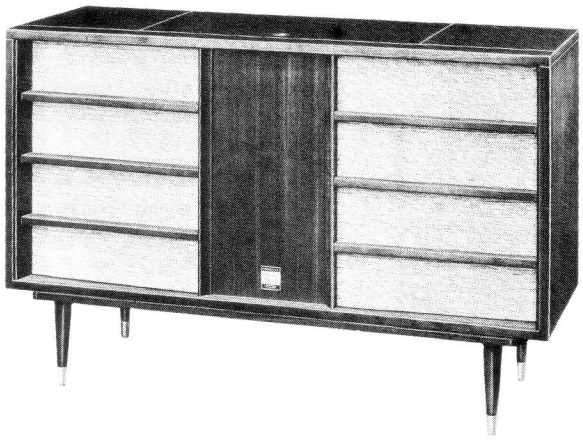
# Admiral

## SERVICE MANUAL NO. T1084

## DUAL CHANNEL

## *Stereophonic*

## HIGH-FIDELITY AM—Phonograph 7D1AX
## HIGH-FIDELITY AM-FM-Phonograph 12D1AX



MODEL IDENTIFICATION CHART

| MODEL NUMBER | MODEL NAME | TUNER CHASSIS | RECORD CHANGER |
|---|---|---|---|
| 1001X | CAROUSEL | 7D1AX | |
| 1006X | CAROUSEL | 7D1AX | |
| 2001X | CARILLON | 12D1AX | COLLARO |
| 2002X | CARILLON | 12D1AX | 9400L1-2 |
| 2003X | CARILLON | 12D1AX | |
| 2006X | CARILLON | 12D1AX | |

# SPECIFICATIONS

FREQUENCY RESPONSE-50 cps to 18KC at ± 1 db (Bass and Treble control at 50% rotation).

CONTROLS-Off-On-Treble (dual), Bass (dual), Function, Loudness & Balance, and Tuning.

HARMONIC DISTORTION- 1% at 1 watt output each channel.

POWER CONSUMPTION-115 watts.

POWER SUPPLY-117 volts AC, 60 cycles only.

POWER OUTPUT-Up to 10 watts per channel.

SPEAKER SYSTEMS
Models 1001X, 1002X,
2001X,2002X,2003X,2006X
Two 8" Woofers
Two 6" W/Whizzers
Note: For voice coil impedance values for each speaker refer to applicable cabinet parts list.

7D1AX TUBE COMPLEMENT

| | | |
|---|---|---|
| V2 | 6BA6 | AM 1st IF |
| V7 | 6BE6 | AM Osc. Mixer |
| V8A | 12AX7 | Right Channel Audio Amp. |
| V8B | | Left Channel Audio Amp. |
| V9A | 12AX7 | Left Channel Audio Amp. |
| V9B | | Right Channel Audio Amp. |
| V10 | EL84/6BQ5 | Right Channel Audio Output |
| V11 | EL84/6BQ5 | Left Channel Audio Output |
| V12 | 5U4GB | Rectifier |

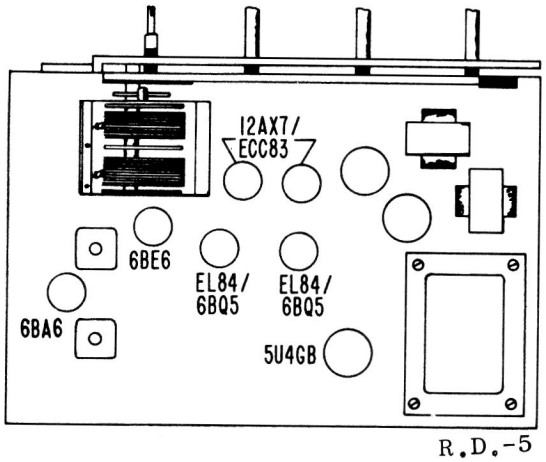



Figure 1. Top View of Chassis 7D1AX Showing Tube Locations.

TUBE REPLACEMENT

All tubes are accessible for replacement. Be sure to disconnect AC line cord when replacing tubes.

12D1AX TUBE COMPLEMENT

| | | |
|---|---|---|
| V1A | 6AQ8 | FM RF Amp. and Mixer |
| V1B | | |
| V2 | 6BA6 | FM 1st IF |
| | | AM 1st IF |
| V3 | 6AU6 | 2nd FM IF |
| | | AM Detector |
| V4 | 6AU6 | FM Limiter |
| V5 | 6AL5 | FM Discriminator |
| V6A | 12AT7 | FM Oscillator |
| V6B | | FM Oscillator Control |
| V7 | 6BE6 | AM Osc-Mixer |
| V8A | 12AX7 | Right Channel Audio Amp. |
| V8B | | Left Channel Audio Amp. |
| V9A | 12AX7 | Left Channel Audio Amp. |
| V9B | | Right Channel Audio Amp. |
| V10 | EL84/6BQ5 | Right Channel Audio Output |
| V11 | EL84/6BQ5 | Left Channel Audio Output |
| V12 | 5U4GB | Rectifier |

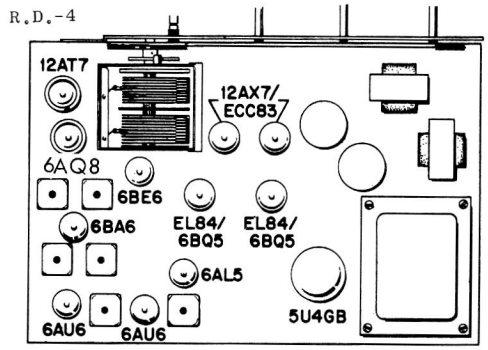



Figure 2. Top View of Chassis 12D1AX Showing Tube Locations

# SERVICE HINTS

BALANCING THE SOUND

Before operating the set, the loudness of the two sound channels must be balanced or equalized. If one channel tends to overpower the other, the Stereo feeling created by the set may be seriously reduced or nearly eliminated.

The Loudness & Balance control consists of two concentric knobs. The outer knob (nearer cabinet) controls the loudness of the left channel; the centre knob (farther from cabinet) controls the loudness of the right channel. Normally both knobs will turn together, simultaneously varying the volume of both channels by the same amount. However, when balancing the sound, the knobs must be turned individually. To turn the knobs one at a time, hold one knob firmly and, with a little pressure, turn the other knob.

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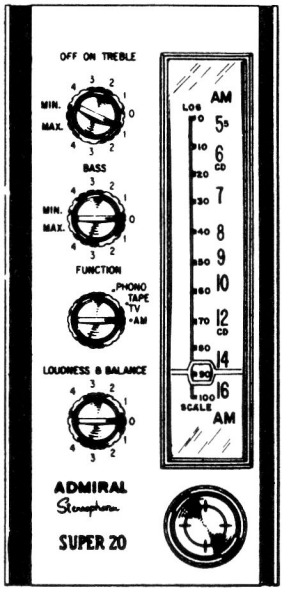


Figure 3. Operating Controls: Chassis 7D1AX

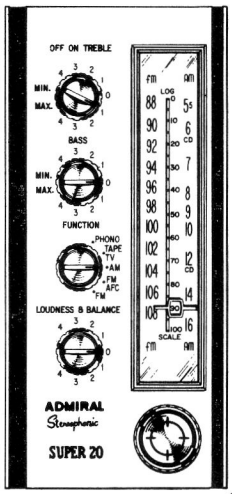


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Figure 4. Operating Controls: Chassis 12D1AX.

Balance the sound of your set with the following procedure:

1. Place the Function switch in "PHONO" position.

2. Play a regular single-channel record. Adjust Loudness & Balance knobs together for a low volume listening level. As the record is playing, step back and listen to determine if one channel is louder than the other.

3. If the sound from one set of speakers seems louder than the sound from the other, turn the knobs of the Loudness & Balance control individually until the output becomes equalized. While firmly holding the rear knob with the left hand, vary the centre knob with the right hand and step back again and listen. When the loudness of the two channels seems to be equal and the sound seems to be coming from a point midway between the two speaker systems, the two channels will be in balance. Once the balance has been set, the Loudness & Balance control will be used as a single knob to vary the overall volume of the set.

## BASS AND TREBLE MATCHING

When the set is installed and is operated, the interior furnishings of a room may cause the bass or treble response of one channel to appear stronger than the other. Admiral provides for matching the bass and treble response of each channel with individual room conditions. By performing the following procedure, the Bass and Treble will not need to be matched again unless the set is moved.

1. Turn set on and play a monaural record on the phonograph. Set Function to "PHONO". Set the Bass and Treble controls to "O" position. Step back and listen to the sound. If the bass from one channel seems louder, grasp the rear (outer) Bass knob and hold it steady. Adjust front (inner) knob to left or right until the bass response from each channel is matched.
2. Step 1 also applies for matching the treble response of each channel.

When this procedure has been performed, treble or bass response may be varied according to individual taste by grasping either the inner or outer knob on either control and adjust as necessary. Matching the treble outputs and bass outputs may be done at any time, if necessary.

NOTE: Front and rear knobs on the Bass control and Treble control normally turn together. Front and rear knobs should be adjusted separately only when "matching" the bass response and treble response of each channel.

