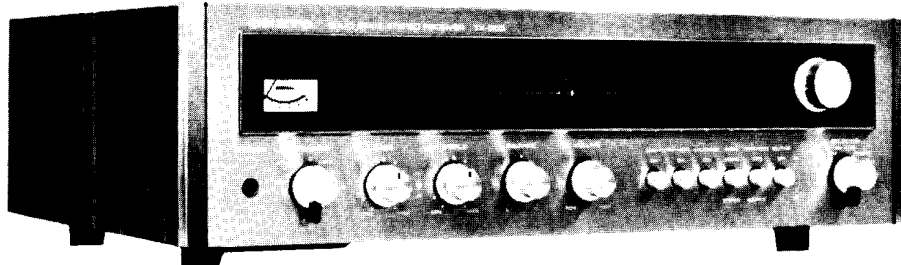


SOLID STATE STEREO RECEIVER

SERVICE DATA



MODEL TX-555

SPECIFICATIONS

Type: All Silicon Transistor Integrated Stereo Receiver
 Circuit: Direct-Coupling and Differential Amplifier, Quasi-Complementary SEPP System
 Semiconductors: FET . . . 1 Transistor . . . 70 Diode . . . 51

Tuner Section

| | FM | AM |
|--------------------------------|---|---------------|
| Tuning Range: | 88 - 108MHz | 530 - 1605KHz |
| Sensitivity (IHF): | 2.0 μ V | 40 μ V |
| Intermediate Frequency: | 10.7MHz | 455KHz |
| Image Rejection Ratio: | 70dB | 40dB |
| IF Rejection Ratio: | 100dB | 40dB |
| Signal to Noise Ratio: | 70dB | 40dB |
| Alternate Channel Attenuation: | 75dB | |
| AM Suppression Ratio: | 50dB | |
| Caputure Ratio: | 1.5dB | |
| Harmonic Distortion: | MONO 0.2% | 0.8% |
| | ST 0.5% | |
| Frequency Response: | FM 30Hz - 15KHz (\pm 0.5dB) | |
| Stereo Separation: | FM 40dB (400Hz) | |
| Power Requirement: | AC 120V 60Hz | |
| AC Outlets: | Switched 1, Unswitched 1 | |
| Dimensions (overall): | 18 $\frac{3}{8}$ " (W) x 15 $\frac{1}{8}$ " (D) x 5 $\frac{1}{2}$ " (H) | |
| Weight: | 27.5 lbs. | |

Other features

- FM MONO/STEREO Automatically Changed • Stereo Indicator
- Signal Strength meter • SP Terminal (A/B Selector)
- Headphone Jack • Tape Recording Terminal
- Tape Recording/Play back Connector • Tape Monitor Switch
- Loudness Switch

Audio Section

| | |
|--|-------------------------------------|
| Dynamic Power: | 140W (IHF 4 ohms) |
| | 120W (IHF 8 ohms) |
| RMS Continuous Power: | 50W x 2 (4 ohms) |
| | 40W x 2 (8 ohms) |
| Total Harmonic Distortion: | 0.3% (at rated Power) |
| Inter Modulation Distortion: | 0.4% (ar rated Power) |
| Frequency Response: | 10Hz - 35KHz (\pm 1dB 1W output) |
| Power Bandwidth: | 10Hz - 35KHz (IHF THD 0.3%) |
| Input Sensitivity & Input Impedance PHONO: | 2.5mV (50K ohms) |
| AUX: | 100mV (50k ohms) |
| PHONO Overload: | 200mV (1KHz) |
| RIAA Characteristics: | \pm 0.5dB (30Hz - 15KHz) |
| BASS Control: | \pm 10dB (100Hz) |
| TREBLE Control: | \pm 10dB (10KHz) |

