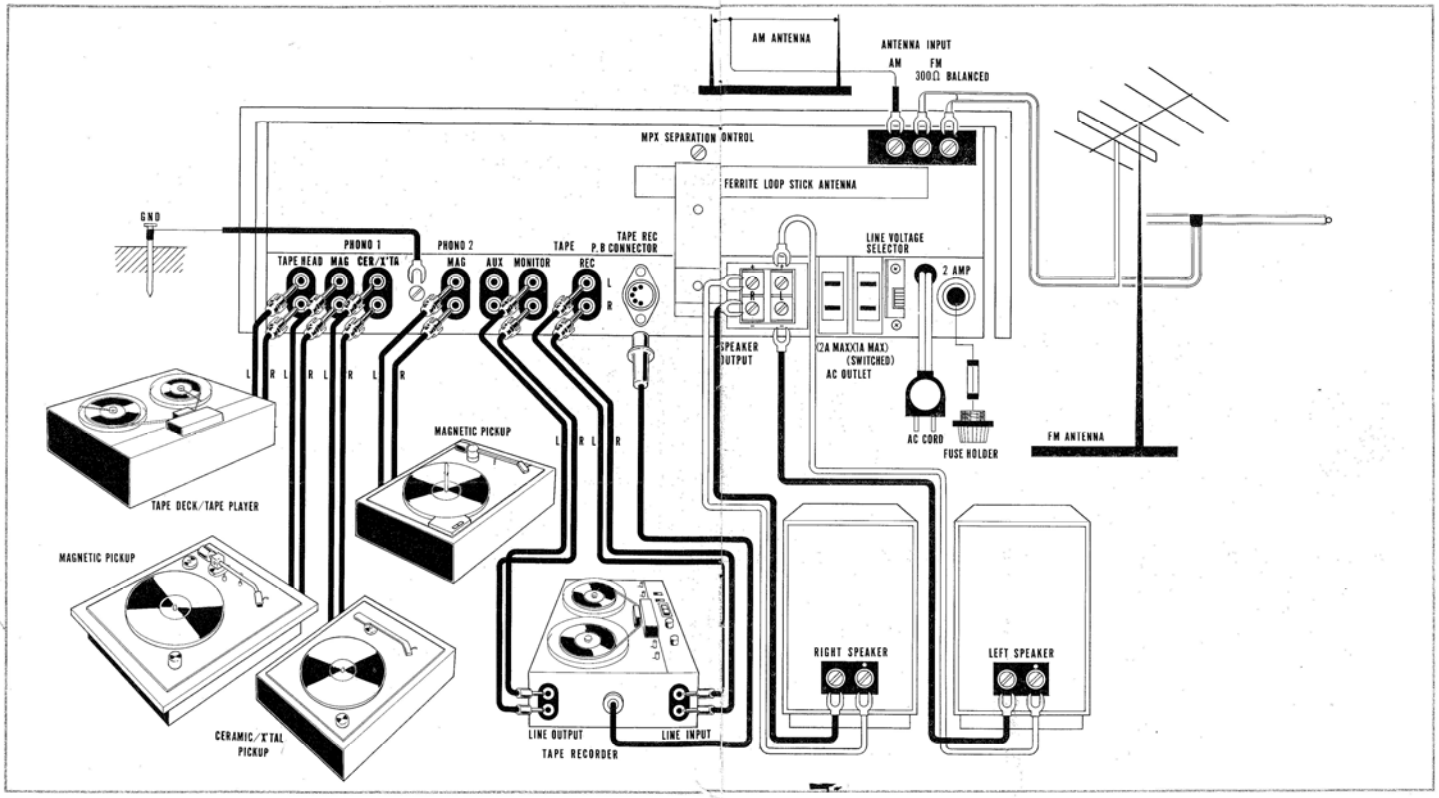
17943 Ω

# SOLID STATE STEREO RECEIVER

# MODEL SX-1000TA

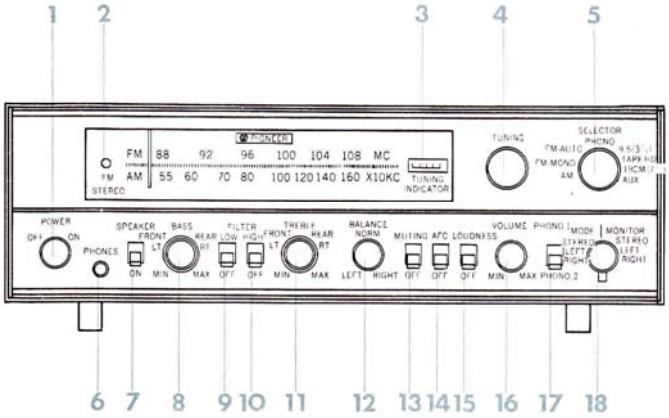
## OPERATING INSTRUCTIONS

PIONEER ELECTRONIC CORPORATION


AM ANTENNA
ANTENNA INPUT
AM
FM
300Ω BALANCED
MPX SEPARATION ONTROL
FERRITE LOOP STICK ANTENNA
GND
PHONO 1
TAPE HEAD MAG CER/X'TA
PHONO 2
MAG AUX MONITOR
TAPE
REC
P.B
TAPE REC CONNECTOR
L
R
LINE VOLTAGE SELECTOR
2 AMP
SPEAKER OUTPUT
(2A MAX)(1A MAX) (SWITCHED) AC OUTLET
AC CORD
FUSE HOLDER
FM ANTENNA
TAPE DECK/TAPE PLAYER
MAGNETIC PICKUP
MAGNETIC PICKUP
CERAMIC/X'TAL PICKUP
LINE OUTPUT
LINE INPUT
TAPE RECORDER
RIGHT SPEAKER
LEFT SPEAKER

PIONEER

# FUNCTIONS OF CONTROLS AND SWITCHES ON FRONT PANEL




### 1. POWER

This is the main power switch. Turning it to the right and setting it to the ON position switches on the receiver.

### 2. FM STEREO INDICATOR

This is an indicator lamp that goes on when the FM station is broadcasting stereo.

NOTE: With the SELECTOR (5) set to the FM-AUTO position, even if a broadcast being received is a stereo broadcast, there may be times when the indicator lamp may not go on, and in such cases, the broadcast will be reproduced as a monaural broadcast.

### 3. TUNING INDICATOR

This is a meter that indicates the tuning points for stations. The point of maximum swing for any station is the tuning point for that station.

### 4. TUNING

This is the control that tunes the receiver in to the desired AM, FM, or FM stereo station.

### 5. SELECTOR

This is the control switch that selects the program material to be reproduced: the type of radio broadcast, or phono or tape playback.

Its positions are as follows:

AM .....For reception of AM (Broadcast Band) stations

FM-MONO.....For reception of FM monaural stations

FM-AUTO .....For reception of FM broadcasts, with automatic switching between FM monaural and stereo.

PHONO .....For playback of disc records

TAPE HEAD...For playback of tapes, deriving signal directly from tape heads. The 9.5/3 3/4 position provides proper equalization for tapes recorded at 9.5 cm./3 3/4" per second, and the 19/7 1/2 position provides proper equalization for tapes recorded at 19 cm./7 1/2" per second.

AUX.....For reproduction of auxiliary signals fed to the AUX position

### 6. PHONES

This is a jack that accommodates the plug of a pair of stereo headphones, available separately. This jack remains 'live' at all times.

### 7. SPEAKER

This is a switch that shuts off the sounds from the loudspeakers. By setting it to the OFF position and listening through a pair of stereo headphones, it will be possible to enjoy reproduction of program material without bothering the people around you.

### 8. BASS

This is the control that adjusts bass response of the receiver. Turning it to the right (clockwise) will boost, and turning it to the left will reduce bass response. Of the two-section control, the fore section adjusts the left channel and the rear section adjusts the right channel.

### 9. LOW FILTER

Setting this switch to the ON position will eliminate low frequency noises, such as phonograph motor rumble or hum.

### 10. HIGH FILTER

Setting this switch to the ON position will eliminate high frequency noise, such as record scratch, hiss, or other interference.

### 11. TREBLE

This is the control that adjusts treble response of the receiver. Turning it to the right (clockwise) will boost, and turning it to the left will attenuate treble response. Of the two-section control, the fore section adjusts the left channel and the rear section adjusts the right channel.

### 12. BALANCE

This control serves to balance the volume level of the left and right channels. Turning it to the right (clockwise) will move the center of sound to the right, and turning it to the left will move the center of sound to the left.

### 13. MUTING SWITCH

Setting this switch to the ON position will eliminate the noise or crackle that is heard between stations as you tune across the FM band. However, for reception of extremely weak signals, this switch should be set to the OFF position.

### 14. AFC SWITCH

FM broadcasts are conducted at VHF , and so even if they are tuned in accurately initially, as time passes, there are time when tuning drift arises. To compensate automatically for any such tuning drift is the function of the AFC (automatic frequency control) circuit. This switch should be set to the OFF position when tuning in a station, and after the station has been tuned in accurately, it should then be set to the ON position.

### 15. LOUDNESS CONTOUR

At low sound levels, the sensitivity of the human ear to low and high frequencies deteriorates. The function of the LOUDNESS CONTOUR circuit is to compensate for this deficiency in the extreme bass and treble range. For listening at low volume settings, set this switch to the ON position.

### 16. VOLUME

This is the control that adjusts the volume level of the receiver. Turning it to the right will increase the volume level, and turning it to the left will lower volume level.

### 17. PHONO SELECTOR SWITCH

PHONO 1.....This switch should be set to this position when using the PHONO 1-MAG (23) or PHONO CER/XTAL (24) inputs

PHONO 2.....This switch should be set to this position when using the PHONO 2-MAG (26) inputs

### 18. MODE/MONITOR

This switch is the selector for stereo/mono and tape monitor settings. Its positions are as follows:

MODE-RIGHT .....For reproduction over both left and right loudspeakers of program material being fed to any of the right channel inputs.

MODE-LEFT .....For reproduction over both left and right loudspeakers of program material being fed to any of the left channel inputs.