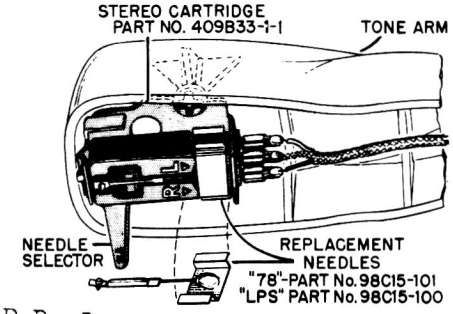
## OPERATING SET WITH EXTERNAL COMPONENTS

When the function switch is set to TAPE TV position, external components such as a monaural or Stereophonic tape recorder, single-channel or Stereophonic phonograph, or crystal (high impedance) microphone (s) can be connected and used with the amplifier portion of this set.

Connection of the above named components are made to the pair of input sockets at the rear of the radio chassis labeled "TAPE IN." Monaural devices listed above can be used together. Example: A crystal microphone and monaural tape recorder or single-channel phonograph can be plugged-in (one in each socket) and can be operated together.

## NEEDLE REPLACEMENT

The ceramic pickup-cartridge in your record changer is equipped with sapphire needles; one for Stereo and standard microgroove records (16 2/3, 33 1/3 and 45 RPM) and one for 78 RPM records. Replace needles at the first indication of wear.




P.D.-1 Figure 5. Needle Replacement

For changers using the cartridge shown in figure 5, each needle must be replaced separately. When changing the 78 RPM needle, make sure the number "78" is facing up on the NEEDLE SELECTOR handle. When changing the microgroove needle, the letters "LPS" should be facing up. With the NEEDLE SELECTOR handle in the proper position, the corresponding needle will be pointing down.

Remove the worn-out needle by pulling the clip at the base of the worn needle shaft straight away from cartridge. Position new needle in same position and press its clip in until it snaps onto cartridge. Be sure that the new needles are mounted to the correct sides of the cartridge. (The microgroove side of the cartridge can be further identified by the letters "L" and "R" on that side of the cartridge).

Order the sapphire-tipped "78" needle by part number 98C15-101; the sapphire-tipped microgroove (LPS) needle by 98C15-100. A diamond-tipped microgroove needle is available by part number 98C15-102.

To replace this entire cartridge (sapphire needles included), order part number 409B33-1-1.

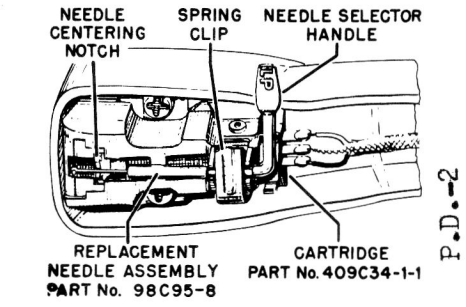



Figure 6. Needle Replacement.

For changers using the cartridge shown in figure 6, both needles are mounted to a common shaft which is connected to the NEEDLE SELECTOR handle. To replace worn needle assembly, move NEEDLE SELECTOR handle halfway until it is pointing down. Gently pull spring clip slightly open with finger. Holding needle assembly by its NEEDLE SELECTOR handle, slip entire needle assembly out of spring clip making certain needle shaft clears needle centering notch. Keeping handle of replacement needle pointing down, slip new needle assembly beneath spring clip in exact same position making certain needle shaft centers in needle centre notch.

The needle assembly ( including both sapphire needles and Selector handle) can be ordered by part number 98C95-8. A needle assembly with a diamond microgroove needle and a sapphire 78 needle can be ordered by part number 98C95-9. The entire cartridge (sapphire needles included) can be replaced by part number 409C34-1-1.

## RECORD CHANGER SERVICING

For complete Record Changer servicing, refer to Service Manual for Collaro Changers.

## SERVICING RUBBER SHOCK MOUNTS

After an extended period of time, the rubber shock mounts used on the chassis may become somewhat stiff. If this occurs, soak the rubber shock mounts in a solution of warm soapy water to return softness to the rubber.

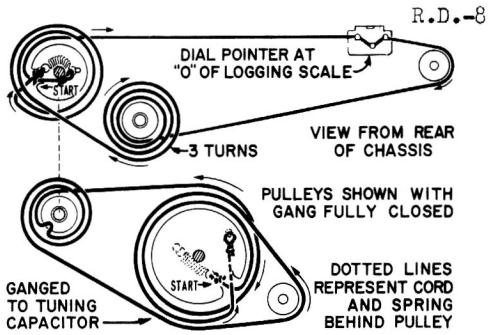



Figure 7. Dial Stringing. View of Pulleys from Rear of Chassis.

## DIAL STRINGING AND POINTER SETTING

Remove chassis from cabinet and refer to figure 7 for dial stringing diagram. Rotate drums until they are positioned as shown in figure 7.

String front or rear pulley system or both according to figure 7. See instructions on the figure when setting dial pointer.

Check dial pointer setting at several points on the dial by tuning to known stations.

## AMPLIFICATION AND RESPONSE CHECK

Both channels of the audio system of chassis 7D1AX and 12D1AX may be checked for gain and frequency response by performing the tests outlined below and referring to the "AMPLIFIER CHECKS" table.

TEST EQUIPMENT:

Audio Oscillator, with flat frequency response across the audio range.

Vacuum Tube Voltmeter, preferably with decibel (db) scale.

Oscilloscope.

## AMPLIFICATION AND RESPONSE CHECK

Both channels of the audio system of chassis 7D1AX and 12D1AX may be checked for gain and frequency response by performing the tests outlined below and referring to the "AMPLIFIER CHECKS" table.

### TEST EQUEPMENT

Audio Oscillator, with flat frequency response across the audio range.

Vacuum Tube Voltmeter, preferably with decibel (db) scale.

Oscilloscope.

### PROCEDURE:

Connect a 3.2 ohms, 10 watts, resistive load across the secondary of each audio output transformer (T8 and T9). Connect audio generator "hot" lead to high side of R41A (Right Channel Loudness & Balance) and common lead to chassis. Connect oscilloscope across resistive load on the channel to be checked to see that generator does not overdrive the amplifier during this procedure.

TO CHECK AMPLIFICATION, set controls as shown in "AMPLIFICATION CHECK" table. Perform check as shown in table. When checking Left Channel, change generator connection to high side of R41B (Left Channel Loudness & Balance).

TO CHECK REEQUENCY RESPONSE, set sontrols as shown in "FREQUENCY RESPONSE CHECK" table. See the table for generator frequency and output voltages. Vary the applicable control (Bass at 100 cycle setting and Treble at 10,000 cycle setting) to check for the swing of output voltage from minimum to maximum control setting.

AMPLIFIER CHECKS

| AMPLIFICATION CHECK | Set Loudness, Treble and Bass controls to maximum clockwise rotation. Set Function switch to "PHONO" position. | | | |
|---|---|---|---|---|
| AUDIO GENERATOR OUTPUT | FREQUENCY | | VOLTS | |
| | TO RIGHT CHANNEL: 1,000 cycles | TO LEFT CHANNEL: 1,000 cycles | TO RIGHT CHANNEL: 0.33 | TO LEFT CHANNEL: 0.33 |
| | VOLTS OUT | | WATTS OUT | |
| AMPLIFIER OUTPUT | RIGHT CHANNEL 3.85 | LEFT CHANNEL 3.85 | RIGHT CHANNEL 5 | LEFT CHANNEL 5 |

| FREQUENCY RESPONSE CHECK | | Set Loudness control at top (40% rotation). Set Bass to 50% rotation; set Treble to 10% (from full) counterclockside) rotation. At 100 cps, vary Bass from min. to max. At 10,000 cps, vary Treble from min. to max. | | | | | |
|---|---|---|---|---|---|---|---|
| SIGNAL GENERATOR OUTPUT | | OUTPUT VOLTAGE | | | | DB CHANGE "From MAX. to MIN. position of Bass or Treble control." | |
| | | RIGHT CHANNEL | | LEFT CHANNEL | | | |
| Freq. | Voltage | Max. | Min. | Max. | Min. | RIGHT CHANNEL | LEFT CHANNEL |
| 100 cycles | 0.3 | 0.78 volts | 0.052 volts | 0.78 volts | 0.052 volts | 23.5 ±2 | 23.5 ± 2 |
| 1,000 cycles | 0.3 | 0.11 volts | 0.11 volts | 0.11 volts | 0.11 volts | 0 | 0 |
| 10,000 cycles | 0.3 | 0.6 volts | 0.024 volts | 0.6 volts | 0.024 volts | 28 ± 2 | 28 ± 2 |

## FM IF AND RF ALIGNMENT (using VTVM and Signal Generator)

NOTE: For FM alignment, a signal generator with facilities for crystal calibration should be used. Signal generator frequency settings are critical for FM alignment.

Turn radio and alignment equipment on and allow 15 minutes for warm up.

Set Loudness control to minimum, Bass and Treble controls at mid-rotation and Function switch to "FM" position.

