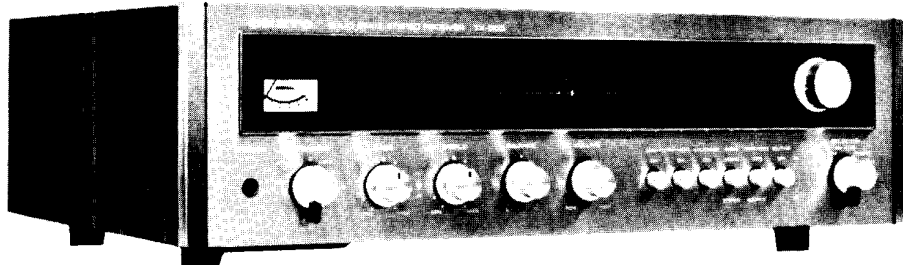


# SOLID STATE STEREO RECEIVER

## 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 $\mu$ V	40 $\mu$ 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	
Capture 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% (at 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)

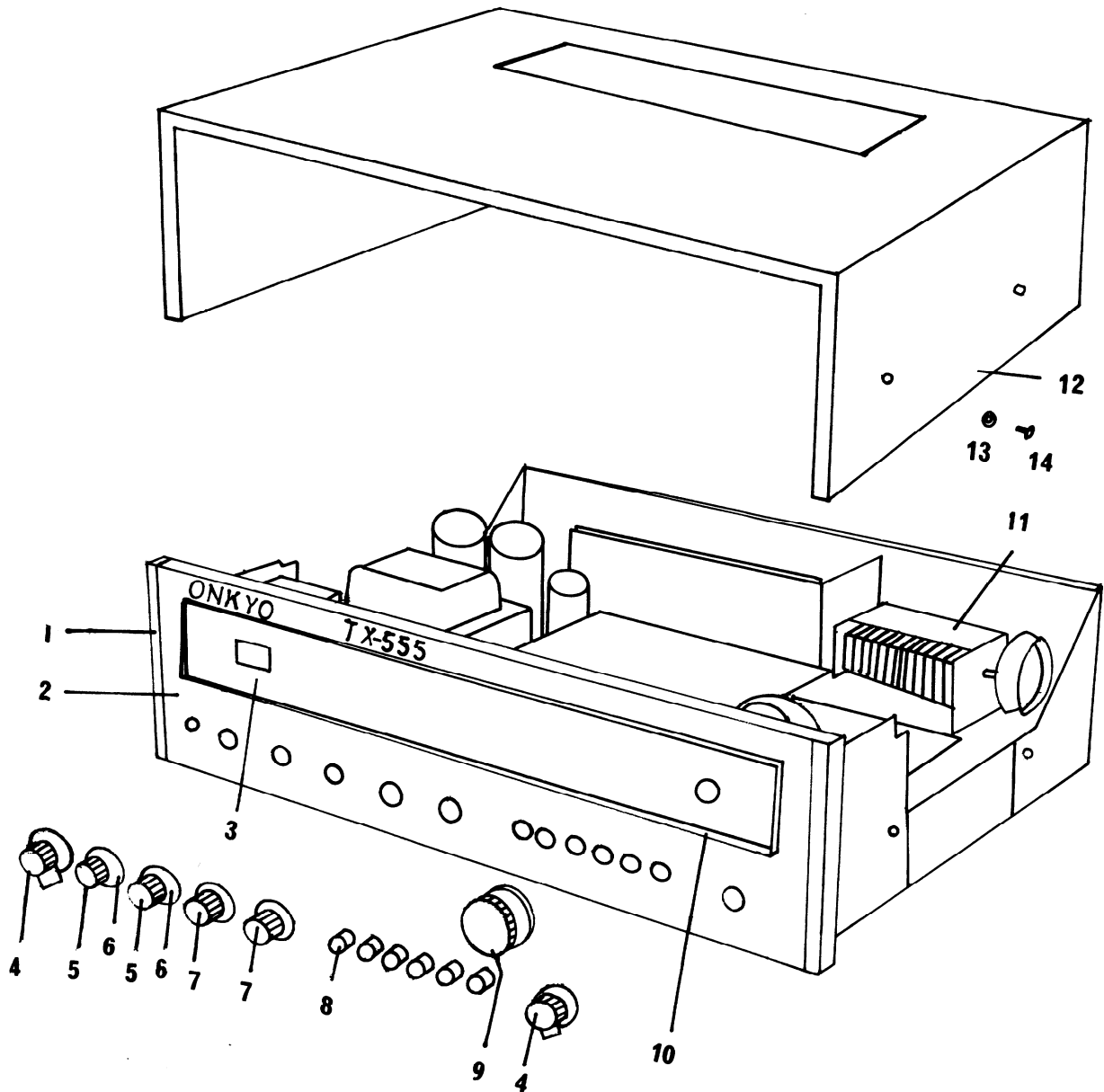
#### Furnished Parts

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

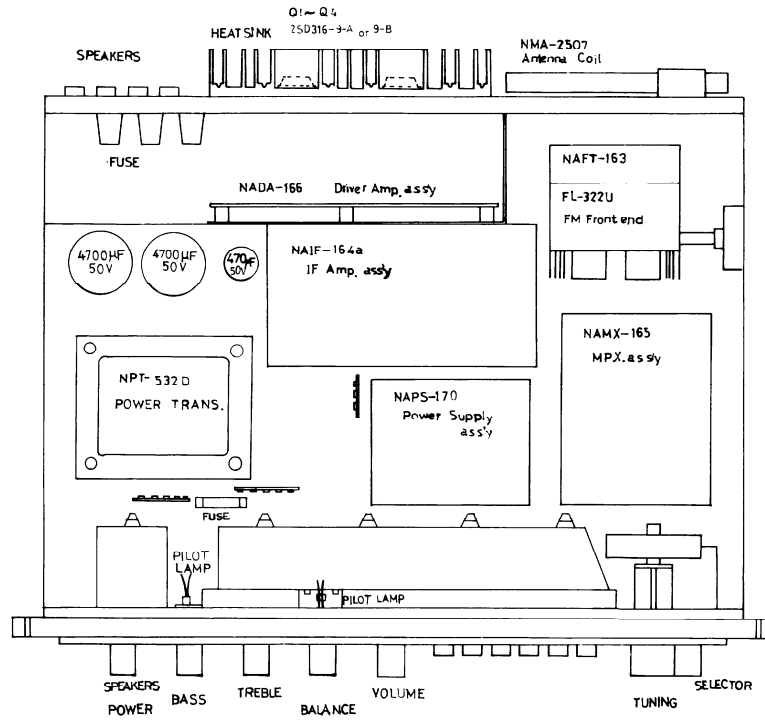


ILLUS. NO.	DESCRIPTION
1	End Cap
2	Front Panel
3	Glass Plate
4	Knob-SPK
5	Knob-Tone (S)
6	Knob-Tone (L)
7	Knob-Volume