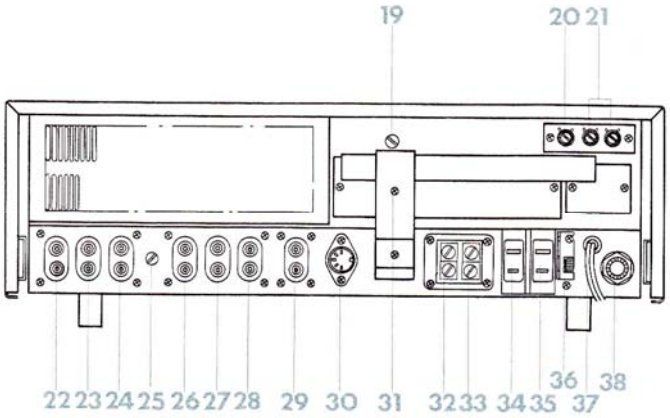
MODE-STEREO .....For stereo reproduction

MONITOR-STEREO...For stereo reproduction of program material fed to the TAPE MONITOR inputs (28).

MONITOR-LEFT .....For reproduction over both left and right loudspeakers of program material being fed to the left channel TAPE MONITOR input.

MONITOR-RIGHT ...For reproduction over both left and right loudspeakers of program material being fed to the right channel TAPE MONITOR input.

# FUNCTIONS OF TERMINALS, JACKS, AND SWITCHES ON REAR PANEL




### 19. MPX SEPARATION CONTROL

This control adjusts the channel separation of FM multiplex stereo broadcasts. It has already been adjusted fully at the factory, and normally there should be no need for any further adjustments, which are extremely critical.

### 20. AM (Broadcast Band) ANTENNA TERMINAL

This is the terminal for the AM (broadcast band) antenna. The lead cable provided may be used as an indoor antenna, or the lead from an outdoor antenna, if you plan to use one, should be connected to this terminal.

### 21. FM ANTENNA TERMINALS

These are the terminals for the FM antenna. The leads from the indoor T-shaped antenna, or the leads from an outdoor antenna, if you plan to use one, should be connected to these terminals.

### 22. TAPE HEAD

When using a tape deck that is not equipped with a playback equalization amplifier or when deriving program material signals directly from the heads of a tape player, the output cables should be connected to these input jacks.

### 23. PHONO 1-MAG

When using a turntable that is equipped with a magnetic cartridge, the output cables should be connected to these input jacks.

### 24. PHONO 1-CER/XTAL

When using a turntable that is equipped with a ceramic or crystal cartridge, the output cables should be connected to these input jacks.

NOTE: The PHONO 1-MAG and PHONO 1-CER/XTAL inputs cannot be used simultaneously.

### 25. GROUND

When using a ground for the receiver, the lead from the ground is connected to this terminal. If the turntable is equipped with a ground lead, then it should be connected to this terminal also.

### 26. PHONO 2-MAG

When using a turntable equipped with a magnetic cartridge, the output cables should be connected to these input jacks.

### 27. AUX

These are input jacks for auxiliary inputs, such as a TV sound channel.

### 28. TAPE MONITOR

When playing back tape recordings using a tape deck equipped with preamplifiers, the outputs from the LINE OUTPUTS of the tape recorder should be connected to these input jacks.

### 29. TAPE REC

To make tape recordings of program material, the LINE INPUTS of the tape recorder are connected to these recording output jacks.

### 30. TAPE REC/P.B.CONNECTOR (D.I.N. STANDARDS)

When using a tape recorder equipped with a tape recording/playback connector socket identical to this one (and conforming to West Germany's D.I.N. standards), the recording/playback connector cable that will usually be provided with the tape recorder is connected between this socket on the receiver and its counterpart on the tape recorder. This single multiconductor cable will complete all connections required for stereo recording and playback.

### 31. AM FERRITE LOOPSTICK ANTENNA

This is a loopstick antenna for the reception of AM (broadcast band) stations. In areas relatively close to the transmitting sites, this antenna alone will provide perfectly satisfactory reception. This antenna has directional properties, so it should be moved about while listening to a station and set at the position providing best reception.

### 32. RIGHT CHANNEL LOUDSPEAKER TERMINALS

The righthand loudspeaker is connected to these terminals. The upper terminal is the positive (+) terminal. The loudspeaker should have an impedance rating of 8 to 16 ohms. This loudspeaker terminal section can be detached, and, with the loudspeaker leads attached to the terminals, used as a plug.

### 33. LEFT CHANNEL LOUDSPEAKER TERMINALS

The lefthand loudspeaker is connected to these terminals. The upper terminal is the positive (+). The loudspeaker should have an impedance rating of 8 to 16 ohms.

### 34. AC OUTLET

This is an AC outlet that provides a convenient source of power for your turntable or tape deck or recorder. It has a maximum capacity of 2 amperes. It is not controlled through the POWER SWITCH (1), and remains live at all times.

### 35. AC OUTLET (SWITCH CONTROLLED)

This is another AC outlet that may be used to provide AC power. This one has a maximum capacity of 1 ampere, and is controlled through the POWER SWITCH (1).

### 36. LINE VOLTAGE SELECTOR

This switch should be set to the position conforming to the AC mains voltage in your area. It has two positions, 115 volts and 230 volts. To reset the switch, first loosen the upper machine screw and disengage the securing tab. Then set the switch to the desired position, and once again engage the securing tab. The upper position is for 230 volts and the lower position is for 115 volts.

### 37. AC CORD

This is the AC power cord.

### 38. FUSE

This is the fuse holder. Should replacement become necessary, always use a glass-tube enclosed fuse. In 115 volt areas, use a 2 ampere fuse, and in 230 volt areas, use a 1 ampere fuse.

# THE SX-1000TA-ITS SUPERB FEATURES

**Extremely Sensitive FM Tuner Circuitry**

The FM front end provides outstanding sensitivity through the use of the latest space-age high efficiency triodes designed expressly for use in the VHF band.

**Time-Switching Multiplex Circuit**

A proven time-switching circuit, renowned for its excellent separation and lasting stability, is used for wide bandwidth stability featuring maximum separation at all times.

**Electronic STEREO-MONO Automatic Switching**

The use of a Schmidt electronic circuit provides reliable automatic switching between stereo and mono operation. This circuit is furthermore coupled to a stereo indicator lamp as an added measure.

**Easy Tuning By Precise Tuning Indicator**

A well-illuminated and easy-to-read tuning indicator helps greatly to simplify the tuning in of the weakest signals.

**Efficient AM Tuner Circuitry**

For high sensitivity reception of AM broadcasts, a well-designed AM tuner section using a precision 3-gang tuning capacitor is provided. It is equipped with a Loopstick ferrite antenna, thus eliminating the need for an external aerial in the vicinity of the station.

**High Efficiency Audio Circuitry**

The final stages use complimentary direct-coupled circuits, for full bandwidth reproduction at low distortion with a high damping factor.

**Full Range Of Inputs For Maximum Versatility**

Maximum versatility for every conceivable application is provided by a range of inputs that include two pairs of low level inputs providing equalization for magnetic type pickups, tape head inputs providing equalization for both 7 ½ and 3 ¾ inches per second tape speeds, and a TAPE MONITOR circuit for and added convenience when using a tape recorder.

# LOCATION OF RECEIVER

The SX-1000TA is a solid state transistorized receiver. Therefore, in choosing the place to be located, the following points should be remined in mind.

- The location should be dry and free of dust, and also well ventilated.
- It should not be exposed to the direct ray of the sun.
  NOTE: Transistors are susceptible to heat. Therefore, exceptional care should be taken to ensure adequate ventilation. Never place objects on top of the receiver nor place it in crowded corners where there is no circulation of air.
- The location should be relatively close to a power outlet, and also conveniently situated for antenna and ground connections.

# LOCATION OF LOUDSPEAKER SYSTEMS

- The loudspeaker systems should be placed anywhere from 5 to 9 feet apart. Optimum stereo effect is obtained at or beyond the apex of an equilateral triangle formed using an imaginary line connecting the two loudspeaker systems as the base. If the floor surface in front of the loudspeaker systems is of hardwood or of concrete that reflects sound, a carpet or other sound-absorbing material should be laid down to prevent bounce of sound. Ideally, the areas directly opposite the loudspeaker systems should also be of sound-absorbing materials such as heavy curtains or drapes.

# CONNECTING LOUDSPEAKER SYSTEMS

1. The leads from the righthand loudspeaker system are connected to the RIGHT LOUDSPEAKER TERMINALS (32).
2. The leads from the lefthand loudspeaker system are connected to the LEFT LOUDSPEAKER TERMINALS (33).

- For both pairs of loudspeaker terminals, the upper terminals are the positive (+) terminals.
- The loudspeaker systems should have impedance ratings of 8 to 16 ohms.

# TAPE DECK AND TAPE PLAYER CONNECTIONS

1. When using a tape deck or tape player not equipped with a playback equalizer preamplifier, the outputs from the tape heads should be connected to the TAPE HEAD INPUTS (22).

- The upper of these two TAPE HEAD INPUTS is for the left channel, and the lower for the right channel.
- When using a monaural tape deck or tape player, it does not matter which of the two TAPE HEAD INPUTS is used.

# MAGNETIC PICKUP TURNTABLE CONNECTIONS

1. When using a turntable equipped with a magnetic type pick-up cartridge, the output leads may be connected to either the PHONO 1-MAG inputs (23) or the PHONO 2-MAG inputs (26). When using two turntables, the outputs for each turntable are connected to each of the inputs.

- Here again, the upper of these two sets of inputs are for the left channel and the lower for the right channel.
- When using monaural turntables, it does not matter which of the two jacks are used.

# CERAMIC/CRYSTAL PICKUP TURNTABLE CONNECTIONS

1. When using a turntable equipped with either a ceramic or crystal pickup cartridge, the output leads are to be connected to the CER/XTAL inputs (24).

- The upper of the two terminals is for the left channel and the lower is for the right channel.
- When using a monaural turntable, it does not matter which of the two inputs the output cable is connected to.

# TAPE RECORDER CONNECTIONS

**For Making Recordings**

1. The signals of the program material to be recorded are taken from the TAPE REC jacks (29) and connected to the LINE INPUTS of the tape recorder. The TAPE REC jacks are always 'live', that is, the program material being reproduced through the receiver is always available here.

- The upper jack is for the left channel, and the lower jack is for the right channel. When using a monaural tape recorder, the signal may be derived from either of the two jacks.
- The signals available at the TAPE REC jacks are not controlled by any of the controls of the receiver, namely, the VOLUME (16), the BASS and TREBLE (8 and 11), the LOUDNESS (15), or the LOW and HIGH (9 and 10) filter switches. Therefore, adjustment of the recording level should be handled by the controls of the tape recorder.