Use DC VTVM as output indicator. Set generator output so that indication, on VTVM, is approximately 1 volt above noise level during alignment (except "Step 2").

Use a non-metallic alignment tool with tip 3/32" wide for transformer slug adjustments (Admiral part no. 98A30-10).

Refer to figures 10 and 11 for physical location of alignment points.

Use an unmodulated signal during alignment.

Adjustment "A", "B", "D" and "G" made from under side of chassis.

| STEP | SIGNAL GENERATOR AND VTVM CONNECTIONS | GEN. FREQ. | ADJUSTMENT |
|---|---|---|---|
| 1 | Connect generator to set through an ungrounded tube shield on V1 (6AQ8)-low side to ground. Connect VTVM to junction of R32, R33 (test point "U"). Use a 1 meg ohm isolation resistor with a very short wire hook (no clips) or regeneration will result. | 10.7 MC | "A", "B", "C", "D" "E", "F" and "G" for maximum repeat. |
| 2 | Connect generator same as Step 1. Adjust for a reading of 1 volt above noise of VTVM and then transfer VTVM probe to junction of C31, R34, R35, C32 (test point "V") | 10.7 MC | "H" for zero reading use highest sensitivity of VTVM. Note: A plus-minus indication will be observed when slug is tuned through proper position. |
| 3 | Connect generator to hot antenna terminal through 300 ohm resistor, low side to ground. Connect VTVM to test point "U". | 98 MC | 98 MC<br>Alternately adjust "S" and "K" for maximum repeat. |

Each slug adjustment ("J" and "K") is secured with a drop of wax on the FM tuning yoke. After making slug adjustments, use a soldering iron to remelt wax and secure adjustments "J" and "K" to yoke.

CHECKING A. F. C. ACTION ON 12D1AX

AFC Check: Tune receiver to a medium signal strength station. Connect VTVM 30V centre scale to test point "V". Detune receiver to higher frequency until distortion is audible then turn function switch counter clockwise one position to FM-AFC. Sound must become clean and VTVM pointer move towards O centre. Repeat on lower frequency side.

## AM IF AND RF ALIGNMENT

Turn radio on and allow 15 minutes warm up.

Set Loudness control fully clockwise, Bass and Treble controls at mid-rotation. Set Function switch to AM position.

Connect output meter across secondary of T8 or T9. If speakers are not to be used during alignment, connect a 3.2 ohm 15 watt resistive load across each Audio Output Transformer secondary winding (see schematic diagram).

Use 400 or 1000 cps modulation for alignment.

Use lowest setting of signal generator output that produces adequate indication on lowest scale of output meter.

Use a non-metallic alignment tool with tip 3/32" wide for IF transformer adjustments (Admiral Part no. 98A30-10) For adjustment locations, see figures 10 and 11.

Repeat adjustments to insure best results.

| STEP | GENERATOR CONNECTION | GEN. FREQ. | RECEIVER GANG SETTING | ADJUSTMENT |
|---|---|---|---|---|
| 1 | Hot generator lead to stator plates of antenna section of tuning gang capacitor, common lead to ground. | 455 KC | Fully open | "L", "M",* "N" and "P"* for maximum. |
| 2 | Radiated signal. Feed "hot" generator lead to antenna through several loops of wire or place lead close to receiver for signal pickup. Connect generator common lead to chassis. | 1620 KC | Fully open | "R" for maximum. |
| 3 | | 535 KC | Fully closed | "S" for maximum. |
| 4 | | 1400 KC | Tune in generator signal. | "T" for maximum. |

*Adjustment "M" and "P" made from beneath chassis.

