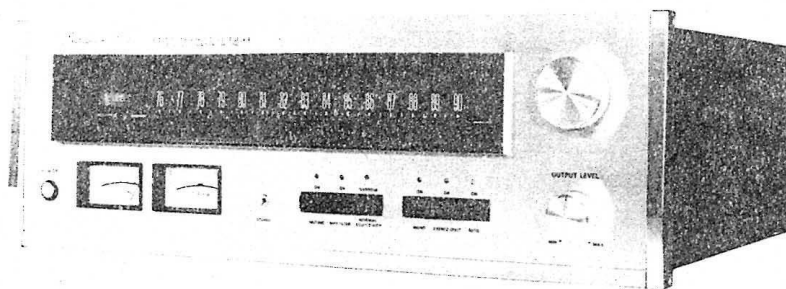


# Accuphase

## FM STEREO TUNER T-101



## Service Information

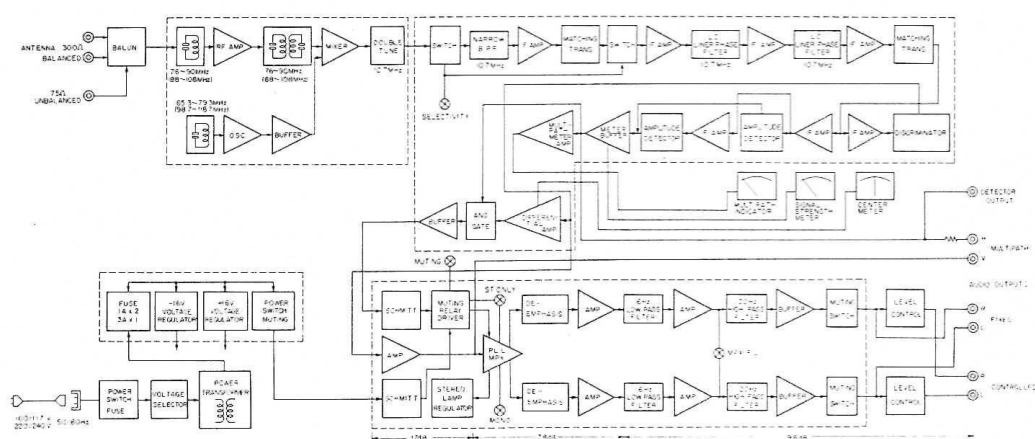
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STARTING WITH SERIAL NO. D4Y001

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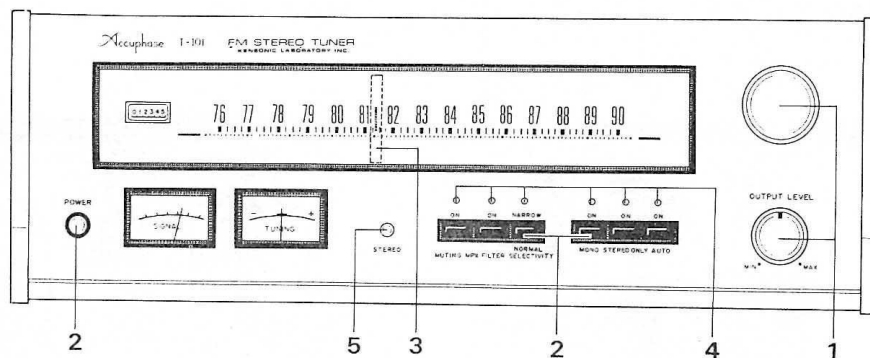
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## BLOCK DIAGRAM

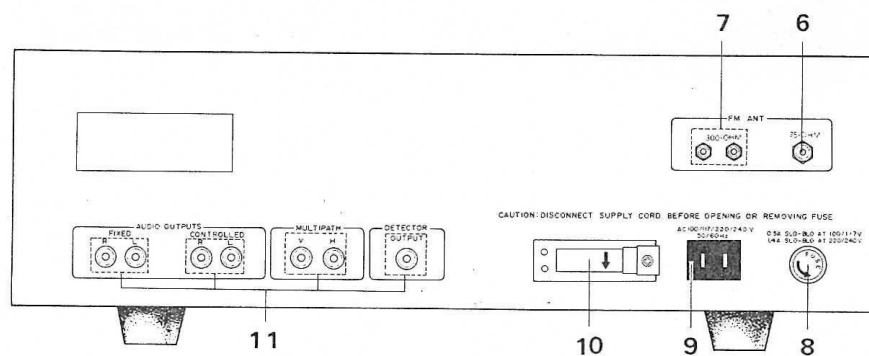


## EXTERNAL VIEW

### ● FRONT



### ● REAR

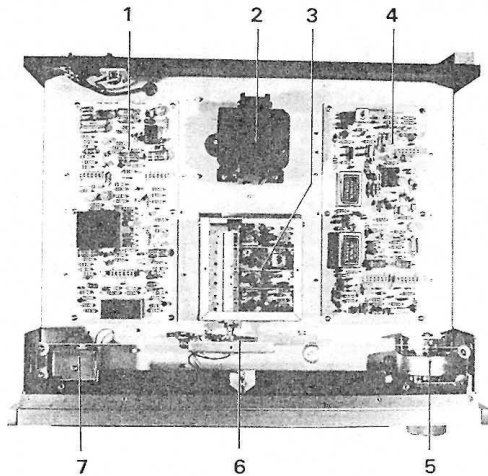


### ● PARTS LIST

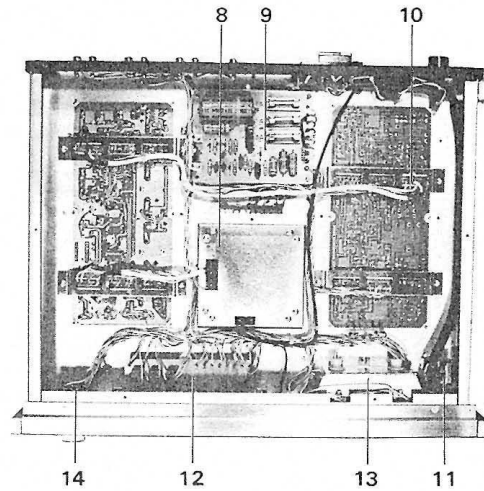
| No | Description                                             | Part No.                   | Remarks               | No | Description                                                                      | Part No.                                  | Remarks                                      |
|----|---------------------------------------------------------|----------------------------|-----------------------|----|----------------------------------------------------------------------------------|-------------------------------------------|----------------------------------------------|
| 1  | Knob for<br>TUNING<br>OUTPUT LEVEL                      | 381-4004-04<br>381-2603-00 | Ref. INTERNAL VIEW ⑤④ | 7  | Balun Transformer Assembly<br>Balun Transformer                                  | 708-0001-00<br>509-0001-00                |                                              |
| 2  | Push-button for<br>Power Switch<br>Push-button Assembly | 389-1202-04<br>389-5001-14 | Ref. INTERNAL VIEW ④③ | 8  | Fuse Holder<br>Fuse At 100,117V<br>Fuse At 220,240V                              | 305-0201-00<br>310-1051-00<br>310-1141-00 | for UL, CSA.<br>0.5A SLO-BLO<br>1/4A SLO-BLO |
| 3  | Dial Pointer Assembly                                   | 206-0001-10                |                       | 9  | AC Connector Plug                                                                | 301-3201-00                               |                                              |
| 4  | Position Indicator                                      | 173-0901-14                | Ref. EXPLODED VIEW ①  | 10 | Voltage Selector Jack<br>Voltage Selector Plug<br>Voltage Selector Fixed Bracket | 302-4001-00<br>301-4001-00<br>248-0001-14 |                                              |
| 5  | Stereo Indicator                                        | 173-1201-14                | (Indicator Assembly)  | 11 | Pin Jack<br>Pin Jack                                                             | 302-0101-00<br>302-0201-00                | 1-pin<br>2-pin                               |
| 6  | Coaxial Cable Receptacle                                | 302-7001-00                |                       |    |                                                                                  |                                           |                                              |

