

## ALIGNMENT INSTRUCTIONS

### A) EQUIPMENT NEEDED

1. AM Signal Generator
2. FM Signal Generator
3. IF Sweep Generator
4. FM Stereo Signal Generator
5. Marker Generator
6. Oscilloscope
7. Output Meter (VTVM)
8. Distortion Meter
9. Frequency Counter

### B) IMPORTANT

1. For AM Alignment apply 400 Hz modulation on the Signal Generator and radiated signal.
2. Connect a VTVM or a circuit tester to voice coil.  
Connection may be made by means of a stiff wire in the speaker pin jack, and by using lead wire with plug.  
Adjust as in the tables below, for maximum meter reading.  
When necessary, reduce the oscillator output so that meter reading does not exceed 2 V.
3. Be sure to see the performance after casing the unit re-aligned.
4. After alignment had been completed all coil slugs and trimmers that have been moved during alignment should be rewaxed to insure stability of operation.
5. Use only nonmetallic alignment tools to insure proper alignment.

### C) AM Section

Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Dial Setting	Adjustments
IF	AM SIGNAL GENERATOR Radiated Signal. OUTPUT METER (VTVM) Across-Point TP201 (See Fig. - 1)	1	455 kHz (Mod.)	Tuning gang fully closed	AM IFT - T202, T203, T205 Adjust for maximum output.
		2	—	—	Repeat until no further improvement can be made.
BAND	AM SIGNAL GENERATOR Radiated Signal. OUTPUT METER (VTVM) Across 8 ohm (See Fig. - 2)	3	525 kHz (Mod.)	Tuning gang fully closed	T102 (AM Osc. coil) Adjust for maximum output.
		4	1650 kHz (Mod.)	Tuning gang fully opened	TC102 (AM Osc. trimmer) Adjust for maximum output.
		5	—	—	Repeat steps 3 and 4.

TRACK- ING	AM SIGNAL GENERATOR Radiated Signal. OUTPUT METER (VTVM) Across-8ohm load (See Fig.-2)	6	600 kHz	Tune to signal	L106 (AM Ant. coil) Adjust coil on ferrite core for maximum output.
		7	1400 kHz	— " —	TC101 (AM Ant. trimmer) Adjust for maximum output.
		8	—	— " —	Repeat steps 6 and 7.

#### D) FM Section

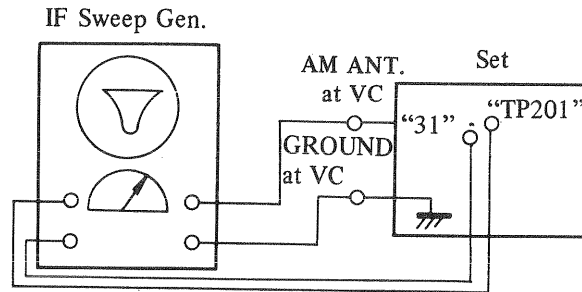
Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Dial Setting	Adjustments
IF	IF SWEEP GENERATOR	1	10.7MHz	Tuning gang fully closed.	FM IFT – T201, T204, T206. Adjust for maximum symmetrical response. (10.7 MHz at the center point)
	MARKER GENERATOR The same as Sweep Generator OSCILLOSCOPE Across Point “29” (See Fig.-3)	2			Repeat Step 1.
RATIO DET.		3	10.7MHz (Mod.)	Tuning gang fully closed	FM IFT – T207 Adjust for suitable “S” curve.
		4			Repeat Step 3.
BAND	FM SIGNAL GENERATOR OUTPUT METER (VTVM) Across 8 ohm Load. (See Fig.-4)	5	86 MHz (Mod.)	Tuning gang fully closed	(FM OSC. coil L105) Adjust for maximum output.
		6	110MHz (Mod.)	Tuning gang. fully opened	(FM OSC. Trimmer ) TC104 Adjust for maximum output.
		7			Repeat Step 5 and 6.
TRACKING		8	90 MHz (Mod.)	Tune to signal	(FM. RF Coil) L102, L103 Adjust for maximum output.
		9	106MHz (Mod.)	Tune to signal	(FM. RF. trimmer) TC103 Adjust for maximum output.
		10			Repeat steps 8 and 9 obtain suitable sensitivity at 90 MHz and 106 MHz.

