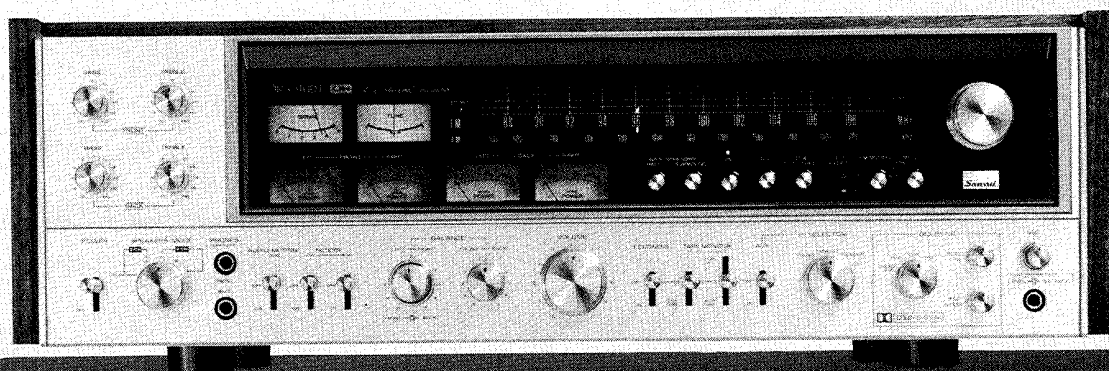


SERVICE MANUAL

4-CHANNEL RECEIVER

SANSUI QRX-8001/9001



SANSUI ELECTRIC CO., LTD.

TABLE OF CONTENTS

Section	Title	Page
1. SPECIFICATIONS		1, 2
2. BLOCK DIAGRAM		3
2- 1. QRX-8001		3
2- 2. QRX-9001		3, 4
3. OPERATION OF FM DOLBY SYSTEM		5
4. ADJUSTMENTS		6
4- 1. Audio Section		6, 7
4- 2. Tuner Section		7, 8, 9, 10, 11
4- 3. Dolby Circuit Adjustment (QRX-9001 Only)		11, 12
5. PARTS LOCATION & PARTS LISTS		13
5- 1. F-2636 Volume & Filter Circuit Board		13
5- 2. F-2634 4-ch Function Switch & REC CAL Tone Circuit Board		13
5- 3. F-2638 Power Supply Circuit Board		14
5- 4. F-2637 Tone Control Circuit Board		14
5- 5. F-2639 Pre-Power Supply Circuit Board		14
5- 6. F-2614 Tuner Circuit Board		14
5- 7. F-2615 Tuner Sub Circuit Board		14
5- 8. F-2590 Tuner Circuit Board		15
5- 9. F-2624 Driver Circuit Board		15
5-10. F-2632 Selector Circuit Board		15
5-11. F-2642 Indicator Circuit Board		15
5-12. F-2087 QS Matrix Circuit Board		16
5-13. F-2088 QS Phase Discriminator Section Circuit Board		16
5-14. F-2689 Protector Circuit Board		16
5-15. F-2589 Equalizer & CD-4 Circuit Board		17
5-16. F-2688 Dolby Circuit Board		17
5-17. F-2640 Illumination Circuit Board (1)		17
5-18. F-2641 Illumination Circuit Board (2)		17
5-19. F-2635 4-ch Function Switch & REC CAL Tone Sub Circuit Board		17
5-20. F-2633 Dolby Change Circuit Board		18
5-21. F-2686 4-ch Function Switch & REC CAL Tone Sub Circuit Board		18
5-22. F-2652 Dolby Sub Circuit Board		18
5-23. Figures		18
6. OTHER PARTS		19
6- 1. QRX-8001		19
6- 2. QRX-9001		20
6- 3. Exploded View (QRX-8001/9001)		20
7. SCHEMATIC DIAGRAM		21
7- 1. QRX-8001 Tuner Section		21
7- 2. QRX-8001 Audio Section		22
7- 3. QRX-9001 Tuner Section		23
7- 4. QRX-9001 Audio Section		24
7- 5. QRX-8001/9001 4-Channel Section		25
8. THREADING OF DIAL CORD		26
8- 1. Threading of Dial Cord		26
8- 2. Attachment of Dial Pointer		26
9. PACKING LIST		BACK COVER
10. ACCESSORY PARTS LIST		BACK COVER

1. SPECIFICATIONS

AUDIO SECTION

<QRX-8001>

POWER OUTPUT

Min. RMS. four channels driven, from 20 to 20,000Hz, with no more than 0.3% total harmonic distortion

40 watts per channel into 8 ohms

40 watts per channel into 4 ohms

Min RMS four channels driven at 1,000Hz with no more than 0.3% total harmonic distortion

43 watts per channel into 8 ohms

43 watts per channel into 4 ohms

Min. RMS. both channels driven from 20 to 20,000Hz, with no more than 0.3% total harmonic distortion and SPEAKERS/MODE switch at 2-CH A (POWER × 2)

100 watts per channel into 8 ohms

Min RMS both channels driven at 1,000Hz with no more than 0.3% total harmonic distortion and SPEAKERS MODE switch at 2-CH A (POWER × 2)

110 watts per channel into 8 ohms

<QRX-9001>

POWER OUTPUT

Min. RMS. four channels driven, from 20 to 20,000Hz, with no more than 0.3% total harmonic distortion

60 watts per channel into 8 ohms

60 watts per channel into 4 ohms

Min RMS four channels driven at 1,000Hz with no more than 0.3% total harmonic distortion

65 watts per channel into 8 ohms

65 watts per channel into 4 ohms

Min. RMS. both channels driven, from 20 to 20,000Hz, with no more than 0.3% total harmonic distortion and SPEAKERS/MODE switch at 2-CH A (POWER × 2)

120 watts per channel into 8 ohms

Min RMS both channels driven at 1,000Hz with no more than 0.3% total harmonic distortion and SPEAKERS MODE switch at 2-CH A (POWER × 2)

140 watts per channel into 8 ohms

<QRX-8001> <QRX-9001>

LOAD IMPEDANCE

SPEAKERS/MODE Switch at 2-CH—A, 4-CH—A and 4-CH—B
..... 4 and 8 ohms

SPEAKERS/MODE switch at 2-CH—A(POWER × 2) and 4-CH—A+B
..... 8 ohms

POWER BANDWIDTH..... 20 to 20,000Hz at or below rated min. RMS power output and total harmonic distortion

TOTAL HARMONIC DISTORTION

..... less than 0.3% at or below

rated min. RMS power output

INTERMODULATION DISTORTION (70Hz: 7kHz 4:1 SMPTE method)..... less than 0.3%

FREQUENCY RESPONSE (at 1 watt)

..... 20 to 30,000Hz ±1dB

RIAA CURVE DEVIATION (PHONO)

..... +1.0dB, -1.0dB (30Hz to 15kHz)

DAMPING FACTOR

..... approximately 30 at 8-ohm load

INPUT SENSITIVITY AND IMPEDANCE

(1kHz, for rated power output)

PHONO (2-channel) 2.5mV/50 kilohms

(Max. input capability: 150mV at 1kHz, less than 0.3% total harmonic distortion.)

TAPE PLAY (pin jacks) 100mV/50 kilohms

TAPE-1 REC/PLAY (DIN socket)

..... 100mV/50 kilohms

AUX 100mV/50 kilohms

MIC..... 4mV/10 kilohms

RECORDING OUTPUT

TAPE REC (pin jacks) 100mV

TAPE-1 REC/PLAY (DIN socket)

..... 30mV

CHANNEL SEPARATION (at rated output 1kHz)

PHONO better than 45dB

TAPE PLAY, AUX better than 45dB

HUM AND NOISE

PHONO better than 70dB

TAPE PLAY, AUX better than 80dB

CONTROLS

- BASS ± 10 dB (50Hz)
- TREBLE ± 10 dB (10kHz)
- LOUDNESS +8dB (50Hz)
+3dB (10kHz)
- LOW FILTER -10dB (50Hz)
- HIGH FILTER -10dB (10kHz)
- AUDIO MUTING -20dB

4-CHANNEL DECODER SECTION

- QS DECODER (Type-A QS vario-matrix)*
- SEPARATION 20dB between adjacent channels
30dB between diagonal channels
 - DISTORTION less than 0.1% (at 1kHz)
 - FREQUENCY RESPONSE 20 to 30,000Hz
- QS SYNTHESIZER (Type-A QS vario-matrix)
- SEPARATION equivalent to QS decoder
 - DISTORTION equivalent to QS decoder
 - FREQUENCY RESPONSE equivalent to QS decoder
- SQ FUNCTION (Phase Matrix)**
- SEPARATION 20dB (left front to right front)
12dB (center front to center back)

CD-4 DEMODULATOR***

- INPUT SENSITIVITY 2.5mV
- INPUT IMPEDANCE 50 kilohms
- SEPARATION (Standard test signal at 1kHz)
..... 40dB (left to right)
25dB (front to back)
- FREQUENCY RESPONSE (Standard test signal at REC output)
..... 30 to 15,000Hz (main-channel)

<QRX-9001-Only>

- DOLBY NOISE REDUCTION EFFECT†
- 10dB (above 5kHz)

FM SECTION

<QRX-8001>

- TUNING RANGE 88 to 108MHz
- USABLE SENSITIVITY (IHF) 10.8dBf (1.9 μ V)
(DIN) .. 1.1 μ V
(1kHz, Modulation 30%, S/N 26dB)

50dB QUIETING SENSITIVITY

- STEREO (IHF) 38dBf (45 μ V)
- MONO (IHF) 16dBf (3.5 μ V)

TOTAL HARMONIC DISTORTION

- STEREO less than 0.5% (1kHz)
- MONO less than 0.4% (1kHz)

SIGNAL TO NOISE RATIO

- STEREO better than 60dB
- MONO better than 65dB

ALTERNATE CHANNEL SELECTIVITY

- better than 60dB (± 400 kHz)

CAPTURE RATIO less than 2.2dB

AM SUPPRESSION better than 50dB

IMAGE RESPONSE RATIO (IHF)

- better than 50dB (98MHz)

IF RESPONSE RATIO (IHF) better than 75dB (98MHz)

SPURIOUS RESPONSE RATIO (IHF)

- better than 70dB (98MHz)

SPURIOUS RADIATION less than 34dB

STEREO SEPARATION better than 30dB (100Hz)

better than 40dB (1kHz)

better than 25dB (10kHz)