## INTERNAL VIEW

● BOTTOM SIDE



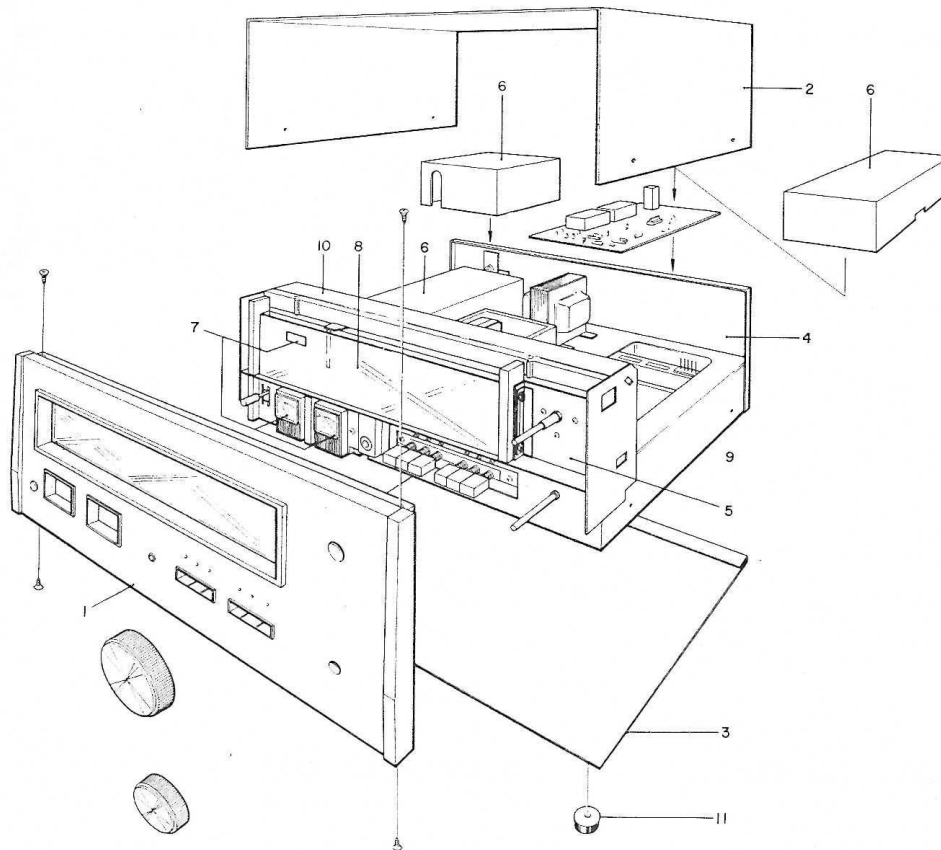
● TOP SIDE



### ● PARTS LIST

| No. | Description              | Part No.    | Remarks                      | No. | Description                        | Part No.    | Remarks             |
|-----|--------------------------|-------------|------------------------------|-----|------------------------------------|-------------|---------------------|
| 1   | MPX & Audio Assembly     | 706-0002-00 |                              | 10  | Connector Plug Fixed Bracket       | 247-0035-04 |                     |
| 2   | Power Transformer        | 510-0002-00 |                              |     | Connector Plug                     | 304-0601-00 |                     |
| 3   | FM, Front-end            | 700-0001-02 |                              | 11  | Push Switch for Power              | 354-1003-00 |                     |
| 4   | FM IF AMP Assembly       | 703-0002-00 |                              |     | Push-button                        | 389-1202-04 |                     |
| 5   | Tuning Shaft Assembly    | 203-0001-23 | included Flywheel (Old type) | 12  | Push-button Switch Assembly        | 716-0011-00 |                     |
|     | Tuning Shaft Holder      | 247-0061-04 | (New type: with out Holder)  |     | Push Switch                        | 354-6401-00 |                     |
| 6   | Plate                    | 230-0014-04 |                              |     | Push Switch Fixed Bracket          | 247-0020-03 |                     |
| 7   | Meter Lamp Fixed Bracket | 247-0038-14 | for MULTIPATH                |     | Pilot Lamp (8V/150mA)              | 176-4401-00 | Ref. EXPLODED VIEW⑤ |
| 8   | Front-end Shield Plate   | 230-0013-03 | Ref. EXPLODED VIEW⑦          |     | Lamp Fixed Bracket                 | 247-0023-03 |                     |
| 9   | Power Supply Assembly    | 719-0006-00 |                              |     | Push-button                        | 389-5001-04 |                     |
|     | Fuse                     | 310-0101-00 | 1 A                          | 13  | T & S Meter Fixed Bracket          | 247-0034-03 | Ref. EXPLODED VIEW⑦ |
|     | Fuse                     | 310-0301-00 | 3 A                          | 14  | Variable Resistor for OUTPUT LEVEL | 573-2102-00 | 10kΩ×2              |

## EXPLODED VIEW



### ● PARTS LIST

| No. | Description                      | Part No.    | Remarks              |
|-----|----------------------------------|-------------|----------------------|
| 1   | Front Panel Assembly             | 130-0005-23 |                      |
|     | Front Panel                      | 131-0005-02 |                      |
|     | Panel End Cap (L)                | 132-0005-04 |                      |
|     | Panel End Cap (R)                | 132-0006-04 |                      |
|     | Panel End Spacer                 | 250-1001-14 |                      |
|     | Front Glass                      | 172-0001-03 |                      |
|     | Front Glass Fixed Bracket        | 248-0010-14 |                      |
|     | Dial Frame                       | 112-6001-00 |                      |
|     | Meter Frame                      | 113-0005-03 |                      |
|     | Push-button Frame                | 113-0007-04 |                      |
|     | Push-button Frame                | 113-0008-14 | for Power Switch.    |
|     | Indicator Assembly               | 173-1202-06 | Stereo Indicator.    |
|     | Position Indicator               | 173-0901-14 | Ref. EXTERNAL VIEW   |
|     | Position Filter                  | 179-0011-04 | ④ ⑤                  |
| 2   | Case                             | 100-0001-01 |                      |
| 3   | Bottom Plate                     | 155-0004-12 |                      |
| 4   | Rear Panel                       | 135-0005-12 |                      |
| 5   | Dial Back Board                  | 117-0002-22 |                      |
|     | Dial Back Plate                  | 180-9003-03 |                      |
| 6   | Shield Case                      | 231-0007-03 | for MPX & Audio.     |
|     | Front-end Shield Case            | 231-0008-03 | FM IF AMP.           |
| 7   | Meter                            |             |                      |
|     | SIGNAL Meter                     | 178-0001-10 |                      |
|     | TUNING Meter                     | 178-1001-10 |                      |
|     | MULTIPATH Meter                  | 178-5002-00 |                      |
|     | Lamp Fixed Bracket               | 247-0034-13 | for S & T Meter.     |
|     | Lamp Fixed Bracket               | 247-0038-14 | for MULTIPATH Meter. |
|     | Meter Filter                     | 179-0008-04 | for S & T Meter.     |
|     | Meter Filter                     | 179-0004-24 | for MULTIPATH Meter. |
|     | Pilot Lamp for S & T Meter       | 176-5401-00 | 8V/300mA Ref.9       |
|     | Pilot Lamp for MULTIPATH Meter   | 176-4401-00 | 8V/150mA Ref.9       |
| 8   | Dial Glass                       | 175-2002-03 |                      |
|     | Dial Glass Fixed Bracket (L)     | 248-0015-04 |                      |
|     | Dial Glass Fixed Bracket (R)     | 248-0016-04 |                      |
|     | Dial Glass Holder                | 249-0002-14 |                      |
|     | Dial Glass Filter                | 179-0010-04 |                      |
|     | Pilot Lamp                       | 176-2301-00 | 8V/300mA Ref.9       |
|     | Pilot Lamp Socket                | 305-2201-00 |                      |
| 9   | Pilot Lamp (8V/300mA)            | 176-2301-00 | for Dial Scale.      |
|     | Pilot Lamp (8V/150mA) with wire. | 176-4401-00 | for Indicator.       |
|     | Pilot Lamp (8V/300mA) with wire. | 176-5401-00 | for S & T Meter.     |
| 10  | Dial Shield Cover                | 230-0012-02 |                      |
| 11  | Plastic Foot                     | 238-0001-14 |                      |

## ● MISCELLANEOUS

| No. | Description                    | Part No.    | Remarks                                    | No.  | Description            | Part No.     | Remarks                         |
|-----|--------------------------------|-------------|--------------------------------------------|------|------------------------|--------------|---------------------------------|
| D1  | Silicon Diode                  | 1BZ61       |                                            |      | Rear Panel             | 614-0305-02  | 3×8mm (1) 7pcs.                 |
|     | Fuse for Main Fuse At 100,117V | 310-1051-00 | 0.5A SLO-BLO                               |      | Bottom Plate           | 614-0305-02  | 3×8mm 8pcs.                     |
|     | Fuse for Main Fuse At 220,240V | 310-1141-00 | 1 1/4A SLO-BLO                             |      | Dial Shield Cover      | 600-0305-01  | 3×8mm (3) 2pcs.                 |
| F12 | Fuse                           | 310-0101-00 | 1A                                         |      | Dial Shield Cover      | 614-0305-01  | 3×8mm (1) 1pc.                  |
| F3  | Fuse                           | 310-0301-00 | 3A                                         |      | Dial Shield Cover      | 251-6101-04  | Hexa Head Boss 2pcs.            |
|     | Connector Plug                 | 304-0601-00 |                                            |      | Shield Case            | 600-0300-01  | 3×60mm (3) 4pcs.                |
|     | Dial String                    | 210-0001-00 | 6 Feet (180cm)                             |      | Front Shield Case      | 600-0304-01  | 3×4mm (3) 2pcs.                 |
|     | Tuning Capacitor Drum          | 200-5401-00 |                                            |      | Plastic Foot           | 600-0414-01  | 4×14mm (3) 4pcs.                |
|     | Tension Spring                 | 285-0001-04 |                                            | R1   | Carbon Film Resistor   | RD142HA100J  | 10Ω ± 5% 1/4W                   |
|     | Pulley                         | 201-1401-00 |                                            | R2,3 | Carbon Film Resistor   | RD142HA104J  | 100kΩ ± 5% 1/4W                 |
|     | Pulley Bushing                 | 221-0601-04 |                                            | R4   | Carbon Film Resistor   | RD142HA225J  | 2.2MΩ ± 5% 1/4W                 |
|     | Screw                          |             | (1) Binding Head B Type Self Tapping Screw | C2   | Ceramic Capacitor      | CK45F1H103Z  | 0.01μF ± 20% 50WV               |
|     | for                            |             | (2) Pan Head B Type Self Tapping Screw     | C3   | Mylar Film Capacitor   | C030M2B03MUL | 0.01μF ± 20% 250WV              |
|     |                                |             | (3) Pan Head ISO Metallic Screw            | C4   | Electrolytic Capacitor | CE02W1A222   | 2200μF 10WV                     |
|     |                                |             | (4) Flat Head B Type Self Tapping Screw    |      | Accessories            |              |                                 |
|     | Case (Upper)                   | 614-0306-02 | 3×6mm (1) 4pcs.                            |      | Coaxial Connector Plug | 301-7001-00  | for 75Ω Coaxial Cable, 6mm dia. |
|     | Nylon Washer                   | 637-1031-50 |                                            |      | Stereo Cord            | 685-0401-00  |                                 |
|     | Case (Side)                    | 630-4101-02 | 4×10mm 4pcs.                               |      | Power Supply Cord      | 680-2201-00  |                                 |
|     | Washer                         | 637-0041-02 | 4pcs.                                      |      | Carton Box             |              |                                 |
|     | Front Panel                    | 613-0308-01 | 3×8mm (4) 4pcs.                            |      | Outer Box              | 800-0005-00  |                                 |
|     | Panel End Cap                  | 617-0315-01 | 3×5mm (2) 4pcs.                            |      | Inner Box              | 801-0005-00  |                                 |
|     |                                |             |                                            |      | Front Protector        | 803-0015-00  |                                 |
|     |                                |             |                                            |      | Side Protector(L)      | 803-0013-00  |                                 |
|     |                                |             |                                            |      | Side Protector(R)      | 803-0014-00  |                                 |
|     |                                |             |                                            |      | Top Protector          | 803-0017-04  |                                 |

## HOW TO REPLACE THE FOLLOWING PARTS

### SIGNAL AND TUNING METER

Ref. Exploded View 7

1. Remove in order Case, Knobs(2) and Front Panel (4 screws).
2. Take out the Meter after removing the Cushion between the Meter and the Plastic Plate.
3. Attach Cushion (258-3055-04) to the new Meter, wire Meter in, and affix to Plastic Plate with adhesive.