E) FM MPX.

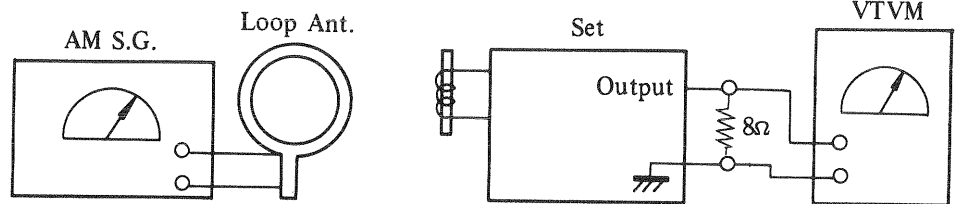
Circuit Alignment	Equipment Connection	Step	Gen. Freq.	Dial Setting	Alignment
P.P.L FREE RUNING FREQ.	TUNE AWAY FROM A STEREO STATION Connect the Freq. Counter to TP302. (Test point) (See Schematic Diagram) (See Fig. - 5)	1		Tune away from stereo station	First make sure FM Section is properly aligned. Adjust VR302 till the Freq. Counter indicates 19 kHz.
CHANNEL SEPARATION	FM STEREO GEN. FM SIGNAL GEN.  Composite out connect to Ext. Med. of FM Signal Generator. FM SIGNAL GEN. Connect to T101 (Ant. Terminal). DIST. METER (VTVM) Across 8 ohm (See Fig. - 6 ) Load.	2	98 MHz	98 MHz	ADJUST VR301 FOR Minimum Output from left (right) Channel when right (left) Channel is modulated. Channel separation should be not less than 20dB.

## EQUIPMENT CONNECTION

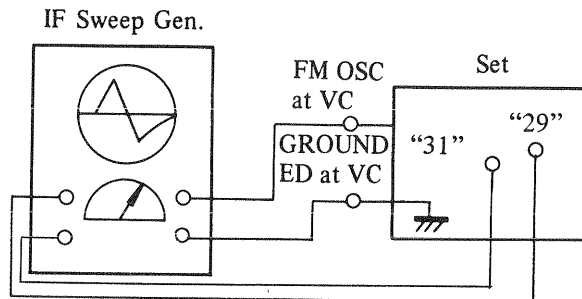
(Fig. - 1)  
AM IF



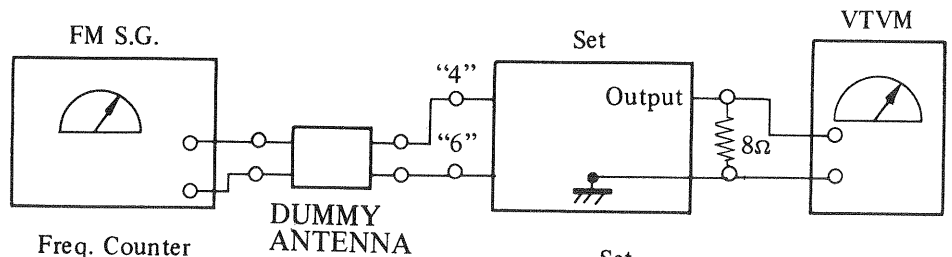
(Fig. - 2)  
AM BAND  
TRACKING



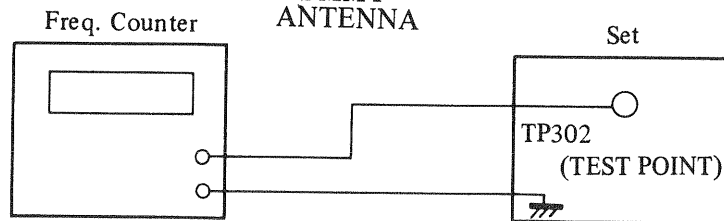
(Fig. - 3)  
FM IF  
RATIO DET.