# TAPE PLAYBACK AND MONITOR CONNECTIONS

1. The program material to be reproduced through the receiver is derived from the LINE OUTPUTS of the tape recorder or deck and connected to the TAPE MONITOR inputs (28).
- The upper of the two TAPE MONITOR inputs is for the left channel and the lower is for the right channel. When using a monaural tape machine, the signals from the tape machine may be fed to either of the two channels.

# RECORDING/PLAYBACK CONNECTOR (DIN STANDARDS CONNECTOR)

When using a tape recorder equipped with a recording/playback connector socket conforming to West Germany's DIN standards, a single multi-conductor cable (usually supplied with the tape recorder) will suffice to make all connections for stereo recording and playback.

# ANTENNA AND GROUND CONNECTIONS

### AM (Broadcast Band) Antenna

In regions relatively close to the transmitting site, the built-in LOOPSTICK FERRITE ANTENNA (31) will provide satisfactory reception without the need for an external antenna. However, it should be adjusted for optimum reception.
- If there is excessive static or other noise in reception when receiving AM stations with the loopstick ferrite antenna alone, attach the antenna lead to the AM ANTENNA TERMINAL (20), and then attach the length of the lead to a suitable wall or ceiling area. In areas that are a long distance from the transmitting site and signal strength is very weak, erect an outdoor AM antenna, and connect the lead from the antenna to the AM ANTENNA TERMINAL (20).

### FM And FM Multiplex Stereo Antenna

- In regions that are relatively close to the transmitting site and that the structure the receiver is housed in is a wooden structure, the simple T-shaped indoor antenna will suffice to provide satisfactory reception. The two leads from the antenna should be connected to the FM ANTENNA TERMINALS (21), and then the direction of the antenna elements adjusted to the direction and height providing optimum reception and then secured in position using adhesive tape or thumb tacks.
- In regions that are some distance away from the transmitting sites and signal strength is weak, or in ferro-concrete structures, erect an outdoor FM antenna. The leads from the antenna are connected to the FM ANTENNA TERMINALS (21).

### GROUNDING

The receiver is grounded by connecting the ground lead to the GROUND TERMINAL (25). Secure the lead from the ground firmly to the terminal.

# GENERAL NOTES ON HANDLING

1. Never short the loudspeaker terminals while the receiver is switched on. Before switching the receiver on, it is always a good idea to check the loudspeaker connections and ascertain that they are neither loose nor shorted.
2. Avoid moving the SELECTOR (5) or MODE/MONITOR (18) switches with the VOLUME (16) which are set to high settings, as this will apply large impulses to the circuitry with adverse effects.

# OPERATION

### Reception Of FM Broadcasts

1. Whether you plan to listen to FM monaural or FM stereo broadcasts, first set the SELECTOR (5) to the FM-AUTO position, and the MODE/MONITOR (18) to the MODE-STEREO position.

- The SX-1000TA is equipped with an FM mono/stereo automatic switching circuit which serves to identify an FM signal automatically as either a mono or a stereo signal. Monaural signals are reproduced in mono, and stereo signals are automatically reproduced in stereo. When a stereo signal is being received and reproduced in stereo, the stereo indicator lamp will go on.

2. Set the AFC switch (14) to the OFF position, and then tune in the desired station by the TUNING control (4) while observing the TUNING INDICATOR (3) for pinpoint accuracy in tuning.

- If you wish to eliminate the crackle that is heard between stations as you tune across the FM band, set the MUTING switch (13) to the ON position.

3. After the desired station has been tuned in accurately, the AFC switch is set to the ON position to activate the automatic frequency control circuit.

NOTES:

1. With the SELECTOR (5) set to the FM-AUTO position, if an extremely weak stereo broadcast is received but there is excessive noise prevalent, the receiver will automatically switch to mono operation.
2. If you wish to reproduce FM stereo broadcasts in mono, or if there is excessive noise with the SELECTOR (5) set to the FM-AUTO position and tonal quality is impaired, set the SELECTOR (5) to the FM-MONO position. The MODE/MONITOR switch (18) may be set to the MODE STEREO, MODE LEFT or MODE RIGHT positions.
3. When the MUTING switch is set to the ON position, it may be difficult to catch a weak station. Therefore, for the reception of weak stations, it is recommended that the MUTING switch be set to the OFF position.

### Reception Of AM Broadcasts

1. The SELECTOR (5) is set to the AM position. The MODE/MONITOR switch may be set to the MODE-STEREO, MODE LEFT, or MODE-RIGHT positions.
2. The desired station is tuned in by means of the TUNING control (4) while observing the TUNING INDICATOR (3).

### Reproduction Of Disc Records

1. The SELECTOR (5) is set to to the PHONO position.
2. The MODE/MONITOR switch (18) is now set to the appropriate position. When using a stereo turntable, it should be set to the MODE-STEREO position, and when using a monaural turntable, it should be set to either the MODE-LEFT or MODE-RIGHT positions, depending upon which channel input the output cable of the turntable is connected to.
3. The PHONO SELECTOR SWITCH (17) is set to the PHONO-1 position when the turntable is connected to the PHONO-1 inputs, and to the PHONO-2 position when the turntable is connected to the PHONO-2 inputs.

### Reproduction Of Tape Using Tape Deck Or Tape Player

1. The SELECTOR (5) is set to either the TAPE HD-9.5/3¾ or TAPE HD-19/7½ position, depending upon the speed the tape is to be played back at.
2. The MODE/MONITOR switch (18) is now set to the appropriate position. When playing back tapes recorded in stereo on a stereo tape deck or tape player, the MODE/MONITOR switch should be set to the MODE-STEREO position. When using a monaural tape deck or tape player, it should be set to either the MODE-LEFT or MODE-RIGHT position, depending upon which of the two input channels the output cable from the tape deck is connected to.

- When playing back monaural tapes using a stereo tape deck or tape player, the MODE/MONITOR switch should be set to the MODE-LEFT or MODE-RIGHT, depending upon which track the mono material is recorded on.

### Recording And Playback Using Tape Recorder

#### Recording

1. Set the SELECTOR(5)to the position providing reproduction of the program material that is to be recorded: AM, FM-AUTO, PHONO, or TAPE HEAD.

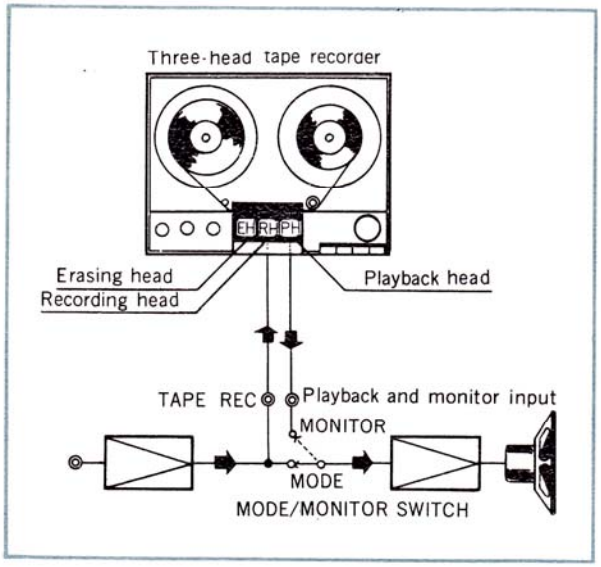
NOTE: 1. When making monaural recordings by using a monaural or stereo tape recorder, connect the input of the tape recorder to one of the two TAPE REC outputs.
2. The settings of the MODE/MONITOR switch (18), the VOLUME control (16), the TREBLE controls(11), the BASS controls (8), or the LOW/HIGH filters (9 and 10) do not affect the sounds being recorded. The recording level should be adjusted with the level controls of the tape recorder.

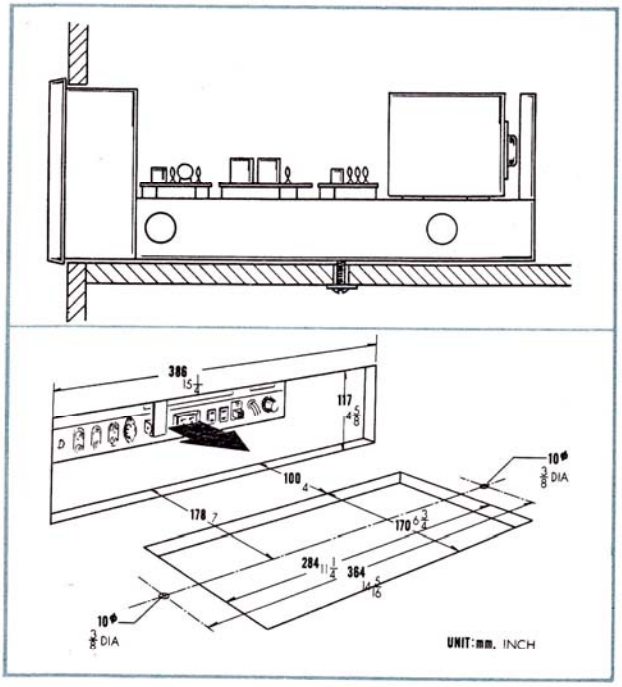
#### Playback

1. For stereo playback, the MODE/MONITOR switch (18) should be set to the MONITOR-STEREO position. For playback of mono material using a mono or stereo tape recorder, the MODE/MONITOR switch (18) should be set to either the MONITOR-LEFT or MONITOR-RIGHT, depending upon which track the material is recorded on.

### TAPE MONITORING

When using a 2-head or 3-head tape recorder equipped with a monitor circuit, by making all connections for recording and playback ,it wil be possible to monitor the state of a recording in progress by moving the MODE/MONITOR switch (18) back and forth between the MODE-STEREO/MODE-RIGHT/MODE-LEFT and MONITOR-STEREO/MONITOR-RIGHT/MONITOR-LEFT positions. In the case of a 2-head tape recorder, the signal being fed to the recording head will be monitored, and in the case of a 3-head tape recorder, the signals recorded on the tape will immediately be monitored by the playback head picking up the recorded signals.