FREQUENCY RESPONSE (IHF) .. +1.0dB, -3.0dB (30 to 15,000Hz)

ANTENNA IMPEDANCE 75 ohms unbalanced

300 ohms balanced

<QRX-9001>

TUNING RANGE 88 to 108MHz

USABLE SENSITIVITY (IHF) 10.3dBf (1.8 μ V)

(DIN) .. 1.0 μ V

(1kHz, Modulation 30%, S/N 26dB)

50dB QUIETING SENSITIVITY

STEREO (IHF) 38dBf (45 μ V)

MONO (IHF) 15.6dBf (3.3 μ V)

TOTAL HARMONIC DISTORTION

STEREO less than 0.4% (1kHz)

MONO less than 0.3% (1kHz)

SIGNAL TO NOISE RATIO

STEREO better than 65dB

MONO better than 70dB

ALTERNATE CHANNEL SELECTIVITY

..... better than 80dB (+400kHz)

CAPTURE RATIO less than 1.5dB

AM SUPPRESSION better than 50dB

IMAGE RESPONSE RATIO (IHF)

..... better than 75dB (98MHz)

IF RESPONSE RATIO (IHF) better than 95dB (98MHz)

AM SECTION

<QRX-8001, QRX9001>

TUNING RANGE 535 to 1,605kHz

SENSITIVITY (Bar antenna) 50dB/m (1,000kHz)

SELECTIVITY better than 35dB (1,000kHz)

IMAGE RESPONSE RATIO (IHF) better than 35dB (1,000kHz)

IM RESPONSE RATIO (IHF) better than 30dB (1,000kHz)

OTHERS

<QRX-8001>

POWER REQUIREMENTS

- POWER VOLTAGE 100, 120, 220, 240V 50/60Hz
120V (Usable 110—130V)
60Hz (for U.S.A. & Canada only)

POWER CONSUMPTION

MAXIMUM CONSUMPTION

..... 550 watts

RATE CONSUMPTION .. 370 watts (430 VA)

DIMENSIONS 600mm (23 $\frac{5}{8}$ " W

174mm (6 $\frac{7}{8}$ " H

415mm (16 $\frac{3}{8}$ " D

WEIGHT 23.6kg (52.0 lbs) net

26.4kg (58.2 lbs) packed

<QRX-9001>

POWER REQUIREMENTS

- POWER VOLTAGE 100, 120, 220, 240V 50/60Hz
120V (Usable 110—130V)
60Hz (for U.S.A. & Canada only)

POWER CONSUMPTION

MAXIMUM CONSUMPTION

..... 860 watts

RATE CONSUMPTION .. 580 watts (675 VA)

DIMENSIONS 600mm (23 $\frac{5}{8}$ " W

174mm (6 $\frac{7}{8}$ " H

415mm (16 $\frac{3}{8}$ " D

WEIGHT 23.0kg (50.7 lbs) net

25.8kg (56.9 lbs) packed

* QS is a trademark of Sansui.

** SQ is a trademark of CBS, Inc.

*** CD-4 is a trademark of JVC, Inc.

† The word "Dolby" and the Double-D symbol are a trademark of Dolby Laboratories Inc.

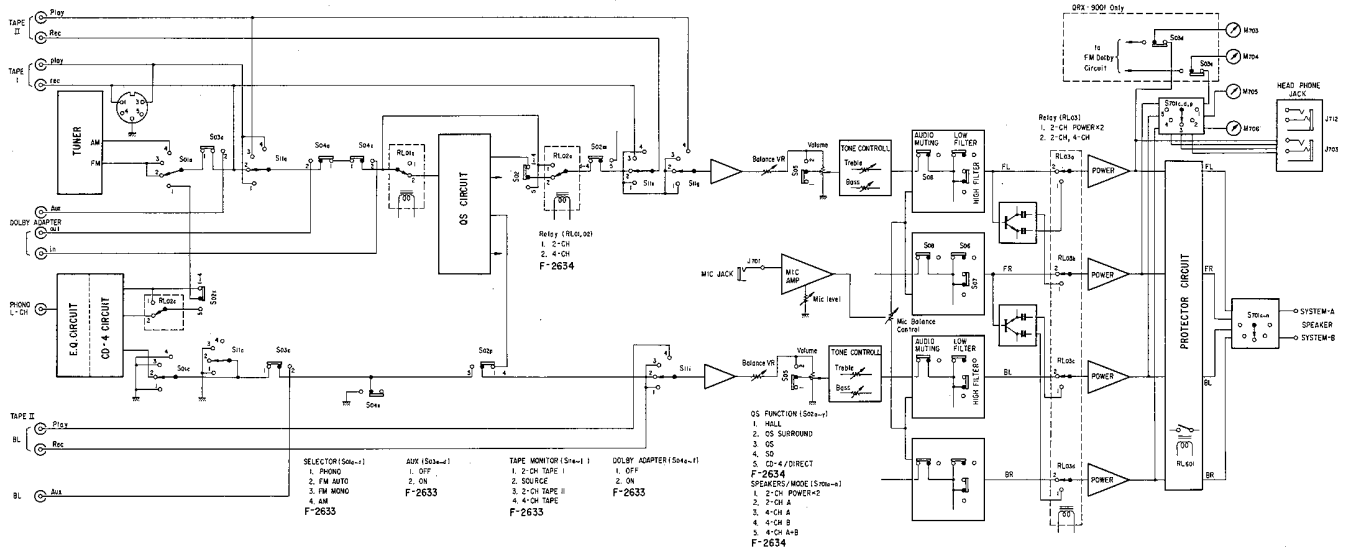
o Nois reduction circuit made under license from Dolby Laboratories Inc.

* Design and specifications subject to change without notice for improvements.

2. BLOCK DIAGRAM

2-1. QRX-8001

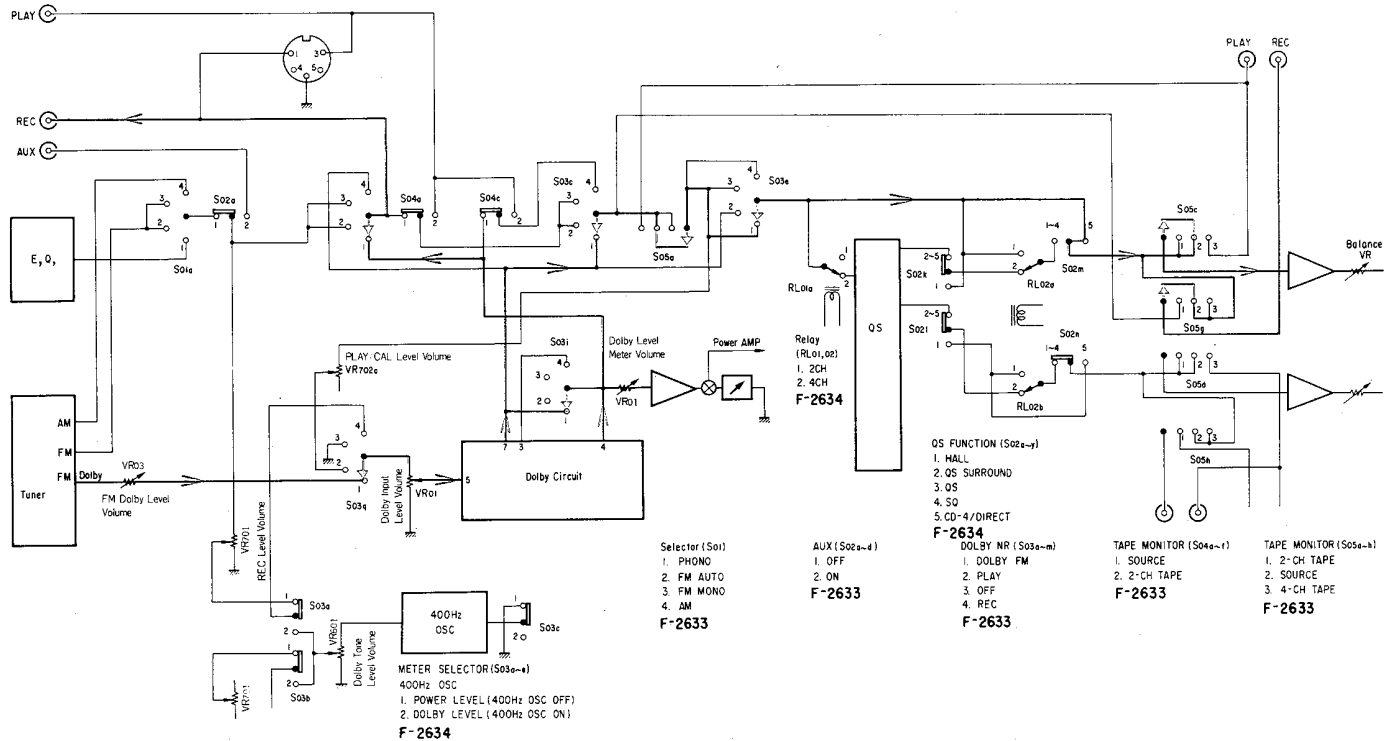
Note: This Block Diagram indicates only L-CH before Audio Muting.