### PILOT LAMP FOR THE DIAL SCALE

Ref. Exploded View 9

1. Take of the Case, Knobs and Front Panel.
2. Insert new lamp into Pilot Lamp Socket.

### PILOT LAMP FOR SIGNAL AND TUNING METERS

Ref. Exploded View 7

1. Remove Bottom Plate and take off the Rubber Bushing of the Pilot Lamp from the Lamp Fixed Bracket.
2. Prepare new lamp and push its Bushing into the lamp holding tip of the Fixed Bracket.

### MULTIPATH METER PILOT LAMP

Ref. Exploded View 7

1. Remove in order, Case, Dial Cover and Bottom Plate.
2. Remove Rubber Bushing from Lamp Fixed Bracket and insert new lamp.
3. The job can be finished by completing the wiring within the chassis.

### MULTIPATH METER

Ref. Exploded View 7 10

1. Remove Case, and then the Dial Shield Cover.
2. Remove Lamp from Lamp Fixed Bracket, and then take out Fixed Bracket.
3. Remove Meter and Meter Filter after loosening the Meter locking screw (Fixes meter in place from the rear).
4. Wire up new Meter and attach it, keeping the Meter Filter at its rear in place, as is.
5. Reattach the Lamp Fixed Bracket. This completes the job of replacing the Multipath Meter.

### REPLACEMENT OF POSITION INDICATOR LAMP AND PUSH BOTTOM SWITCH ASSEMBLY

Ref. Internal View 12

1. Take off the Bottom Plate.
2. Assembly can be taken out after removing the Push Switch Fixed Bracket from the Chassis interior.
3. Lamp can be replaced after taking off the Lamp Fixed Bracket from the Assembly.

### HOW TO REMOVE THE PRINTED CIRCUIT BOARD

FM IF AMP Assembly Ref. Exploded View 6  
MPX & AUDIO Assembly Ref. Internal View 1 4 10

1. Take off the Shield Case.
2. Board can be removed after the 6 screws holding it in place are taken off since only the Connector wires will then remain.

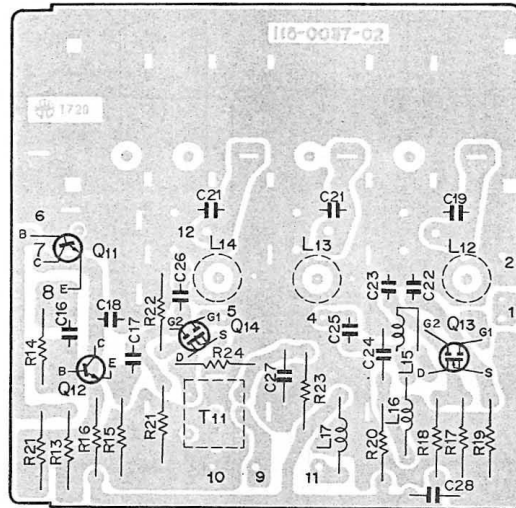
FRONT-END Assembly Ref. Internal View 3 6

1. Just remove the Front-end Shield Case and the Front-end Shield Plate if all that is required is checking.
2. To take off the Front-end Assembly, the Tuning Drum, connecting wires and the screws holding the Assembly in place must be removed.

## FM FRONT-END ASSEMBLY (700-0001-02)

### ● PRINTED CIRCUIT BOARD

\*Printed circuit board as seen from the reverse side.



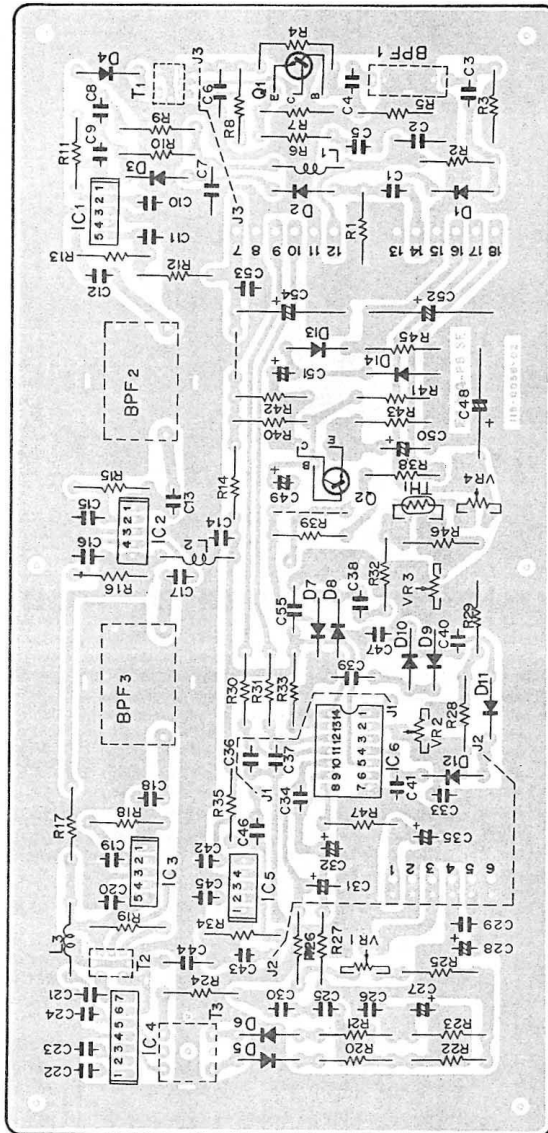
### ● PARTS LIST

| No.       | Description                        | Part No.     | Remarks   | No.             | Description                         | Part No.     | Remarks   |
|-----------|------------------------------------|--------------|-----------|-----------------|-------------------------------------|--------------|-----------|
| Q11, 12,  | Transistor                         | 2SC785       |           | C16             | Ceramic Capacitor 10pF ±5% 50WV     | CC45CH1H100J | Black(TC) |
| Q13, 14   | MOS FET                            | 3SK41        |           | C17             | Ceramic Capacitor 22pF ±5% 50WV     | CC45CH1H220J | Black(TC) |
| T11       | IFT                                | 500-0001-00  |           | C18, 24, 27, 28 | Ceramic Capacitor 0.022μF ±80% 50WV | CK45F1H223Z  |           |
| L11       | OSC Coil                           | 501-0004-00  |           | C19, 20, 21     | Ceramic Capacitor 12pF ±5% 50WV     | CC45SH1H120J | Green(TC) |
| L12       | ANT Coil                           | 503-0006-00  |           | C22, 23, 25, 26 | Ceramic Capacitor 0.01μF ±80% 50WV  | CK45F1H103Z  |           |
| L13       | RF Coil                            | 502-0007-00  |           | C29             | Minic Capacitor 0.33pF ±10% 50WV    | CC14SL1HR38K | (TC)      |
| L14       | RF Coil                            | 502-0008-00  |           | R11             | Carbon Film Resistor 820Ω ±5% 1/4W  | RD142EA821J  |           |
| L15       | Choke Coil                         | 505-0002-00  | 0.18mH    | R12, 18         | Carbon Film Resistor 12kΩ ±5% 1/4W  | RD142HA123J  |           |
| L16       | Choke Coil                         | 506-1003-00  | 0.68mH    | R13             | Carbon Film Resistor 10kΩ ±5% 1/4W  | RD142HA103J  |           |
| L17       | Choke Coil                         | 506-1002-00  | 1mH       | R14             | Carbon Film Resistor 8.2kΩ ±5% 1/4W | RD142HA822J  |           |
| CT1       | Ceramic Trimmer                    | 552-0601-00  | 6pF       | R15             | Carbon Film Resistor 1kΩ ±5% 1/4W   | RD142HA102J  |           |
| CT2, 3, 4 | Ceramic Trimmer                    | 552-1002-00  | 10pF      | R16             | Carbon Film Resistor 560Ω ±5% 1/4W  | RD142HA561J  |           |
|           | Variable Condenser                 | 550-4001-00  |           | R17             | Carbon Film Resistor 3.9kΩ ±5% 1/4W | RD142HA392J  |           |
| C11       | Ceramic Capacitor 22pF ±5% 50WV    | CC45SH1H220J | Green(TC) | R19             | Carbon Film Resistor 22Ω ±5% 1/4W   | RD142HA220J  |           |
| C12       | Ceramic Capacitor 12pF ±5% 50WV    | CC45TH1H120J | Blue(TC)  | R20, 23         | Carbon Film Resistor 470Ω ±5% 1/4W  | RD142HA471J  |           |
| C13       | Ceramic Capacitor 33pF ±5% 50WV    | CC45CH1H330J | Black(TC) | R21             | Carbon Film Resistor 100kΩ ±5% 1/4W | RD142HA104J  |           |
| C14       | Ceramic Capacitor 8pF ±5% 50WV     | CC45CH1H080J | Black(TC) | R22             | Carbon Film Resistor 220Ω ±5% 1/4W  | RD142HA221J  |           |
| C15       | Ceramic Capacitor 1000pF ±100% -0% | CK183E102P   |           | R24             | Carbon Film Resistor 13kΩ ±5% 1/4W  | RD142HA133J  |           |

# FM IF AMP. ASSEMBLY (703-0002-00)

## ●PRINTED CIRCUIT BOARD

\* Printed circuit board as seen from the reverse side.