# ALIGNMENT INSTRUCTION

### Alignment of AM Section

Position of Switch: SELECTOR.....AM
Volume Control Setting: Fully Counterclocrwise

| STEPS | Input | | | Dial Setting | Output Equipment & Coupling | Alignment | |
|---|---|---|---|---|---|---|---|
| | Equipment & Coupling | Freq | Level | | | Adjust | Remarks |
| 1 | Sweep Generator<br>$TP_3$ | 455KC | 80dB | Point of no interference as near as 535KC | Oscilloscope<br>OUT | $T_{505}$ | Adjust to get maximum sensitivity and symmetry |
| 2 | 〃<br>$TP_2$ | 〃 | 60dB | 〃 | 〃 | $T_{504}$<br>$T_{505}$ | 〃 |
| 3 | 〃<br>$TP_1$ | 〃 | 50dB | 〃 | 〃 | $T_{503}$<br>$T_{504}$<br>$T_{505}$ | 〃 |
| 4 | Signal Generator<br>Antenna terminal through dummy | 600KC | 70dB<br>(400℅ 30%) | 600KC | AC VTVM<br>OUT | $T_{502}$ | Adjust to get maximum deflection |
| 5 | 〃 | 1,400KC | 〃 | 1,400KC | 〃 | $CT_3$ | 〃 |
| 6 | Repeat STEPS 4 and 5 several times | | | | | | |
| 7 | 〃 | 600KC | 30dB | 600KC | 〃 | $T_{501}$<br>Ferrite Antenna<br>(Adjusting core) | 〃 |
| 8 | 〃 | 1,400KC | 〃 | 1,400KC | 〃 | $CT_1$<br>$CT_2$ | 〃 |
| 9 | Repeat STEPS 7 and 8 several times | | | | | | |

## Alignment of FM Section

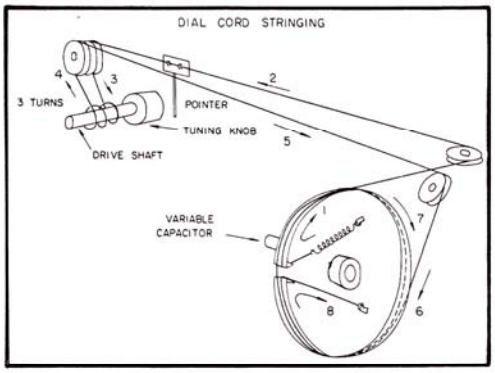
Disconnect output terminal of frontend (1.2) from IN terminal of IF unit
Position of Switch: SELECTOR.....FM MONO
AFC.....OFF
Volume Contnol Setting: Fully Counterclockwise

| STEPS | Input | | | Dial Setting | Output Equipment & Coupling | Alignment | |
|---|---|---|---|---|---|---|---|
| | Equipment & Coupling | Freq | Level | | | Adjust | Remarks |
| 1 | Sweep Generator<br>IN | 10.7MC | 40dB | | Oscilloscope<br>TUNE | $T_{201}$<br>$T_{202}$<br>$T_{203}$ | Adjust to get maximum sensitivity and symmetry |
| 2 | 〃<br>〃 | 〃 | 80dB | | 〃 | | Check symmetry of curve |
| 3 | Remove electrolytic capacitor $C_{230}(5\mu F)$ in detector circuit | | | | | | |
| 4 | 〃<br>〃 | 〃 | 40dB | | Oscilloscope<br>OUT | $T_{204}$ | Adjust primary side of $T_{204}$ ,so that incline of straight part of "S" curve will be steepest; adjust secondary side so that center of "S" curve will coincide with center of marker |
| 5 | Connect output terminal of frontend (1, 2) to IN terminal of IF unit | | | | | | |
| 6 | 〃<br>TP of Frontend | 〃 | 40dB | Point of no interference as near as 88MC | 〃<br>TUNE | Top of $T_{302}$<br>$T_{201}$<br>$T_{202}$<br>$T_{203}$ | Adjust to get maximum sensitivity and symmetry |
| 7 | 〃<br>〃 | 〃 | 80dB | 〃 | 〃 | | Check symmetry of curve |
| 8 | 〃<br>〃 | 〃 | 40dB | 〃 | 〃 | $T_{204}$ | Adjust similarly STEPS 4 |
| 9 | Connector electrolytic capacitor $C_{230}(5\mu F)$ | | | | | | |
| 10 | Signal Generator<br>FM Antenna terminal | 90MC | 20dB<br>(400% 30%) | 90MC | Oscilloscope<br>VTVM<br>OUT | $L_{303}$ | Adjust to get maximum deflection |
| 11 | 〃<br>〃 | 106MC | 〃<br>〃 | 106MC | 〃<br>〃 | $CT_{301}$ | 〃 |
| 12 | Repeat STEPS 10 and 11 several times | | | | | | |
| 13 | 〃<br>〃 | 90MC | 〃<br>〃 | 90MC | 〃<br>〃 | $T_{301}$<br>$L_{301}$<br>$L_{302}$ | 〃 |
| 14 | 〃<br>〃 | 106MC | 〃<br>〃 | 106MC | 〃<br>〃 | $CT_{302}$<br>$CT_{303}$ | 〃 |
| 15 | Repeat STEPS 13 and 14 several times | | | | | | |

## Alignment of MPX Section

Position of Switch: SELECTOR.....FM AUTO
AFC.....OFF MUTING.....OFF
Volume Control Setting: Fully Counterclockwise
Iuput Signal: Main (L+R ) 40.5kc Deviation (60%) 19kc Pilot 7.5kc Deviation (10%)

| STEPS | Circuit to be adjusted | Signal Generater Input | | Connect VTVM | Alignment | |
|---|---|---|---|---|---|---|
| | | Coupling | Input Signal | | Adjust | Remarks |
| 1 | SCA Filter | Audio Oscillator to IN | 66KC 170mV | AC VTVM $TP_3$ | $L_{704}$ | Adjust to get minimum deflection |
| 2 | 〃 | 〃 | 68KC 170mV | 〃 | $L_{705}$ | 〃 |
| 3 | 19KC Stage | MPX Generator to FM Antenna terminal | Main (L+R) | DC VTVM $TP_2$ | $L_{701}$ $L_{702}$ | Position of $VR_{702}$·····Max. Adjust to get mimimum deflection |
| 4 | 38KC Stage | 〃 | Sub (L−R) | AC VTVM Lout or Rout | $L_{703}$ | Adjust to get maximum deflection |
| 5 | Separation Control | 〃 | L | AC VTVM Rout | $VR_7$ | Position of $VR_{701}$···Central point. Adjust to get minimum deflection |
| 6 | 〃 | 〃 | R | AC VTVM Lout | $VR_7$ | 〃 |
| 7 | 〃 | 〃 | Main (L+R) | Lout Rout | $VR_{701}$ | Adjust to less than 1dB in the difference of out put |
| 8 | Repeat STEPS 5, 6 and 7 several times | | | | | |
| 9 | Stereo indicator light | 〃 | 〃 18dB | | $VR_{702}$ | Adjust to light stereo ind. lamp when MPX Signal is applied |
| 10 | Muting | Signal Generator to FM Antenna terminal | 98MC(400% 30% MOD) 13dB Dial Setting: 98MC | AC VTVM Lout or Rout | $VR_{703}$ | Adjust so that output can be −45dB with $S_9$ ON |
| 11 | 〃 | 〃 | 98MC(400% 30% MOD) 18dB Dial Setting: 98MC | 〃 | | Confirm output difference within 3dB with $S_9$ ON/OFF alternately |



# PARTS LIST OF THE SX-1000TA

## CAPACITORS

P = μμF

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| C 1 | Mica | 150P | 10% | | |
| C 2 | 〃 | 〃 | 〃 | | |
| C 3 | Mylar | 0.01μ | 〃 | 50V | |
| C 4 | 〃 | 〃 | 〃 | 〃 | |
| C 5 | 〃 | 0.2μ | 〃 | 〃 | |
| C 6 | 〃 | 〃 | 〃 | 〃 | |
| C 7 | Electrolytic | 1000μ | | 100V | |
| C 8 | 〃 | 〃 | | 〃 | |
| C 9 | 〃 | 100μ | | 150V | |
| C10 | 〃 | 〃 | | 〃 | |
| C11 | 〃 | 〃 | | 180V | |
| C12 | Ceramic | 0.02μ | | 1.4KV | |
| C13 | 〃 | 〃 | | 〃 | |
| C14 | Electrolytic | 50μ | | 15V | |
| C15 | 〃 | 200μ | | 〃 | |
| C16 | Ceramic | 0.01μ | 20% | 400V | |
| C17 | Ceramic | 10P | 10% | 50V | |
| C18 | Styrol | 2000P | 10% | 〃 | |
| C19 | Electrolytic | 1000μ | | 〃 | |
| C20 | 〃 | 〃 | | 〃 | |
| C21 | 〃 | 100μ | | 15V | |
| C22 | Mylar | 0.5μ | 20% | 50V | |
| C23 | 〃 | 0.1μ | 10% | 〃 | |
| C24 | 〃 | 〃 | | 〃 | |
| C25 | 〃 | 〃 | | 〃 | |
| C26 | 〃 | 〃 | | 〃 | |
| C27 | 〃 | 2.2μ | | 〃 | |
| C28 | 〃 | 〃 | | 〃 | |
| C30 | Mica | 220P | 10% | | |
| C31 | 〃 | 〃 | 〃 | | |
| VC1 | Variable Capacitor | | | | C64-030 |
| VC2 | 〃 | | | | 〃 |
| VC3 | 〃 | | | | 〃 |