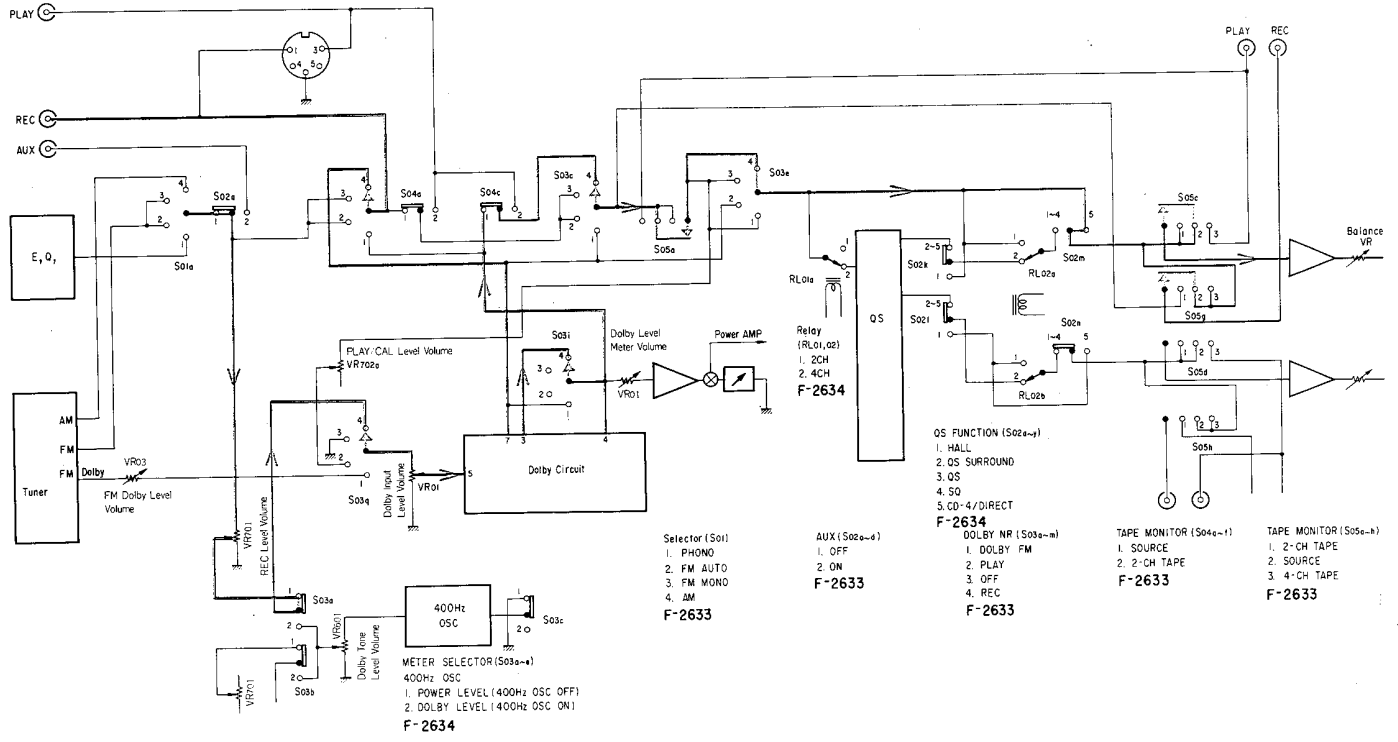
2-2. QRX-9001

Note: Follow Block Diagram QRX-8001 above after the Balance Volume.

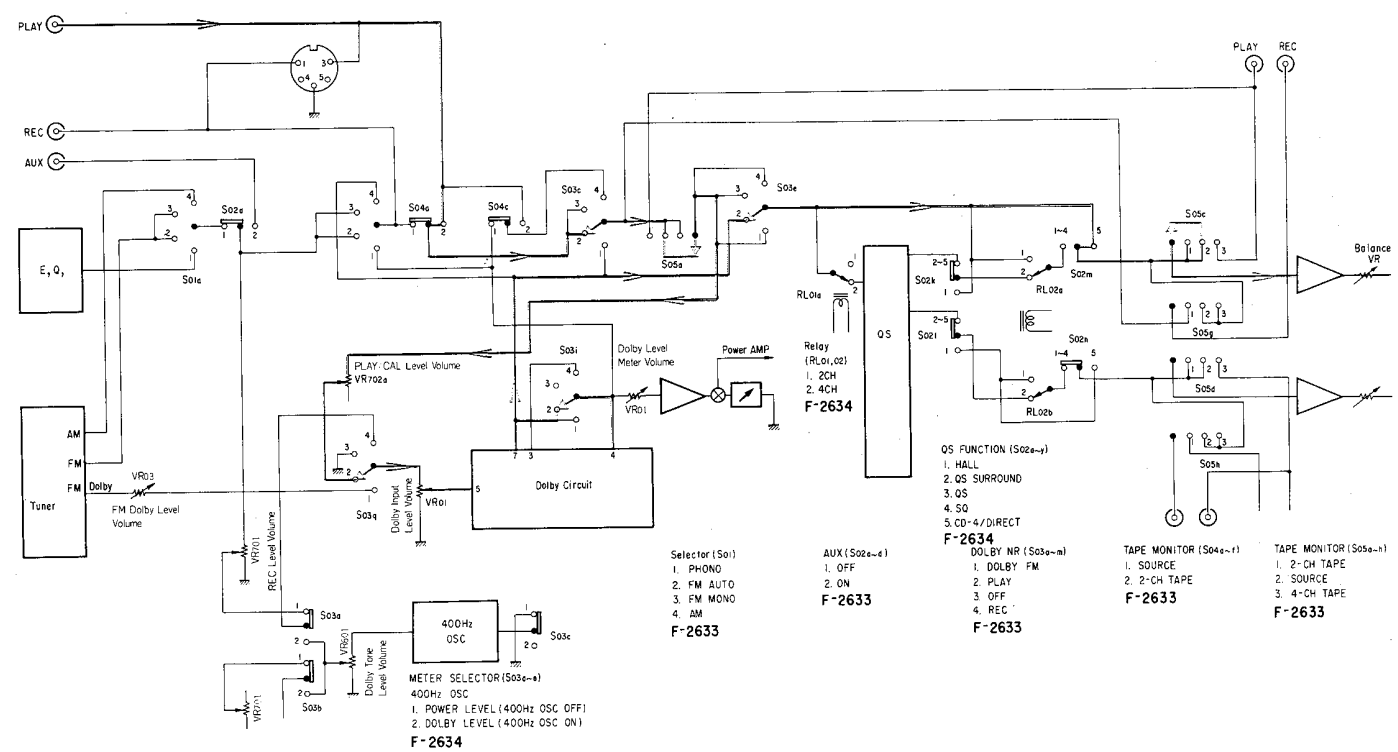
(a) Dolby Operation (FM Dolby Mode)



(b) Dolby Operation (Rec Mode)



(c) Dolby Operation (Play Mode)



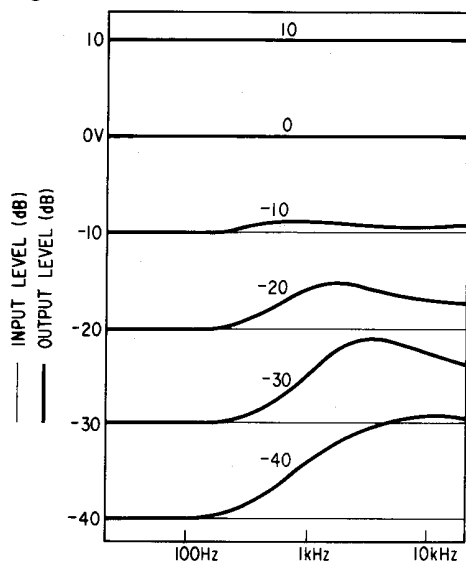
3. OPERATION OF FM DOLBY SYSTEM

This Dolby Noise Reduction System Type B used in this unit is not only available for encoding of the FM dolbyized signal but also useful for encoding and decoding of other signals. Therefore it is possible and effective to combine with other products such as a cassette deck without Dolby system.

FM Dolby System

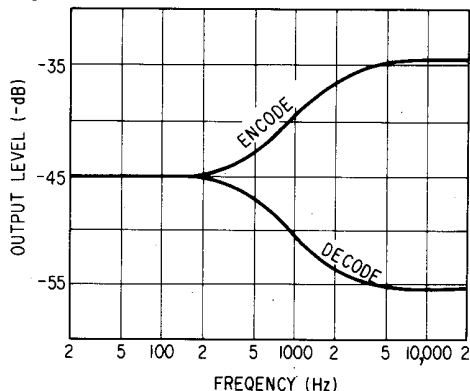
FM broadcasting system is originally able to produce a very high quality audio performance; however, FM stereophonic broadcasting system incurs a 20dB Signal-Noise ratio decrease. When Dolby B Type Noise Reduction system is used for a FM stereo, Signal-Noise ratio (S/N) is conspicuously improved and this ratio is at about 10dB.

Fig. 3-1



Whole range output Frequency Response characteristics against input level.

Fig. 3-2



Low level Frequency Response characteristics of encode and decode processors.

Principles

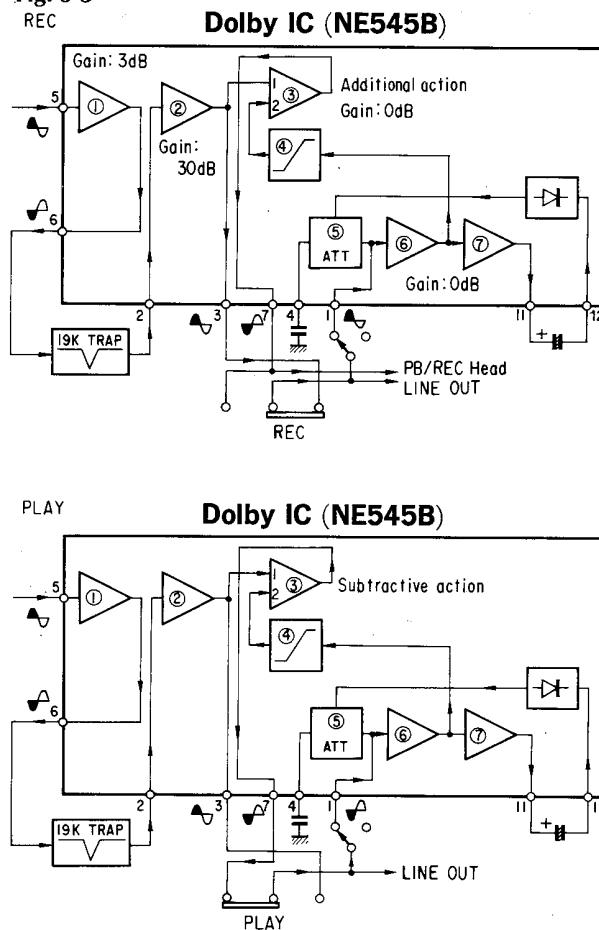
The S/N of the FM becomes worse when the frequency is high and the level is low. Because of this reason, the middle and high range of the low level signal is expanded by a FM station. Then the signal will be compressed proportionally along the expanded level by a receiving side. (See Fig. 1, 2)

This unit employs a IC NE545B for a main Dolby circuit. The Operating diagram is shown in the Fig. 3.

Complementary items

1. When FM Dolby system is being used, the de-emphasis of FM-out is 25 μ s.
2. The input level of FM Dolby is at 50% modulation and \pm 37.5kHz.
3. This unit has a own 400Hz Oscillator for Dolby Tone in order to adjust itself to the Dolby level.