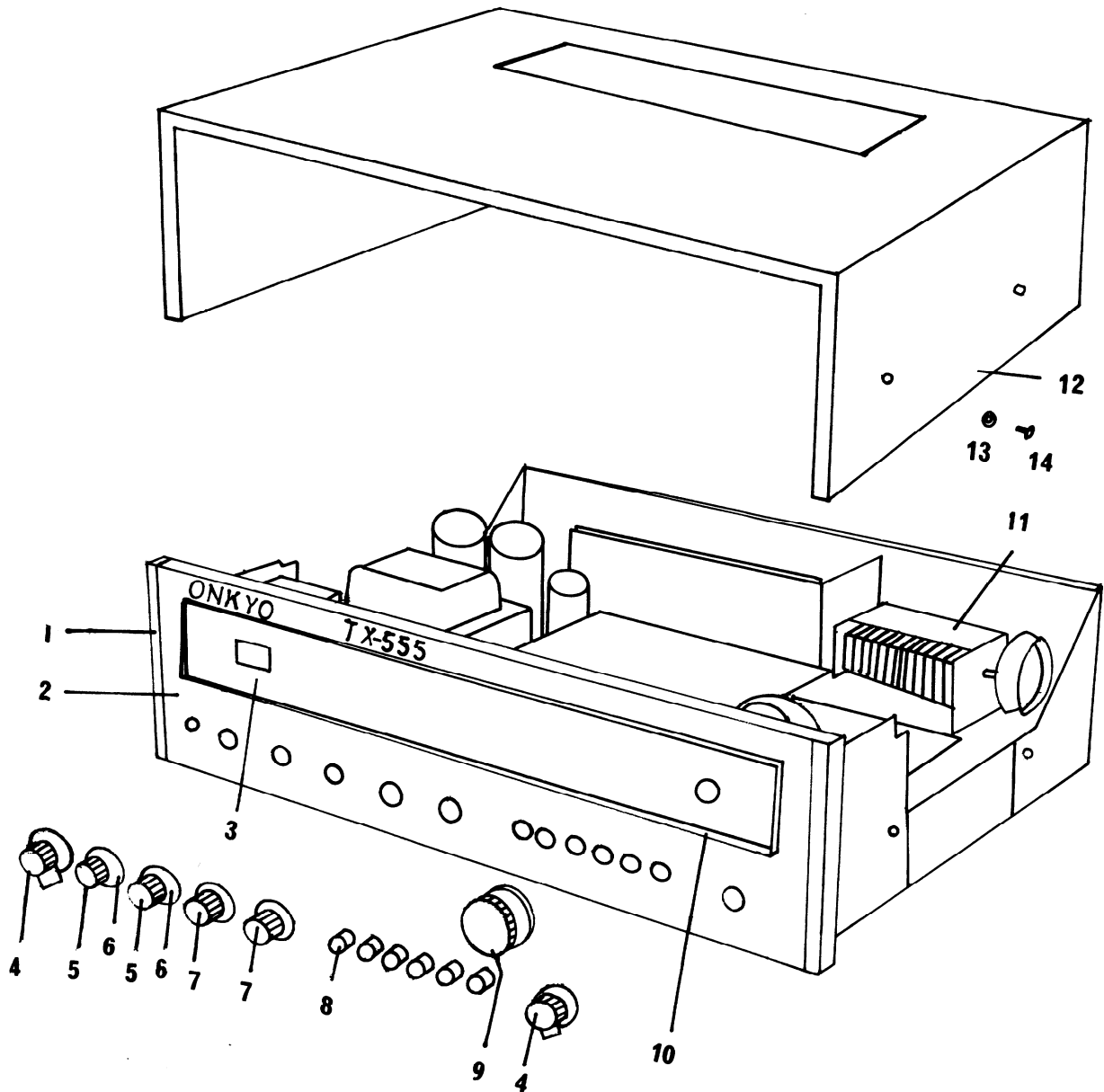
Furnished Parts

| | |
|-----------------------|--------------------|
| FM Dipole Antenna | 1 |
| Pin-Plug | 4 (Red 2, White 2) |
| Fuse 3A | 1 (ST-2 Type) |
| 3A | 1 (SS-2 Type) |
| Shorted pin-plug | 2 |
| Operating instruction | 1 |

Specifications are subject to improvement changes without notice.

ONKYO®
AUDIO COMPONENTS

COMPONENT LOCATIONS

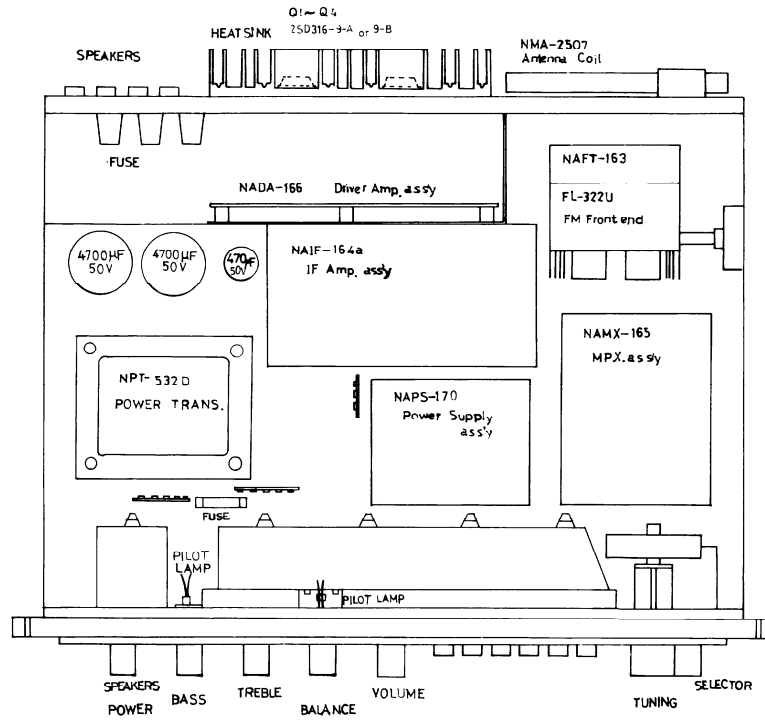


| ILLUS. NO. | DESCRIPTION |
|------------|---------------|
| 1 | End Cap |
| 2 | Front Panel |
| 3 | Glass Plate |
| 4 | Knob-SPK |
| 5 | Knob-Tone (S) |
| 6 | Knob-Tone (L) |
| 7 | Knob-Volume |