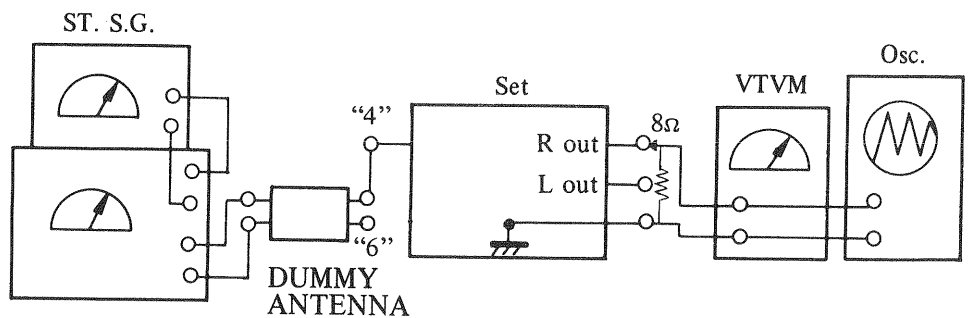
(Fig. - 4)  
FM BAND  
TRACKING

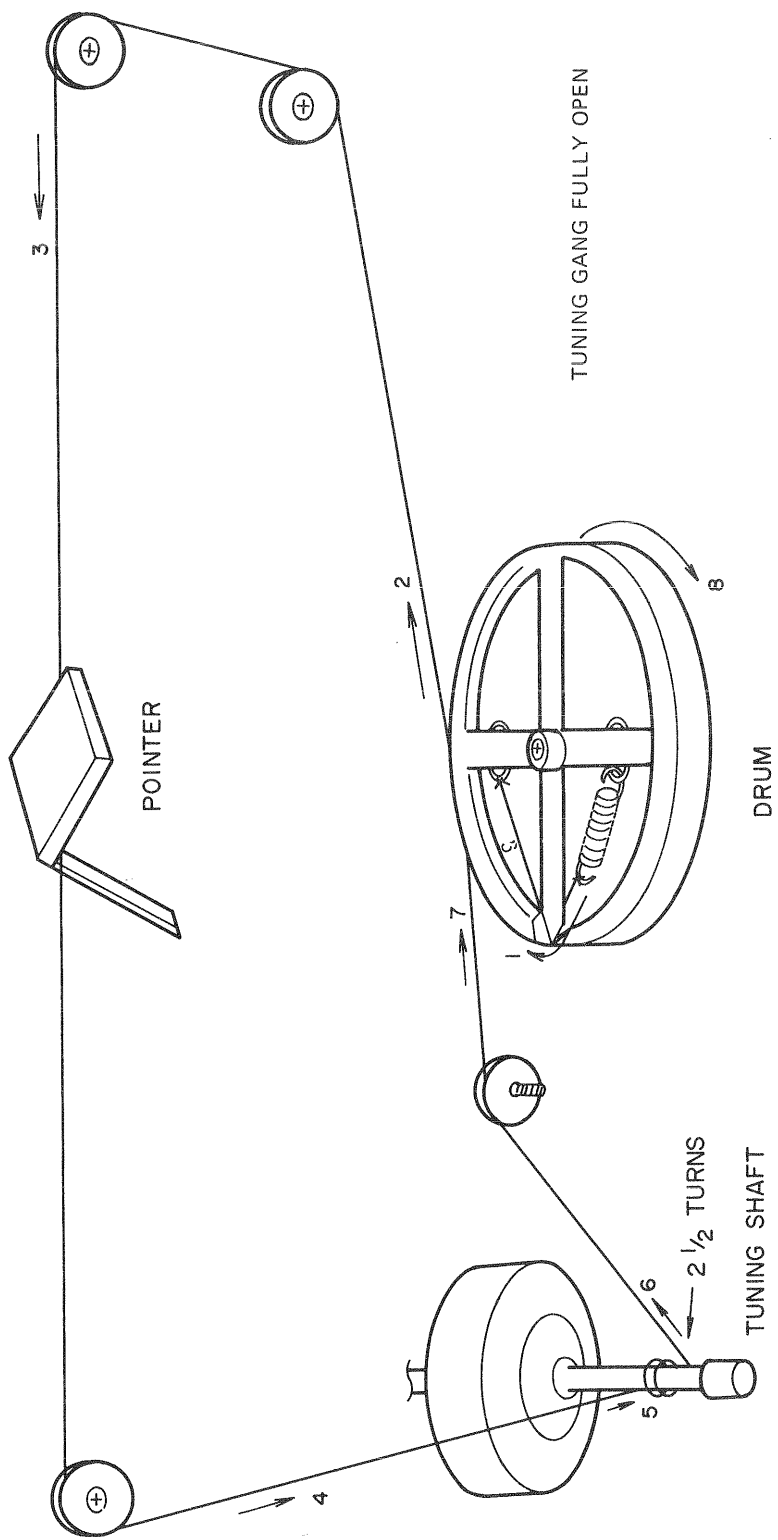


(Fig. - 5)  
19KHz  
Adjustment



(Fig. - 6)  
MPX SEPARATION





**DIAL STRINGING**

# ELECTRICAL PARTS LIST

Ref. No.	Parts No.	Description	Q'ty	Ref. No.	Parts No.	Description	Q'ty
<b>SEMI-CONDUCTOR</b>				<b>RESISTOR</b>			
Q101	2SK41E	Transistor (FET) FMRF	1	VR401	VRX-311-2	Treble 50kΩ(A) x 2	1
Q102	2SC930E	Transistor FM Conv.	1	VR402	VRX-311-2	Bass 50kΩ(A) x 2	1
Q103	2SC929E	Transistor AM Conv.	1	VR403	VRX-312-2	Balance 150kΩ(G)	1
Q201	2SC930D	Transistor IF Amp.	1	VR404	VRX-319	Volume 50kΩ(B) x 2	1
Q401	2SC536G AUD	Transistor Pre-Amp.	1				
Q402	2SC536G AUD	Transistor Pre-Amp.	1	R101		Carbon Resistor 680Ω ¼W	1
Q501	2SA608E	Transistor Pre Driver	1	R102		Carbon Resistor 390kΩ ¼W	1
Q502	2SA608E	Transistor Pre Driver	1	R103		Carbon Resistor 150Ω ¼W	1
Q503	2SC2274E	Transistor Driver	1	R104		Carbon Resistor 10Ω ¼W	1
Q504	2SC2274E	Transistor Driver	1	R105		Carbon Resistor 2.7kΩ ¼W	1
Q505	2SA984E	Transistor Power Driver	1	R106		Carbon Resistor 2.2kΩ ¼W	1
Q506	2SA984E	Transistor Power Driver	1	R107		Carbon Resistor 220kΩ ¼W	1
Q507	2SC2274E	Transistor Power Driver	1	R108		Carbon Resistor 100kΩ ¼W	1
Q508	2SC2274E	Transistor Power Driver	1	R109		Carbon Resistor 6.8kΩ ¼W	1
Q509	2SD325E	Transistor Power	1	R110		Carbon Resistor 270kΩ ¼W	1
Q510	2SD325E	Transistor Power	1	R111		Carbon Resistor 27kΩ ¼W	1