Fig. 3-3



4. ADJUSTMENTS

Abbreviations

Equipment

AM FM Generator Oscilloscope Genescope
 AM Standard Signal Generator AM SSG
 FM Standard Signal Generator FM SSG
 FM Stereo Generator..... Stereo SG
 Oscilloscope Scope
 Audio Oscillator Audio Osc.
 Distortion Meter Dist. Meter

Others

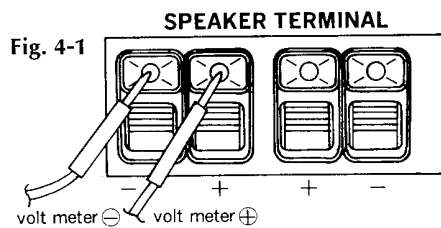
Clockwise CW.
 Counterclockwise CCW.
 Antenna ANT.
 Modulation MOD.

4-1. Audio Section

4-1-1. Driver Circuit Board Adjustment (See Figs. 4-1 & 4-2)

- Note: 1. Master Volume Minimum
 2. Speaker Selector SYSTEM (A)
 3. Before adjustment, run the unit for more than 4 minutes, then check and readjust, if necessary.

STEP	SUBJECT	EQUIPMENT	MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
1	DC 0V Front L-CH	DC volt meter	Speaker terminal Front L-CH	F-2624 VR01	0V ±10mV	◦Step down meter's range accordingly ◦Change lead's polarity if meter swings backward
2	DC 0V Front R-CH	DC volt meter	Speaker terminal Front R-CH	F-2624 VR02	0V ±10mV	Same as above
3	DC 0V Back L-CH	DC volt meter	Speaker terminal Back L-CH	F-2624 VR01	0V ±10mV	Same as above
4	DC 0V Back R-CH	DC volt meter	Speaker terminal Back R-CH	F-2624 VR02	0V ±10mV	Same as above
5	Bias current Front L-CH	DC milliammeter	F-2638 F06	F-2624 VR03	30 ±3mA	Same as above
6	Bias current Front R-CH	DC milliammeter	F-2638 F07	F-2624 VR04	30 ±3mA	Same as above
7	Bias current Back L-CH	DC milliammeter	F-2638 F08	F-2624 VR03	30 ±3mA	Same as above
8	Bias current Back R-CH	DC milliammeter	F-2638 F09	F-2624 VR03	30 ±3mA	Same as above



Rear Side (Bottom View)

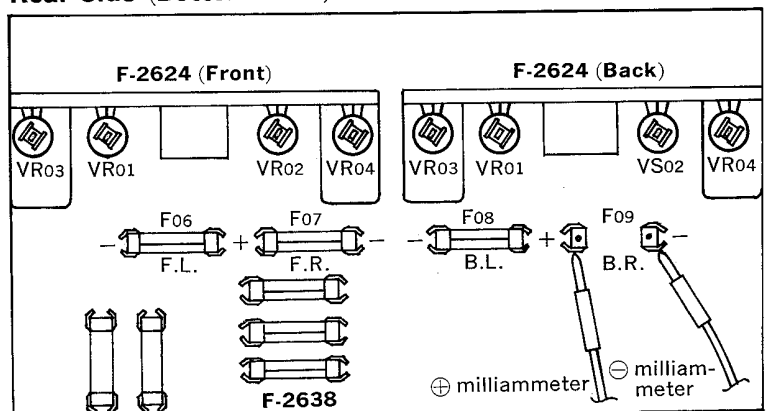


Fig. 4-2

4-1-2. Power Meter Adjustment (See Fig. 4-3)

- Note:**
1. InputAUX
 2. Input SignalSine Wave (1kHz)
 3. Speaker load.....8Ω
 4. Master VolumeMaximum
 5. CD-4/4-CH DIRECT SwitchON
 6. Dolby NR SwitchOFF
 7. Speakers Switch4-CH A
 8. For adjustment, run the unit for more than 4 minutes after the power is switched ON.

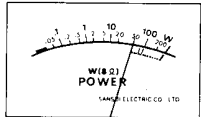
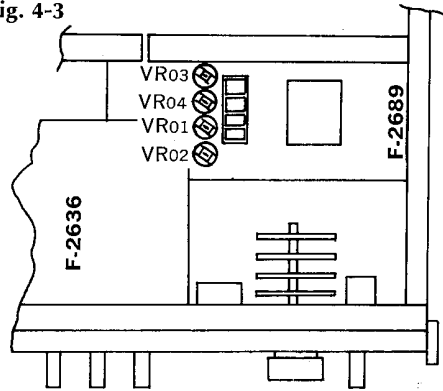
STEP	EQUIPMENT	MEASURE OUTPUT	OUTPUT LEVEL	ADJUST	ADJUST FOR
Front L-CH	AC Volt Meter	Speaker Terminal Front L-CH	20V (50W)	VR01 F-2689	Meter Position 50W 
Front R-CH	Same as above	Speaker Terminal Front R-CH	Same as above	VR02 F-2689	
Back L-CH	Same as above	Speaker Terminal Back L-CH	Same as above	VR03 F-2689	
Back R-CH	Same as above	Speaker Terminal Back R-CH	Same as above	VR04 F-2689	

Fig. 4-3

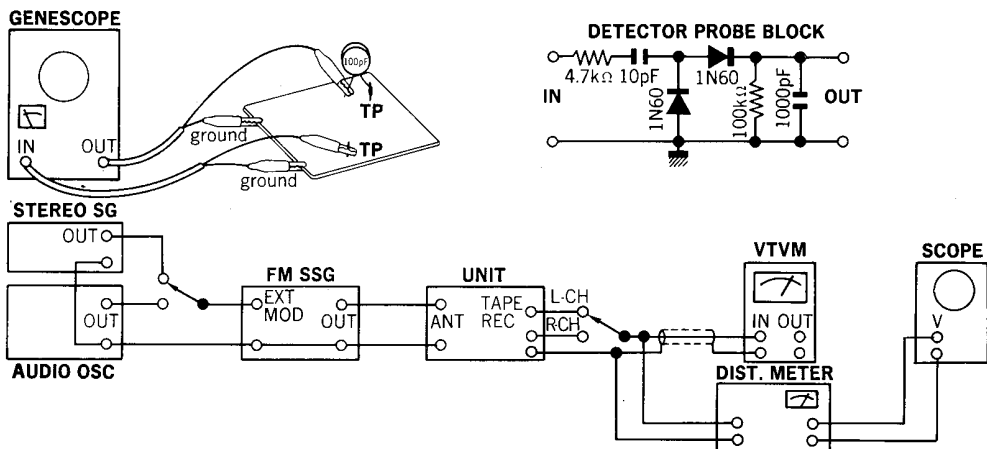


Front Side (Bottom View)

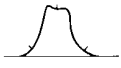
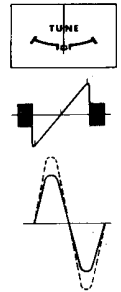
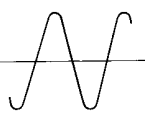
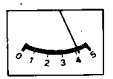
4-2. Tuner Section

4-2-1. FM & MPX Adjustment & Alignment

- Note:**
1. Selector.....FM AUTO
 2. FM Muting Switch.....OFF
 3. Connection.....Connect the output of genescope to TP through 100pF ceramic capacitor.

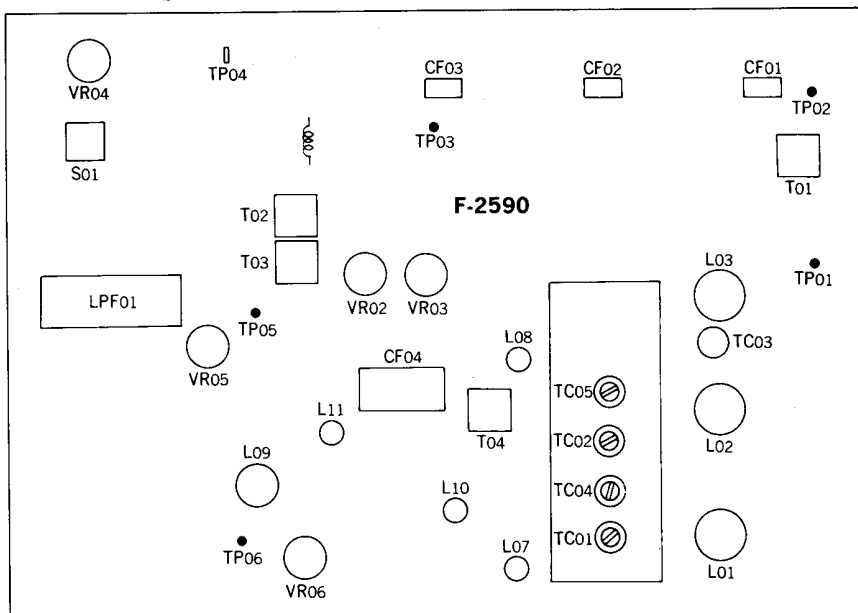


〈QRX-8001〉 A) FM IF Adjustment & Tracking (See Fig. 4-4)

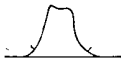
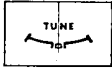
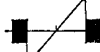


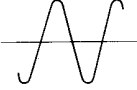
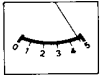
STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
		FROM	TO				
1.	IF Coil	Output 60dB Genescope	TP01 F-2590	TP03 F-2590 Use Detector Probe	T01 F-2590	Max. IF waveform	
2.	Discriminator Coil	Output 50dB Genescope	Same as above	TP04 F-2590	T02 T03 F-2590	Center indication on tune meter Max. linearity of S curve Steep linearity of S curve Set output wave to dip point (It's minimum distortion)	
3.	90MHz Dial Calibration	90MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	ANT terminal 300Ω	REC OUT L or R-CH VTVM & Scope	L03 F-2590	Max. Output	
	106MHz Dial Calibration	106MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Same as above	TC03 F-2590	Same as above	
4.	90MHz RF Adj.	90MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Same as above	L01, L02 F-2590	Same as above	
	106MHz RF Adj.	106MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Same as above	TC01 TC02 F-2590	Same as above	
5.	Signal Meter Volume	98MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Signal Meter	VR02 F-2590	4.3 on Meter	