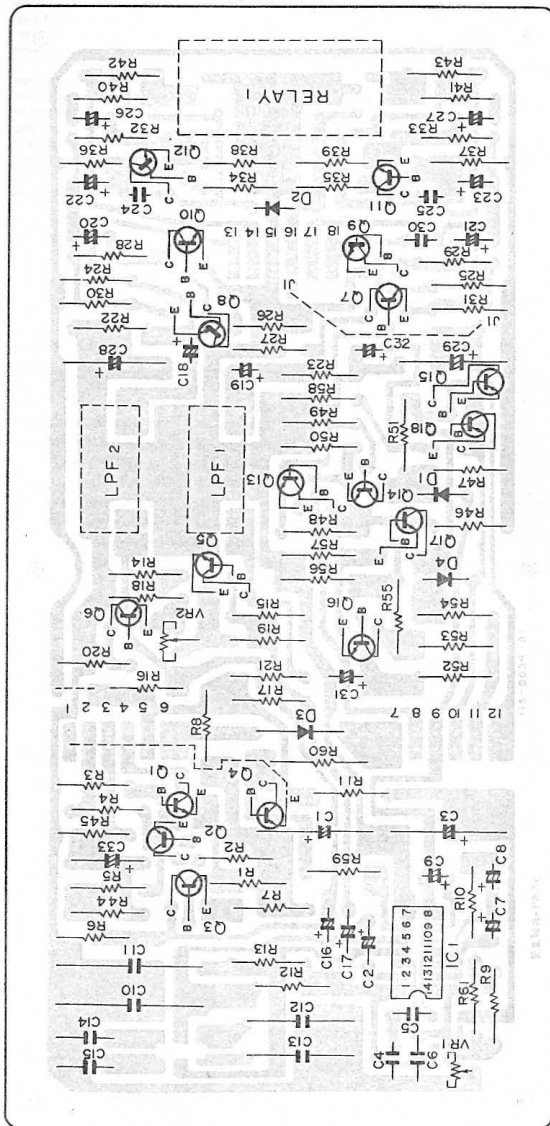
## ● PARTS LIST

| No.                                                           | Description                 | Part No.         | Remarks                                  |
|---------------------------------------------------------------|-----------------------------|------------------|------------------------------------------|
| IC1, 2, 3, 5                                                  | IC                          | TA7060P          |                                          |
| IC4                                                           | IC                          | TA7061AP         |                                          |
| IC6                                                           | IC                          | TA7106P          |                                          |
| Q1                                                            | Transistor                  | 2SC381-0         |                                          |
| Q2                                                            | Transistor                  | 2SC1746-GR or BL |                                          |
| D1-14                                                         | Diode                       | 1N60             |                                          |
| TH1                                                           | Thermistor                  | SD-19            |                                          |
| T1, 2                                                         | IFT                         | 500-0002-00      |                                          |
| T3                                                            | FM Discri-Transformer       | 505-0001-00      |                                          |
| L1, 2, 3                                                      | Choke Coil                  | 506-1201-00      | 100mH                                    |
| BPF1                                                          | IF Ceramic Filter           | 523-0001-00      |                                          |
| BPF2, 3                                                       | IF BPF                      | 520-0001-00      |                                          |
| VR1                                                           | Potentiometer 2.2k $\Omega$ | 580-0231-00      | for Output Level Adj.                    |
| VR2                                                           | Potentiometer 470 $\Omega$  | 580-0521-00      | for Muting Width Adj.                    |
| VR3                                                           | Potentiometer 1k $\Omega$   | 580-0131-00      | for Muting Level Adj.                    |
| VR4                                                           | Potentiometer 4.7k $\Omega$ | 580-0531-00      | for Signal Meter Adj.                    |
|                                                               | Connector Jack              | 304-5601-00      |                                          |
|                                                               | IC Socket                   | 300-1141-00      | for TA7106P                              |
| R1, 2, 9, 10, 10, 26, 27, 34, 47                              | Carbon Film Resistor        | RD142HA103J      | 10k $\Omega$ $\pm 5\%$ $\frac{1}{2}W$    |
| R23                                                           | Carbon Film Resistor        | RD142HA331J      | 330 $\Omega$ $\pm 5\%$ $\frac{1}{2}W$    |
| R22, 23                                                       | Carbon Film Resistor        | RD142HA332J      | 3.3k $\Omega$ $\pm 5\%$ $\frac{1}{2}W$   |
| R7, 11, 25, 13, 16, 20, 21, 35, 39                            | Carbon Film Resistor        | RD142HA102J      | 1k $\Omega$ $\pm 5\%$ $\frac{1}{2}W$     |
| R6, 24, 46                                                    | Carbon Film Resistor        | RD142HA101J      | 100 $\Omega$ $\pm 5\%$ $\frac{1}{2}W$    |
| R8                                                            | Carbon Film Resistor        | RD142HA183J      | 18k $\Omega$ $\pm 5\%$ $\frac{1}{2}W$    |
| R12                                                           | Carbon Film Resistor        | RD142HA361J      | 360 $\Omega$ $\pm 5\%$ $\frac{1}{2}W$    |
| R14                                                           | Carbon Film Resistor        | RD142HA750J      | 75 $\Omega$ $\pm 5\%$ $\frac{1}{2}W$     |
| R15, 18                                                       | Carbon Film Resistor        | RD142HA561J      | 560 $\Omega$ $\pm 5\%$ $\frac{1}{2}W$    |
| R17                                                           | Carbon Film Resistor        | RD142HA100J      | 10 $\Omega$ $\pm 5\%$ $\frac{1}{2}W$     |
| R19                                                           | Carbon Film Resistor        | RD142HA272J      | 2.7k $\Omega$ $\pm 5\%$ $\frac{1}{2}W$   |
| R33, 48                                                       | Carbon Film Resistor        | RD142HA202J      | 2k $\Omega$ $\pm 5\%$ $\frac{1}{2}W$     |
| R29                                                           | Carbon Film Resistor        | RD142HA391J      | 390 $\Omega$ $\pm 5\%$ $\frac{1}{2}W$    |
| R30, 31                                                       | Carbon Film Resistor        | RD142HA682J      | 6.8k $\Omega$ $\pm 5\%$ $\frac{1}{2}W$   |
| R32                                                           | Carbon Film Resistor        | RD142HA221J      | 220 $\Omega$ $\pm 5\%$ $\frac{1}{2}W$    |
| R38                                                           | Carbon Film Resistor        | RD142HA563J      | 56k $\Omega$ $\pm 5\%$ $\frac{1}{2}W$    |
| R40                                                           | Carbon Film Resistor        | RD142HA104J      | 100k $\Omega$ $\pm 5\%$ $\frac{1}{2}W$   |
| R41                                                           | Carbon Film Resistor        | RD142HA333J      | 33k $\Omega$ $\pm 5\%$ $\frac{1}{2}W$    |
| R42                                                           | Carbon Film Resistor        | RD142HA472J      | 4.7k $\Omega$ $\pm 5\%$ $\frac{1}{2}W$   |
| R43                                                           | Carbon Film Resistor        | RD142HA222J      | 2.2k $\Omega$ $\pm 5\%$ $\frac{1}{2}W$   |
| R45                                                           | Carbon Film Resistor        | RD142HA471J      | 470 $\Omega$ $\pm 5\%$ $\frac{1}{2}W$    |
| R4                                                            | Carbon Film Resistor        | RD142HA152J      | 1.5k $\Omega$ $\pm 5\%$ $\frac{1}{2}W$   |
| R5                                                            | Carbon Film Resistor        | RD142HA431J      | 430 $\Omega$ $\pm 5\%$ $\frac{1}{2}W$    |
| C1, 3, 4, 5, 8-24, 29, 33, 34, 36, 37, 38, 42, 44, 45, 47, 53 | Ceramic Capacitor           | CK45F1H103Z      | 0.01 $\mu F$ $\pm 80\%$ $\pm 20\%$ 50WV  |
| C2, 6, 7, 35                                                  | Ceramic Capacitor           | CK45F1H473Z      | 0.047 $\mu F$ $\pm 80\%$ $\pm 20\%$ 50WV |
| C25, 26, 30                                                   | Ceramic Capacitor           | CC45SL1H221J     | 220pF $\pm 5\%$ 50WV                     |
| C27, 28                                                       | Electrolytic Capacitor      | CE04W1C100       | 10 $\mu F$ 16WV                          |
| C31, 32                                                       | Electrolytic Capacitor      | CE04W1E3R3       | 3.3 $\mu F$ 25WV                         |
| C35, 49, 51                                                   | Electrolytic Capacitor      | CE04W1H010       | 1 $\mu F$ 50WV                           |
| C39, 43, 46                                                   | Ceramic Capacitor           | CC45SL1H220J     | 22pF $\pm 5\%$ 50WV                      |
| C40                                                           | Ceramic Capacitor           | CK45B1H471K      | 470pF $\pm 10\%$ 50WV                    |
| C41                                                           | Ceramic Capacitor           | CK45B1H821M      | 820pF $\pm 20\%$ 50WV                    |
| C48, 52                                                       | Electrolytic Capacitor      | CE02W0J101       | 100 $\mu F$ 6.3WV                        |
| C50                                                           | Electrolytic Capacitor      | CE04W1E4R7       | 4.7 $\mu F$ 25WV                         |
| C54                                                           | Electrolytic Capacitor      | CE02W1C101       | 100 $\mu F$ 16WV                         |

# MPX AUDIO ASSEMBLY (706-0002-00)

## ●PRINTED CIRCUIT BOARD

\*Printed circuit board as seen from the reverse side.