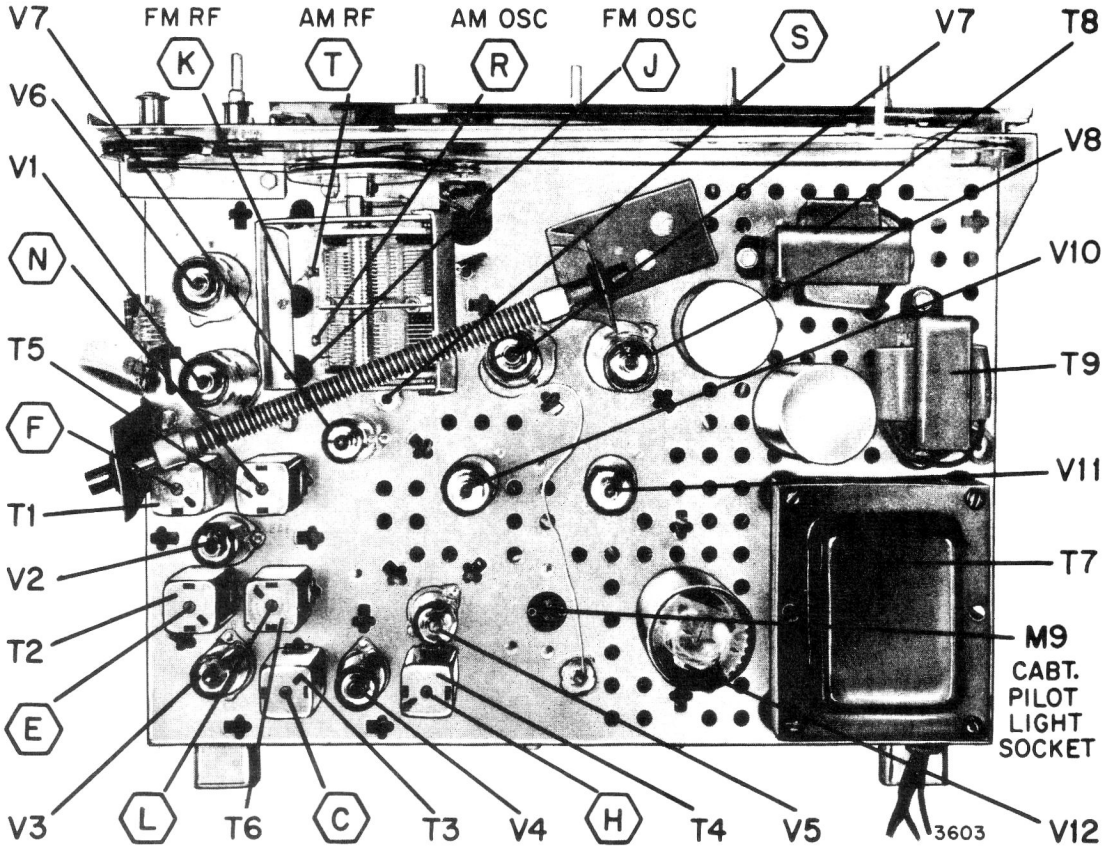



Figure 8. TOP VIEW OF 12D1AX CHASSIS. INPUT CONNECTIONS , OUTPUT CONNECTIONS, and ALIGNMENT POINTS SHOWN

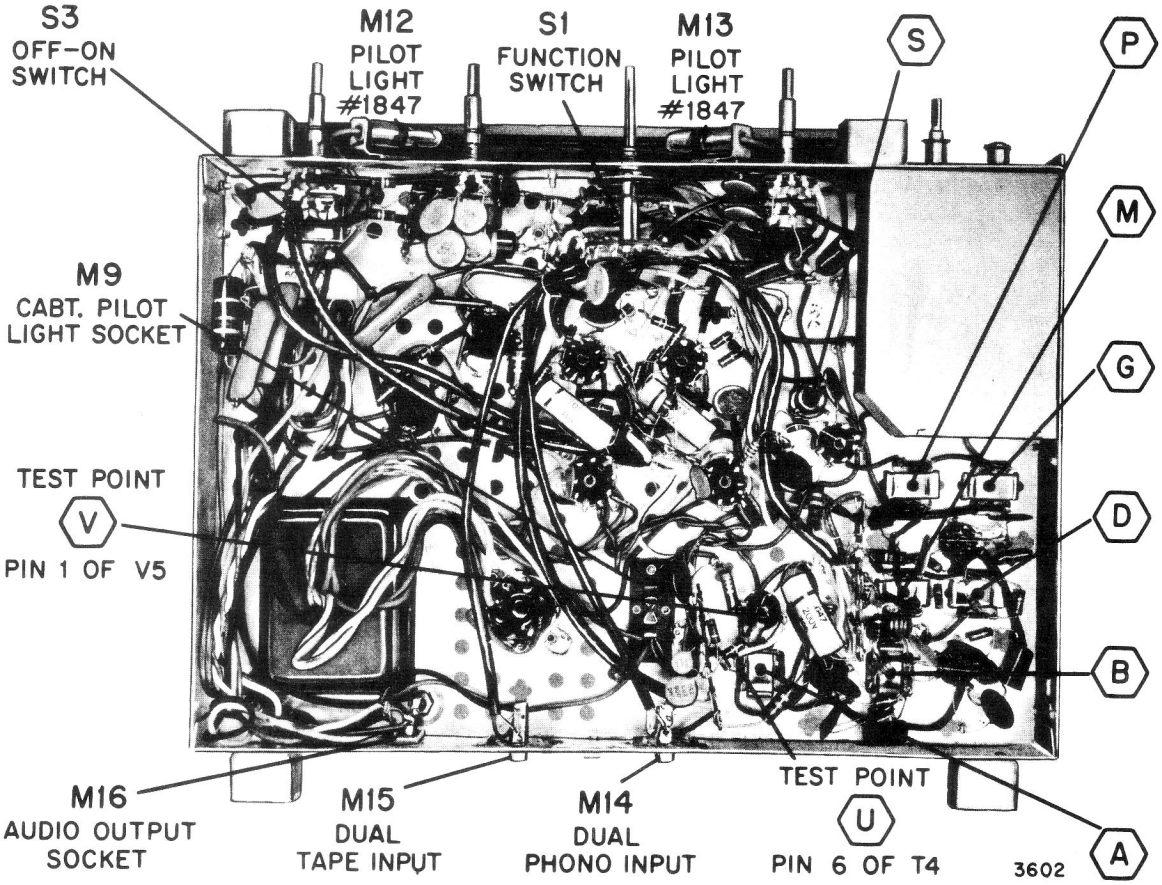



Figure 9. BOTTOM VIEW OF12D1AX CHASSIS . INPUT CONNECTIONS, OUTPUT CONNECTIONS and ALIGNMENT POINTS SHOWN

# 12D1AX PARTS LIST

## RESISTORS

| Sym. | Description | Part No. |
|---|---|---|
| R1 | 68 ohm, ½W, 10% | 60B8-680 |
| R2 | 10 ohm, ½W, 10% | 60B8-100 |
| R3 | 68K ohm, ½W, 10% | 60B8-683 |
| R4 | 1.5K ohm, ½W, 10% | 60B8-152 |
| R5 | 10K ohm, ½W, 10% | 60B8-103 |
| R7 | 1 meg, | Part of L5 |
| R8 | 560 ohm, ½W, 10% | 60B8-561 |
| R9 | 1 meg. | Part of L6 |
| R10 | 100 ohm, ½W, 10% | 60B8-101 |
| R11 | 470K ohm, ½W, 10% | 60B8-474 |
| R12 | 1K ohm, ½W, 10% | 60B8-102 |
| R13 | 68 ohm, ½W, 10% | 60B8-680 |
| R14 | 33K ohm, 1W, 10% | 60B14-333 |
| R15 | 75K ohm, ½W, 5% | 60B7-753 |
| R16 | 1K ohm, ½W, 10% | 60B8-102 |
| R17 | 75K ohm, ½W, 5% | 60B7-753 |
| R18 | 68 ohm, ½W, 10% | 60B8-680 |
| R19 | 33K ohm, 1W, 10% | 60B14-333 |
| R20 | 100K | Part of M3 |
| R21 | 2.2 meg ohm, ½W, 10% | 60B8-225 |
| R22 | 390K ohm, ½W, 10% | 60B8-394 |
| R23 | 3500 ohm, 5W, 10% | 61B1-52 |
| R24 | 1.5K ohm, 5W, 10% | 61B1-31 |
| R25 | 75K ohm, ½W, 5% | 60B7-753 |
| R26 | 1K ohm, ½W, 10% | 60B8-102 |
| R27 | 1 meg, ½W, 10% | 60B8-105 |
| R28 | 100K ohm, ½W, 10% | 60B8-104 |
| R29 | 75K ohm, ½W, 5% | 60B7-753 |
| R30 | 22K ohm, ½W, 10% | 60B8-223 |
| R31 | 27K ohm, 2W, 10% | 60B20-273 |
| R32 | 100K ohm, ½W, 5% | 60B7-104 |
| R33 | 100K ohm, ½W, 5% | 60B7-104 |
| R34 | 150K ohm, ½W, 10% | 60B8-154 |
| R35 | 1 meg, ½W, 10% | 60B8-105 |
| R36 | 1 meg, ½W, 10% | 60B8-105 |
| R37 | 100K ohm, ½W, 10% | 60B8-104 |
| R38 | 22K ohm, ½W, 10% | 60B8-223 |
| R39 | 12K ohm, 2W, 10% | 60B20-123 |
| R40 | 1K ohm, ½W, 10% | 60B8-102 |
| R41A | 3 meg, Loud-Balance Control | 75D46-15 |
| R41B | 3 meg, Loudness-Balance Control | 75D46-15 |
| R42 | 120K ohm, ½W, 10% | 60B8-124 |
| R43 | 1 meg, ½W, 10% | 60B8-105 |
| R44 | 1.8K ohm, ½W, 10% | 60B8-182 |
| R45 | 100K ohm, ½W, 10% | 60B8-104 |
| R46 | 10K ohm, ½W, 10% | 60B8-103 |
| R47A | 1 meg ohm, Control | 75D46-10 |
| R47B | 1 meg ohm, Control | 75D46-10 |
| R48 | 100K ohm, ½W, 10% | 60B8-104 |
| R49 | 100K ohm, ½W, 10% | 60B8-104 |
| R50A | 1 meg ohm, Control | Part of L13 |
| R50B | 1 meg ohm, Control | Part of L13 |
| R51 | 1 meg, ½W, 10% | 60B8-105 |
| R52 | 2.2K ohm, ½W, 10% | 60B8-222 |
| R53 | 100K ohm, ½W, 10% | 60B8-104 |
| R54 | 22K ohm, ½W, 10% | 60B8-223 |
| R55 | 470K ohm, ½W, 10% | 60B8-474 |
| R56 | 3.3 ohm, ½W, 10% | 60B28-10 |
| R57 | 100 ohm, 5W, 10% | 61B1-38 |
| R58 | 1K ohm, 1W, 10% | 60B14-102 |
| R59 | 10K ohm, ½W, 10% | 60B8-103 |
| R60 | 1 meg, ½W, 10% | Part of L13 |
| R61 | 120K ohm, ½W, 10% | 60B8-124 |
| R62 | 1 meg, ½W, 10% | 60B8-105 |
| R63 | 1.8K ohm, ½W, 10% | 60B8-182 |
| R64 | 100K ohm, ½W, 10% | 60B8-104 |

## RESISTORS (Cont'd)

| Sym. | Description | Part No. |
|---|---|---|
| R65 | 100K ohm, ½W, 10% | 60B8-104 |
| R66 | 10K ohm, ½W, 10% | 60B8-103 |
| R67 | 100K ohm, ½W, 10% | 60B8-104 |
| R68 | 1 meg, ½W, 10% | 60B8-105 |
| R69 | 2.2K ohm, ½W, 10% | 60B8-222 |
| R70 | 100K ohm, ½W, 10% | 60B8-104 |
| R71 | 22K ohm, ½W, 10% | 60B8-223 |
| R72 | 470K ohm, ½W, 10% | 60B8-474 |
| R73 | 130 ohm, 2W, 5% | 60B19-131 |
| R74 | 130 ohm, 2W, 5% | 60B19-131 |
| R75 | 470K, 1W, 10% | 60B14-474 |

## CAPACITORS

| | | |
|---|---|---|
| C1 | 10 mmfd, ± 10%, NPO | 65D10-87 |
| C2 | .01 mfd, GMV | 65D10-3 |
| C3 | 47 mmfd, 20%, Gen. Purpose | 65D6-79 |
| C4 | 220 mmfd, 20%, Gen. Purpose | 65D6-80 |
| C5 | 17 mmfd | Part of L3 |
| C6 | .001 mfd, GMV | 65D10-6 |
| C7 | 17 mmfd | Part of L4 |
| C8 | 2 mmfd ± .25 mmfd, N750 | 65D6-53 |
| C9 | 47 mmfd, ± 10%, N750 | 65D10-177 |
| C10 | 10 mmfd, ± 10%, NPO | 65D10-41 |
| C11 | .01 mfd, GMV | 65D10-3 |
| C12 | 10 mmfd, ± 10%, NPO | 65D10-41 |
| C13 | .001 mfd, GMV | 65D10-6 |
| C14 | .001 mfd, GMV | 65D10-6 |
| C15 | .01 mfd, GMV | 65D10-3 |
| C16 | .01 mfd, GMV | 65D10-3 |
| C17 | .01 mfd, GMV | 65D10-3 |
| C18 | .01 mfd, GMV | 65D10-3 |
| C19 | .01 mfd, GMV | 65D10-3 |
| C20 | .01 mfd, GMV | 65D10-3 |
| C21 | .01 mfd, GMV | 65D10-3 |
| C22 | 100 mmfd | Part of Couplate |
| C23 | .047 mfd, 200V, 20% | 64L6-41 |
| C24 | .0033 mfd, ± 20% | 65D10-35 |
| C25A | 30 mfd, 350V | 67D7-101 |
| C25B | 30 mfd, 350V | 67D7-101 |
| C25C | 50 mfd, 25 V | 67D7-101 |
| C26 | .01 mfd, GMV | 65D10-3 |
| C27 | .01 mfd, GMV | 65D10-3 |
| C28 | 47 mmfd, 20%, Gen. Purpose | 65D6-79 |
| C29 | .01 mfd, GMV | 65D10-3 |
| C30 | 100 mmfd, 10%, N750 | 65D6-19 |
| C31 | 800 mmfd, ± 10% | 65D10-197 |
| C32 | .005 mfd, ± 20% | 65D10-188 |
| C33 | .01 mfd, GMV | 65D10-3 |
| C34 | Gang Condenser | 68C71-2 |
| C35 | .001 mmfd, GMV, Feed Through | 65L2-1 |
| C36 | .02 mfd, + 80% - 20% | 65D10-28 |
| C37 | 47 mmfd, ± 10%, N750 | 65D10-177 |
| C38 | .01 mfd, GMV | 65D10-3 |
| C39 | .01 mfd, GMV | 65D10-3 |
| C40 | .01 mfd, GMV | 65D10-3 |
| C41 | .01 mfd, ± 20% | 65D10-41 |
| C42 | .01 mfd, 400V, 20% | 64L6-32 |
| C43 | .047 mfd, 400V, 20% | 64L6-28 |
| C44 | .002 mfd, ± 20%, 1000V | 65D10-39 |
| C45 | .02 mfd, +80% -20% | 65D10-28 |
| C46 | 220 mmfd, 20%, Gen. Purpose | 65D6-80 |
| C47 | .0015 mfd, ± 20% | 65D10-103 |
| C48 | .022 mfd, 400V, 20% | 64L6-30 |
| C49 | .02 mfd, +80% -20% | 65D10-28 |
| C50 | .0022 mfd, ± 20% | 65D10-111 |