◆ Adjusting or Connecting Points on AM, FM & FM MPX circuit board F-2590

Fig. 4-4

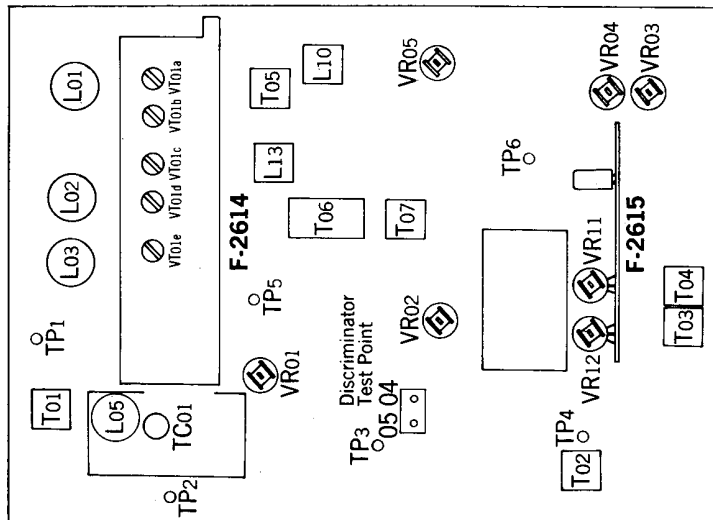


<QRX-9001> B) FM IF Adjustment & Tracking (See Fig. 4-5)

STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
		FROM	TO				
1.	IF Coil	Output 60dB Genescope	TP01 F-2614	TP03 F-2614 Use Detector Probe	T01 F-2614	Max. IF waveform	
		Output 50dB Genescope	Same as above	TP04 F-2614 Use Detector Probe	T02 F-2614		
2.	Discriminator Coil	Output 50dB Genescope	Same as above	TM04 F-2614	T03	Center indication on tune meter	
					T04 F-2614	Max. linearity of S curve	
						Steep linearity of S curve	
						Set output wave to dip point (It's minimum distortion)	
3.	90MHz Dial Calibration	90MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	ANT terminal 300Ω	REC OUT L or R-CH VTVM & Scope	L05 F-2614	Max. Output	
	106MHz Dial Calibration	106MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Same as above	TC01 F-2614	Same as above	
4.	90MHz RF Adj.	90MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Same as above	L01, L02, L03 F-2614	Same as above	
	106MHz RF Adj.	106MHz ANT Input 60dB 400Hz (100% MOD) FM SSG	Same as above	Same as above	VT01a VT01c VT01e F-2614	Same as above	
5.	Signal Meter Volume	98MHz ANT Input 100dB 400Hz (100% MOD) FM SSG	Same as above	Signal Meter	VR11 F-2615	4.7 on Meter	

◇ Adjusting or Connecting Points on AM, FM & FM MPX circuit board F-2614

Fig. 4-5



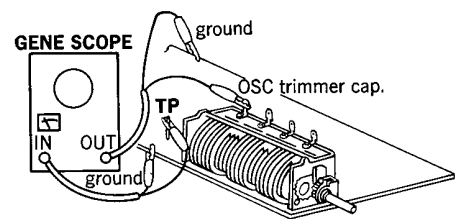
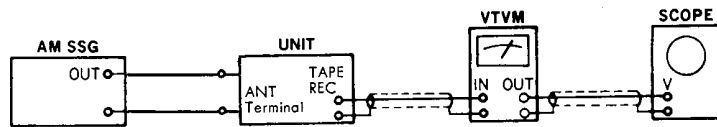
4-2-2. MPX Adjustment (See Fig. 4-4 & 4-5)

STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
		FROM	TO				
1.	PLL VCO Adj.	98MHz ANT Input 60dB FM SSG Pilot 19kHz (10% MOD) L-CH 1kHz (45% MOD) R-CH (0% MOD) STEREO SG	ANT terminal 300Ω	Stereo indicator	(A)VR05 F-2590 (B)VR01 F-2614	Light indicator	Adjust the VR within center of lighting level.
	PLL VCO Adj. In case of using Freq. counter.		Make short between TP04 & chassis	TP05 (A)F-2590 (B)F-2614 Use Freq. counter	VR05 (A)F-2590 (B)F-2614	76kHz ±200Hz	For this adjustment, run the unit over 30 seconds.
2.	Separation	98MHz ANT Input 60dB FM SSG Pilot 19kHz (10% MOD) L-CH (0% MOD) R-CH 1kHz (45% MOD) STEREO SG	ANT terminal 300Ω	REC OUT L-CH VTVM & Scope	(A)VR04 F-2590 (B)VR02 F-2614	Min. Output -35dB	Confirm separation L-CH→R-CH -35dB
3.	Muting level & indicator level	98MHz ANT Input (A)18dB (B)23dB FM SSG Pilot 19kHz (10% MOD) L-CH 1kHz (45% MOD) R-CH (0% MOD) STEREO SG	Same as above	Stereo indicator	(A)VR03 F-2590 (B)VR12 F-2614	Muting level (A)18dB (B)23dB Indicator lighting level (A)18dB (B)23dB	

* In the procedure above, (A) is indicating QRX-8001 and (B) is QRX-9001.

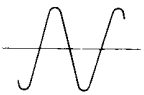

4-2-3. AM IF Adjustment & Tracking (See Fig. 4-4 & 4-5)

- Note: 1. Selector.....AM
2. Confirm start point of dial pointer before alignment.



STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
		FROM	TO				
1.	IF Coil	Genescope Output 65dB	(A)TC04 F-2590 (B)VT01b F-2614	TP06 (A)F-2590 (B)F-2614	(A)CF04 F-2590 (B)T06 F-2614	Max. IF waveform	
2.	600kHz Dial Calibration	600kHz ANT Input 60dB 400Hz (MOD 30%) AM SSG	AM ANT terminal	REC OUT L or R-CH VTVM & Scope	(A)T04 F-2590 (B)L13 F-2614	Max. Output	
	1400kHz Dial Calibration	1400kHz ANT Input 60dB 400Hz (MOD 30%) AM SSG	Same as above	Same as above	TC05 (A)F-2590 (B)F-2614	Same as above	

to be continued

STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR	CONDITION
		FROM	TO				
3.	600kHz RF Adj.	600kHz ANT Input 60dB 400Hz (MOD 30%) AM SSG	AM ANT Terminal	REC OUT L or R-CH VTVM & scope	L702 Bar Antenna	Same as above	
	1400kHz RF Adj.	1400kHz ANT Input 60dB 400Hz (MOD 30%) AM SSG	Same as above	Same as above	(A)TC04 F-2590 (B)VT01b F-2614	Same as above	
4.	Signal Meter volume	1000kHz ANT Input 76dB 400Hz (MOD 30%) AM SSG	Same as above	Signal Meter	(A)VR06 F-2590 (B)VR05 F-2614	(A)4.3 on meter (B)4 on meter	

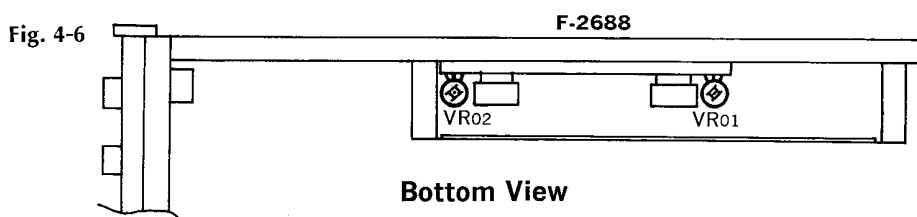
* In the procedure above, (A) is indicating QRX-8001 and (B) is QRX-9001.

4-3. Dolby Circuit Adjustment (QRX-9001 Only) (See Fig. 4-6)

4-3-1. Input Level Adjustment of Dolby IC (NE545B)

- Note:**
- | | | | |
|---------------------------|---------|--------------------------------|-----|
| 1. Speaker Selector | 2-CH A | 4. Accessory Switch | OFF |
| 2. Master Volume | Minimam | 5. REC Level Volume | MAX |
| 3. Balance Volume | Center | 6. Dolby Selector Switch | REC |

STEP	SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR
		FROM	TO			
1.	L-CH	400Hz 85mV Audio OSC.	AUX Terminal	REC Terminal TAPE 1 VTVM	VR01 F-2688	Output 270mV
2.	R-CH	Same as above	AUX Terminal	REC Terminal TAPE 1 VTVM	VR02 F-2688	Same as above



4-3-2. Calibration Tone Volume & Dolby Meter Volume Adjustment

- Note:**
- | | | | |
|---------------------------|---------|--------------------------------|-----|
| 1. Speaker Selector | 2-CH A | 4. Accessory Switch | OFF |
| 2. Master Volume | Minimam | 5. Dolby Selector Switch | REC |
| 3. Balance Volume | Center | | |

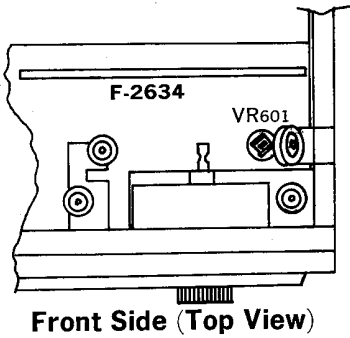
(1) Calibration Tone Volume Adjustment (See Fig. 4-7 on Page 12)

1. Turn on the Dolby REC CAL. TONE switch.
2. Connect VTVM to the front TAPE 1 REC terminal.
3. Adjust VR601 on the circuit board, F-2634 to obtain 270mV on indication of VTVM.

(2) **Dolby Meter Volume Adjustment (See Fig. 4-8, 4-9)**

Adjust VR01 (L-CH) and VR02 (R-CH) on the circuit board, F-2633 so that indicator of power meter will be center of Dolby mark.

Fig. 4-7



Front Side (Top View)

Fig. 4-9

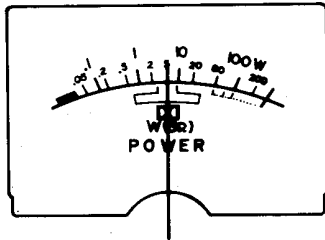
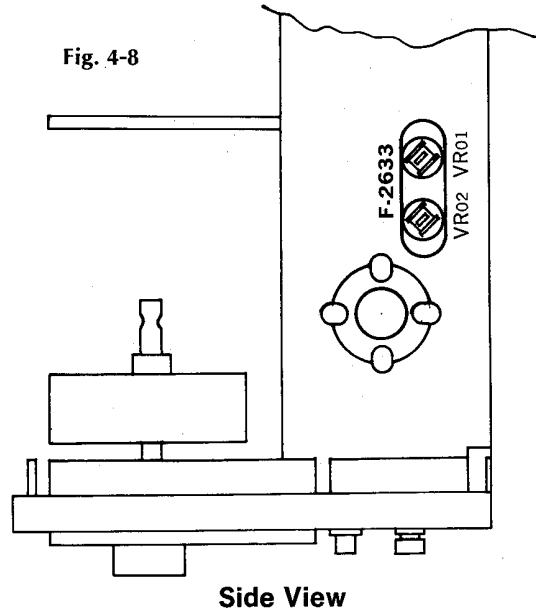


Fig. 4-8



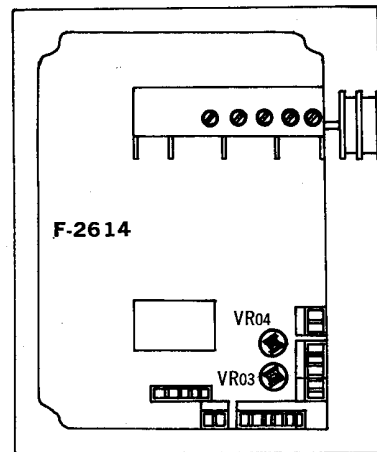
Side View

4-3-3. FM Dolby Volume Adjustment (See Fig. 4-10)

- Note:** 1. Selector.....FM
 2. Dolby SelectorDolby FM
 3. REC CAL. TONE Switch.....OFF
 4. Master VolumeMin.