## RESISTORS

K = Kilohm M = Megohm

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| R 1 | Carbon film | 68K | 10% | 1/4 W | |
| R 2 | 〃 | 〃 | 〃 | 〃 | |
| R 3 | 〃 | 1M | 〃 | 〃 | |
| R 4 | 〃 | 〃 | 〃 | 〃 | |
| R 5 | 〃 | 100K | 〃 | 〃 | |
| R 6 | 〃 | 〃 | 〃 | 〃 | |
| R 7 | 〃 | 68K | 〃 | 〃 | |
| R 8 | 〃 | 〃 | 〃 | 〃 | |
| R11 | 〃 | 100K | 〃 | 〃 | |
| R12 | 〃 | 〃 | 〃 | 〃 | |
| R13 | 〃 | 150K | 〃 | 〃 | |
| R14 | 〃 | 〃 | 〃 | 〃 | |
| R15 | 〃 | 68K | 〃 | 〃 | |
| R16 | 〃 | 3.3K | 〃 | 〃 | |
| R17 | 〃 | 15K | 〃 | 〃 | |
| R18 | 〃 | 〃 | 〃 | 〃 | |
| R19 | 〃 | 27K | 〃 | 〃 | |
| R20 | 〃 | 〃 | 〃 | 〃 | |
| R21 | 〃 | 150 | 〃 | 〃 | |
| R22 | 〃 | 〃 | 〃 | 〃 | |
| R23 | 〃 | 〃 | 〃 | 〃 | |
| R24 | 〃 | 〃 | 〃 | 〃 | |
| R25 | Wire Wound | 0.7 | 〃 | 1W | |
| R26 | 〃 | 〃 | 〃 | 〃 | |
| R27 | 〃 | 〃 | 〃 | 〃 | |
| R28 | 〃 | 〃 | 〃 | 〃 | |
| R29 | 〃 | 〃 | 〃 | 〃 | |
| R30 | 〃 | 〃 | 〃 | 〃 | |
| R31 | 〃 | 150 | 〃 | 2W | |
| R32 | 〃 | 〃 | 〃 | 〃 | |
| R33 | Composition | 330 | 〃 | 1/2 W | |
| R34 | 〃 | 330 | 〃 | 〃 | |
| R35 | 〃 | 6.8K | 〃 | 〃 | |
| R36 | 〃 | 1K | 〃 | 〃 | |
| R37 | 〃 | 1M | 〃 | 〃 | |
| R38 | Carbon film | 220K | 〃 | 1 4 W | |
| R39 | Composition | 22K | 〃 | 1 2 W | |
| R40 | 〃 | 47 | 〃 | 〃 | |
| R41 | Carbon film | 47K | 〃 | 1/4 | |
| R42 | 〃 | 〃 | 〃 | 〃 | |
| R43 | 〃 | 〃 | 〃 | 〃 | |
| R44 | 〃 | 〃 | 〃 | 〃 | |
| R45 | 〃 | 27K | 〃 | 〃 | |
| R46 | 〃 | 〃 | 〃 | 〃 | |
| R47 | 〃 | 47K | 〃 | 〃 | |
| R48 | 〃 | 〃 | 〃 | 〃 | |
| R49 | 〃 | 〃 | 〃 | 〃 | |
| R50 | 〃 | 〃 | 〃 | 〃 | |
| R52 | 〃 | 2.2K | 〃 | 〃 | |
| R53 | 〃 | 〃 | 〃 | 〃 | |

## POTENTIOMETERS

| Symbol | Description | Part No. |
|---|---|---|
| VR1 | 500K dual. Volume | C85-054 |
| VR2 | 100K dual. Treble | C87-018 |
| VR3 | 100K dual. Bass | 〃 |
| VR4 | 50K dual. Balance | C85-052 |
| VR5 | 300Ω Current control | C92-026 |
| VR6 | 〃 | 〃 |
| VR7 | 10K MPX Separation Control | C92-004 |

## COILS AND TRANSFORMERS

| Symbol | Description | Part No. |
|---|---|---|
| L1 | AM Ferrite Loopstick antenna coil | T42-014 |
| | Power transformer | T52-063 |

## DIODES AND TRANSISTORS

| Symbol | Description | Part No. |
|---|---|---|
| D1 | SE05C Silicon Rect. | |
| D2 | 〃 | |
| D3 | OA79 Diode | |
| D4 | 〃 | |
| D5 | IN34 | |
| Q1 | 2SC793 Transistor | |
| Q2 | 〃 | |
| Q3 | 〃 | |
| Q4 | 〃 | |
| Th1 | D-22A Thermistor | |
| Th2 | 〃 | |

## SWITCHES

| Symbol | Description | Part No. |
|---|---|---|
| S1 | Selector Switch | S16-037-C |
| S2 | Mode Selector Switch | S16-038- |
| S3 | Toggle Switches | S42-001- |
| S4 | 〃 | 〃 |
| S5 | 〃 | 〃 |
| S6 | 〃 | 〃 |
| S7 | 〃 | 〃 |
| S8 | 〃 | 〃 |
| S9 | 〃 | 〃 |
| S10 | Slide Switch | S41-022-A |
| S11 | Power Switch | S11-014- |

## MISCELLANEOUS

| Symbol | Description | Part No. |
|---|---|---|
| | FM Frontend | W11-013-B |
| | FM IF unit | W12-006-D |
| | MPX Unit | W13-019-O |
| | AM Unit | W14-004-C |
| | Pre amp Unit | W15-005-D |
| | Control amp Unit | W15-006-D |
| | Main amp Unit | W15-007-D |
| | Power Supply Unit | W16-006-A |
| | P.T.F Unit | W15-010-O |
| | Front Panel | M21-060-O |
| | Metal Case | M33-082-E |
| | Foot | M61-003-O |
| | Screw, to fix metal cover | B11-022-B |
| | Dial Scale | A33-023-O |
| | Dial Pointer | A31-080-O |
| | Dial Pulley (for tuning capacitor) | M42-027-O |
| | Dial Pulley | M42-009-O |
| | Dial spring | E41-002-O |
| | Knob, Selector | A11-109-O |
| | Knob, Tuning | A11-119-O |
| | Knob, Mode | A11-115-O |
| | Knob, Volume, Balance, Power | A11-112-O |
| | Knob, Bass, Treble(L) | A11-135-O |
| | Knob, Bass, Treble(R) | A11-138-O |
| | Tuning Meter | A91-005-D |
| | Bracket (Orange) | A59-030-O |
| | Pilot Lamp | E22-012-O |
| | Pilot Lamp Socket | K41-002-O |
| | Pilot Lamp for FM Stereo | E22-011-A |
| | Fuse 2A | E21-005-O |
| | Fuse Holder | K96-006-C |
| | Head phone jack | K72-004-O |
| | Connector 5P for Tape Recorder | K93-003-O |
| | AC Concent | K82-009-O |
| | Concent for Speaker | K54-003-O |
| | Terminal 6p | K22-013-O |
| | Terminal 2p | K21-009-O |
| | Terminal 3p | K31-011-O |
| | Pilot Lamp 8V | E22-002-O |

## W14-004-C (AM UNIT) CAPACITORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| C501 | Ceramic | 0.04μ | | 25WV | |
| C502 | 〃 | 〃 | | 〃 | |
| C503 | 〃 | 〃 | | 〃 | |
| C504 | 〃 | 〃 | | 〃 | |
| C506 | 〃 | 0.01μ | | 〃 | |
| C507 | Styrol | 410P | 10% | 50V | |
| C508 | Ceramic | 0.04μ | | 25WV | |
| C509 | 〃 | 〃 | | 〃 | |
| C510 | Electrolytic | 10μ | | 15WV | |
| C511 | Ceramic | 5P | 5% | 50V | |
| C512 | 〃 | 0.04μ | | 25WV | |
| C513 | 〃 | 〃 | | 〃 | |
| C514 | Electrolytic | 10μ | | 15WV | |
| C515 | Ceramic | 0.04μ | | 25WV | |
| C516 | 〃 | 0.04μ | | 〃 | |
| C517 | 〃 | 2P | | 50V | |
| C518 | 〃 | 0.04μ | | 25WV | |
| C519 | 〃 | 30P | | 50V | |
| C521 | Electrolytic | 200μ | | 15WV | |
| C522 | Ceramic | 0.01μ | | 25WV | |
| C523 | 〃 | 0.005μ | | 〃 | |

## RESISTORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| R501 | Carbon film | 330K | 10% | 1/8 W | |
| R502 | 〃 | 2.2K | 〃 | 〃 | |
| R503 | 〃 | 47K | 〃 | 〃 | |
| R504 | 〃 | 1K | 〃 | 〃 | |
| R505 | 〃 | 2.2K | 〃 | 〃 | |
| R506 | 〃 | 3.3K | 〃 | 〃 | |
| R507 | 〃 | 27K | 〃 | 〃 | |
| R508 | 〃 | 1K | 〃 | 〃 | |
| R509 | 〃 | 2.2K | 〃 | 〃 | |
| R510 | 〃 | 470 | 〃 | 〃 | |
| R511 | 〃 | 220 | 〃 | 〃 | |
| R513 | 〃 | 47K | 〃 | 〃 | |
| R514 | 〃 | 220K | 〃 | 〃 | |
| R515 | 〃 | 2.2K | 〃 | 〃 | |
| R516 | 〃 | 1K | 〃 | 〃 | |
| R517 | 〃 | 2.2K | 〃 | 〃 | |
| R518 | 〃 | 12K | 〃 | 〃 | |
| R519 | 〃 | 8.2K | 〃 | 〃 | |
| R520 | 〃 | 8.2K | 〃 | 〃 | |
| R521 | 〃 | 47K | 〃 | 〃 | |
| R522 | 〃 | 1K | 〃 | 〃 | |
| R524 | 〃 | 100 | 〃 | 〃 | |
| R525 | 〃 | 2.2K | 〃 | 〃 | |
| R526 | 〃 | 470 | 〃 | 〃 | |
| R527 | 〃 | 22K | 〃 | 〃 | |

## COILS AND TRANSFORMERS

| Symbol | Description | Part No. |
|---|---|---|
| T501 | MW RF Coil | T41-004 |
| T502 | OSC Coil | T43-003 |
| T503 | IF Transformer | T71-014A |
| T504 | IF Transformer | T71-018 |
| T505 | IF Transformer | T72-012A |

## DIODES AND TRANSFORMERS

| Symbol | Description | Part No. |
|---|---|---|
| D501 | IN60 Diode | |
| D502 | 〃 | |
| D503 | 〃 | |
| D504 | 〃 | |
| Q501 | 2SC372 Transistor | |
| Q502 | 〃 | |
| Q503 | 〃 | |
| Q504 | 〃 | |