## CAPACITORS (Cont'd)

| Sym. | Description | Part No. |
|---|---|---|
| C51 | 10 mfd, Crossover Cond. | 67K3-2 |
| C52 | .047 mfd, 400V, 20% | 64L6-28 |
| C53 | .047 mfd, 600V, 20% | 64L6-9 |
| C54A | 40 mfd, 400V | 67D7-102 |
| C54B | 80 mfd, 400V | 67D7-102 |
| C54C | 40 mfd, 400V | 67D7-102 |
| C55 | 30 mfd, 350V (C25B) | 67D7-101 |
| C56 | .01 mfd, ± 20% | 65D10-41 |
| C57 | .01 mfd, 400V, 20% | 64L6-32 |
| C58 | .047 mfd, 400V, 20% | 64L6-28 |
| C59 | .002 mfd, ± 20%, 1000V | 65D10-39 |
| C60 | .02 mfd, +80% - 20% | 65D10-28 |
| C61 | 220 mfd, 20%, Gen. Purpose | 65D6-80 |
| C62 | .0015 mfd, ± 20% | 65D10-103 |
| C63 | .022 mfd, 400V, 20% | 64L6-30 |
| C64 | .02 mfd, +80% -20% | 65D10-28 |
| C65 | 50 mfd, 25V (C25C) | 67D7-101 |
| C66 | .0022 mfd, ± 20% | 65D10-111 |
| C67 | 10 mmfd, Crossover Condenser | 67K3-2 |
| C68 | .01 mfd, GMV | 65D10-3 |
| C69 | .01 mfd, GMV | 65D10-3 |
| C70 | .01 mfd, GMV | 65D10-3 |
| C71 | .01 mfd, GMV | 65D10-3 |
| C72 | .01 mfd, GMV | 65D10-3 |
| C73 | .01 mfd, GMV | 65D10-3 |

## COILS

| | | |
|---|---|---|
| L1 | Coil, Airwound | 73D20-71 |
| L2 | R. F. Choke | 73B31-4 |
| L3 | R. F. Coil | 69B233-2 |
| L4 | R. F. Coil | 69B233-2 |
| L5 | R. F. Choke | 73B31-5 |
| L6 | R. F. Choke | 73B31-5 |
| L7 | R. F. Choke | 73B31-4 |
| L8 | R. F. Choke | 73B31-4 |
| L9 | Antenna Bar Assembly | 69B229-2 |
| L10 | Coil, Oscillator (A. M.) | 69B243-1 |
| L11 | Filament Choke | 73A2-14 |
| L12 | Filament Choke | 73A2-14 |
| L13 | R. F. Choke | 73B31-5 |

## TRANSFORMERS

| | | |
|---|---|---|
| T1 | I. F. Transformer | 72L5-1 |
| T2 | I. F. Transformer | 72L5-1 |
| T3 | I. F. Transformer | 72D28-72 |
| T4 | Discriminator Transformer | 72D28-73 |
| T5 | I. F. Transformer | 72D28-70 |
| T6 | I. F. Transformer | 72D28-71 |
| T7 | Power Transformer | 80M19-2 |

## MISCELLANEOUS CHASSIS PARTS

| Description | Part No. |
|---|---|
| #6-32 x 3/16" Allen Heat Set Screw (For Gang Cond. Drum) | 1A43-8 |
| #6-32 x 1/4" Robt. BHSTS Type "F" (15B2044-1) (15B2047-1) (15C2046-1) (32B470-1) | 1K148-14-71 |
| #8-32 x 3/8" BHSTS Type "F" (79D56-16) | 1K148-25-71 |
| #6-32 x 1/4" Robt. BHMS Sems (15B2045-1) (Gang Cond.) | 1YC191-554-71 |
| 3/8-32 x 9/16 Palnut | 2B6-43-71 |
| 8-32 Hex Nut, Keps | 2A19-2-71 |
| .171 x 7/16 x 1/32 Washer | 4C1-55-71 |
| Spring Washer | 4A6-5 |
| Spring "E" Washer | 4C12-74-71 |
| .088 x 3/32 x 9/64 Rivet (Min. Sockets) | 6L1-11-6 |

## MISCELLANEOUS CHASSIS PARTS (Contd')

| Description | Part No. |
|---|---|
| .121 x 1/8 x 7/32Rivet (Term.) (15A2048-1) (87A5-1) | 6B1-32-6 |
| .121 x 5/32 x 7/32 Rivet | 6B1-33-6 |
| .121 x 7/32 x 7/32 Rivet | 6B1-35-6 |
| Shoulder Rivet .093 x .121 x 15/64 | 6B4-11-71 |
| or | |
| Shoulder Rivet .093 x .121 x 1/4 (Pref'd) | 6B4-15-71 |
| Clamp, Line Cord | 11B27-3 |
| Grommet, Rubber (RF & Osc. Coil) | 12B1-4 |
| Grommet, Rubber (Rod Antenna) | 12B1-22 |
| Chassis | 14L13-1 |
| Bracket, Cam Follower | 15B1870-1 |
| Bracket, Cam | 15B1871-1 |
| Bracket, Cam Follower Support | 15A1872-1 |
| Shield, I. F. | 15A1933-1 |
| Bracket, Reflector | 15B2044-1 |
| Bracket, Pt. Guide Rail | 15B2045-1 |
| Bracket, Dial Background | 15C2046-1 |
| Bracket, Dial Background | 15B2047-1 |
| Bracket, Shock Mtg. Cup | 15A2048-1 |
| Bracket, Hum Shield | 15B2081-1 |
| Bracket, R. F. Shield | 15A2083-1 |
| Cover, Osc. Sect | 15B2117-1 |
| Drum Gang | 17A41-1 |
| Drum, Ratio | 17A53-2 |
| Drum, Tuning | 17A57-1 |
| Drum, Ratio | 17A57-2 |
| Spring, Dial Retainer | 18A253-1 |
| Spring, Dial String | 19D1-5 |
| Spring, Cam Arm | 19D1-51 |
| Dial Scale, Vertical | 21C126-2 |
| Pointer | 25A72-1 |
| or | |
| Pointer (Preferred) | 25A72-2 |
| Stud, Slug Adj | 27A4 |
| Stud, Cam Follower | 27A295-1 |
| Shaft, Dual Drum | 27A312-1 |
| Bushing, Brass | 27A313-1 |
| Bushing, Cam and Drum | 27A314-1 |
| Shaft, Tuning | 27A315-1 |
| Bearing, Ball | 30A1-1 |
| Antenna Terminal Board | 32L44-2 |
| Ant. Mtg. Strip | 32B470-1 |
| Slug, Iron Core | 71D1-25 |
| Transformer Mtg. Clips | 72D28-10 |
| Switch - Rotary Function | 77B97-1 |
| Output Transformer | 79D56-16 |
| or | |
| Output Transformer (Preferred) | 79M11-1 |
| Power Transformer | 80D35-19 |
| or | |
| | 80M19-2 |
| Pilot Light Bulb | 81B1-19 |
| Pilot Light Socket | 82A6-17 |
| Pilot Light Socket | 82A6-18 |
| Socket, Octal (5U4GB) | 87A5-1 |
| Tube Shield, Tapered | 87C7-20 |
| Socket, Tube Base | 87B23-2 |
| Tube Socket, 9 Pin | 87B23-3 |
| Tube Socket | 87B25-3 |
| Tube Socket, 7 Pin | 87A39-10 |
| Phono Jack (Double) | 88B1-2 |
| Plug and Socket | 88B5-3 |
| Plug and Socket | 88B5-6 |
| Line Cord and Plug | 89W1-3 |
| Transmission Line (300 ohm) | 95Y16-27 |
| Plug Assembly | 700B137-7 |
| Cam and Drum Assembly | 700D209-1 |
| Ratio Drum Assembly | 700B210-1 |