SUBJECT	FEED SIGNAL		MEASURE OUTPUT	ADJUST	ADJUST FOR
	FROM	TO			
L-CH	98MHz ANT Input 60dB FM SSG Pilot 19kHz (10% MOD) L-CH 1kHz (25% MOD) R-CH (0% MOD)	FM ANT Terminal 300Ω	REC Terminal TAPE 1 L-CH VTVM	VR03 F-2614	Output Level 270mV
R-CH	98MHz ANT Input 60dB FM SSG Pilot 19kHz (10% MOD) R-CH 1kHz (25% MOD) L-CH (0% MOD)	Same as above	REC Terminal TAPE 1 R-CH VTVM	VR04 F-2614	Same as above

Fig. 4-10



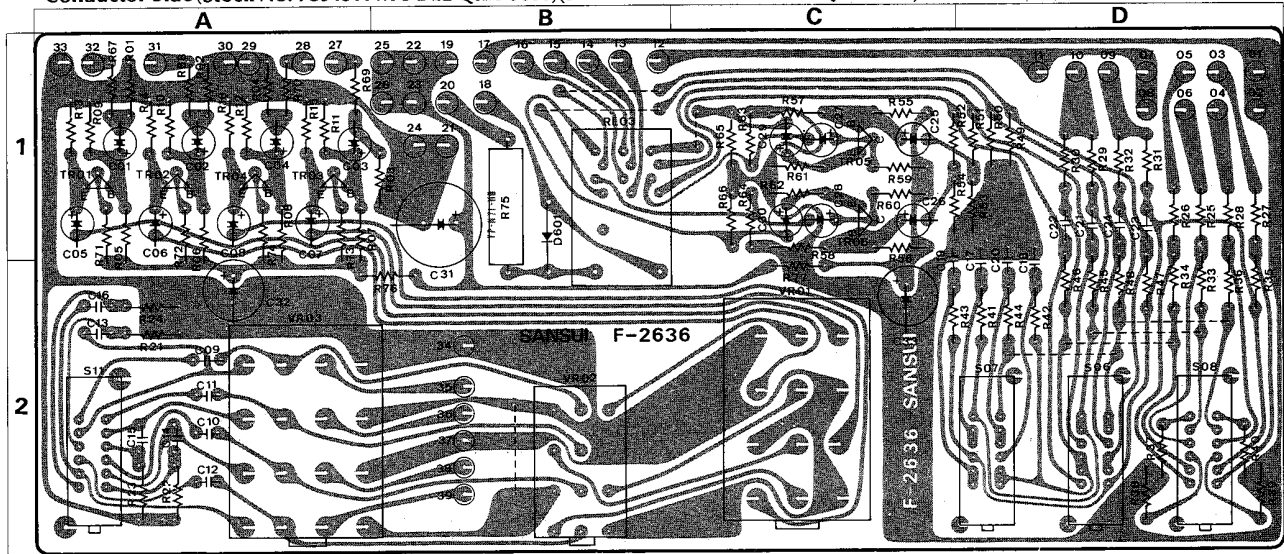
Front Side (Top View)

5. PARTS LOCATION & PARTS LISTS

5-1. F-2636 Volume & Filter Circuit Board

Conductor Side (Stock No. 7594311 MODEL QRX-9001)(Stock No. 7564381 MODEL QRX-8001)

Since some of capacitors and resistors are omitted from parts lists in this Service Manual, refer to the common parts list for capacitors & resistors which was appended previously to each Sansui Manual.

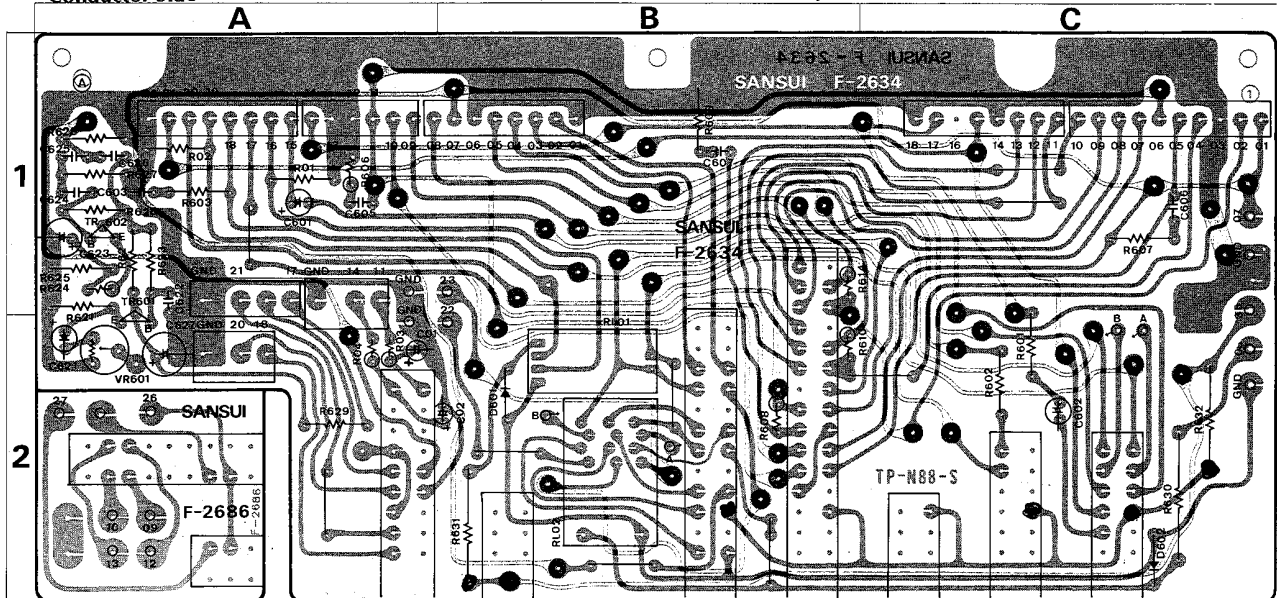


Parts List

Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position	
TR01-04	0306070	25C1313 (F, G)	1 A	VR01	1060380, 1	250kΩ × 4 (M, N)	2 C	S03-04	1170880	SLS14251 A	Lever Switch	
TR05-06	0306070, 1	25C1313 (F, G)		1 C	VR02	1065030, 1		250kΩ × 4 (M, N)	MODEL QRX-9001 Only	S05	1170880	Lever Switch
D601	0310340	10D1 Diode	1, 2 B	VR03	1060450, 1	250kΩ × 4 (B)		2 A	S06, 07	1170880		
C09-12	0620161	160pF 50V P.C.	1, 2 B	MODEL QRX-8001 Only			S01	1170880	SLS14251 A	Lever Switch		
R75	0182561	560Ω 2W Ce.R.		S02	1170870	SLS14201 A	Lever Switch					
RL01	1150380	MH4P-0 Relay						S08	1170870			

5-2. F-2634 4-ch Function Switch & REC CAL Tone Circuit Board

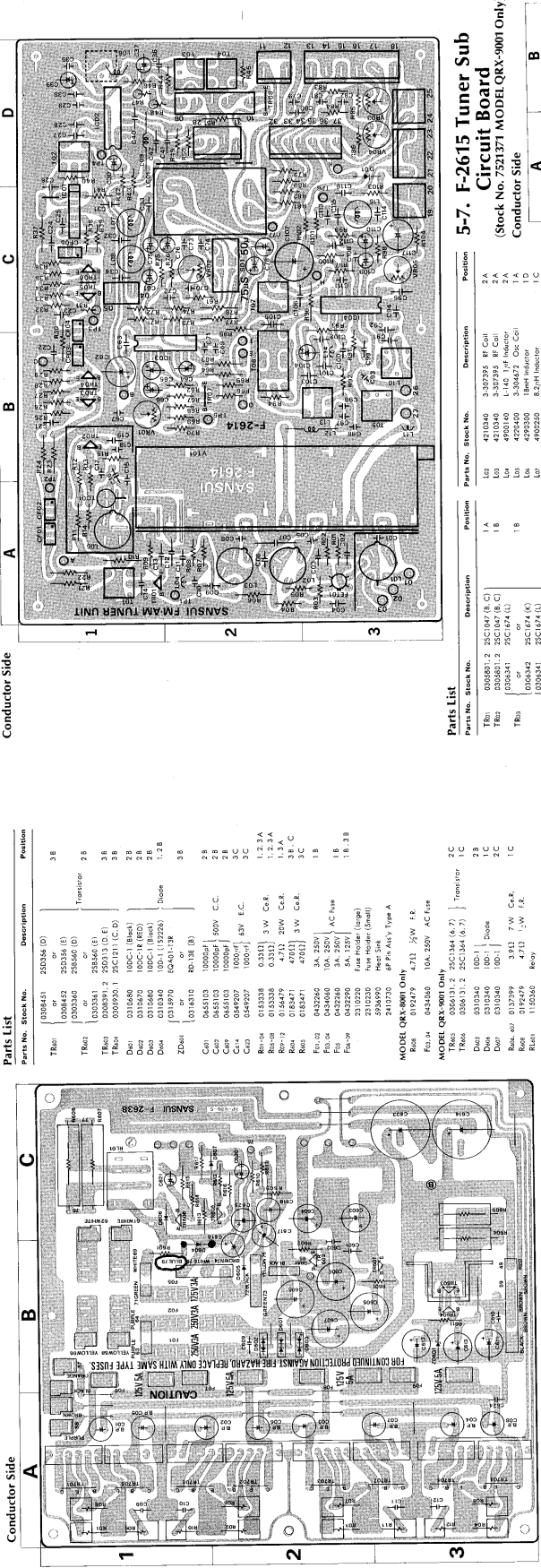
Conductor Side (Stock No. 7650501 MODEL QRX-9001) (Stock No. 7650551 MODEL QRX-8001)