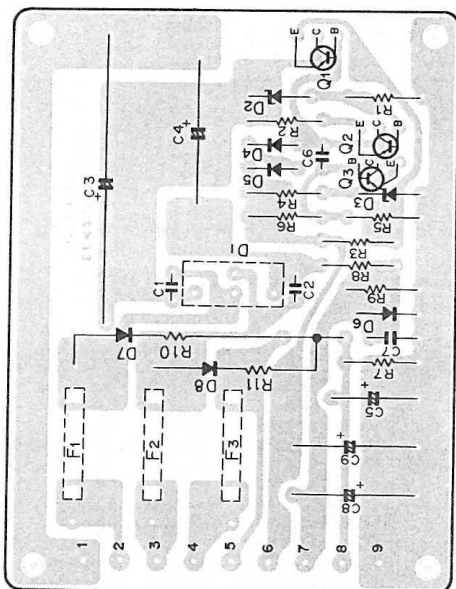
## ●PARTS LIST

| No.             | Description                | Part No.          | Remarks            |
|-----------------|----------------------------|-------------------|--------------------|
| IC1             | IC                         | MC1310P           |                    |
| Q1, 2           | Transistor                 | 2SC1746A-GR or BL |                    |
| Q3, 7, 8        | Transistor                 | 2SA855-Y or GR    |                    |
| Q4              | Transistor                 | 2SA562-O or Y     |                    |
| Q5, 6           | Transistor                 | 2SC1746-GR        |                    |
| Q9, 10,         | Transistor                 | 2SC1746-GR or BL  |                    |
| 11, 12, 13,     |                            |                   |                    |
| 14, 15, 16,     |                            |                   |                    |
| 17, 18          |                            |                   |                    |
| D1, 2, 3, 4     | Silicon Diode              | 1S1555            |                    |
| FIL 1, 2        | Low Pass Filter            | 520-5001-10       |                    |
| VR1             | Potentiometer              | 4.7kΩ             | 19kHz Osc Adj.     |
| VR2             | Potentiometer              | 100kΩ             | Separation Adj.    |
|                 |                            |                   | for MC1310P        |
| S1              | Slide Switch               | 350-0201-00       |                    |
| RELAY 1         | Reed Relay                 | 363-1202-00       |                    |
|                 | Connector Jack             | 304-5601-00       |                    |
| R1, 2           | Carbon Film Resistor       | RD142HA682J       | 6.8kΩ ± 5% 1/2W    |
| R3, 28, 29      | Carbon Film Resistor       | RD142HA472J       | 4.7kΩ ± 5% 1/2W    |
| R4              | Carbon Film Resistor       | RD142HA153J       | 15kΩ ± 5% 1/2W     |
| R5              | Carbon Film Resistor       | RD142HA134J       | 13kΩ ± 5% 1/2W     |
| R6, 51          | Carbon Film Resistor       | RD142HA223J       | 22kΩ ± 5% 1/2W     |
| R7              | Carbon Film Resistor       | RD142HA221J       | 220Ω ± 5% 1/2W     |
| R8, 50, 57      | Carbon Film Resistor       | RD142HA471J       | 470Ω ± 5% 1/2W     |
| R9              | Carbon Film Resistor       | RD142HA163J       | 16kΩ ± 5% 1/2W     |
| R30, 31         | Carbon Film Resistor       | RD142HA102J       | 1kΩ ± 5% 1/2W      |
| R11             | Carbon Film Resistor       | RD142HA151J       | 150Ω ± 5% 1/2W     |
| R12, 13         | Carbon Film Resistor       | RD142HA7501G      | 7.5kΩ ± 2% 1/2W    |
| R14, 15, 36, 37 | Carbon Film Resistor       | RD142HA154J       | 150kΩ ± 5% 1/2W    |
| R16, 17         | Carbon Film Resistor       | RD142HA434J       | 430kΩ ± 5% 1/2W    |
| R18, 19         | Carbon Film Resistor       | RD142HA152J       | 1.5kΩ ± 5% 1/2W    |
| R20, 21, 59     | Carbon Film Resistor       | RD142HA222J       | 2.2kΩ ± 5% 1/2W    |
| R22, 23, 48, 55 | Carbon Film Resistor       | RD142HA273J       | 27kΩ ± 5% 1/2W     |
| R24, 25         | Carbon Film Resistor       | RD142HA392J       | 3.9kΩ ± 5% 1/2W    |
| R26, 27         | Carbon Film Resistor       | RD142HA303J       | 30kΩ ± 5% 1/2W     |
| R32, 33         | Carbon Film Resistor       | RD142HA183J       | 18kΩ ± 5% 1/2W     |
| R34, 35         | Carbon Film Resistor       | RD142HA304J       | 300kΩ ± 5% 1/2W    |
| R38, 39, 10     | Carbon Film Resistor       | RD142HA332J       | 3.3kΩ ± 5% 1/2W    |
| R40, 41, 42, 43 | Carbon Film Resistor       | RD142HA560J       | 56Ω ± 5% 1/2W      |
| R44             | Carbon Film Resistor       | RD142HA621J       | 620Ω ± 5% 1/2W     |
| R45             | Carbon Film Resistor       | RD142HA104J       | 100kΩ ± 5% 1/2W    |
| R46, 47, 49,    | Carbon Film Resistor       | RD142HA103J       | 10kΩ ± 5% 1/2W     |
| 53, 54, 56, 55  |                            |                   |                    |
| R52             | Carbon Film Resistor       | RD142HA105J       | 1MΩ ± 5% 1/2W      |
| R58             | Carbon Film Resistor       | RD142HA680J       | 68Ω ± 5% 1/2W      |
| R60             | Carbon Film Resistor       | RD142HA150J       | 15Ω ± 5% 1/2W      |
| C1, 3           | Electrolytic Capacitor     | CE02W1C221        | 220μF 16WV         |
| C2              | Tantalum Solid Capacitor   | CS15E1C220M       | 22μF ± 20% 16WV    |
| C4, 34          | Ceramic Capacitor          | CK4501H471K       | 470pF ± 10% 50WV   |
| C5              | Mylar Film Capacitor       | CQ93M1H473K       | 0.047μF ± 10% 50WV |
| C6, 14, 15      | Polystyrene Film Capacitor | CQ08S2B471G       | 470pF ± 2% 125WV   |
| C7, 9, 20,      | Tantalum Solid Capacitor   | CS15E1VR22K       | 0.22μF ± 10% 35WV  |
| 21, 22, 23      |                            |                   |                    |
| C8              | Tantalum Solid Capacitor   | CS15E1VR47M       | 0.47μF ± 20% 35WV  |
| C10, 11         | Polystyrene Film Capacitor | CQ08S2B562G       | 5600pF ± 2% 125WV  |
| C12, 13         | Polystyrene Film Capacitor | CQ08S2B432G       | 4300pF ± 2% 125WV  |
| C16, 17         | Tantalum Solid Capacitor   | CS15E1VOR1M       | 0.1μF ± 20% 35WV   |
| C18, 19, 26, 27 | Tantalum Solid Capacitor   | CS15E1C100M       | 10μF ± 20% 16WV    |
| C24, 25         | Polystyrene Film Capacitor | CQ08S2B471J       | 470pF ± 5% 125WV   |
| C28, 29         | Electrolytic Capacitor     | CE02W1C101        | 100μF 16WV         |
| C30             | Mylar Film Capacitor       | CQ93M1H103M       | 0.01μF ± 20% 50WV  |
| C31             | Tantalum Solid Capacitor   | CS15E0F100M       | 10μF ± 20% 3.15WV  |
| C33             | Electrolytic Capacitor     | CE02W1C100        | 10μF 16WV          |
| C35             | Ceramic Capacitor          | CC455L1H220J      | 22pF ± 5% 50WV     |
| C36, 37         | Ceramic Capacitor          | CK45B1H471K       | 470pF ± 10% 50WV   |

## POWER SUPPLY ASSEMBLY (719-0006-00)

### ● PRINTED CIRCUIT BOARD

\* Printed circuit board as seen from the reverse side.



### ● PARTS LIST

| No.  | Description          | Part No.      | Remarks |
|------|----------------------|---------------|---------|
| Q1   | Transistor           | 2SD235-0 or Y |         |
| Q2   | Transistor           | 2SA562-0 or Y |         |
| Q3   | Transistor           | 2SC735-0 or Y |         |
| D1   | Silicon Diode Bridge | S1RB-10       |         |
| D2   | Zener Diode          | XZ-053        |         |
| D3   | Zener Diode          | XZ-060        |         |
| D4,5 | Silicon Diode        | 1S1555        |         |
| D6   | Zener Diode          | XZ-162        |         |
| D7,8 | Silicon Diode        | 1S-1553       |         |

### POWER SUPPLY PROTECTION

A Slow-Blow type fuse which is unaffected by initial "rush" currents is employed in the primary side of the power transformer. Since temporary current surges such as initial "rush" currents can cause ordinary type fuses to blow, it is general practice with such fuses to adopt a rating that is considerably higher than the normal current flow. This, of course, reduces the protective function of a fuse, so a slow-blow fuse has been employed in this amplifier to increase the safety factor.

On the other hand, a short circuit may occur in the power transformer secondary circuit (such as the pilot lamp circuit) which may not cause the fuse on the primary side to blow. Therefore, a fuse is also inserted in the secondary circuit to counteract this possibility and prevent the transformer from overheating. This fuse is mounted on a printed circuit board located in the chassis interior. Check this fuse in case of the following indications:

- Pilot lamps fail to light although all other operations are normal. → (F3)
- No output when the power switch is turned ON. → (F1, 2)

| No.        | Description                  | Part No.     | Remarks                    |
|------------|------------------------------|--------------|----------------------------|
|            | Heat Sink                    | 240-1007-04  |                            |
|            | Fuse Holder                  | 306-1001-00  |                            |
| F1,2       | Fuse (1A)                    | 310-0101-00  | Ref. MISCELLANEOUS         |
| F3         | Fuse (3A)                    | 310-0301-00  | Ref. MISCELLANEOUS         |
|            | Transistor Insulator         | 318-0201-00  | for 2SD235                 |
|            | Transistor Insulation Washer | 318-1102-00  | for 2SD235                 |
| R1         | Carbon Film Resistor         | RD142HA272J  | 2.7kΩ ± 5% ½W              |
| R2         | Carbon Film Resistor         | RD142HA471J  | 470Ω ± 5% ½W               |
| R3         | Metal Film Resistor          | RN143AA1R5JX | 1.5Ω ± 5% 1W               |
| R4         | Carbon Film Resistor         | RD142HA102J  | 1kΩ ± 5% ½W                |
| R5, 7      | Carbon Film Resistor         | RD142HA152J  | 1.5kΩ ± 5% ½W              |
| R6, 10, 11 | Carbon Film Resistor         | RD142HA222J  | 2.2kΩ ± 5% ½W              |
| R8         | Carbon Film Resistor         | RD142HAS21J  | 820Ω ± 5% ½W               |
| R9         | Carbon Film Resistor         | RD142HA163J  | 16kΩ ± 5% ½W               |
| C1, 2, 6   | Ceramic Capacitor            | CK45F1H103Z  | 0.01μF ± 80%<br>-20% 50WV  |
| C3         | Electrolytic Capacitor       | CE02W1V222   | 2200μF 35WV                |
| C4         | Electrolytic Capacitor       | CE02W1V101   | 100μF 35WV                 |
| C5         | Electrolytic Capacitor       | CE02W1A220   | 22μF 10WV                  |
| C7         | Ceramic Capacitor            | CK45F1H473Z  | 0.047μF ± 80%<br>-20% 50WV |
| C8, 9      | Electrolytic Capacitor       | CE02W1C101   | 100μF 16WV                 |

## PUSH-BUTTON SWITCH ASSEMBLY (716-0011-00)

### ● PARTS LIST

| No. | Description            | Part No.    | Remarks             |
|-----|------------------------|-------------|---------------------|
|     | Push-button Switch     | 354-6401-00 |                     |
|     | Pilot Lamp (8V/150mA)  | 176-4401-00 | Ref. EXPLODED VIEW③ |
| R1  | Carbon Film Resistor   | RD142HA105J | 1MΩ ± 5% ½W         |
| C1  | Electrolytic Capacitor | CE02W1H010  | 1μF 50WV            |