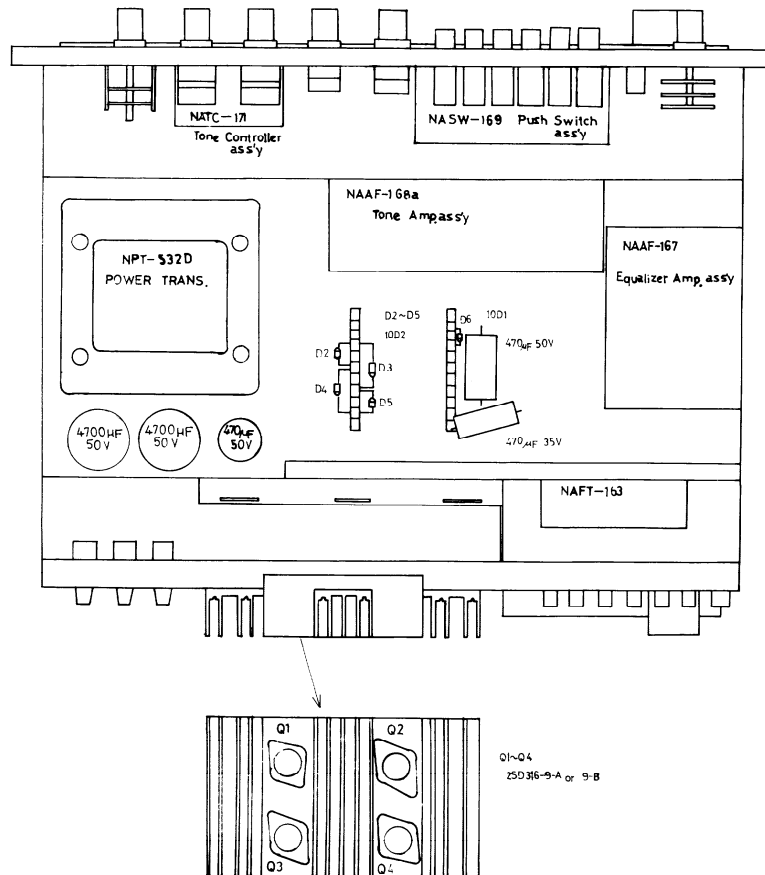
| ILLUS. NO. | DESCRIPTION |
|------------|------------------|
| 8 | Push Switch |
| 9 | Knob-Tuning |
| 10 | Decoration Frame |
| 11 | FM Front End |
| 12 | Upper Panel |
| 13 | Washer |
| 14 | Screw-Wood Case |

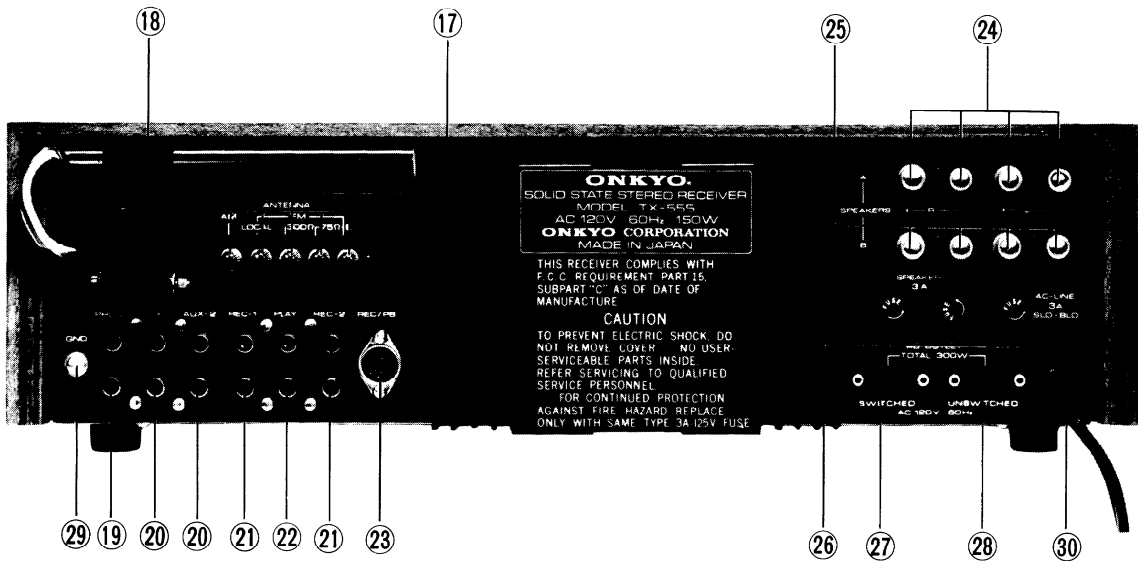
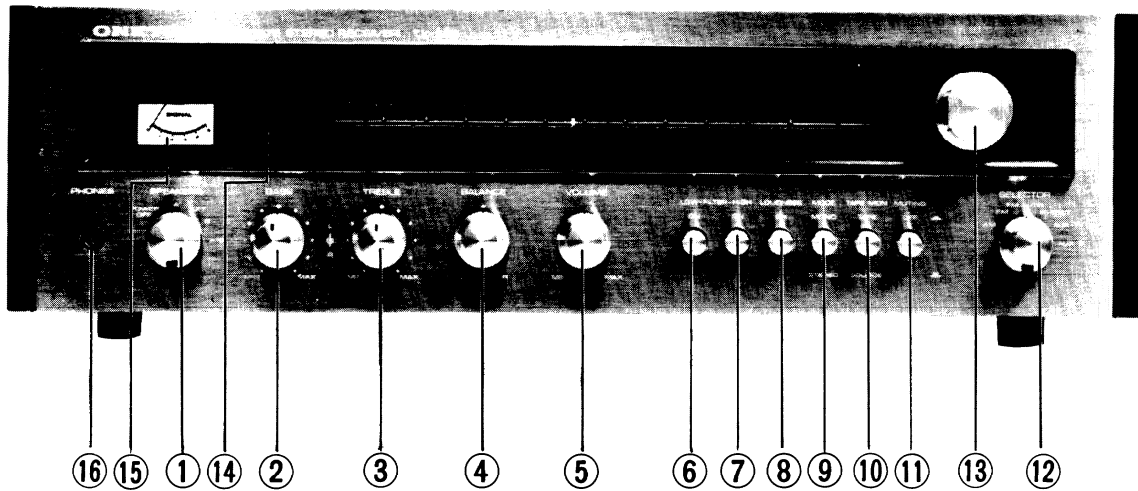
CHASSIS LAYOUT