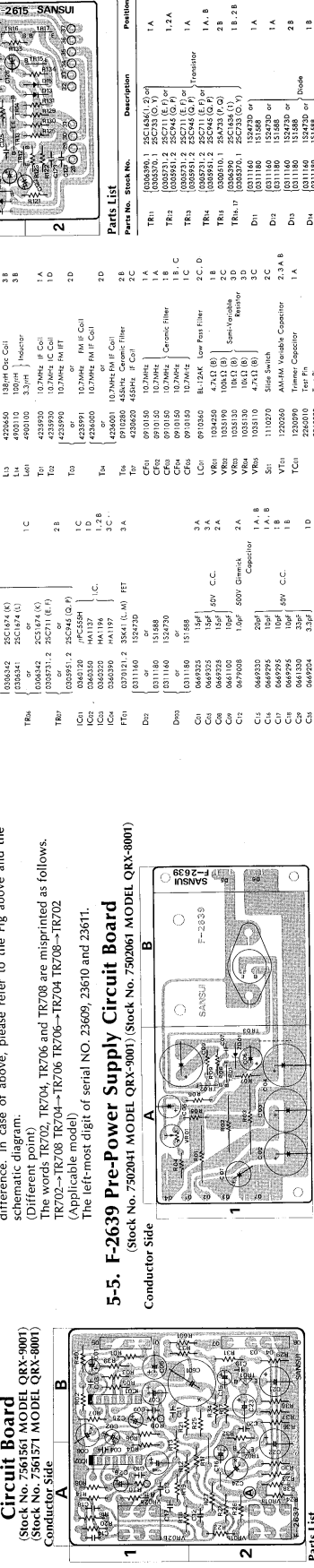
Parts List

Part No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position
D601	0310340	10D-1 Diode	2 B	S02	1131350	Push Switch, AUDIO MUTING		MODEL QRX-9001 Only			
ZD901	0315970	EQB01-13R Zener Diode		2410590	4P Pin Ass'y (Type D)		TR601	0306131, 2	25C1364 (6, 7)	Transistor	1, 2 A
R630	0182821	820Ω 2W Ce.R.	2 C	2410730	6P Pin Ass'y (Type A)		TR602	0306131, 2	25C1364 (6, 7)		1 A
RL01	1150320	HA-224N Relay	2 B	2410740	8P Pin Ass'y (Type A)		D602	0310340	10D-1 Diode	2 C	
RL02	1150380	MH4P-0 Relay	2 B	2410750	10P Pin Ass'y (Type A)		VR601	1035190	100kΩ (B)	2 A	
				MODEL QRX-8001 Only							
				S09	1131340	Push Switch					

5-3. F-2638 Power Supply Circuit Board (Stock No. 7502041 MODEL QRX-9001) (Stock No. 7502051 MODEL QRX-8001)



5-4. F-2637 Tone Control Circuit Board (Stock No. 7521371 MODEL QRX-9001) (Stock No. 7521371 MODEL QRX-8001)



5-5. F-2639 Pre-Power Supply Circuit Board (Stock No. 7502041 MODEL QRX-9001) (Stock No. 7502061 MODEL QRX-8001)

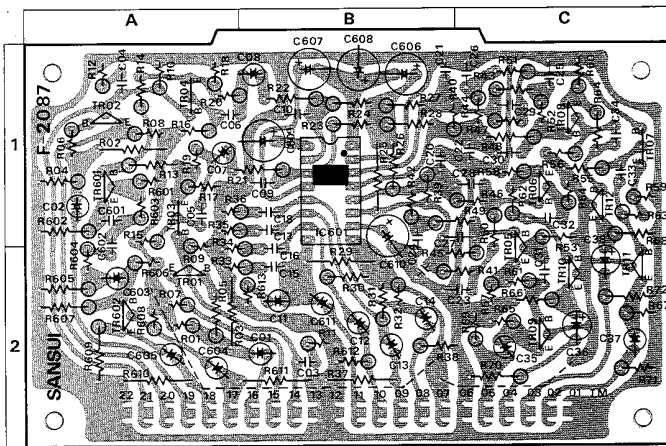


5-6. F-2614 Tuner Circuit Board (Stock No. 7521361 MODEL QRX-9001 Only)



5-12. F-2087 QS Matrix Circuit Board (Stock No. 7650481 MODEL QRX-9001) (Stock No. 7650531 MODEL QRX-8001)

Conductor Side



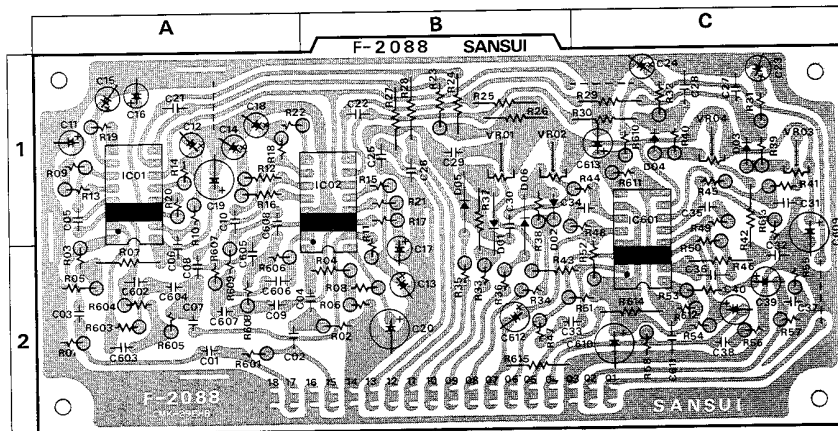
Parts List

Parts No.	Stock No.	Description	Position
TR01	0300470, 1	2SA726 (F, G)	2 A
TR02	0300470, 1	2SA726 (F, G)	1 A
TR03, 04	0306090, 1	2SC1312R (F, G)	1 A
TR05, 06	0306091	2SC1312R (G)	1, 2C, 1C
TR07	0306091	2SC1312R (G)	1 C
TR08	0306091	2SC1312S (G)	1 C
TR09, 12	0306090, 1	2SC1312R (F, G)	2C, 1 C
TR01	0306090, 1	2SC1312R (F, G)	1 A
TR02	0306090, 1	2SC1312R (F, G)	2 A
IC01	0360210	HA1328 I.C.	1 B
C19	0620561	560pF	1 B
C20	0620561	560pF	1 B
C21	0620561	560pF	1 B
C22	0620561	560pF	1 C
C33	0620561	560pF	1 C
	2420520	6P Connector (Type A)	
	2420530	8P Connector (Type A)	

5-13. F-2088 QS Phase Discriminator Section Circuit Board

(Stock No. 7650491 MODEL QRX-9001) (Stock No. 7650541 MODEL QRX-8001)

Conductor Side



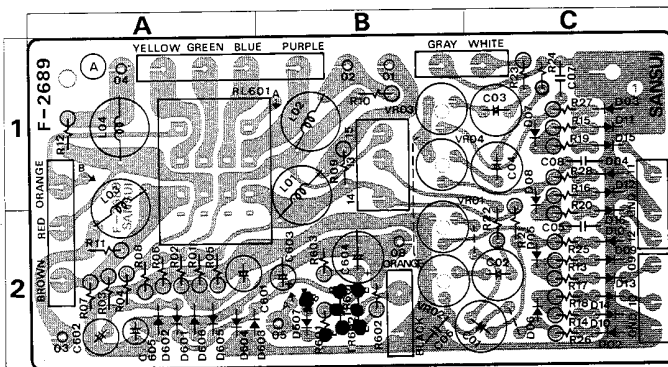
Parts No.	Stock No.	Description	Position
IC01	0360100	HD3103PB I.C.	1, 2 C
D01	0311160	1S2473D	1, 2 B
D02	0311160	1S2473D	1 B
D03	0311160	1S2473D	1 C
D04	0311160	1S2473D	1 C
D05	0311160	1S2473D	1 B
D06	0311160	1S2473D	1, 2 B
C03	0620331	330pF	2 A
C04	0620331	330pF	2 B
C07	0620681	680pF	2 A
C08	0620681	680pF	2 A
C09	0620681	680pF	2 A
C10	0620681	680pF	1 A
C604	0620471	470pF	2 A
C607	0620471	470pF	2 A
C608	0620471	470pF	1 A
VR01	1035490	1MΩ(B)	1 B
VR02	1035490	1MΩ(B)	1 B
VR03	1035490	1MΩ(B)	Semi-Variable Resistor 1 C
VR04	1035490	1MΩ(B)	1 C
	2420530	8P Connector (Type A)	
	2420540	10P Connector (Type A)	

Parts List

Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position
IC01	0360090 or 0360091 or 0360092	HA1327 (L) or HA1327 (N) or HA1327 (H)	1 A	IC02	0360090 or 0360091 or 0360092	HA1327 (L) or HA1327 (N) or HA1327 (H)	1 A

5-14. F-2689 Protector Circuit Board (Stock No. 7594341 MODEL QRX-9001) (Stock No. 7594411 MODEL QRX-8001)