## W11-013-B(FM FRONT END) CAPACITORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| C301 | Ceramic | 1,000P | 10% | 250V | |
| C302 | 〃 | 1.8P | 〃 | 500V | |
| C303 | 〃 | 5P | 〃 | 250V | |
| C304 | 〃 | 〃 | 〃 | 〃 | |
| C305 | 〃 | 〃 | 〃 | 〃 | |
| C306 | 〃 | 1.8P | 〃 | 500V | |
| C307 | 〃 | 10P | 〃 | 50V | |
| C308 | 〃 | 8P | 〃 | 〃 | |
| C309 | 〃 | 3P | 〃 | 〃 | |
| C310 | 〃 | 2.7P | 〃 | 500V | |
| C311 | 〃 | 1,000P | 〃 | 250V | |
| C312 | Feed Through | 〃 | | | C47-002- |
| C313 | 〃 | 〃 | | | 〃 |
| C314 | 〃 | 〃 | | | 〃 |
| C315 | 〃 | 〃 | | | 〃 |
| C316 | 〃 | 〃 | | | 〃 |
| C317 | 〃 | 〃 | | | 〃 |
| C318 | 〃 | 2P | | | C47-003- |
| C319 | Ceramic | 〃 | 10% | 50V | |
| CT301 | Cylinder Trimmer | | | | C45-004- |
| VC301 | Variable Capacitor | | | | C64-033- |

## RESISTORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| R301 | Composition | 4.7K | 10% | 1/4 W | |
| R302 | " | 1K | " | 1/2 W | |
| R303 | " | 1M | " | 1/4 W | |
| R304 | " | 47K | " | " | |
| R305 | " | 1K | " | " | |
| R306 | " | 100K | " | " | |
| R307 | " | 22K | " | " | |
| R308 | " | 2.2K | " | 1/2 W | |
| R309 | " | 10K | " | " | |
| R310 | " | 220 | " | | |
| R311 | " | " | " | | |

## COILS AND TRANSFORMERS

| Symbol | Description | Part No. |
|---|---|---|
| T301 | Antenna Coil | T23-025- |
| T302 | IF Transformer | T81-017- |
| L301 | RF Coil | T23-026- |
| L302 | " | " |
| L303 | OSC Coil | T23-027- |
| L304 | RF Choke Coil | T24-027- |
| L305 | " | " |

## TUBES AND DIODE

| Symbol | Description | Part No. |
|---|---|---|
| V301 | 6HA5 | |
| V302 | 6CW4 | |
| V303 | " | |
| D301 | 1S85 | |

## W12-006(IF UNIT)

## CAPACITORS

| Symbol | Description | | | | Part No |
|---|---|---|---|---|---|
| C201 | Ceramic | 0.01μF | -80% 10% | 25V | |
| C202 | " | " | " | " | |
| C203 | " | " | " | " | |
| C204 | " | " | " | " | |
| C205 | " | " | " | " | |
| C206 | " | 0.01μF | " | 50V | |
| C207 | " | 0.01μF | -80% 10% | 25V | |
| C208 | " | " | " | " | |
| C209 | " | 5PF | ±10% | 50V | |
| C210 | " | 0.01μF | +80% -10% | 25V | |
| C211 | " | " | " | " | |
| C212 | " | " | " | " | |
| C213 | " | " | " | " | |
| C214 | " | " | " | " | |
| C215 | " | " | " | " | |
| C216 | " | " | " | " | |
| C217 | " | " | " | " | |
| C218 | " | " | " | " | |
| C219 | " | " | " | " | |
| C220 | " | " | " | " | |
| C221 | " | " | " | " | |
| C222 | " | " | " | " | |
| C223 | Mylar | 0.1μF | -10% | 50V | |
| C224 | Ceramic | 0.01μF | +80% 10% | 25V | |
| C225 | " | 5PF | ±10% | 50V | |
| C226 | " | 100PF | " | 50V | |
| C227 | " | 0.01μF | +80% 10% | 25V | |
| C228 | " | 300PF | +10% | 50V | |
| C229 | " | 0.01μF | +80% 10% | 25V | |
| C230 | Electrolytic | 5μF | | 10WV | |
| C231 | Electrolytic | 3μF | | 6WV | |

## RESISTORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| R201 | Carbon film | 100 | 10% | 1/8W | |
| R202 | " | 1.5K | " | " | |
| R203 | " | 470 | " | " | |
| R204 | " | 100 | " | " | |
| R205 | " | 33K | " | " | |
| R206 | " | 1.5K | " | " | |
| R207 | " | 4.7K | " | " | |
| R208 | " | 2.2K | " | " | |
| R209 | " | 4.7K | " | " | |
| R210 | " | 100 | " | " | |
| R211 | " | 1K | " | " | |
| R212 | " | 100 | " | " | |
| R213 | " | 100 | " | " | |
| R214 | " | 1.5K | " | " | |
| R215 | " | 47K | " | " | |
| R216 | " | 2.2K | " | " | |
| R217 | " | 100K | " | " | |
| R218 | " | 1K | " | " | |
| R219 | " | 22K | " | " | |
| R220 | " | 22K | " | " | |
| R221 | " | 2.2M | " | " | |
| R222 | " | 100K | " | " | |
| R223 | " | 100 | " | " | |
| R224 | " | 1K | " | " | |
| R225 | " | 1K | " | " | |
| R226 | " | 100 | " | " | |
| R227 | " | 1.5K | " | " | |
| R228 | " | 4.7K | " | " | |
| R229 | " | 1K | " | " | |
| R230 | " | 1K | " | " | |
| R231 | " | " | " | " | |
| R232 | " | 15K | " | " | |
| R233 | " | 1K | " | " | |
| R234 | " | 10K | " | " | |
| R235 | " | 2.2K | " | " | |
| R236 | " | 100 | " | " | |
| R237 | " | 100K | " | " | |
| R238 | " | 33K | " | " | |
| R239 | " | 33K | " | " | |

## COILS AND TRANSFORMERS

| Symbol | Description | Part No. |
|---|---|---|
| T201 | IF Transformer | T81-018- |
| T202 | " | T81-019- |
| T203 | " | T81-018- |
| T204 | " | T82-016- |

| Symbol | Description | Part No. |
|---|---|---|
| D201 | IN60 Diode | |
| D202 | " | |
| D203 | " | |
| D204 | " | |
| D205 | " | |
| D206 | " | |
| Q201 | 2SC460A Transistor | |
| Q202 | " | |
| Q203 | " | |
| Q204 | " | |
| Q205 | 2SC372 Transistor | |

## COMPOUND PARTS

| Symbol | Description | Part No |
|---|---|---|
| W201 | Discriminater | W53-032-0 |

## W13-019-(MPX UNIT)
## CAPACITORS

| Symbol | Description | | | | Part No |
|---|---|---|---|---|---|
| C701 | electrolytic | 1μ | | 10V | |
| C702 | styrol | 0.02 | ±10% | 50V | |
| C703 | electrolytic | 10μ | | 15V | |
| C704 | 〃 | 5μ | | 10V | |
| C705 | 〃 | 3μ | | 〃 | |
| C706 | styrol | 0.005 | ±10% | 50V | |
| C707 | 〃 | 〃 | 〃 | 〃 | |
| C708 | 〃 | 0.001 | 〃 | 〃 | |
| C709 | 〃 | 〃 | 〃 | 〃 | |
| C710 | electrolytic | 10μ | | 10V | |
| C711 | 〃 | 〃 | | 〃 | |
| C712 | 〃 | 〃 | | 15V | |
| C713 | 〃 | 〃 | | 〃 | |
| C714 | 〃 | 3μ | | 10V | |
| C715 | styrol | 0.001 | ±10% | 50V | |
| C716 | 〃 | 200p | 〃 | 〃 | |
| C717 | electrolytic | 1μ | | 10V | |
| C718 | 〃 | 10μ | | 15V | |
| C719 | mylar | 0.004 | ±10% | 50V | |

## RESISTORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| R701 | Carbon film | 6.8K | 10% | 1/8W | |
| R702 | 〃 | 2.2K | 〃 | 〃 | |
| R703 | 〃 | 47K | 〃 | 〃 | |
| R704 | 〃 | 22K | 〃 | 〃 | |
| R705 | 〃 | 12K | 〃 | 〃 | |
| R706 | 〃 | 10K | 〃 | 〃 | |
| R707 | 〃 | 〃 | 〃 | 〃 | |
| R708 | 〃 | 〃 | 〃 | 〃 | |
| R709 | 〃 | 100 | 〃 | 〃 | |
| R710 | 〃 | 3.3K | 〃 | 〃 | |
| R711 | 〃 | 47K | 〃 | 〃 | |
| R712 | 〃 | 10K | 〃 | 〃 | |
| R713 | 〃 | 1K | 〃 | 〃 | |
| R714 | 〃 | 22K | 5% | 〃 | |
| R715 | 〃 | 〃 | 〃 | 〃 | |
| R716 | 〃 | 〃 | 〃 | 〃 | |
| R717 | 〃 | 〃 | 〃 | 〃 | |
| R718 | 〃 | 220K | 10% | 〃 | |
| R719 | 〃 | 〃 | 〃 | 〃 | |
| R720 | 〃 | 330K | 〃 | 〃 | |
| R721 | 〃 | 68K | 〃 | 〃 | |
| R722 | 〃 | 〃 | 〃 | 〃 | |
| R723 | 〃 | 330K | 〃 | 〃 | |
| R724 | 〃 | 8.2K | 5% | 〃 | |
| R725 | 〃 | 1.5K | 10% | 〃 | |
| R726 | 〃 | 〃 | 〃 | 〃 | |
| R727 | 〃 | 8.2K | 5% | 〃 | |
| R728 | 〃 | 82K | 10% | 〃 | |
| R729 | 〃 | 220K | 〃 | 〃 | |
| R730 | 〃 | 47K | 〃 | 〃 | |
| R731 | 〃 | 33K | 〃 | 〃 | |
| R732 | 〃 | 100 | 〃 | 〃 | |
| R733 | Composition | 3.3K | 〃 | 1/2W | |
| R734 | Carbon film | 10K | 〃 | 1/8W | |
| R735 | 〃 | 〃 | 〃 | 〃 | |
| R736 | 〃 | 1.5K | 〃 | 〃 | |
| R737 | 〃 | 100K | 〃 | 〃 | |

## POTENTIOMETERS

| Symbol | Description | Part No. |
|---|---|---|
| VR701 | 1K, L and R Level adjust | C92-022-0 |
| VR702 | 300Ω Auto Level adjust | C92-026-0 |

## COILS AND TRANSFORMERS

| Symbol | Description | Part No. |
|---|---|---|
| L701 | 19 kHz Transformers | T98-018-A |
| L702 | 19 kHz doubler Transformer | T98-019-A |
| L703 | 38 kHz Transformer | T98-023-A |
| L704 | SCA Filter Coil | T98-021-A |
| L705 | 〃 | T98-022-A |