## BALUN TRANSFORMER ASSEMBLY (708-0001-00)

### ● PARTS LIST

| No. | Description       | Part No.    | Remarks             |
|-----|-------------------|-------------|---------------------|
|     | Balun Transformer | 509-0001-00 | Ref. EXTERNAL VIEW② |
|     | Terminal          | 313-0021-00 |                     |
|     | Nut for Terminal  | 633-2031-01 |                     |

## HOW TO RE-STRING THE DIAL MECHANISM

1. Prepare a Dial String that is 6 feet long. (80 cm)
  2. Connect one end to the Tension Spring as shown in Figure 1.
  3. Hook the other end of the Tension Spring through a hole in the spoke of the Tuning Capacitor Drum as shown in Figure 2.
  4. Now attach the spring end of the Tension Spring to the protruding hook at the rim of the Drum.
  5. Set Drum so that its protruding hook is at the top when the Variable Capacitor Plates are fully meshed. (maximum capacity)
  6. Guide String exactly as shown from 1 to 5 in Figure 2.
  7. Tie String (B) to (A) firmly three times at the protruding hook of the Drum.
  8. Release the Tension Spring from the protruding hook of the Drum.
  9. Turn the Tuning Shaft to see whether the Variable Capacitor works smoothly from closed (maximum capacity) to fully open position (minimum capacity)
- Now fix the Drum firmly to the Shaft.
10. With the Tuning Condenser fully closed, attach the Dial pointer lightly to the dial string at a point in line with  $\nabla$  ( $\blacktriangle$ ).
  11. Lock the Dial Pointer to the string permanently by tightening the fingers of the metal clasp after confirming the accuracy of the pointer setting to the frequency of the broadcasting station.

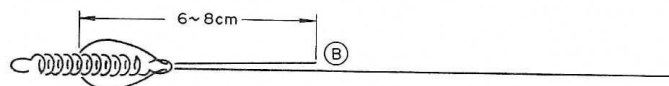


Fig. 1

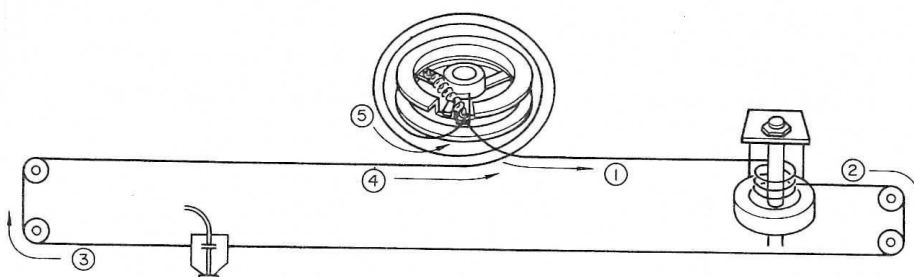
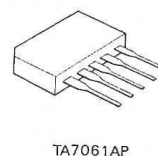
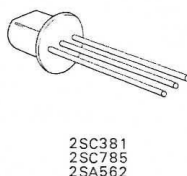
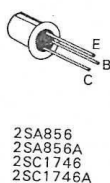
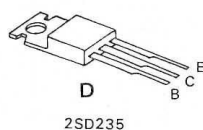
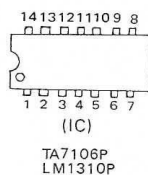
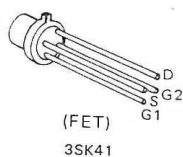


Fig. 2

## TRANSISTOR LEADS



## CIRCUIT DESCRIPTION

### T-101 ALIGNMENT INSTRUCTIONS

All ACCUPHASE tuners are carefully aligned and tested at the factory using the finest available test equipment. All ACCUPHASE tuners will meet their published specifications when shipped from the factory.

After extensive operation, or servicing, it may be desirable to realign the tuner circuits for best performance. The alignment charts give complete information on the circuit realignment procedure for the T-101.

The test equipment listed (or it's equivalent) is necessary to properly align a T-101. The accuracy of the alignment will be directly related to the accuracy and calibration of the test equipment used.

If the necessary test equipment is not available, alignment should not be attempted. For additional information contact Technical Service Department of our ACCUPHASE Distributor.

### TEST EQUIPMENT REQUIRED

1. FM Signal Generator (Measurements 188 or equivalent)
2. VTVM
3. Multiplex Generator (Radio meter SMG 1, or equivalent)
4. 10.7MHz Generator (Preferably crystal controlled)
5. Oscilloscope (Commercial Grade or equivalent)
6. Harmonic Distortion Analyzer (Hewlett-Packard 333A or equivalent)

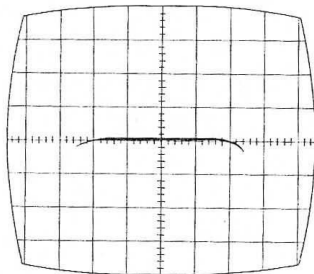


Fig. 1 FM IF WAVEFORM

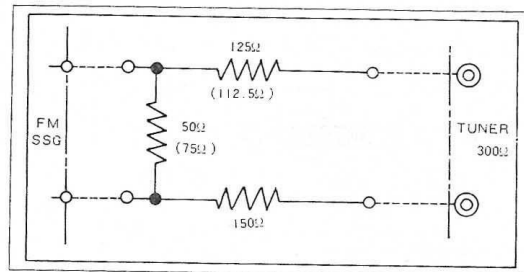


Fig. 2 FM ANTENNA MATCHING NETWORK

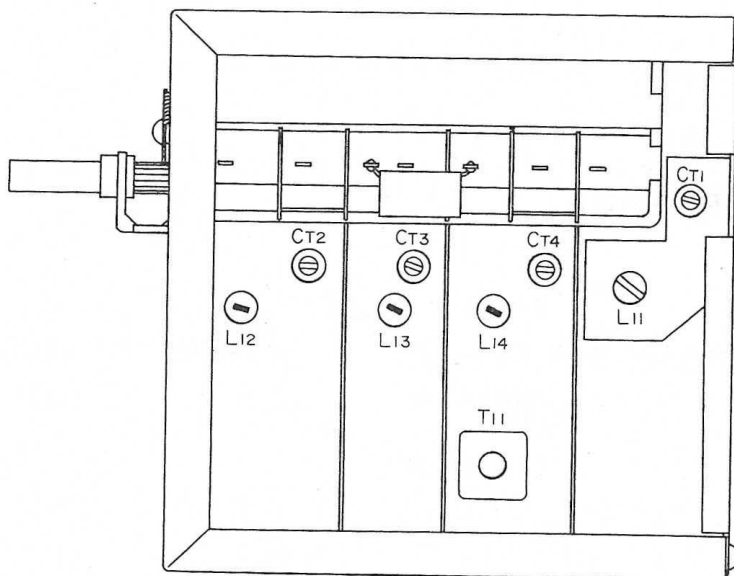
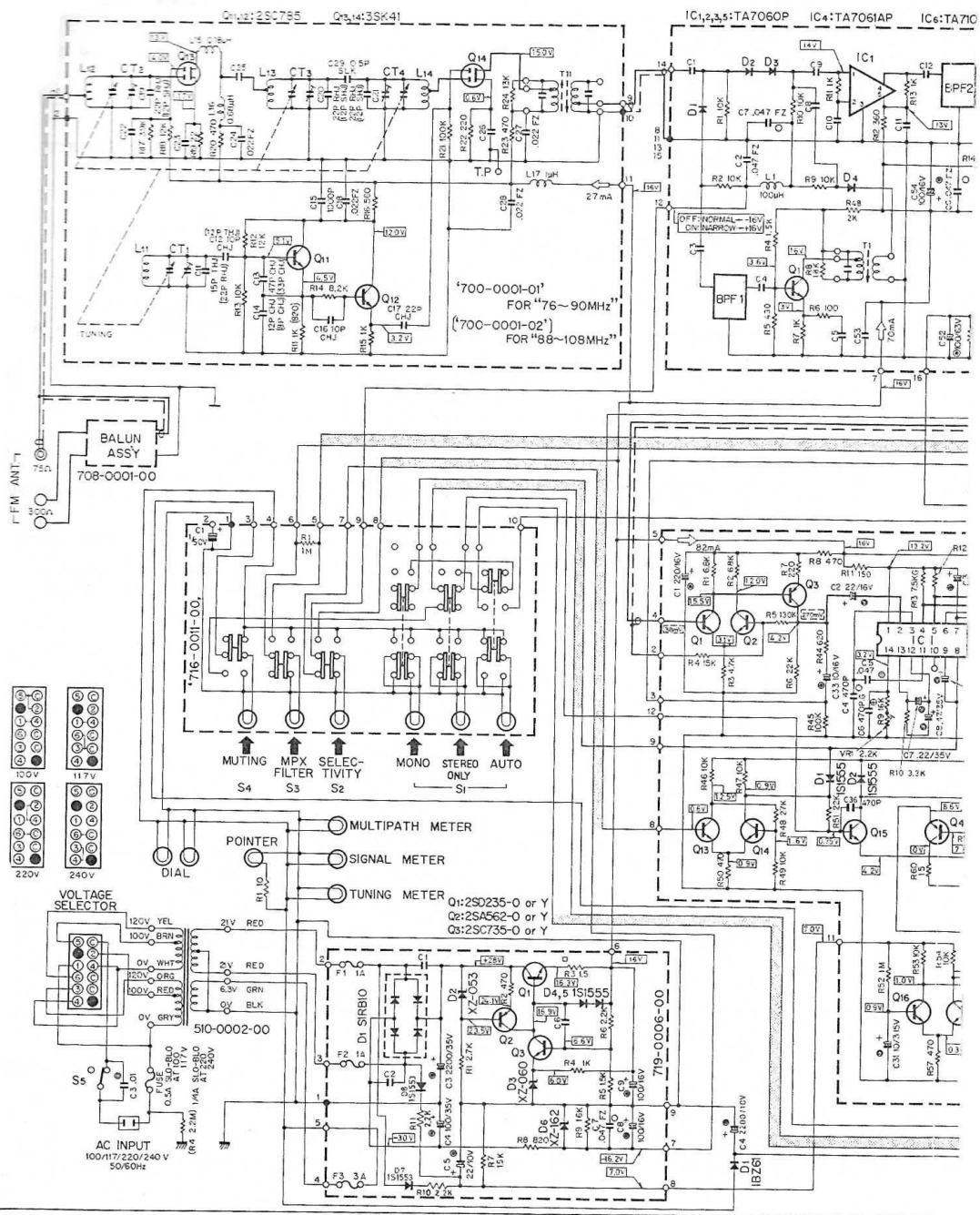
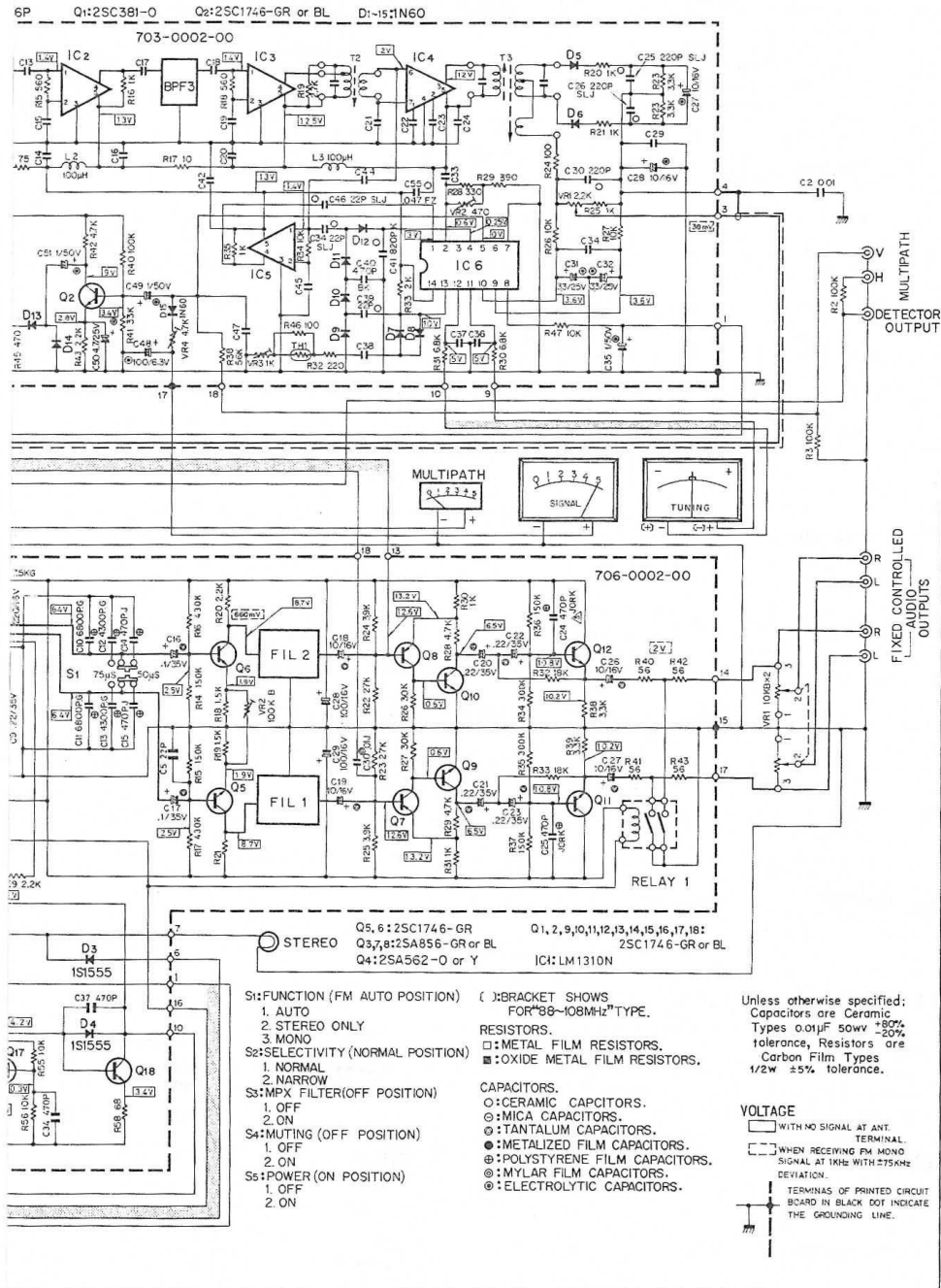