# 7D1AX PARTS LIST

## RESISTORS

| Sym. | Description | Part No. |
|---|---|---|
| R13 | 68 ohm, ½W, 10% | 60B8-680 |
| R14 | 33K ohm, 1W, 10% | 60B14-333 |
| R16 | 1K ohm, ½W, 10% | 60B8-102 |
| R20 | 100K ohm | Part of M3 |
| R21 | 2.2 meg ohm, ½W, 10% | 60B8-225 |
| R22 | 390K ohm, ½W, 10% | 60B8-394 |
| R23 | 3500 ohm, 5W, 10% | 61B1-52 |
| R37 | 100K ohm, ½W, 10% | 60B8-104 |
| R38 | 22K ohm, ½W, 10% | 60B8-223 |
| R39 | 12K ohm, 2W, 10% | 60B20-123 |
| R40 | 1K ohm, ½W, 10% | 60B8-102 |
| R41A<br>R41B | 3 meg, Control Loud-Balance | 75D46-15 |
| R42 | 120K ohm, ½W, 10% | 60B8-124 |
| R43 | 1 meg, ½W, 10% | 60B8-105 |
| R44 | 1.8K ohm, ½W, 10% | 60B8-182 |
| R45 | 100K ohm, ½W, 10% | 60B8-104 |
| R46 | 10K ohm, ½W, 10% | 60B8-103 |
| R47A<br>R47B | 1 meg ohm, Control | 75D46-10 |
| R48 | 100K ohm, ½W, 10% | 60B8-104 |
| R49 | 100K ohm, ½W, 10% | 60B8-104 |
| R50A<br>R50B | 1 meg ohm, Control | 75D46-9 |
| R51 | 1 meg, ½W, 10% | 60B8-105 |
| R52 | 2.2K ohm, ½W, 10% | 60B8-222 |
| R53 | 100K ohm, ½W, 10% | 60B8-104 |
| R54 | 22K ohm, ½W, 10% | 60B8-223 |
| R55 | 470K ohm, ½W, 10% | 60B8-474 |
| R57 | 100 ohm, 5W, 10% | 61B1-38 |
| R58 | 1K ohm, 1W, 10% | 60B14-102 |
| R59 | 10K ohm, ½W, 10% | 60B8-103 |
| R61 | 120K ohm, ½W, 10% | 60B8-124 |
| R62 | 1 meg, ½W, 10% | 60B8-105 |
| R63 | 1.8K ohm, ½W, 10% | 60B8-182 |
| R64 | 100K ohm, ½W, 10% | 60B8-104 |
| R65 | 100K ohm, ½W, 10% | 60B8-104 |
| R66 | 10K ohm, ½W, 10% | 60B8-103 |
| R67 | 100K ohm, ½W, 10% | 60B8-104 |
| R68 | 1 meg, ½W, 10% | 60B8-105 |
| R69 | 2.2K ohm, ½W, 10% | 60B8-222 |
| R70 | 100K ohm, ½W, 10% | 60B8-104 |
| R71 | 22K ohm, ½W, 10% | 60B8-223 |
| R72 | 470K ohm, ½W, 10% | 60B8-474 |
| R73 | 130 ohm, 2W, 5% | 60B19-131 |
| R74 | 130 ohm, 2W, 5% | 60B19-131 |
| R75 | 470K ohm, 1W, 10% | 60B14-474 |

## CAPACITORS

| Sym. | Description | Part No. |
|---|---|---|
| C18 | .01 mfd, GMV | 65D10-3 |
| C19 | .01 mfd, GMV | 65D10-3 |
| C22 | 100 mmfd | Part of Couplate |
| C23 | .047 mfd, 200V, 20% | 64L6-41 |
| C24 | .0033 mfd, ± 20% | 65D10-35 |
| C25A | 30 mfd, 350V | 67D7-101 |
| C25B | 30 mfd, 350V | 67D7-101 |
| C25C | 50 mfd, 25V | 67D7-101 |
| C34 | Gang Condenser | 68C71-2 |
| C35 | .001 mmfd, GMV, Feed-through | 65L2-1 |
| C36 | .02 mfd, +80% -20% | 65D10-28 |
| C37 | 47 mmfd, ± 10%, N750 | 65D10-177 |
| C38 | .01 mfd, GMV | 65D10-3 |
| C39 | .01 mfd, GMV | 65D10-3 |
| C40 | .01 mfd, GMV | 65D10-3 |

## CAPACITORS (Cont'd)

| Sym. | Description | Part No. |
|---|---|---|
| C41 | .01 mfd, ± 20% | 65D10-41 |
| C42 | .01 mfd, ± 20% | 65D10-41 |
| C43 | .047 mfd, 400V, 20% | 64L6-28 |
| C44 | .002 mfd, ± 20%, 1000V | 65D10-39 |
| C45 | .02 mfd, +80% -20% | 65D10-28 |
| C46 | 220 mmfd, 20%, General Purpose | 65D6-80 |
| C47 | .0015 mfd, ± 20% | 65D10-103 |
| C48 | .022 mfd, 400V, 20% | 64L6-30 |
| C49 | .02 mfd, +80% - 20% | 65D10-28 |
| C50 | .0022 mfd, ± 20% | 65D10-111 |
| C51 | 10 mfd, Crossover Cond | 67K3-2 |
| C52 | .047 mfd, 400V, 20% | 64L6-28 |
| C53 | .047 mfd, 600V, 20% | 64L6-9 |
| C54A | 40 mfd, 400V | 67D7-102 |
| C54B | 80 mfd, 400V | 67D7-102 |
| C54C | 40 mfd, 400V | 67D7-102 |
| C55 | 30 mfd, 350V (C25B) | 67D7-101 |
| C56 | .01 mfd, ± 20% | 65D10-41 |
| C57 | .01 mfd, ± 20% | 65D10-41 |
| C58 | .047 mfd, 400V, 20% | 64L6-28 |
| C59 | .002 mfd, ± 20%, 1000V | 65D10-39 |
| C60 | .02 mfd, +80% - 20% | 65D10-28 |
| C61 | 220 mmfd, 20%, General Purpose | 65D6-80 |
| C62 | .0015 mfd, ± 20% | 65D10-103 |
| C63 | .022 mfd, 400V, 20% | 64L6-30 |
| C64 | .02 mfd, +80% -20% | 65D10-28 |
| C65 | 50 mfd, 25V (C25C) | 67D7-101 |
| C66 | .0022 mfd, ± 20% | 65D10-111 |
| C67 | 10 mmfd, Crossover Condenser | 67K3-2 |

## COILS

| | | |
|---|---|---|
| L9 | Antenna Bar Assembly | 69B229-2 |
| L10 | Coil, Oscillator (A.M) | 69B243-1 |

## TRANSFORMERS

| | | |
|---|---|---|
| T5 | I.F. Transformer | 72D28-70 |
| T6 | I.F. Transformer | 72D28-71 |
| T7 | Power Transformer | 80M19-2 |