Q511	2SD325E	Transistor Power	1	R112		Carbon Resistor 220Ω ¼W	1
Q512	2SD325E	Transistor Power	1	R113		Carbon Resistor 10Ω ¼W	1
Q701	2SC693G	Transistor Pre-Amp.	1	R114		Carbon Resistor 1.2kΩ ¼W	1
Q702	2SC693G	Transistor Pre-Amp.	1	R115		Carbon Resistor 2.2kΩ ¼W	1
Q703	2SC536G AVD	Transistor Pre-Amp.	1	R116		Carbon Resistor 470Ω ¼W	1
Q704	2SC536G AVD	Transistor Pre-Amp.	1	R117		Carbon Resistor 390Ω ¼W	1
IC201	LA1201	IC AM/FM IF	1	R201		Carbon Resistor 330Ω ¼W	1
IC301	LA3350	IC FM MPX	1	R202		Carbon Resistor 22Ω ¼W	1
D101	DS442	Diode Clamping	1	R203		Carbon Resistor 4.7kΩ ¼W	1
D102	1S188AM	Diode Clamping	1	R204		Carbon Resistor 15kΩ ¼W	1
D103	1S188AM	Diode Clamping	1	R205		Carbon Resistor 3.3kΩ ¼W	1
D104	1S553	Diode A.F.C.	1	R206		Carbon Resistor 10kΩ ¼W	1
D201	1S188AM	Diode FM A.G.C.	1	R207		Carbon Resistor 10kΩ ¼W	1
D202	UZ-12B	Diode Zenner Bias	1	R208		Carbon Resistor 680Ω ¼W	1
D203	1S188FM	Diode FM Det.	1	R209		Carbon Resistor 120kΩ ¼W	1
D204	1S188FM	Diode FM Det.	1	R210		Carbon Resistor 10kΩ ¼W	1
D501	KB-362	Diode Bias	1	R211		Carbon Resistor 1.2kΩ ¼W	1
D502	KB-362	Diode Bias	1	R212		Carbon Resistor 4.7kΩ ¼W	1
D601	SRIK-2	Diode Rectified	1	R213		Carbon Resistor 1.5kΩ ¼W	1
D602	SRIK-2	Diode Rectifier	1	R214		Carbon Resistor 470Ω ¼W	1
D603	SRIK-2	Diode Rectifier	1	R215		Metal Resistor 270Ω 1W	1
D604	SRIK-2	Diode Rectifier	1	R216		Carbon Resistor 100kΩ ¼W	1
<b>I.F.T. COIL</b>				R217		Carbon Resistor 1.2kΩ ¼W	1