## Diodes and Transistors

| Symbol | Description | Part No. |
|---|---|---|
| D701 | OA79 Diode | |
| D702 | 〃 | |
| D703 | 〃 | |
| D704 | 〃 | |
| D705 | 〃 | |
| D706 | 〃 | |
| Q701 | 2SC458 Ⓑ Transistor | |
| Q702 | 〃 | |
| Q703 | 〃 | |
| Q704 | 〃 | |
| Q705 | 〃 | |
| Q706 | 〃 | |
| Q707 | 〃 | |
| Q708 | 2SC372 Transistor | |

## COMPOUND PARTS

| Smybol | Description | Part No. |
|---|---|---|
| F701 | 38kHz Filter | W53-041-0 |
| F702 | 〃 | 〃 |

## W15-005- (HEAD AMP UNIT)
## CAPACITORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| C101 | Electrolytic | 10μ | | 10V | |
| C102 | 〃 | 〃 | | 〃 | |
| C103 | Styrol | 500P | 10% | 50V | |
| C104 | 〃 | 〃 | 〃 | 〃 | |
| C105 | Electrolytic | 10μ | | 10V | |
| C106 | 〃 | 〃 | | 〃 | |
| C107 | Styrol | 100P | 10% | 50V | |
| C108 | 〃 | 〃 | 〃 | 〃 | |
| C109 | Electrolytic | 100μ | | 25V | |
| C110 | 〃 | 〃 | | 〃 | |
| C111 | 〃 | 〃 | | 3V | |
| C112 | 〃 | 〃 | | 〃 | |
| C113 | 〃 | 10μ | | 15V | |
| C114 | 〃 | 〃 | | 〃 | |
| C115 | Mylar | 0.01μ | 10% | 50V | |
| C116 | 〃 | 〃 | 〃 | 〃 | |
| C117 | 〃 | 0.003μ | 〃 | 〃 | |
| C118 | 〃 | 〃 | 〃 | 〃 | |
| C119 | 〃 | 〃 | 〃 | 〃 | |
| C120 | 〃 | 〃 | 〃 | 〃 | |

## RESISTORS

| Symbol | Descirption | | | | Part No. |
|---|---|---|---|---|---|
| R101 | Carbon film | 270K | 10% | 1/4 W | |
| R102 | " | " | " | " | |
| R103 | " | 390 | " | " | |
| R104 | " | " | " | " | |
| R105 | " | 100K | " | " | |
| R106 | " | " | " | " | |
| R107 | " | 330K | " | " | |
| R108 | " | " | " | " | |
| R109 | " | 33K | " | " | |
| R110 | " | " | " | " | |
| R111 | " | 330K | " | " | |
| R112 | " | " | " | " | |
| R113 | " | 27K | " | " | |
| R114 | " | " | " | " | |
| R115 | " | 1M | " | " | |
| R116 | " | " | " | " | |
| R117 | " | 15K | " | " | |
| R118 | " | " | " | " | |
| R119 | " | " | " | " | |
| R120 | " | " | " | " | |
| R121 | " | 2.2K | " | " | |
| R122 | " | " | " | " | |
| R123 | " | 10K | " | " | |
| R124 | " | " | " | " | |
| R125 | " | 220 | " | " | |
| R126 | " | " | " | " | |
| R127 | " | 1K | " | " | |
| R128 | " | " | " | " | |

## TRANSISTORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| Q101 | 2SC369 | | | | |
| Q102 | " | | | | |
| Q103 | " | | | | |
| Q104 | " | | | | |

## W15-006- (CONTROL AMP UNIT) CAPACITORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| C601 | Electrolytic | 10μ | | 10V | |
| C602 | " | " | | " | |
| C603 | " | 50μ | | 3V | |
| C604 | " | " | | " | |
| C605 | " | 100μ | | 15V | |
| C606 | " | " | | " | |
| C607 | " | 10μ | | 10V | |
| C608 | " | " | | " | |
| C609 | Mylar | 0.003μ | 10% | 50V | |
| C610 | " | " | " | " | |
| C611 | " | 0.05μ | " | " | |
| C612 | " | " | " | " | |
| C613 | " | " | " | " | |
| C614 | " | " | " | " | |
| C617 | Electrolytic | 10μ | | 10V | |
| C618 | " | " | | " | |
| C619 | " | 100μ | | 3V | |
| C620 | " | " | | " | |
| C621 | " | 1 μ | | 10V | |
| C622 | " | " | | " | |
| C623 | " | 100μ | | 25V | |
| C624 | " | " | | " | |
| C625 | Mylar | 0.05μ | 10% | 50V | |
| C626 | " | " | " | " | |

## RESISTORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| R601 | Carbon film | 47K | 10% | 1/4 W | |
| R602 | " | " | " | " | |
| R603 | " | 150K | " | " | |
| R604 | " | " | " | " | |
| R605 | " | 33K | " | " | |
| R606 | " | " | " | " | |
| R607 | " | 1.5K | " | " | |
| R608 | " | " | " | " | |
| R609 | " | 3.9K | " | " | |
| R610 | " | " | " | " | |
| R611 | " | 1K | " | " | |
| R612 | " | " | " | " | |
| R613 | " | 8.2K | " | " | |
| R614 | " | " | " | " | |
| R615 | " | 10K | " | " | |
| R616 | " | " | " | " | |
| R617 | " | " | " | " | |
| R618 | " | " | " | " | |
| R619 | " | 4.7K | " | " | |
| R620 | " | " | " | " | |
| R621 | " | 330K | " | " | |
| R622 | " | " | " | " | |
| R623 | " | 150K | " | " | |
| R624 | " | " | " | " | |
| R625 | " | 2.2K | " | " | |
| R626 | " | " | " | " | |
| R627 | " | 10K | " | " | |
| R628 | " | " | " | " | |
| R629 | " | 15K | " | " | |
| R630 | " | " | " | " | |
| R631 | " | 1K | " | " | |
| R632 | " | " | " | " | |

## TRANSISTORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| Q601 | 2SC369 Transistor | | | | |
| Q602 | " | | | | |
| Q603 | 2SC369 | | | | |
| Q604 | " | | | | |

## W15-007- (MAIN AMP UNIT) CAPACITORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| C801 | Electrolytic | 10μ | | 10V | |
| C802 | " | " | | " | |
| C803 | " | " | | " | |
| C804 | " | " | | " | |
| C805 | Mylar | 0.05μ | 10% | 50V | |
| C806 | " | " | " | " | |
| C807 | Electrolytic | 5μ | 20% | 25V | |
| C808 | " | " | " | " | |
| C809 | " | " | | " | |
| C810 | " | " | | " | |
| C811 | Mylar | 0.05μ | 10% | 50V | |
| C812 | " | " | " | " | |
| C813 | Electrolytic | 50μ | | " | |
| C814 | " | " | | " | |
| C815 | Ceramic | 100P | 10% | | |
| C816 | " | " | " | | |
| C817 | Electrolytic | 100μ | | 3V | |
| C818 | " | " | | " | |

## RESISTORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| R801 | Carbon film | 100K | 10% | 1/4 W | |
| R802 | " | " | " | " | |
| R803 | " | 68K | " | " | |
| R804 | " | " | " | " | |
| R805 | " | 47K | " | " | |
| R806 | " | " | " | " | |
| R807 | " | 4.7K | " | " | |
| R808 | " | " | " | " | |
| R809 | " | 1K | " | " | |
| R810 | " | " | " | " | |
| R811 | " | 150 | " | " | |
| R812 | " | " | " | " | |
| R813 | " | 470K | " | " | |
| R814 | " | " | " | " | |
| R815 | " | 150K | " | " | |
| R816 | " | " | " | " | |
| R817 | " | 220 | " | " | |
| R818 | " | " | " | " | |
| R819 | " | 4.7K | " | 1/2 W | |
| R820 | " | " | " | " | |
| R821 | " | 150K | " | 1/4 W | |
| R822 | " | " | " | " | |
| R823 | " | 180K | " | " | |
| R824 | " | " | " | " | |
| R825 | " | 3.3K | " | " | |
| R826 | " | " | " | " | |
| R827 | " | 10K | " | " | |
| R828 | " | " | " | " | |
| R829 | " | 10 | " | 1/2 W | |
| R830 | " | " | " | " | |
| R831 | " | 8.2K | " | 1/4 W | |
| R832 | " | " | " | " | |
| R833 | " | 2.2K | " | " | |
| R834 | " | " | " | " | |
| R835 | " | 5.6K | " | " | |
| R836 | " | " | " | " | |
| R837 | " | 33K | " | " | |
| R838 | " | " | " | " | |
| R839 | " | 2.2K | " | " | |
| R840 | " | " | " | " | |
| R841 | " | 150 | " | " | |
| R842 | " | " | " | " | |
| R843 | " | 220 | " | " | |
| R844 | " | " | " | " | |
| R845 | " | 33 | " | " | |
| R846 | " | " | " | " | |
| R847 | " | 220 | " | " | |
| R848 | " | " | " | " | |

## DIODES AND TRANSISTORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| D803 | IN60 | | | | |
| D804 | " | | | | |
| D805 | 0A79 | | | | |
| D806 | " | | | | |
| Q801 | 2SC283 | | | | |
| Q802 | " | | | | |
| Q803 | 2SC627 | | | | |
| Q804 | " | | | | |
| Q805 | 2SC458 | | | | |
| Q806 | " | | | | |
| Q809 | 2SC291 | | | | |
| Q810 | " | | | | |
| Q811 | 2SC283 | | | | |
| Q812 | " | | | | |