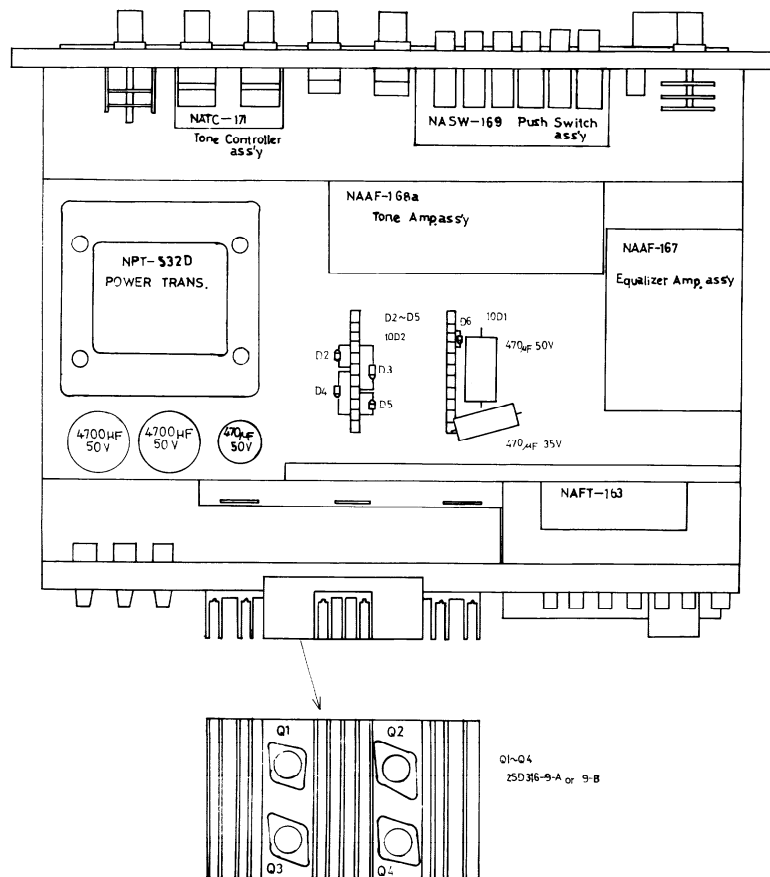
ILLUS. NO.	DESCRIPTION
8	Push Switch
9	Knob-Tuning
10	Decoration Frame
11	FM Front End
12	Upper Panel