L101	HTX-351	FM Ant. Coil	1	R218		Carbon Resistor 1.2kΩ ¼W	1
L102	HTX-353-1	FM RF Coil 3T	1	R219		Carbon Resistor 4.7kΩ ¼W	1
L103	HTX-353-2	FM RF Coil 2T	1	R220		Carbon Resistor 4.7kΩ ¼W	1
L104	HTX-354	FM IF Trap Coil	1	R221		Carbon Resistor 10kΩ ¼W	1
L105	HTX-368	FM OSC Coil	2	R301		Carbon Resistor 3.3kΩ ¼W	1
L106	HTX-283-2	AM Bar Ant.	1	R302		Carbon Resistor 8.2kΩ ¼W	1
T101	HTX-350	FM Ant. Coil	1	R303		Carbon Resistor 2.2kΩ ¼W	1
T102	HTX-359	AM OSC Coil	1	R304		Carbon Resistor 2.2kΩ ¼W	1
T201	HTX-355	FM 1st IFT	1	R305		Carbon Resistor 1.2kΩ ¼W	1
T202	HTX-360	AM 1st IFT "P"	1	R306		Carbon Resistor 1.2kΩ ¼W	1
T203	HTX-361	AM 1st IFT "S"	1	R307		Carbon Resistor 2.7kΩ ¼W	1
T204	HTX-356	FM 2nd IFT	1	R308		Carbon Resistor 2.7kΩ ¼W	1
T205	HTX-362	AM 2nd IFT	1	R309		Carbon Resistor 5.6kΩ ¼W	1
T206	HTX-357	FM Discri Coil "P"	1	R310		Carbon Resistor 5.6kΩ ¼W	1
T207	HTX-358	FM Discri Coil "S"	1	R311		Metal Resistor 470Ω 1W	1
<b>CERAMIC FILTER</b>				R312		Metal Resistor 680Ω 2W	1
CF201	HFX-101	SFE 10.7 MA5	1	R401		Carbon Resistor 1MΩ ¼W	1
	VC-26	Variable Condenser	1	R402		Carbon Resistor 1MΩ ¼W	1
<b>VARIABLE RESISTOR</b>				R403		Carbon Resistor 120kΩ ¼W	1
VR301	VRX-186	Semi-Fixed VR MPX Sep. 1kΩ	1	R404		Carbon Resistor 120kΩ ¼W	1
VR302	VRX-252	Semi-Fixed VR MPX 19kHz 5kΩ	1	R405		Carbon Resistor 4.7kΩ ¼W	1
				R406		Carbon Resistor 4.7kΩ ¼W	1
				R407		Carbon Resistor 180Ω ¼W	1
				R408		Carbon Resistor 180Ω ¼W	1