## MISCEALLANEOUS CHASSIS PARTS

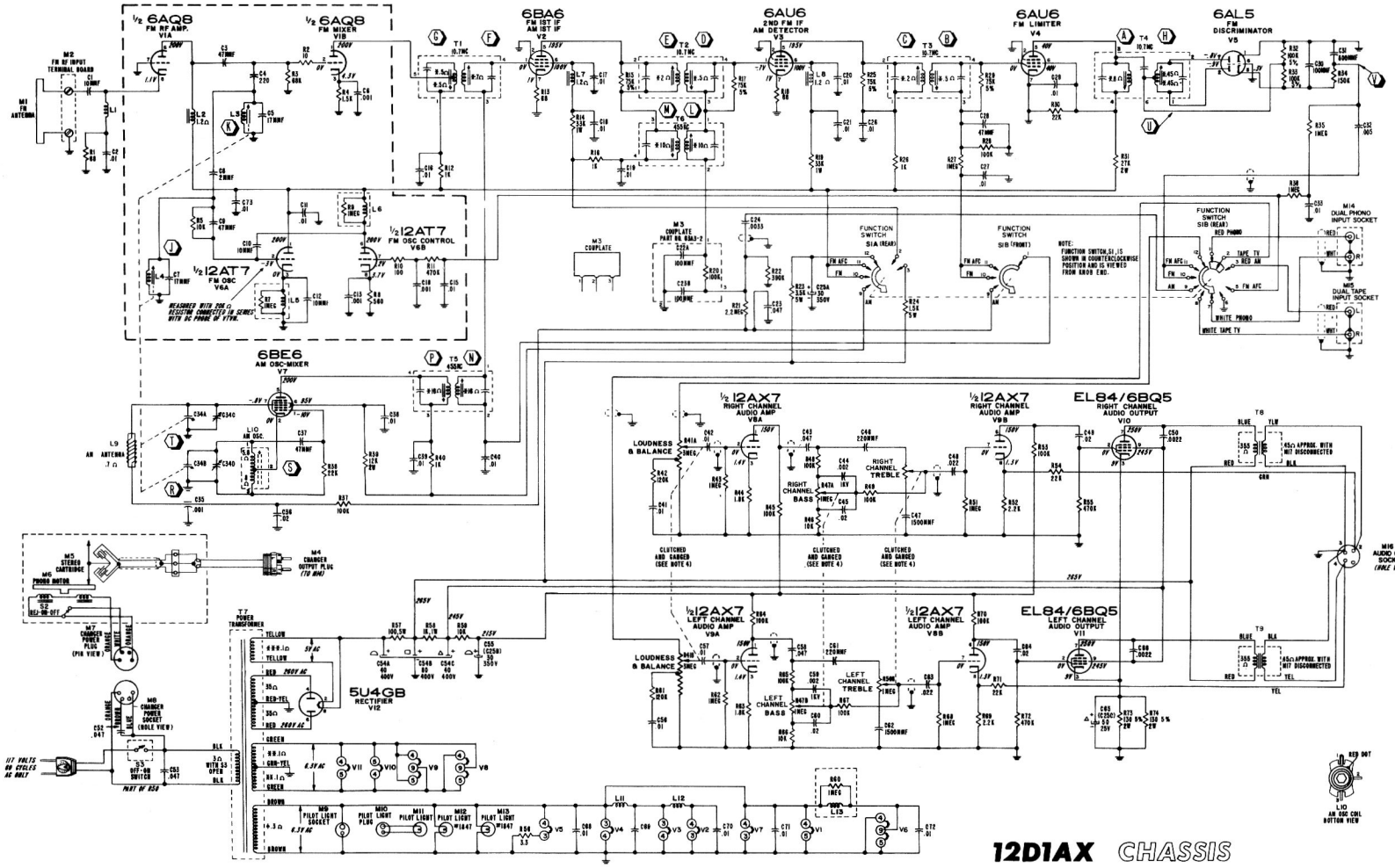
| | |
|---|---|
| .096 x 1/4 x 1/16 Steel Washer | 4C1-3-71 |
| #6-32 x 1/4" Robt. BHSTS Type "F" (15B2044-1) (15B2047-1) (15C2046-1) (32B470-1) | 1K148-14-71 |
| #8-32 x 3/8" BHSTS Type "F" (79D56-16) | 1K148-25-71 |
| #6-32 x 1/4" RHMS (For gang cond. drum) | 1YC191-4-6 |
| #6-32 x 1/4" Robt. BHMS Sems (15B2045-1) (Gang Cond) | 1YC191-554-71 |
| 3/8-32 x 9/16" Palnut | 2B6-43-71 |
| 8-32 Hex Hut, Keps | 2A19-2-71 |
| .144 x 3/8 x 1/64 Washer | 4C1-28-71 |
| .171 x 7/16 x 1/32 Washer | 4C1-55-71 |
| Spring Washer | 4A6-5 |
| Spring "E" Washer | 4C12-74-71 |
| .088 x 3/32 x 9/64 Rivet (Min. Sockets) | 6L1-11-6 |
| .088 x 1/8 x 9/64 Rivet (15L72) | 6L1-12-6 |
| .121 x 1/8 x 7/32 Rivet (Term) (15A2048-1) (87A5-1) | 6B1-32-6 |
| .121 x 7/32 x 7/32 Rivet | 6B1-35-6 |
| Shoulder Rivet .093 x .121 x 15/64" | 6B4-11-71 |
| or | |
| Shoulder River .093 x .121 x 1/4" (Prf'd) | 6B4-15-71 |

## CABINET PARTS LIST

| Description | 1001X | 1006X | 2001X | 2002X | 2003X | 2006X |
|---|---|---|---|---|---|---|
| Record Changer (Collaro Stereo Complete with Sonotone #409C34-1 Cartridge | 9400L1-2 | 9400L1-2 | 9400L1-2 | 9400L1-2 | 9400L1-2 | 9400L1-2 |
| Nut - Self Threading | 2B43-5 | 2B43-5 | 2B43-5 | 2B43-5 | 2B43-5 | 2B43-5 |
| Rubber Mount | 12A98-1 | 12A98-1 | 12A98-1 | 12A98-1 | 12A98-1 | 12A98-1 |
| Spring - Dial Crystal | 18A267-1 | 18A267-1 | 18A267-1 | 18A267-1 | 18A267-1 | 18A267-1 |
| Escutcheon - AM Stereo | 23M28-1 | 23M28-1 | -------- | -------- | -------- | -------- |
| Escutcheon - AM-FM Stereo | -------- | -------- | 23E369-1 | 23E369-1 | 23E369-1 | 23E369-1 |
| Monogram - Admiral Stereophonic | 23B376-1 | 23B376-1 | 23B376-1 | 23B376-1 | 23B376-1 | 23B376-1 |
| Crystal - Dial | 24C30-1 | 24C30-1 | 24C30-1 | 24C30-1 | 24C30-1 | 24C30-1 |
| Knob - Dual Controls (Top) | 33C382-1 | 33C382-1 | 33C382-1 | 33C382-1 | 33C382-1 | 33C382-1 |
| Knob - Function Switch | 33C359-1 | 33C359-1 | 33C359-1 | 33C359-1 | 33C359-1 | 33C359-1 |
| Knob - Dual Controls (Bottom) | 33C359-2 | 33C359-2 | 33C359-2 | 33C359-2 | 33C359-2 | 33C359-2 |
| Knob - Tuning | 33D385-1 | 33D385-1 | 33D385-1 | 33D385-1 | 33D385-1 | 33D385-1 |
| Cabinet - Walnut | 35P145-1 | -------- | 35P145-1 | -------- | -------- | -------- |
| Cabinet - Mahogany | -------- | -------- | -------- | 35P145-2 | -------- | -------- |
| Cabinet - Blonde | -------- | -------- | -------- | -------- | 35P145-3 | -------- |
| Cabinet - Swedish Walnut | -------- | 35P145-6 | -------- | -------- | -------- | 35P145-6 |
| Legs - Swedish Walnut (Wood) | -------- | 35P145-60 | -------- | -------- | -------- | 35P145-60 |
| Legs - Walnut (Plastic) | 37N21-13 | -------- | 37N21-13 | -------- | -------- | -------- |
| Legs - Mahogany (Plastic) | -------- | -------- | -------- | 37N21-14 | -------- | -------- |
| Legs - Blonde (Plastic) | -------- | -------- | -------- | -------- | 37N21-15 | -------- |
| Operating Instructions | 41K12-2 | 41K12-2 | -------- | -------- | -------- | -------- |
| Operating Instructions | -------- | -------- | 41W20-292 | 41W20-292 | 41W20-292 | 41W20-292 |
| Back - Cabinet (Brown) | -------- | -------- | 43N73-1 | 43N73-1 | -------- | 43N73-1 |
| Back - Cabinet (Blonde) | -------- | -------- | -------- | -------- | 43N73-2 | -------- |
| Back - Cabinet (Brown) | 43N73-3 | 43N73-3 | -------- | -------- | -------- | -------- |
| Condenser (10 Mfd) Crossover | | | | | | |
| Speaker (8" Woofer) | 78M24-1 | 78M24-1 | 78M24-1 | 78M24-1 | 78M24-1 | 78M24-1 |
| Speaker (6" W/Whizzer) | 78M25-1 | 78M25-1 | 78M25-1 | 78M25-1 | 78M25-1 | 78M25-1 |
| Pilot Light | 81A1-19 | 81A1-19 | 81A1-19 | 81A1-19 | 81A1-19 | 81A1-19 |
| Jewel (Pilot Light) | 82A32-1 | 82A32-1 | 82A32-1 | 82A32-1 | 82A32-1 | -------- |
| Plug (4 Prong-Spkr.) | 88B5-2 | 88B5-2 | 88B5-2 | 88B5-2 | 88B5-2 | 88B5-2 |
| Plug (2 Prong - Pilot Light) | 88B5-4 | 88B5-4 | 88B5-4 | 88B5-4 | 88B5-4 | 88B5-4 |
| Plug (4 Prong - Phono Motor) | 88A8-5 | 88A8-5 | 88A8-5 | 88A8-5 | 88A8-5 | 88A8-5 |
| Plug (Phono Input Leads) | 88A2-3 | 88A2-3 | 88A2-3 | 88A2-3 | 88A2-3 | 88A2-3 |
| Socket (Pilot Light) | 89L6-1 | 89L6-1 | 89L6-1 | 89L6-1 | 89L6-1 | 89L6-1 |