13	Washer
14	Screw-Wood Case

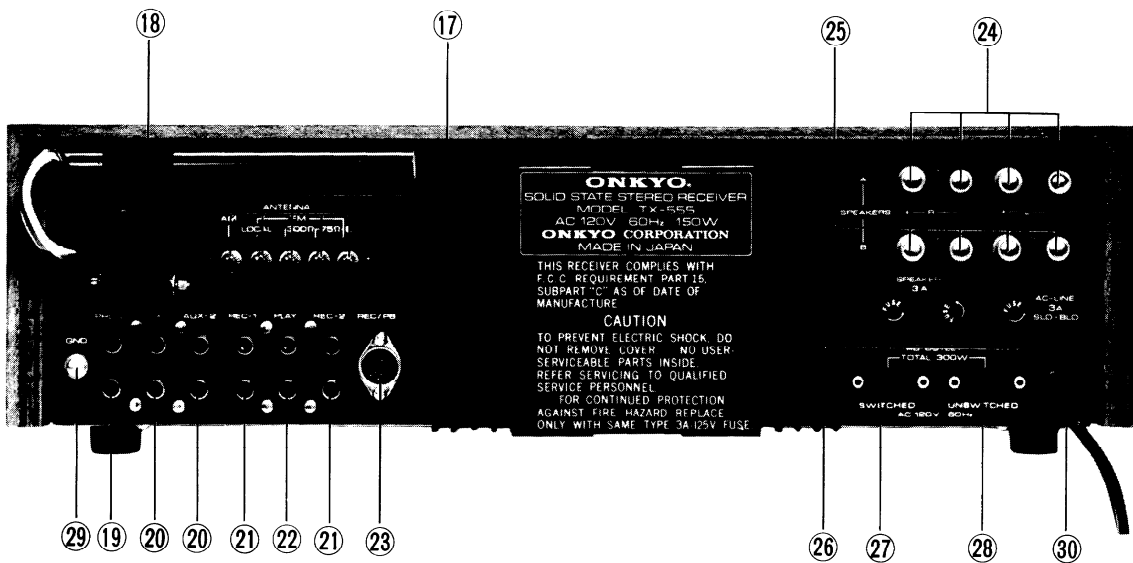
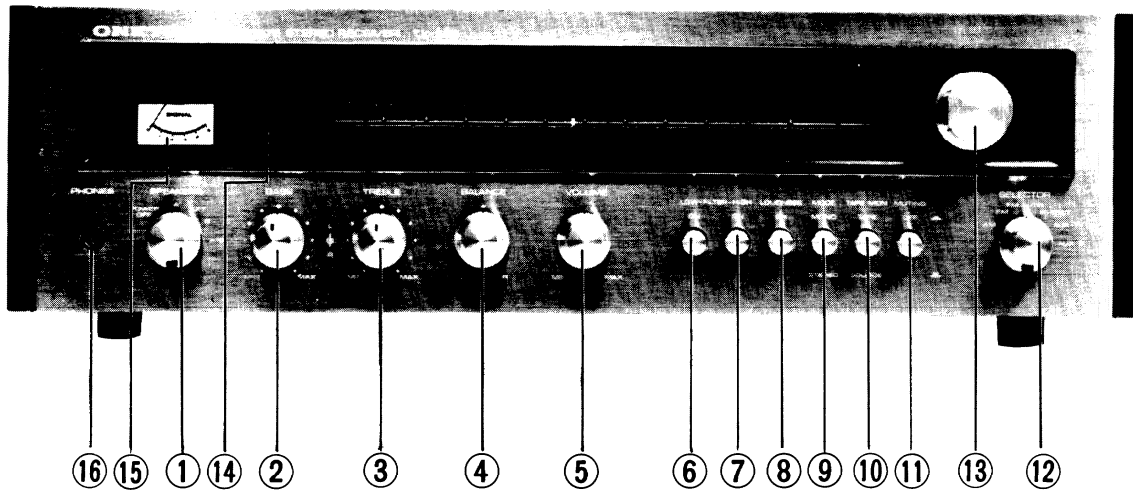
# CHASSIS LAYOUT