TOP VIEW



BOTTOM VIEW

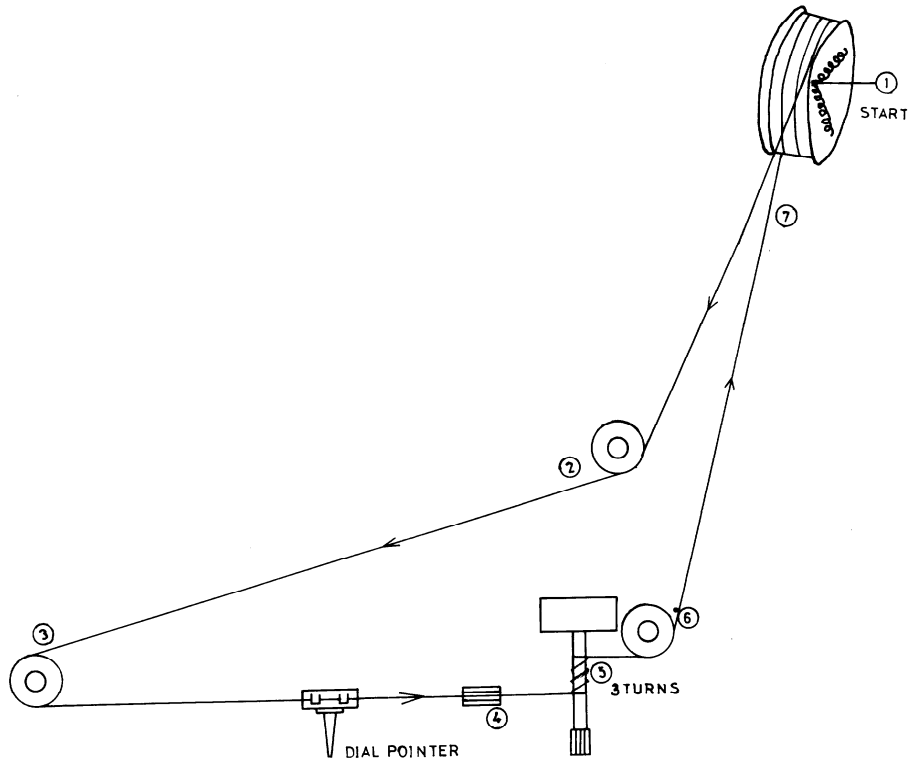




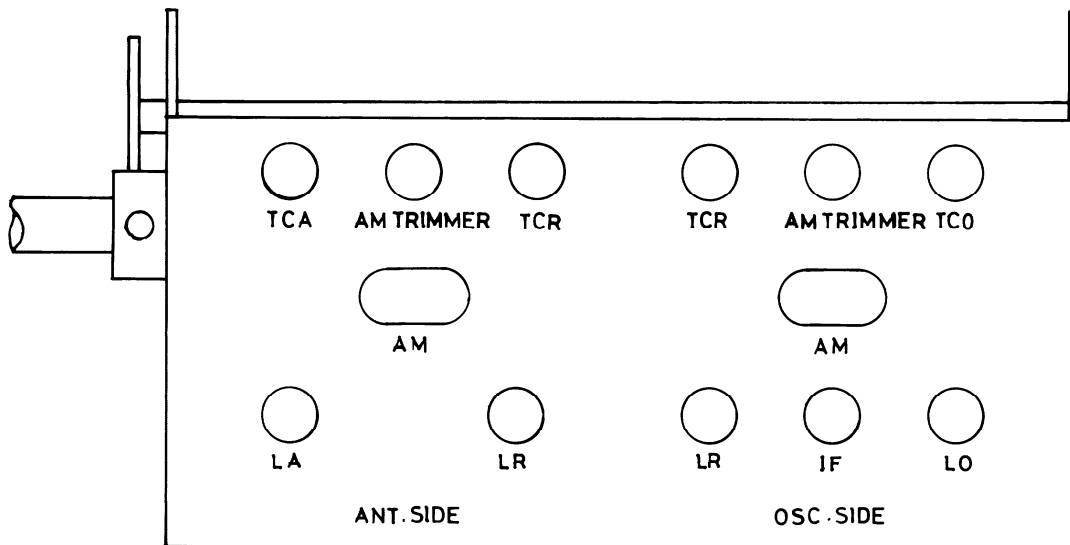
| REF. NO. | DESCRIPTION |
|----------|----------------------|
| 1 | Speaker/Power Switch |
| 2 | Bass Control |
| 3 | Treble Control |
| 4 | Balance Control |
| 5 | Volume |
| 6 | Cut Filter (Low) |
| 7 | Cut Filter (High) |
| 8 | Loudness Switch |
| 9 | Mode Switch |
| 10 | Tape Monitor Switch |
| 11 | FM Muting Switch |
| 12 | Selector Switch |
| 13 | Tuning Knob |
| 14 | Stereo Indicator |
| 15 | Signal Indicator |

| REF. NO. | DESCRIPTION |
|----------|-------------------------|
| 16 | Headphone Jack |
| 17 | AM, FM Antenna Terminal |
| 18 | AM Coil Antenna |
| 19 | PHONO Terminal |
| 20 | AUX Terminal |
| 21 | REC Terminal |
| 22 | PLAY Terminal |
| 23 | REC/PB Terminal |
| 24 | Speaker Terminal A |
| 25 | Speaker Terminal B |
| 26 | Fuse Holder |
| 27 | AC-OUTLET |
| 28 | AC-OUTLET |
| 29 | Ground Terminal |
| 30 | AC Cord |

DIAL CORD ARRANGEMENT



FM FRONT END



ALIGNMENT PROCEDURE

INSTRUMENT REQUIRED

1. AM and FM sweep generator
2. AM and FM signal generator
3. Vacuum tube voltmeter (V.T.V.M.)
AC. DC
4. Oscilloscope
5. Distortion meter
6. Stereo Modulator

GENERAL ALIGNMENT CONDITIONS

1. Signal input should be kept low as possible.
2. Standard modulation is 400Hz 30% (AM)
400Hz 100% (FM. MONO), pilot 10% Sub & Main 90% (FM. ST)
3. Standard output is 500mW (2.0V, 8Ω)