## W16-006-A (POWER SUPPLY UNIT)

## CAPACITORS

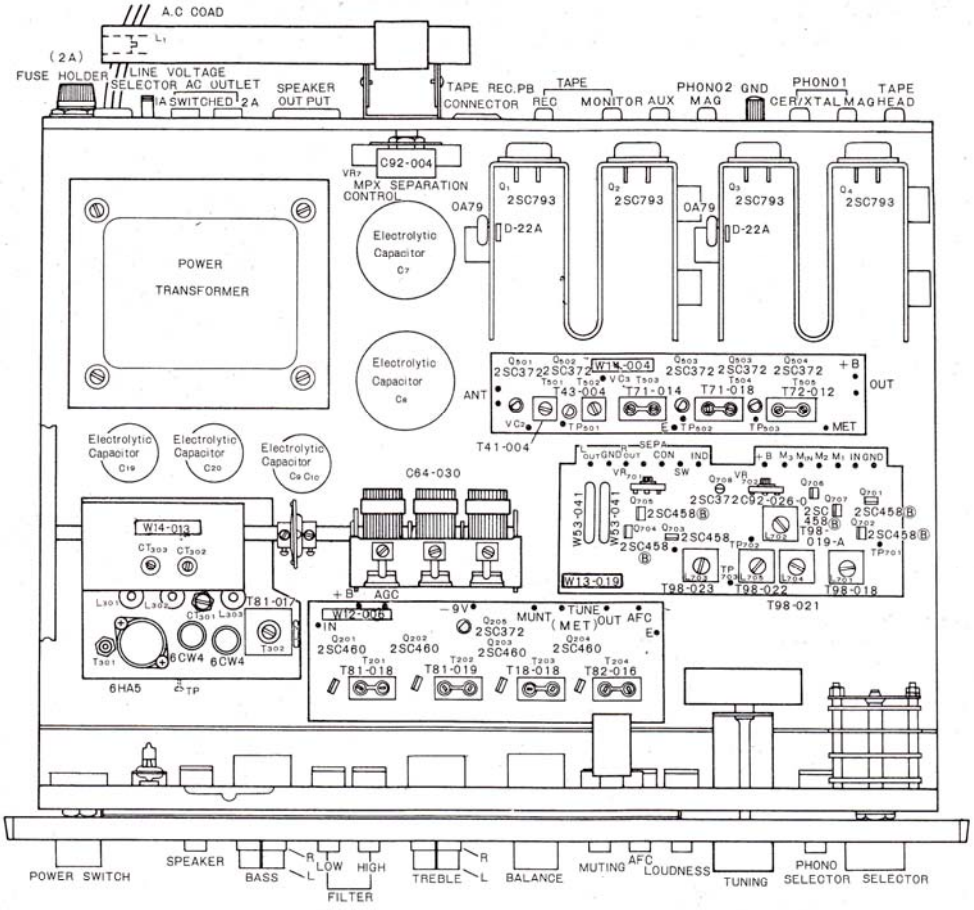
| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| C901 | electrolytic | 100μ | | 50V | |
| C902 | " | 10μ | | " | |
| C903 | " | 100μ | | " | |
| C904 | " | 200μ | | 25V | |
| C905 | " | " | | 15V | |

## RESISTORS

| Symbol | Description | | | | Part No. |
|---|---|---|---|---|---|
| R901 | wire wound | 820 | 10% | 2W | |
| R902 | Carbon film | 22K | " | 1/2W | |
| R903 | " | 33K | 5% | " | |
| R904 | " | 18K | " | " | |
| R905 | " | 3.3K | 10% | " | |
| R906 | " | 47 | " | " | |
| R907 | " | 680 | " | " | |

## DIODES AND TRANSISTORS

| Symbol | Description | Part No. |
|---|---|---|
| D901 | SW-1-02 Diode | |
| D902 | " | |
| D903 | " | |
| D904 | " | |
| D905 | SH-1S Diode | |
| D906 | " | |
| D907 | SZ-200-13 Zener Diode | |
| Q901 | 2SC627 Transistor | |
| Q902 | 2SC620 Transistor | |
| Q903 | 2SC367 Transistor | |


A.C COAD
(2A)
FUSE HOLDER
LINE VOLTAGE SELECTOR AC OUTLET
1A SWITCHED 2A
SPEAKER OUT PUT
TAPE REC.PB CONNECTOR
TAPE REC
MONITOR
AUX
PHONO2 MAG
GND
PHONO1 CER/XTAL
MAG
TAPE HEAD
C92-004
VR7
MPX SEPARATION CONTROL
POWER TRANSFORMER
Electrolytic Capacitor C7
Electrolytic Capacitor C8
Electrolytic Capacitor C19
Electrolytic Capacitor C20
Electrolytic Capacitor C9 C10
0A79
D-22A
2SC793
2SC372
W14-004
T43-004
T71-014
T71-018
T72-012
T41-004
ANT
OUT
MET
C64-030
W14-013
T81-017
6CW4
6HA5
W12-015
AGC
MUNT
TUNE (MET)
AFC
2SC460
T81-018
T81-019
T18-018
T82-016
W53-041
2SC458
2SC372
C92-026-0
T98-019-A
T98-023
T98-022
T98-021
T98-018
W13-019
POWER SWITCH
SPEAKER
BASS
LOW
HIGH
FILTER
TREBLE
BALANCE
MUTING
LOUDNESS
TUNING
PHONO SELECTOR
SELECTOR

PIONEER

# MODEL SX-1000TA
# TECHNICAL SPECIFICATIONS

### Tubes Transistors & Diodes

Tuner Section

| | | |
|---|---|---|
| 1 | 6HA5 | (FM Frontend) |
| 2 | 6CW4 | (Nuvistors; FM Frontend) |
| 4 | 2SC460A | (FM IF Stage) |
| 6 | 2SC372 | (FM AGC, MPX Stage, AM RFamp, Conv, IFamp) |
| 7 | 2SC458Ⓑ | (MPX Stage) |
| 1 | 1S85 | (Variable capacitance diode; AFC) |
| 10 | 1N60 | (Diodes; Discriminator, AGC, AMDet) |
| 6 | 0A79 | (Diodes; MPX Stage) |

Audio Section

| | | |
|---|---|---|
| 8 | 2SC369 | (Equalizer amp, Control amp) |
| 2 | 2SC283 | (Driver) |
| 2 | 2SC627 | (Driver) |
| 2 | 2SC485 | (Driver) |
| 2 | 2SB421 | (Driver) |
| 4 | 2SC793 | (Power amp) |
| 2 | 2SC291 | (Protection circuit) |
| 3 | 2SC283 | (Filter circuit, Protection circuit) |
| 1 | 2SC367 | (Filter circuit) |
| 7 | 0A79 | (Diodes; Protection circuit, Thermal compensation) |
| 2 | 1N60 | (Diodes; Protection circuit) |
| 4 | SW-1-02 | (Diodes; Rectifier) |
| 2 | SH-1S | (Diodes; Rectifier) |
| 2 | SE05C | (Diodes; Rectifier) |
| 1 | SZ-200-13 | (Zener diode) |

### Temperature Sensitive Resistors

| | | |
|---|---|---|
| 2 | D-22A | (Thermistors) |

### FM Section

| | |
|---|---|
| Circuitry | Frontend using 3gang variable air capacitor 4dual-tuning IF stages equipped with muting circuit |
| Frequency Range | 87–108 MHz |
| IHF Usable Sensitivity | 2.2 $\mu$v |
| Image Rejection | 55 db |
| Signal to Noise Ratio | 60 db |
| Antenna Input | 300 ohms (balanced) |

### Multiplex Section

| | |
|---|---|
| Circuitry | Time Switching Circuit equipped with automatic MONO-STEREO Switch |
| Channel Separation | 38 db (at 1000 Hz) |

### AM Section

| | |
|---|---|
| Circuitry | Superheterodyne circuit with tuned RF-Stage |
| Frequency Range | 525–1,605 kHz |
| IHF Usable Sensitivity | 18 $\mu$v |
| Antenna Input | Built-in Ferrite loopstick antenna with terminal for external antenna |

### Audio Section

| | |
|---|---|
| Circuitry | Single Ended push-pull circuit OTL |
| Music Power Output | 90 watts total (IHF rating) (8Ω loads)<br>120 Watts (4Ω loads) |
| RMS Rated Power Output | 40 watts per channel 0.5% H.D. (8Ω load)<br>50 Watts per channel |
| Harmonic Distortion | 0.5% (at 1kHz at rated output) |
| Frequency Response | 20~60,000 Hz (Over-all) |
| Power Bandwidth | 15~40,000 Hz (IHF) |
| Dumping Factor | 30 (8Ω loads) |
| Hum & Noise (at rated output) (IHF rating) | TAPE HEAD: better than 60 db<br>MAG: better than 70 db<br>AUX: better than 85 db |
| Inputs and Audio Sensitivity (for rated output) | MAGnetic PHONO: 2.5 mv.<br>CERamic PHONO: 55 mv.<br>TAPE HEAD: 1.5 mv.<br>TAPE MONITOR: 200 mv.<br>AUXiliary: 200 mv. |
| Input Impedance | MAGnetic PHONO: 50kΩ (1kHz)<br>CERamic PHONO: 90kΩ (1kHz)<br>TAPE HEAD: 120kΩ (1kHz)<br>AUX: 200kΩ (1kHz)<br>TAPE MONITOR: 200kΩ (1kHz) |
| Output Terminals and Jacks | Speakers: 8~16 ohms Stereo headphone jack Simultaneous tape Recording jacks equipped with TAPE MONITOR switch<br>Tape recording/playback jack (DIN standards) |
| Equalization Curves | PHONO: RIAA<br>TAPE: NAB |
| Tone Controls (each channel) | BASS: boost 13 db, cut 14 db (at 50 Hz)<br>TREBLE: boost 10 db, cut 12 db (at 10,000 Hz) |
| Filters | LOW: cut 9 db (at 50 Hz)<br>HIGH: cut 11 db (at 10,000 Hz) |
| Loudness Contour | Switchable to ON-OFF boost 13 db at 50 Hz, with boost 9 db at 10,000 Hz<br>VOLUME control set at −40 db |

### Power Supply Etc.

| | |
|---|---|
| Protection Circuit | Electronic Switch |
| Line Requirements | 115/230 volts, 1.8/0.9 amp. (switchable),<br>50–60 Hz. 175 watts (Max) |
| Dimensions | Overall 16"/405 mm (width)<br>x5 7/16"/137 mm (height)<br>x13 13/16"/350 mm (depth) |
| Weight | Net 25 lbs. 5 oz/ 11.5 kg |


**PIONEER ELECTRONIC CORPORATION**
15-5, 4-Chome, Ohmori-nishi, Ohta-ku, Tokyo, Japan
**PIONEER ELECTRONICS U.S.A. CORPORATION**
140 Smith St., Farmingdale, L.I., N.Y. 11735, U.S.A.
**PIONEER ELECTRONIC EUROPE AG.**
59, Forch Strasse, 8032 Zurich, Switzerland



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