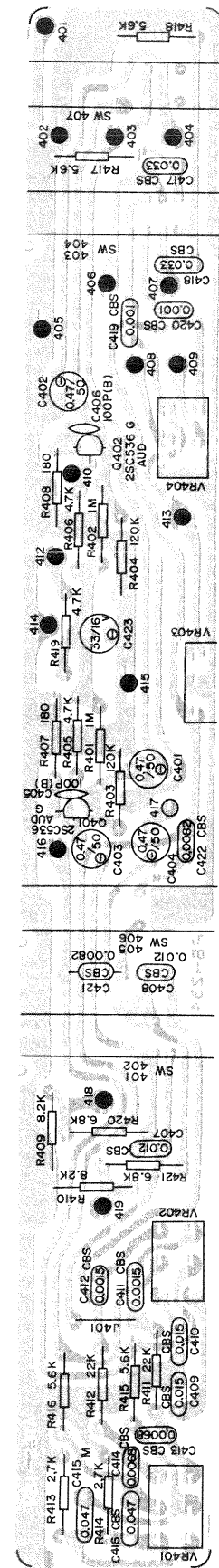
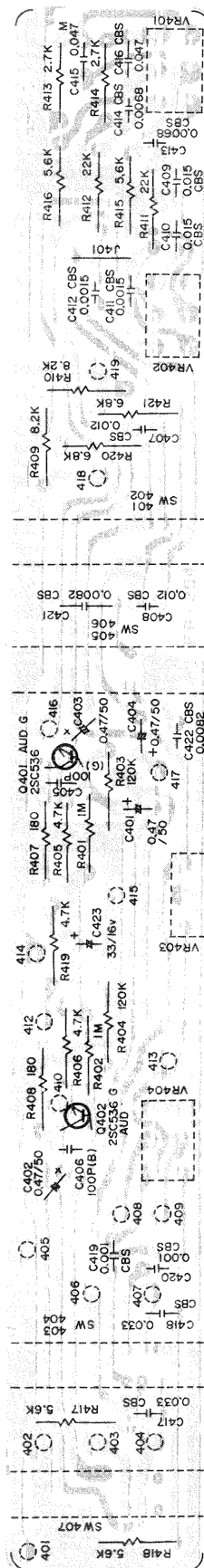
**SOUNDESIGN 5152B/53B**  
**ACOUSTIC DYNAMICS SR-510B**





# CONTROL SECTION P.C.B. (BOTTOM VIEW)

# SOUNDESIGN 5152B/53B ACOUSTIC DYNAMICS SR-510B (TOP VIEW)





**SOUNDESIGN 5152B/53B**  
**ACOUSTIC DYNAMICS SR-510B**

[illegible]