| STEP | CONNECT SIGNAL SOURCE TO- | SET SIGNAL TO- | CONNECT OUTPUT INDICATOR TO- | SET RADIO DIAL TO- | ADJUST | ADJUST FOR | REMARKS | STEP |
|------|---|---|---|---|---|---|---|------|
| 1 | Set Radio Selector Switch to "AM" | | | | | | | |
| 2 | AM Sweep Generator to- AM Ant. | 455KHz | Oscilloscope to-across "AM OUT" terminal (NAIF-164) | Quiet Point on Band | CFT-455A | Maximum Symmetrical response | Usually not necessary to adjust | 2 |
| 3 | AM Signal generator to-AM Ant. through a standard radiating loop | 515 KHz (modulated) | V.T.V.M. or oscilloscope to-across "Speaker" terminal | Lower end | NMO-2503 (Red) | Maximum | Repeat steps 3 and 4 as necessary to obtain Maximum sensitivity on stations | 3 |
| 4 | | 1680KHz (modulated) | | Upper end | AM Trimmer (OSC. side) | Maximum | | 4 |
| 5 | .. | 600KHz (modulated) | .. | 600KHz (Tuned to Signal) | NMA-2507 (Coil Antenna) | Maximum | Repeat steps 5 and 6 as necessary | 5 |
| 6 | | 1400KHz (modulated) | | 1400KHz (Tuned to Signal) | AM Trimmer (Ant. side) | Maximum | | 6 |
| 7 | Set Radio Selector Switch to "FM" Set Muting Switch to "OFF" | | | | | | | |
| 8 | FM Sweep Generator to- TP-1 (NAFT-163) | ± 0.3MHz Sweep Centered at 10.7MHz | Oscilloscope to-across "FM OUT" terminal (NAIF-164) | Quiet Point on Band | NIT-3503R Top Bottom | Maximum "S" curve Linearity | Not necessary to adjust for Symmetrical response or Zero Voltage | 8 |
| 9 | " | " | Oscilloscope to-across "SQL" terminal (NAIF-164) | " | NIT-3505M Top | Symmetrical response | | 9 |
| 10 | FM Signal Generator to-across FM Ant. terminal through a matching network | 92MHz (100% Mod.) | V.T.V.M. to-across "Speaker" terminal | 92MHz | LO on FM Tuner | Maximum | Repeat Steps 10 and 11 as necessary | 10 |
| 11 | | 104MHz (100% Mod.) | | 104MHz | TCO on FM Tuner | Maximum | | 11 |
| 12 | | 88MHz (100% Mod.) | | Tuned to Signal | LA LR (2 points) on FM Tuner | Maximum | Repeat Steps 12 and 13 as necessary | 12 |
| 13 | | 108MHz (100% Mod.) | | " | TCA TCR (2 points) on FM Tuner | Maximum | | 13 |
| 14 | No Signal | | Tuning Indicator may be used as the output indicator | Quiet Point Where FM Signals are not received | NIT-3503R Top | The needle of the tuning indicator comes to the center | | 14 |
| 15 | FM Signal Generator to-across FM Ant. terminal through a matching network | 104MHz (100% Mod.) | Distortion meter to-across "Speaker" terminal | Tuned to Signal | NIT-3503R Bottom | Minimum Distortion | Less than 0.2% | 15 |
| 16 | | | | | NIT-3505M | Minimum | | 16 |
| 17 | Set Radio Selector Switch to "FM" Set Muting Switch to "ON" | | | | | | | |
| 18 | " | " | Oscilloscope to-across "Speaker" terminal | Tuned and Detuned to Signal | Variable Resistor R162 | No noise when detuned but less effective for Signal Output when tuned | Signals are not necessarily Squelching by turning R162 counterclockwise | 18 |
| 19 | Set Radio Selector Switch to "FM AUTO" Set Muting Switch to "OFF" | | | | | | | |