Fig. 3 ADJUST POINT ON FM FRONT-END ASSEMBLY

### T-101 REVISED SCHEMATIC DIAGRAM



This is the New Schematic Diagram as of JAN, 1977.



(822-2005-10)

## FM/MPX ALIGNMENT

| STEP  | ADJUST ITEM        | TUNER DIAL SETTING                                                                                                                                                                                                                                                 | SIGNAL GENERATOR                           |        |               |                                                       |                                      | INDICATOR                               |                      |
|-------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------|---------------|-------------------------------------------------------|--------------------------------------|-----------------------------------------|----------------------|
|       |                    |                                                                                                                                                                                                                                                                    | TYPE                                       | FREQ   | OUTPUT        | COUPLING                                              | MODURATION                           | TYPE                                    | CONNECTION           |
| 1     | IF                 | 98MHz<br>(Point of no interference around center)                                                                                                                                                                                                                  | FM Signal Generator                        | 98MHz  | 14dB<br>(5μV) | Through antenna matching network to 300Ω ANT terminal | 400Hz<br>±22.5kHz deviation<br>(30%) | Osilloscope                             | Fixed MULTIPLEX V as |
| 2     | DETECTOR           | Point of no interference                                                                                                                                                                                                                                           | Received FM noise                          |        |               |                                                       |                                      | SIGNAL METER                            |                      |
| 3     | SIGNAL METER       | 106MHz                                                                                                                                                                                                                                                             | FM Signal Generator                        | 106MHz | 86dB          | Through antenna matching network to 300Ω ANT terminal | 400Hz<br>±22.5kHz deviation<br>(30%) | SIGNAL METER                            |                      |
| 4     | DETECTOR           | 106MHz                                                                                                                                                                                                                                                             | Same                                       | 106MHz | 66dB          | Same                                                  | 400Hz<br>±75kHz deviation            | Osilloscope<br>VTVM<br>Distortion Meter | Fixed AUDIO          |
| 5     | AUDIO OUTPUT       | 106MHz                                                                                                                                                                                                                                                             | Same                                       | 106MHz | 66dB          | Same                                                  | Same                                 | Same                                    | Same                 |
| 6     | CALIBRATION        | 106MHz                                                                                                                                                                                                                                                             | Same                                       | 106MHz |               | Same                                                  | Same                                 | Same                                    | Same                 |
| 7     | Same               | 90MHz                                                                                                                                                                                                                                                              | Same                                       | 90MHz  |               | Same                                                  | Same                                 | Same                                    | Same                 |
| 8     | TRACKING           | 106MHz                                                                                                                                                                                                                                                             | Same                                       | 106MHz | 12dB          | Same                                                  | Same                                 | Same                                    | Same                 |
| 9     | Same               | 90MHz                                                                                                                                                                                                                                                              | Same                                       | 90MHz  | 12dB          | Same                                                  | Same                                 | Same                                    | Same                 |
| 10    | MUTING WIDTH LEVEL | 90MHz                                                                                                                                                                                                                                                              | Same                                       | 90MHz  | 86dB          | Same                                                  | 400Hz<br>±22.5kHz deviation<br>(30%) | Same                                    | Same                 |
| 11    | MUTING LEVEL       | 90MHz                                                                                                                                                                                                                                                              | Same                                       | 90MHz  | 22dB          | Same                                                  | Same                                 | Same                                    | Same                 |
| Note: |                    | Since the ANT. and RF circuits are double tuned, an RF sweep generator is necessary for realignment. Avoid touching parts in the F to the DETECTOR OUTPUT. If so, it will be an indication of some trouble within the MPX Assembly. The DE-EMPHASIS switch S1 with |                                            |        |               |                                                       |                                      |                                         |                      |
| 12    | MULTIPLEX          | 100MHz                                                                                                                                                                                                                                                             | FM Signal Generator<br>MULTIPLEX Generator | 100MHz | 66dB          | Same                                                  | 400Hz<br>L-R                         | Same                                    | Same                 |
| 13    | SEPARATION         | 100MHz                                                                                                                                                                                                                                                             | Same                                       | 100MHz | 66dB          | Same                                                  | 400Hz<br>L or R                      | Same                                    | Same                 |