# MECHANICAL PARTS LIST

## CHASSIS GROUP

Item No.	Parts No.	Description	Q'ty
	CHS-1045J	Front Chassis	1
	CHS-1046H	Reflector	1
	DLM-238-A	Dial Scale / 5152B only	1
	DLM-238-B	Dial Scale / 515B only	1
	DLM-238-C	Dial Scale / SR-510B only	1
	MPM-424	Lens	1
	CHS-1053	Shaft Supporter	1
	DLA-244	Driving Shaft Ass.	1s
	DLS-415	Driving Shaft	1
	DLS-416	Metal	1
	DLS-417	Shaft Sleeve	1
	PAW-654	Washer	1
	DLS-418	Flywheel	1
		2.6 x 4 CPS	2
		9N	1
		9.5 x 14 x 0.5t W	1
	CHS-1047	P.B. Support	1
	MPM-135H	Antenna Holder	1
	DLM-204	Guide Wheel	3
	DLM-204-C	Guide Wheel	1
	DLS-293	Pulley Screw	4
	DLM-239	Pointer	1
	DLM-240	Dial Wheel	1
		Dial String	
	CHS-1048	Trans Supporter	1
	CHS-1049	Side Angle	1
	CHS-1050H	Radiator (Heat sink)	1
	CHS-1009H	Fix Angle	1
	CHS-1051J	Panel Supporter	2
	CHS-1052K	Rear Plate	1
	WAS-102	Square Washer	2
	MPM-168-A	Lamp Holder	1
	SCS-108	Ground Screw	1
	DLS-340	Tension Spring	1
		4 x 12 CPS	2
		4 N	2
		4 SW	2
		3 x 18 CBrTS	1
		2.6 x 4 CPS	2
		2.6 x 8 CPS	1
		2.6 SW	1
		3 x 6 CPS	2
		3 x 6 CPS	2
		3 x 6 CPS	4
		3 x 4 CPTS	2
		3 x 6 CPTS	1
		3 x 6 CBrTS	2
		3 x 6 CBrTS	2
		3 x 6 CBrTS	2
		3 x 6 CBrTS	4
		3 x 6 CBrTS	2
		3 x 6 CBrTS	2
		3 x 6 CBrTS	1
		3 x 5 CBrTS	2
		3 x 6 CBrTS	9
		3 x 6 CBrTS	4
		3 TW-B	3
		3 x 6 CBrTS	2
		3 x 8 x 0.8t W	1
	RDX-104-A	Meter Scale / 5152B only	1
	RDX-104-B	Meter Scale / 5153 only	1
	RDX-104-C	Meter Scale / SR-510B only	1
		3 x 6 CFTS	1

## CABINET GROUP

Item No.	Parts No.	Description	Q'ty
	CFS-302-A	Ornament Panel / 5152B only	1
	CFS-302-B	Ornament Panel / 5153B only	1
	CFS-302-C	Ornament Panel / SR-510B only	1
	CFM-318	Dial Cover	1
	MPM-458	Push Knob Guide	1
	MPM-459	Lever SW Knob Guide	2
	MPM-460-A	Tuning Knob / 5152B only	1
	MPM-460-B	Tuning Knob / 5153B & SR-510B only	1
	MPM-461-A	Rotary Knob / 5152B only	4
	MPM-461-B	Rotary Knob / 5153B & SR-510B only	4
	MPM-462H-A	Lever SW Knob / 5152B only	4
	MPM-462H-B	Lever SW Knob / 5153 & SR-510B only	4
	MPM-463-A	Push SW Knob / 5152B only	7
	MPM-463-B	Push SW Knob / 5153B & SR-510B only	7
	CAW-304H-A	Main Cabinet / 5152B only	1
	CAW-304H-B	Main Cabinet / 5153B & SR-510B only	1
	CFW-273-A	Back Board / 5152B only	1
	CFW-273-B	Back Board / 5153B only	1
	CFW-273-C	Back Board / SR-510B only	1
	MPM-288H	Foot	4
		4 x 25 CPS	6
	WAS-104	Claw Washer	2
		3 x 6 CFS	2
		3 x 6 CFTS	2
		4 x 13 x 0.8t W	4