| 20 | " | 104MHz (Pilot Sig. 19KHz 10%) 1mV input | V.T.V.M. to-across TP-3 (NAMX-165) | Tuned to Signal | NMC-4-8 (2 points) ^{1.201} ^{1.202} _{1.203} | Maximum | | 20 |
| 21 | " | 104MHz (Pilot Sig. 19KHz 10%) 10KHz R ch 90% | V.T.V.M. to-across "Speaker" terminal (R ch) | " | NMC-4-8 NMC-4-10 | Maximum | | 21 |
| 22 | " | 104MHz (Pilot Sig. 19KHz 10%) 100Hz R ch 90% | " | " | NMC-5-9 | Maximum | | 22 |
| 23 | " | 104MHz (Pilot Sig. 19KHz 10%) Main & Sub Sig. 1KHz L ch 90% | " (R ch) | " | Variable Resistor R269 | Minimum | Retouch slightly Repeat Steps 23 and 24 as necessary | 23 |
| 24 | " | " R ch 90% | " (L ch) | " | " | " | | 24 |

The movement of the Signal Indicator may be adjusted by Variable Resistors R195 (AM) or R163 (FM).

PARTS LIST

| SYMBOL NO. | DESCRIPTION | STOCK NO. | SPECIFICATION | Q'TY |
|---|-----------------------|-------------------------|------------------------------------|------|
| | FM Front end | 0240025 | FL-322U | 1 |
| | IF Amp. ass'y | 01010041 | NAIF-164a | 1 |
| | MPX ass'y | 01010029 | NAMX-165 | 1 |
| | Driver Amp. ass'y | 01010030 | NADA-166 | 1 |
| | Equalizer Amp. ass'y | 01010031 | NAAF-167 | 1 |
| | Tone Amp. ass'y | 01010039 | NAAF-168a | 1 |
| | Push Switch ass'y | 01010033 | NASW-169 | 1 |
| | Power Supply ass'y | 01010034 | NAPS-170 | 1 |
| | Tone Controller ass'y | 01010035 | NATC-171 | 1 |
| Q1 ~ 4 | Transistor | 02200022 or 02200023 | 2SD316-9-A or 2SD316-9-B | 4 |
| Q5, 6 | Transistor | 02210033 | 2SC828(S) | 2 |
| Q711, 712, 801 | Transistor | 02200016 | 2SC1124P | 3 |
| Q802 | Transistor | 02210187 or 02210188 | 2SC634A(70) or 2SC634A(80) | 1 |
| Q401, 402, 405 406, 451, 452 601 ~ 604 607, 608 | Transistor | 02210207 or 02210208 | 2SC632A(71) or 2SC632A(81) | 12 |
| Q701 ~ 704 | Transistor | 02210280 or 02210200 | 2SC1000(0-1) or 2SC632A(0-0201) | 4 |
| Q403, 404 | Transistor | 02210217 or 02210218 | 2SA705(7) or 2SA705(8) | 2 |
| Q707, 708 | Transistor | 02210187 | 2SC634A(70) | 2 |
| Q705, 706, 713 714 | Transistor | 02200017 | 2SA706(0-0208)P | 4 |
| Q709, 710 | Transistor | 02210197 | 2SA678(70) | 2 |
| Q201, 202, 231 232 | Transistor | 02210287 or 02210288 | 2SC632A(72) or 2SC632A(82) | 4 |
| Q203 ~ 205, 233 234, 262, 263 281, 609, 610 | Transistor | 02210082 | 2SC733(GR) | 10 |
| Q251 | Transistor | 02210064 | 2SC734(Y) | 1 |
| Q101 ~ 110, 151 ~ 153, 171 ~ 174 | Transistor | 02210122 | 2SC380(o) | 17 |
| D1 | Silicon Diode | 0223810 | 5B3 | 1 |
| D2 ~ 5 | Silicon Diode | 0223805 | 10D2 | 4 |
| D6, 805 | Silicon Diode | 0223801 or 0223804 | 10D1 or SR1K-2 | 2 |
| D101 ~ 104, 108 109, 701, 702 705, 706 | Silicon Diode | 0223105 | 1S1555 | 10 |
| D806, 807 | Silicon Diode | 0223106 or 0223107 | 1S1554 or 1S954 | 2 |
| D105, 106, 151 ~ 155, 171 ~ 173 175, 176, 201 ~ 208 281, 282, 703 704, 707, 708 | Germanium Diode | 02231031 | 1N60 | 26 |
| D801 | Zener Diode | 0223907 | BZ-240 | 1 |
| D802 | Zener Diode | 0223908 | BZ-150 | 1 |
| D804 | Zener Diode | 0223909 | WZ-310 | 1 |
| D803 | Zener Diode | 0223910 | WZ-120 | 1 |