## TOP VIEW



## BOTTOM VIEW

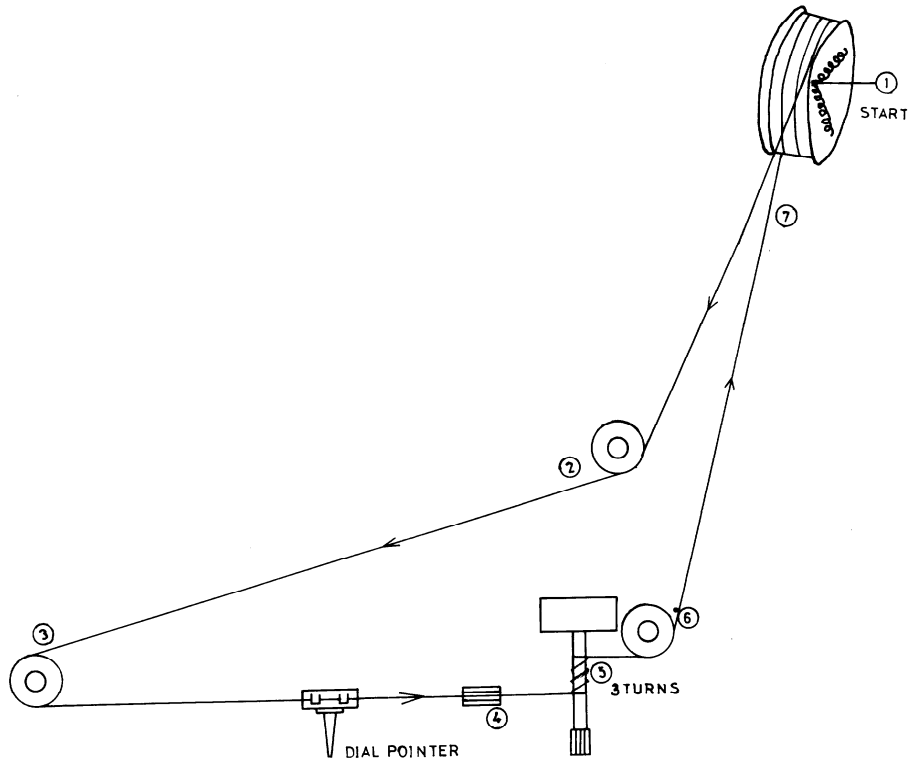




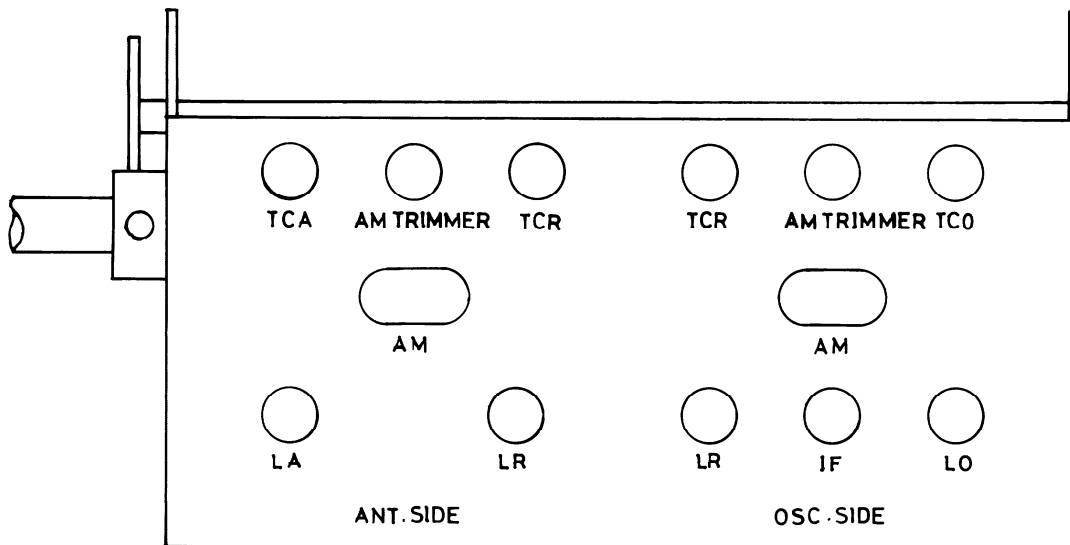
REF. NO.	DESCRIPTION
1	Speaker/Power Switch
2	Bass Control
3	Treble Control
4	Balance Control
5	Volume
6	Cut Filter (Low)
7	Cut Filter (High)
8	Loudness Switch
9	Mode Switch
10	Tape Monitor Switch
11	FM Muting Switch
12	Selector Switch
13	Tuning Knob
14	Stereo Indicator
15	Signal Indicator