## MISCELLANEOUS CHASSIS PARTS (Con'td)

Clamp, Line Cord ..... 11B27-3
Grommet, Rubber (Rod Antenna ..... 12B1-22
Chassis ..... 14L13-1
Cover Plate (3 Holes) ..... 15L72-1
Cover Plate (2 Holes) ..... 15L72-2
Bracket, Reflector ..... 15B2044-1
Bracket, Pt. Guide Rail ..... 15B2045-1
Bracket, Dial Background ..... 15C2046-1
Bracket, Dial Background ..... 15B2047-1
Bracket, Shock Mtg. Cup ..... 15A2048-1
Pulley, 1/2" String ..... 17C1-46
Drum Gang, 2" S.D. ..... 17A41-1
Drum, Ratio 1 3/8 S.D. ..... 17A53-2
Drum, Tuning 11/16" ..... 17A57-1
Drum, Ratio 11/16" S.D. ..... 17A57-2
Spring, Dial Retainer ..... 18A253-1
Spring, Dial String ..... 19D1-5
Dial Scale, Vert ..... 21M9-1
Pointer ..... 25A72-1
or
Pointer (Preferred) ..... 25A72-2
Shaft, Dual Drum ..... 27A312-1
Bushing, Brass ..... 27A313-1
Bushing, Cam and Drum ..... 27A314-1
Shaft, Tuning ..... 27A315-1
Ant. Mtg. Strip ..... 32B470-1
Output Transformer ..... 79D56-16
Output Transformer (Preferred) ..... 79M11-1
Pilot Light Bulb ..... 81B1-19
Pilot Light Socket ..... 82A6-17
Pilot Light Socket ..... 82A6-18
Socket, Octal ..... 87A5-1
Tube Shield, Tapered ..... 87C7-20
Socket, Tube Base ..... 87B23-2
Tube Socket ..... 87B25-3
Tube Socket, 7 Pin ..... 87A39-10
Phono Jack (Double) ..... 88B1-2
Connector, Insulator ..... 88B1-3
Plug and Socket ..... 88B5-3
Plug and Socket ..... 88B5-6
Line Cord and Plug ..... 89W1-3
Cord, A.C. Phono Motor ..... 89W46-19
Plug Assembly ..... 700B137-7
Cam and Drum Assembly ..... 700B209-1
Ratio Drum Assembly ..... 700B210-1




# 12D1AX CHASSIS

## NOTES

1. ALL RESISTOR VALUES IN OHMS AND CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED
   ALL VOLTAGES TAKEN WITH VACUUM TUBE VOLTMETER.
2. FOR ALL VOLTAGE READINGS, ALL CONTROLS AT MID-ROTATION AND NO SIGNAL APPLIED.
3. VOLTAGE READINGS AT SOCKET PINS ON V1, V2, V3, AND V8 SHOULD BE TAKEN WITH FUNCTION SWITCH IN "FM" OR "FM-AFC" POSITION.
4. RESISTORS BEING GANGED AS INDICATED, THESE CONTROLS ARE CLUTCHED WHEN ONE SHAFT (EITHER THE INNER OR OUTER) IS HELD STEADY, THE OTHER MAY BE TURNED THUS ADJUSTING THE OTHER POTENTIOMETER. WHEN NEITHER SHAFT IS HELD FROM TURNING BOTH CONTROLS MAY BE ADJUSTED BY TURNING EITHER SHAFT.
5. RESISTANCE MEASUREMENT OF L5, L6, L8, L9, AND L10 WILL INDICATE LESS THAN 0.1 OHMS.

FM IF 10.7MC AM IF 455KC

* DC RESISTANCE MAY VARY ±10%.
** MEASURED WITH V8, V9, V10, AND V11 REMOVED FROM SOCKETS.
*** MEASURED WITH V12 REMOVED FROM SOCKET.
+ MEASURE WITH V1, V2, V3, V4, V5, V6, V7, M10, M12, AND M13 DISCONNECTED.
⏚ CHASSIS GROUND.

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## NOTES

1 ALL RESISTOR VALUES IN OHMS AND CAPACITOR VALUES IN MICROFARADS UNLESS OTHERWISE SPECIFIED
ALL VOLTAGES TAKEN WITH VACUUM TUBE VOLTMETER

2 FOR ALL VOLTAGE READINGS, ALL CONTROLS AT MID-ROTATION AND NO SIGNAL APPLIED

3 BESIDES BEING GANGED AS INDICATED, THESE CONTROLS ARE CLUTCHED WHEN ONE SHAFT (EITHER THE INNER OR OUTER)IS HELD STEADY, THE OTHER MAY BE TURNED. THUS ADJUSTING THE OTHER POTENTIOMETER. WHEN NEITHER SHAFT IS HELD FROM TURNING BOTH CONTROLS MAY BE ADJUSTED BY TURNING EITHER SHAFT.

AM IF 455KC

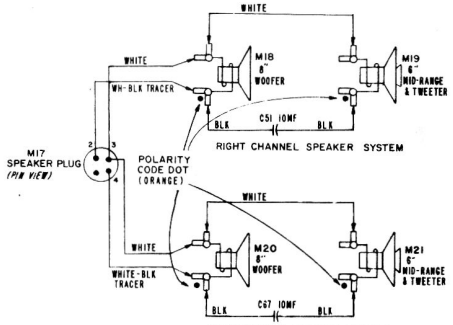
* DC RESISTANCE MAY VARY ±10%.

** MEASURED WITH V8,V9,V10, AND V11 REMOVED FROM SOCKETS.

*** MEASURED WITH V12 REMOVED FROM SOCKET.

+ MEASURE WITH V2,V7,M10,M12 & M13 DISCONNECTED.

⏚ CHASSIS GROUND.





NOTE:
CAPACITORS IN THESE TRANSFORMERS NOT REPLACEABLE AS INDIVIDUAL COMPONENTS.

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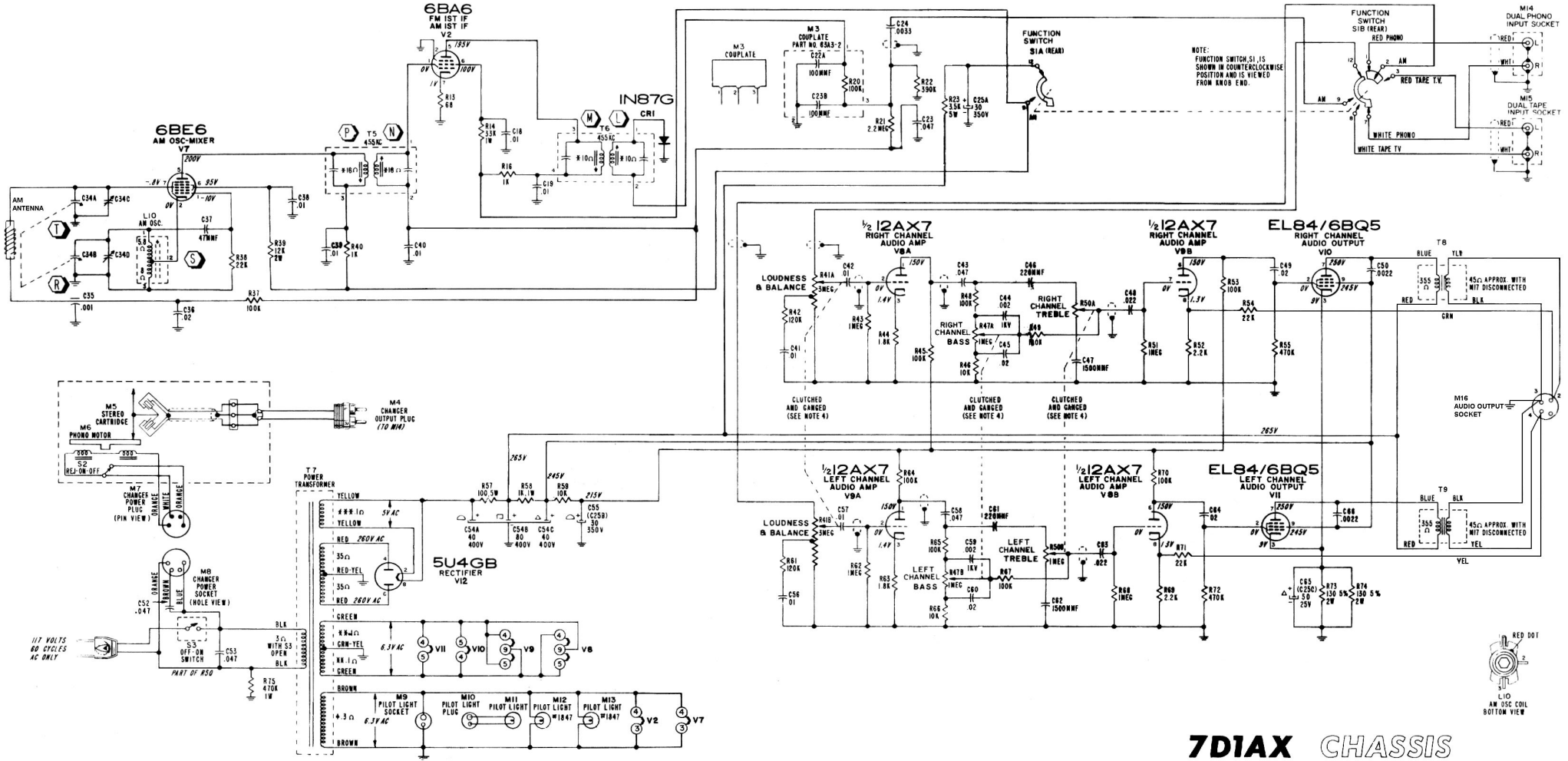


# 7D1AX CHASSIS