PARTS LIST

| SYMBOL NO. | DESCRIPTION | STOCK NO. | SPECIFICATION | QTY |
|-------------|------------------------|-----------|--------------------|-----|
| D781 | Zener Diode | 0223906 | 1S339 | 1 |
| TH701, 702 | Thermistor | 04000003 | D-22A | 2 |
| PL1 ~ 5 | Pilot Lamp | 0210012 | 6.3V 0.25A | 5 |
| PL6, 14 | Pilot Lamp | 0210004 | 6.3V 50mA | 2 |
| L1 | Coil Antenna | 0232018 | NMA-2507 | 1 |
| L171 | Coil Oscillator | 0232013 | NMO-2503 | 1 |
| L201, 202 | Coil MPX | 0233016 | NMC-4-8 | 2 |
| L203 | Coil MPX | 0233017 | NMC-4-10 | 1 |
| L204 | Coil MPX | 0233019 | NMC-5-9 | 1 |
| L205, 206 | Coil MPX | 0233018 | NMC-4-11 | 2 |
| L207 | Coil MPX | 0233020 | NMC-6-6 | 1 |
| L231, 232 | Coil MPX | 0233021 | NMC-8-5 | 2 |
| | Transformer-Power | 0230023 | NPT-541D | 1 |
| L101 | Transformer-IF | 0233022 | NIT-3503R | 1 |
| L102, 103 | Transformer-IF | 0233023 | NIT-3505M | 2 |
| L181 | Transformer-IF | 0232012 | NIT-5501D | 1 |
| CF-4 | Ceramic Filter | 03010001 | CFT-455A | 1 |
| CF-1 ~ 3 | Ceramic Filter | 03010002 | CF-10M-12 | 3 |
| CH101 ~ 104 | Coil-Choke | 0233024 | NCCH-1501 | 4 |
| CH201 | Coil-Choke | 0233025 | NCCH-1503 | 1 |
| C10, 11 | Capacitor Electrolytic | 03504011 | EC50V 4700 μ F | 2 |
| VR-1-1, 1-2 | Resistor Variable | 05177001 | N24RG500KBT30 | 1 |
| VR-2-1, 2-2 | Resistor Variable | 05177002 | N24RG500KMN30 | 1 |
| VR601 ~ 604 | Resistor Variable | 051040001 | N24RDP100KB30 | 2 |
| S7-1 ~ 7-6 | Switch Rotary | 0250107 | NRSM-366-30Y-A | 1 |
| S8-1 ~ 8-5 | Switch Rotary | 0250074 | NRSM-245-30Y-A | 1 |
| S1 ~ 6 | Switch Push | 0250072 | NPS-622LN | 1 |
| | Jack-Stereo Headphone | 0750078 | XG-7716 | 1 |
| ME-1 | Tuning Indicator | 0250086 | NIND-0200S19 | 1 |
| | Fuse | 0252005 | 3A-T UL(ST-2) | 2 |
| | Fuse | 0252006 | 3A-T UL(SS-2) | 3 |
| | Fuse | 0252013 | 3A-T UL(ST-1) | 1 |
| | Dial Plate | 0270284 | | 1 |
| | Dial Pointer | 0270273 | | 1 |
| | Dial Pointer Case | 0270172-1 | | 1 |
| | Front Panel | 0280275 | | 1 |
| | Glass Plate | 0280259 | | 1 |
| | End Cap | 0280319 | | 1 |
| | Knob-Volume | 0283050 | | 2 |
| | Knob-Tuning | 0283051 | | 1 |
| | Knob-Tone (small) | 0283053 | | 2 |
| | Knob-Tone (large) | 0283054 | | 2 |
| | Knob-Selector | 0283056 | | 2 |
| | Amp. Case ass'y | 0280357-2 | | 1 |