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



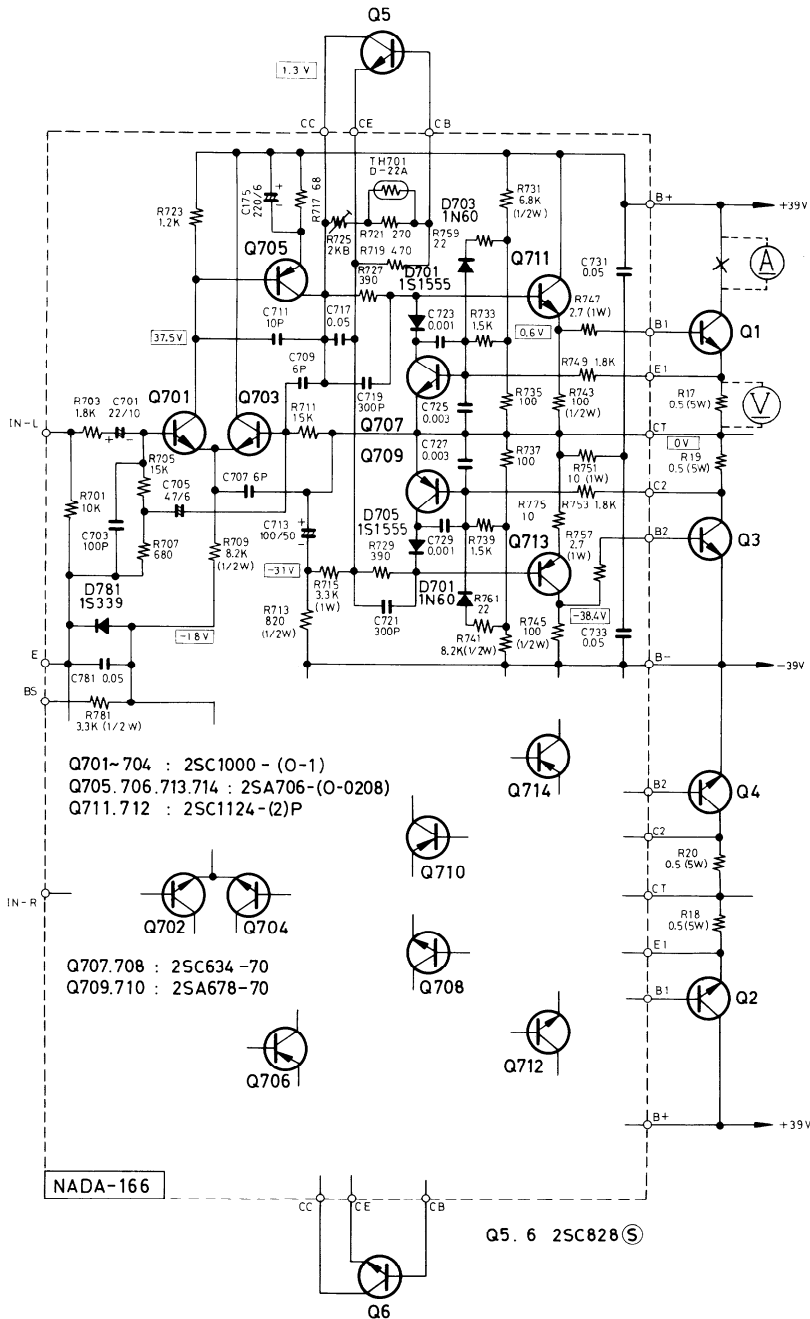
# FM FRONT END



# ADJUSTMENT OF IDLING CURRENT

Instrument required: DC Ammeter 50mA or 100mA when replacing POWER or DRIVER transistor, check the idling current of POWER transistor.

To adjust to normal value ( $40 \pm 10\text{mA}$ ), follow as drawing.



## (L ch)

- (1) Cut the connection between B+ and collector of Q1 on Main Amp. ass'y, and connect DC Ammeter.
- (2) Adjust the current to  $40 \pm 10\text{mA}$  with R725.
- (3) After adjusting, connect original wiring.

D.C. Voltmeter (50mV or 100mV) or V.T.V.M. is available too. Connect the Voltmeter between E1 and CT. Adjust the voltage to  $20 \pm 5\text{mV}$  ( $0.5\Omega \times 40\text{mA} = 20\text{mV}$ ) with R725.

## (R ch)

Using R726, adjust in the same steps as indicated above.

\* Note: Volume—Minimum. Open Load

# 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 (NAIF-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) <sup>1.201, 1.202</sup> NMC-4-10 <sup>1.203</sup>	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).