| INDICATOR                                                                                                                                                                                                                                                                                                                                     |                         | ADJUST                                                                         | TEST LIMITS                                       | REMARKS                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PE                                                                                                                                                                                                                                                                                                                                            | CONNECTED TO            |                                                                                |                                                   |                                                                                                                                                                                                                                                                                                   |
| oscope                                                                                                                                                                                                                                                                                                                                        | Fixed MULTIPATH V and H | Top (secondary) and bottom(primary) of T11 on Front-end Assembly (700-0001-02) | Maximum height and best Symmetry curves as Fig. 1 | The alignment of T11 should be carried out first, then that of T2. Finally with the SELECTIVITY Control set to NARROW, align T1.                                                                                                                                                                  |
| L METER                                                                                                                                                                                                                                                                                                                                       |                         | Top (secondary) of T3 on IF AMP. Assembly (703-0002-00)                        | Midpoint indication of TUNING METER               | Keep TUNER in MONO mode with MUTING at OFF and SELECTIVITY at NORMAL.                                                                                                                                                                                                                             |
| L METER                                                                                                                                                                                                                                                                                                                                       |                         | VR4 on IF AMP. Assembly (703-0002-00)                                          | "5" Point indication of SIGNAL METER              | About 1/2 clockwise turn should produce a METER reading of "5". If unattainable repeat this step after completing step-9.                                                                                                                                                                         |
| cope<br>ion<br>Meter                                                                                                                                                                                                                                                                                                                          | Fixed AUDIO OUTPUT      | Bottom (primary) of T3 on IF AMP. Assembly (703-0002-00)                       | Maximum audio output and minimum distortion       | Indicated by maximum deflection of the SIGNAL METER and midpoint indication of the TUNING METER. Distortion will be less than 0.2% if a high quality FM signal generator is used.                                                                                                                 |
| ime                                                                                                                                                                                                                                                                                                                                           | Same                    | VR1 on IF AMP. Assembly (703-0002-00)                                          | 2.0V audio output                                 | Same as above.                                                                                                                                                                                                                                                                                    |
| ime                                                                                                                                                                                                                                                                                                                                           | Same                    | Oscillation trimmer CT1 on Front-end Assembly (700-0001-02)                    | Maximum SIGNAL METER. Midpoint TUNING METER       | Keep FM signal generator output to obtain reading of "2.5" on the SIGNAL METER.                                                                                                                                                                                                                   |
| ime                                                                                                                                                                                                                                                                                                                                           | Same                    | L11 on Front-end Assembly (700-0001-02)                                        | Same                                              | Keep repeating step-6 and 7 back and forth, until dial accurately indicates 90MHz and 106MHz during resonance with FM signal generator. Also check accuracy of other frequency reading.                                                                                                           |
| ime                                                                                                                                                                                                                                                                                                                                           | Same                    | CT2, 3, 4 on Front-end Assembly (700-0001-02)                                  | Adjust for minimum noise and distortion           | S/N will be more than 40 dB.<br>Distortion less than 3%.                                                                                                                                                                                                                                          |
| ime                                                                                                                                                                                                                                                                                                                                           | Same                    | L12, 13, 14 on Front-end Assembly (700-0001-02)                                | Same                                              | Same as above.<br>Repeat step 8 and check again.                                                                                                                                                                                                                                                  |
| ime                                                                                                                                                                                                                                                                                                                                           | Same                    | VR2 on IF AMP. Assembly (703-0002-00)                                          | Adjust the working point                          | ①Set VR2 to full counterclockwise position.<br>②Tune correctly. (maximum deflection of the S-Meter, Center indication of T-Meter)<br>③With MUTING set to ON, shift SSG frequency to the lower side of 50kHz.<br>④Turn VR2 clockwise to the position where output becomes available.               |
| ime                                                                                                                                                                                                                                                                                                                                           | Same                    | VR3 on IF AMP. Assembly (703-0002-01)                                          | ON/OFF audio output                               | With MUTING set to ON, turn VR3 to full clockwise position. Then start turning it counterclockwise slowly and stop at the position where output signal appears. Then check the ON/OFF action of the Muting Switch by varying the output of the Sweep Signal Generator over a range by about 22dB. |
| ching parts in the FM Front-end for replacing parts thereof. If not audio output is obtained during step 4, see if it becomes available when an oscilloscope is connected ASIS switch S1 within the MPX Assembly (706-0002-00) should be set to 50μS or 75μS whichever conforms with the practice in the country in which this tuner is used. |                         |                                                                                |                                                   |                                                                                                                                                                                                                                                                                                   |
| ime                                                                                                                                                                                                                                                                                                                                           | Same                    | VR1 on MPX & Audio Assembly (706-0002-00)                                      | Maximum audio output and minimum distortion       | Be sure to tune correctly. If a Frequency Counter is to be used, set FM SSG modulation to CW and connect the counter to No.10 terminal of IC1. Then adjust VR1 for 19kHz.                                                                                                                         |
| ime                                                                                                                                                                                                                                                                                                                                           | Same                    | VR2 on MPX & Audio Assembly (706-0002-00)                                      | Adjust for Maximum Separation                     | Balance output of Left and Right channels by feeding identical signal alternately to each. Gain should become over 45dB when adjustments are made completely.                                                                                                                                     |

## SPECIFICATIONS

### PERFORMANCE GUARANTY:

Products of Accuphase guarantee specifications stated.  
All specifications are measured in accordance with the new  
IHF measurement method.

### Monophonic Performance

**SENSITIVITY:** Usable Sensitivity: 11 dBf (2.0  $\mu$ V\*)  
50 dB Quieting Sensitivity: 18 dBf (4.5  $\mu$ V\*)  
**VOLTAGE STANDING WAVE RATIO:** 1.5  
**SIGNAL TO NOISE at 65 dBf (1 mV\*):** 75 dB  
**DISTORTION:** with SELECTIVITY switch set to "NORMAL"  
65 dBf (1 mV\*) Input: 100 Hz 1,000 Hz 10,000 Hz  
0.1 % 0.1 % 0.2 %  
**INTERMODULATION DISTORTION:** will not exceed 0.2 %  
(Antenna input 65 dBf (1 mV\*), 100% mod., 14kHz and 15kHz=1 : 1)  
**FREQUENCY RESPONSE:** +0, -1 dB 20 Hz to 15,000 Hz  
**SELECTIVITY:**  
with SELECTIVITY switch set to "NORMAL" "NARROW"  
Alternate Channel: 55dB 100dB  
Adjacent Channel: 6dB 20dB  
**CAPTURE RATIO:** 2.0dB  
**RF INTERMODULATION:** 70dB  
**SPURIOUS RESPONSE RATIO:** 100dB  
**IMAGE RESPONSE RATIO:** 80dB  
**IF RESPONSE RATIO:** 100dB  
**AM SUPPRESSION RATIO:** 55dB  
**SUBCARRIER PRODUCT RATIO:** 70dB  
**SCA REJECTION RATIO:** 60dB  
**OUTPUT:** 2.0 Volts

### Stereo Performance

**SENSITIVITY:** Usable Sensitivity: 31 dBf (20  $\mu$ V\*)  
50dB Quieting Sensitivity: 38 dBf (45  $\mu$ V\*)  
**SIGNAL TO NOISE at 65 dBf (1 mV\*):** 70dB  
**DISTORTION:** with SELECTIVITY switch set to "NORMAL"  
65 dBf (1 mV\*) Input: 100Hz 1,000 Hz 10,000Hz  
0.2% 0.2% 0.5%  
**INTERMODULATION DISTORTION:** will not exceed 0.2%  
(Antenna input 65 dBf (1 mV\*), Standard Stereo mod. 10kHz)  
**FREQUENCY RESPONSE:** +0, -1dB 20Hz to 15,000Hz  
**STEREO SEPARATION:** 100Hz 1,000Hz 10,000Hz  
35dB 45dB 30dB  
**STEREO AND MUTING THRESHOLD:** 19 dBf (5  $\mu$ V\*)  
(\* old IHF methods at 300 ohms)

### General

**TUNING CAPACITOR:** Frequency Linear 4-gang  
**OUTPUT IMPEDANCE:** Audio Output FIXED: 200 ohms  
Audio Output CONTROLLED: 2.5Kohms  
**FM ANTENNA INPUTS:** 300-ohm balanced; 75-ohm unbalanced  
**METERS:** Signal Strength Meter Center Tuning Meter  
Multipath Meter  
**TUNING RANGE:** 88MHz to 108MHz  
**POWER REQUIREMENT:**  
Voltage selector for 100V, 117V, 220V, 240V 50/60Hz operation  
Consumption: 26 watts  
**SEMICONDUCTOR COMPLEMENT:** 2 FET's, 7 IC's, 25 Transistors, 24 Diodes  
**DIMENSIONS:** 455mm (18 inches) wide, 152mm (6 inches)  
high, 355mm (14 inches) deep  
**WEIGHT:** 11.1 kgr. (24.4 lbs) net, 15.4 kgr. (33.8 lbs)  
in shipping carton.



## Service Information

No. COM-011

MODEL

Issued AUG. 1982.

SUBJECT : Improvement of Relays at  
low level signal stage.

Effective Serial No.

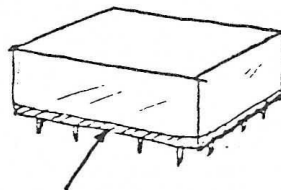
### Details;

Following new, high-reliable, closed type relays are  
currently employed for use of low-level signal path.

- For parts order, please refer to new numbers.

RECEIVED NOV

|             | Part No.      |                |
|-------------|---------------|----------------|
| 362-2403-00 | → 362-2404-00 | or 362-2404-10 |
| 362-2205-00 | → 362-2212-00 | or 362-2212-10 |
| 362-2208-00 | → 362-2208-10 |                |



Closed Type



# Service Information No. COM-009

MODEL

Issued Aug. 1982

SUBJECT : Re Substitution of

Effective Serial No.

Transistors

## Details; Substitutions

### C-220 Power Supply Circuit

Q1,2,16,17,28,29 : 2SK30A-0 → 2SK117-0  
Q13 : 2SK30A-GR → 2SK30A-Y  
Q18 : 2SB435-0 or Y → 2SB834-0  
Q19 : 2SD235-0 or Y → 2SD880-0  
R11 : 470 ohms → Jumper Wire (to be changed)

### E-202/P-250

Power Supply Circuit

2SC1451-G or B → 2SC2229-0 or Y

### P-20 Protection Circuit

2SC1596-V/003 → 2SC2229-0 or Y

### P-300S/ P-300/ E-202

Final Stage

2SA679-R → 2SB555-R  
2SC1079-R → 2SD425-R

### P-300/ E-202

Main Drive Circuit

2SA809-V/002 } → 2SA939-B or V  
2SA931-V/002 }  
2SC1451-V/004 } → 2SC2071-B or V  
2SC1596-V/003 }

### E-202 Equalizer Circuit

2SC1451-V/004 } → 2SC2071-B or V  
2SC2229 }

### P-300S Main Drive Circuit

2SA810-B → 2SB648A-C  
2SC1452-B → 2SD668A-C

### M-60 Main Drive Circuit

Q5,8,10,12 : 2SA809-V/002 → 2SA970-BL  
Q6,7,9,11 : 2SC1451-V/004 → 2SC2240-BL

\*\*Q9,10,11,12 --- with Heat Sink (240-2006-00)

Q13 : 2SA810-B/101 → 2SA818-0 or Y  
Q14 : 2SC1452-B/101 → 2SC1628-0 or Y

D15,16 : CZ-060 → RD6.2F-B

For All Models

2SA856A-GR or BL → 2SA970-BL  
2SC1746-GR or BL → 2SC2240-BL



# Service Information

No. COM-010

MODEL

Issued AUG. 1982

SUBJECT : RE Substitution of Transistors

Effective Serial No.

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Details; SUBSTITUTION

2SA489 → 2SB596  
2SA679 → 2SB555

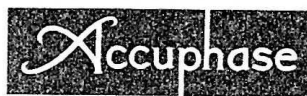
2SC789 → 2SD526  
2SC1079 → 2SD425

2SB435 → 2SB834  
2SD235 → 2SD880

2SK30A → 2SK117

2SA809 } → 2SA939-B,V or 2SA949-Y  
2SA931 }  
2SC1451 } → 2SC2071-B,V or 2SC2229-Y  
2SC1596 }

(for signal path use exclusively  
2SA939 and 2SC2071. )



KENSONIC LABORATORY INC.

2124-6 MOTOISHIKAWA-CHO,  
MIDORIKU, YOKOHAMA, JAPAN