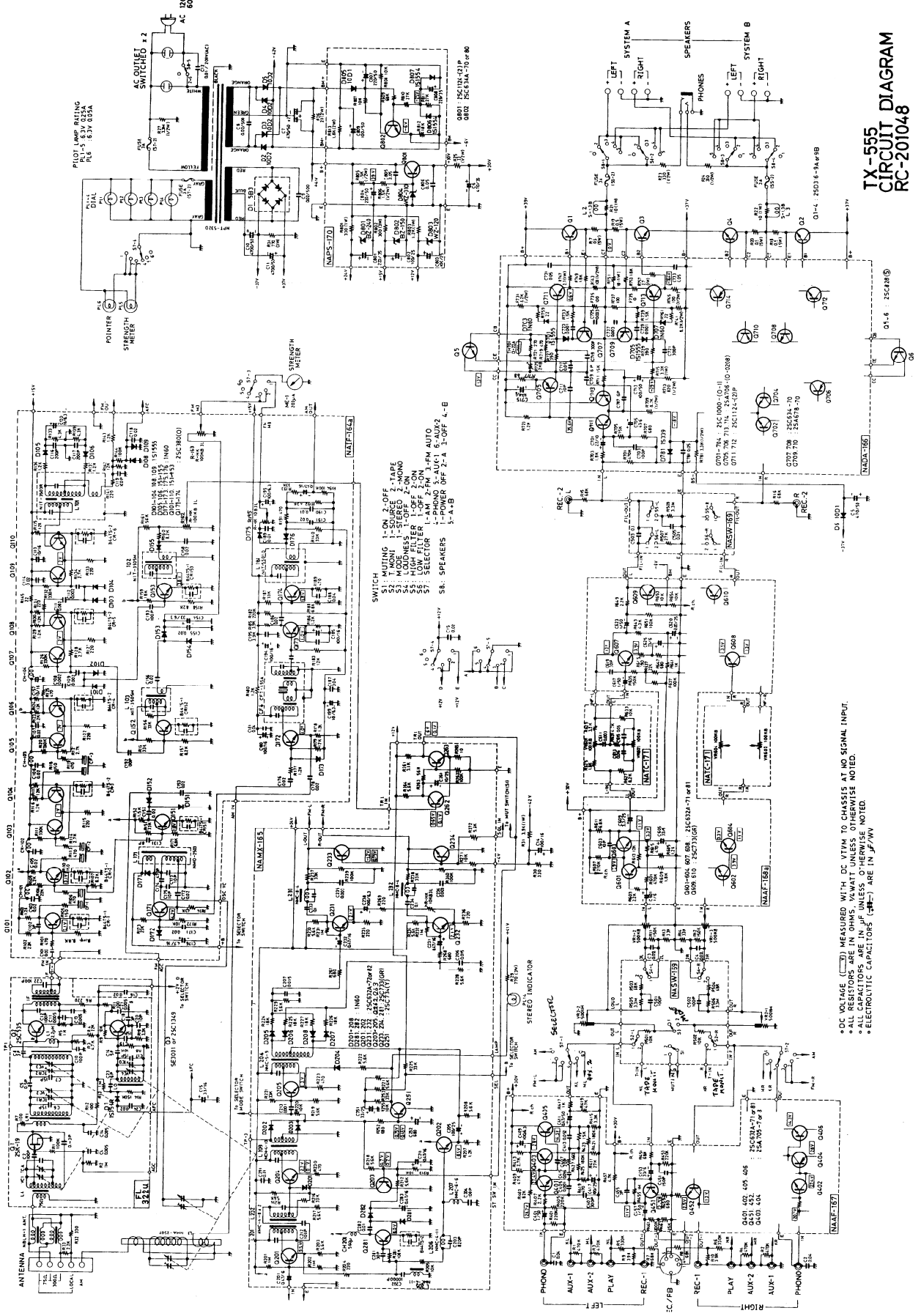


PLATE BUMPING
 PLS 6.3V 0.5VA

SWITCH
 S1: Muting 1-ON 2-OFF
 S2: MODE 1-STEREO 2-MONO
 S3: LOUDNESS 1-OFF 2-ON
 S4: LOW FILTER 1-OFF 2-ON
 S5: SELECTOR 1-AM/FM 2-PM AUTO
 S6: SPEAKERS 1-POWER 2-A 3-OFF 4-E

• DC VOLTAGE () MEASURED WITH DC VTVM TO CHASSIS AT NO SIGNAL INPUT.
 • ALL RESISTORS ARE IN OHMS, $\frac{1}{2}$ WATT UNLESS OTHERWISE NOTED.
 • ALL CAPACITORS ARE IN μ F UNLESS OTHERWISE NOTED.
 • ELECTROLYTIC CAPACITORS (E) ARE IN μ F/VV

**TX-555
 CIRCUIT DIAGRAM
 RC-201048**