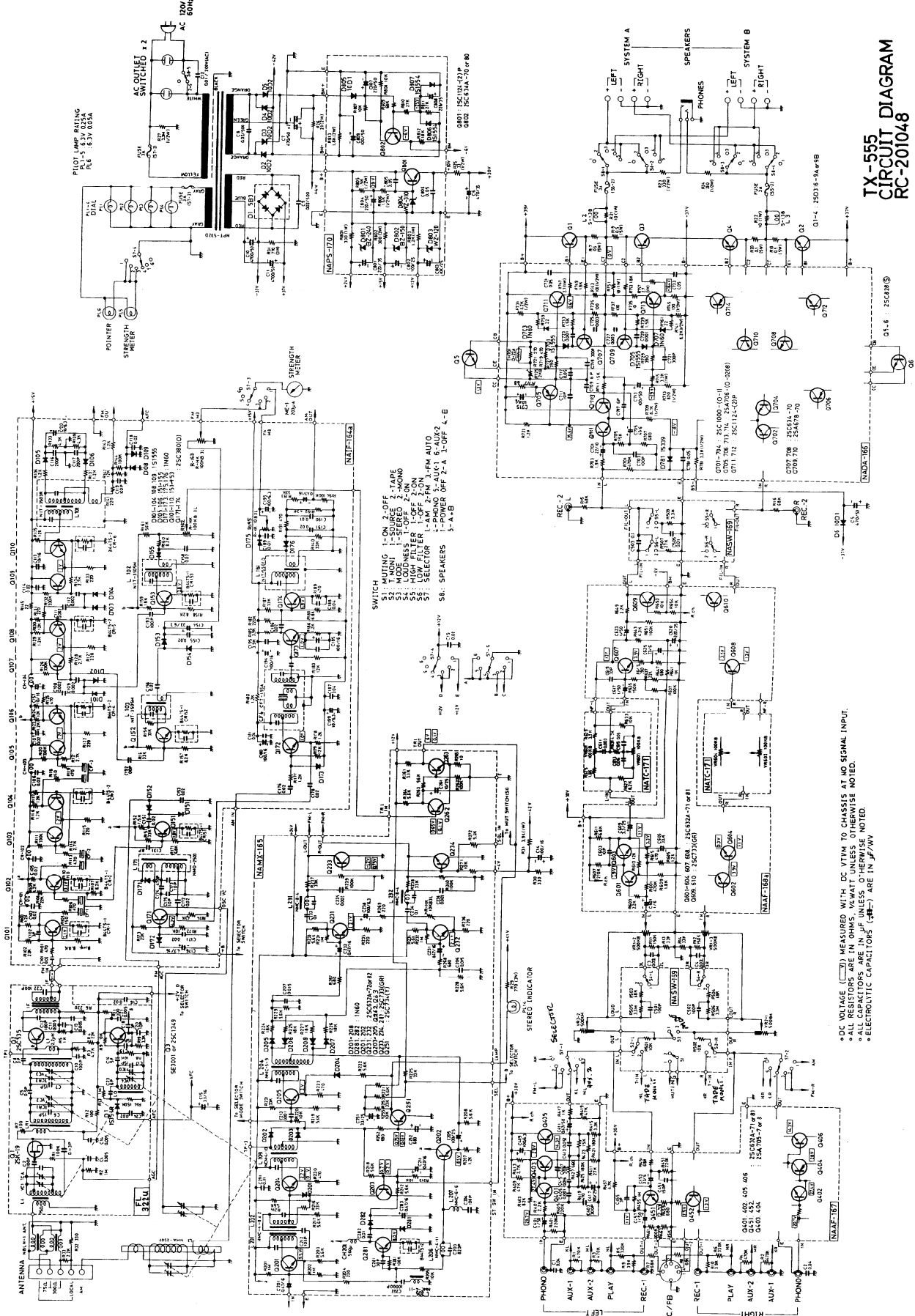
# PARTS LIST

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 $\mu$ 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



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

**SWITCH**  
 S1: TUNING 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-A.M. 2-F.M. 3-PM AUTO  
 S6: SPEAKERS 1-POWER OFF 2-A 3-OFF 4-E

• DC VOLTAGE ( ) MEASURED WITH DC VTVM TO CHASSIS AT NO SIGNAL INPUT.  
 • ALL RESISTORS ARE IN OHMS,  $\mu$ WATT UNLESS OTHERWISE NOTED.  
 • ALL CAPACITORS ARE IN  $\mu$ F UNLESS OTHERWISE NOTED.  
 • ELECTROLYTIC CAPACITORS (E) ARE IN  $\mu$ F/10V