Conductor Side

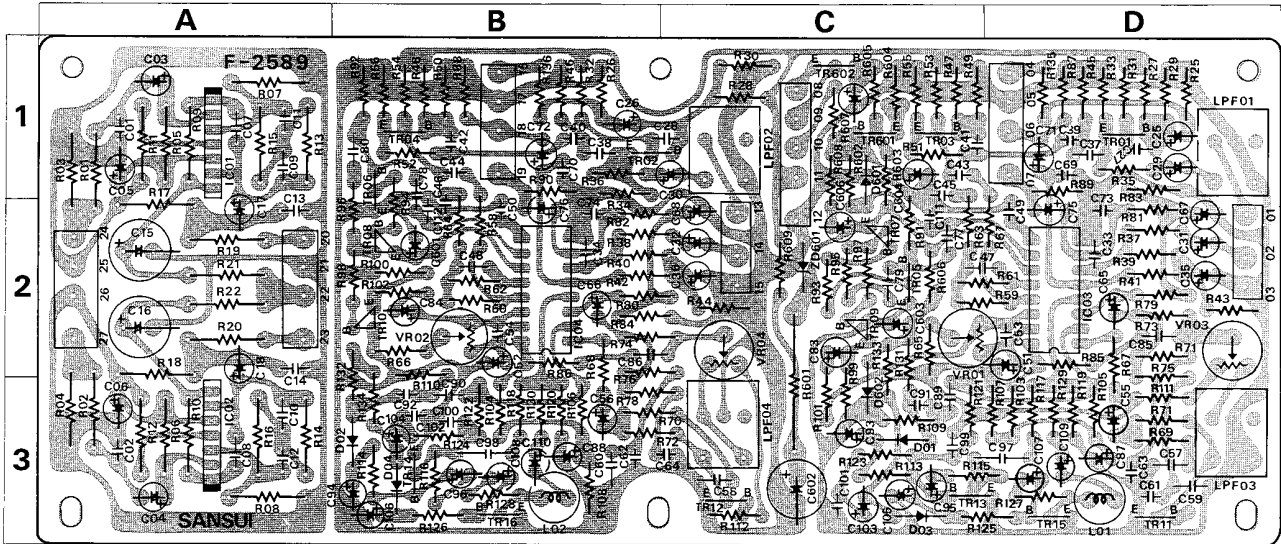


Parts List

Parts No.	Stock No.	Description	Position
TR01	0306131, 2	2SC1364 (6, 7)	2 B
TR02	0306131, 2	2SC1364 (6, 7)	2 B
D01-04	0310330, 1	1N60	1, 2 C
D05-08	0311160	1S2473D	1, 2 C
	0311180	1S1588	
D09-12	0310330, 1	1N60	1, 2 C
D13-16	0310330, 1	1N60	1, 2 C
D01	0310330, 1	1N60	2 A
D02	0310330, 1	1N60	2 A
D03	0310330, 1	1N60	2 A
D04	0310330, 1	1N60	2 A
D05	0310330, 1	1N60	2 A
D06	0310330, 1	1N60	2 A
D07	0310340	10D-1	2 B
R09-12	0103479	4.7kΩ 1/2W C.R.	1B, 1, 2A
R21-24	0210471	470Ω 1/2W N.I.R.	1, 2 C
		(MODEL QRX-9001 Only)	
L01-04	4290210	Filter Coil	1 A, B
RL01	1150101 or 1150103	MY4-02-US RABK-4B-DC24V	1 A
VR01-04	1035110	4.7kΩ(B) Semi-Variable Resistor	1, 2 B
	2410670	3P Pin Ass'y (Type F)	
	2410920	3P Pin Ass'y (Type E)	

5-15. F-2589 Equalizer & CD-4 Circuit Board (Stock No. 7551021 MODEL QRX-9001)
(Stock No. 7551011 MODEL QRX-8001)

Conductor Side

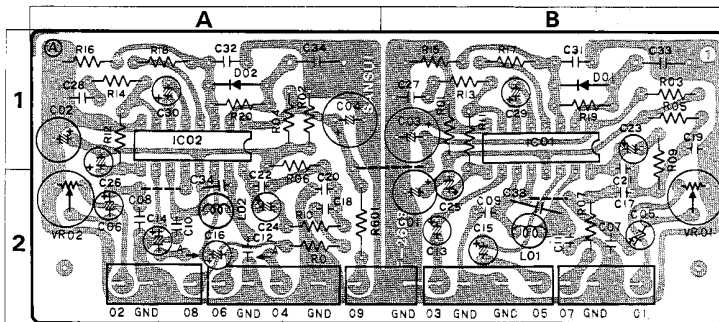


Parts List

Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position	
TR01, 02	0306011. 2	2SC1222 (E, F)	1D, 1A, B	IC01, 02	0360190	8A312	1 A. 3A	R601	0182151	150Ω 2 W Ce.R.	2, 3 C	
	or			IC03, 04	0360330	CD4-392	2 D. 2 B	L01, 02	4900220	100mH Inductor	3 D. 3 B	
	0306070. 1	2SC1313 (F, G)										
TR03, 04	0306011. 2	2SC1222 (E, F)	1 C. 1 B	D01, 02	0311160	1S2473D	3 C. 3 B	LF01, 02	0910340	DC-13Q	Ceramic Filter	
	or			D03, 04	0311160	1S2473D	3 C. 3 B	LF03, 04	4910340	DC-13Q		
	0306070. 1	2SC1313 (F, G)										
TR05, 06	0305951-3	2SC945 (Q, P, K)	Transistor	D401	0311160	1S2473D	Diode	VR01, 02	1035130	10kΩ(B)	2C, D. 2B	
TR07, 08	0300510. 1	2SA733 (P, Q)		2C. 1, 2B	or				VR03, 04	1035100	3.3kΩ(B)	2 D. 2 C
TR09, 10	0305951-3	2SC945 (Q, P, K)		2C. 2 B	0311180	1S1588		2, 3 C				
TR11, 12	0305951-3	2SC945 (Q, P, K)	2C, D. 3 B	D402	0311160	1S2473D	or					
TR13, 14	0305952	2SC945 (P)		3D. 3 C	or							
TR15, 16	0305952	2SC945 (P)		3D. 3 B	0311180	1S1588						
TR601	0305951-3	2SC945 (Q, P, K)	1 C	ZD401	0316290	RD-12E(B)	2 C					
TR602	0305951-3	2SC945 (Q, P, K)	1 C	CI03, 104	0573228	0.22μF	3C. 3 B					
				CI09, 110	0573688	0.68μF	3D. 3 B					

5-16. F-2688 Dolby Circuit Board (Stock No. 7660081 MODEL QRX-9001 Only)

Conductor Side



Parts List

Parts No.	Stock No.	Description	Position
IC01, 02	0360340	NE545B IC	1 B. 1 A
D01, 02	0310400	1N34A Diode	1 B. 1 A
R601	0201820	82Ω 1W M.R.	2 A
L01, 02	4900260	Inductor	2 B. 2 A
VR01, 02	1035430	100kΩ (B) Semi-Variable Resistor	2 B. 2 A
	2410680	4P Pin Ass'y (Type F)	

5-17. F-2640 Illumination Circuit Board (1)

(Stock No. 7594351 MODEL QRX-9001)
(Stock No. 7594421 MODEL QRX-8001)

Parts List

Parts No.	Stock No.	Description
	7726200	Lamp Ass'y (C) (MODEL QRX-9001 Only)

5-18. F-2641 Illumination Circuit Board (2)

(Stock No. 7594361 MODEL QRX-9001)
(Stock No. 7594431 MODEL QRX-8001)

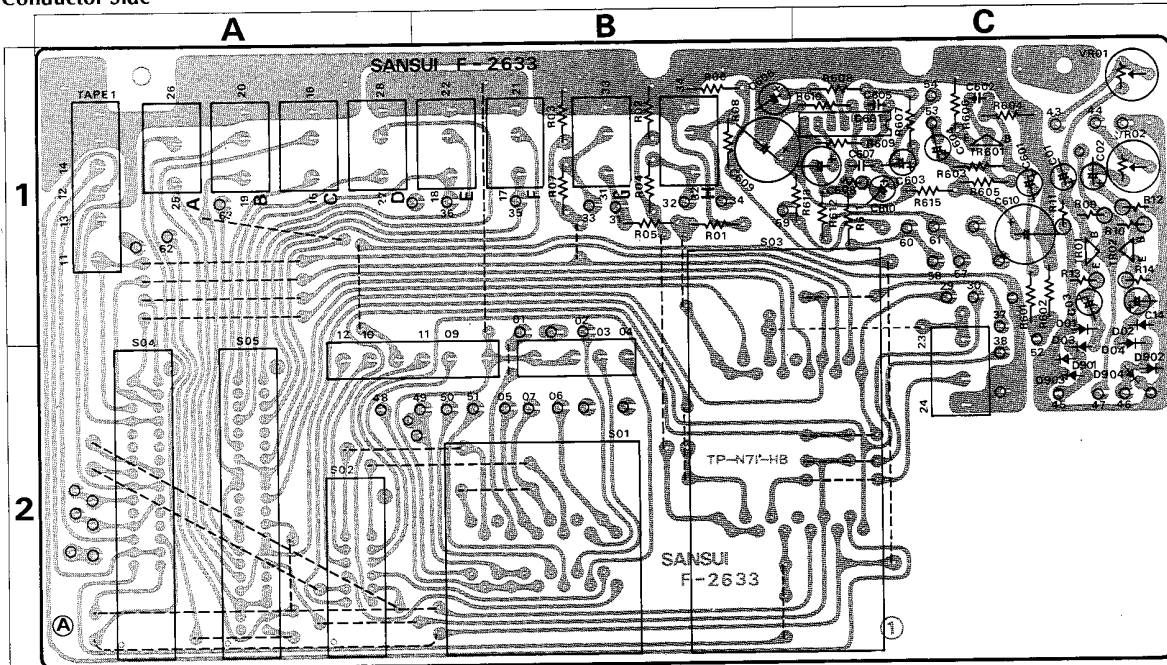
Parts List

Parts No.	Stock No.	Description
R01	0193220	22Ω 1/4 W F.R.
	7726210	Lamp Ass'y (D)
	7726200	Lamp Ass'y (C) (MODEL QRX-9001 Only)

5-19. F-2635 4-ch Function Switch & REC CAL Tone Sub Circuit Board (Stock No. 7650471 MODEL QRX-9001)
(Stock No. 7650521 MODEL QRX-8001)

5-20. F-2633 Dolby Change Circuit Board (Stock No. 7660061 MODEL QRX-9001 Only)

Conductor Side



Parts List

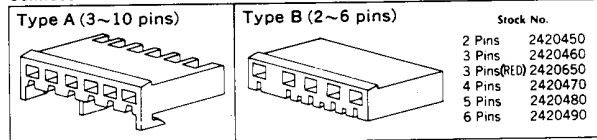
Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position	Parts No.	Stock No.	Description	Position
TR01.02	0305732	2SC711 (F)	1 C	D03.04	0310330.1	1N60	2 C	S04	1170820	Lever Switch, TAPE MONITOR (2 Contact)	2 A
	0305733	2SC711 (G)			D901.902	0310330.1			1N60	2 C	
	0306070	2SC1313 (F)				D903.904			0310330.1		
TR601	0306071	2SC1313 (G)	1 C	C601	0573108		0.1µF 35V T.C.	1 C	2410590	4P Pin Ass'y (Type D)	2 A
	IC601	0340200		BA312S	IC	1 C	S01		1102720	Rotary Switch, SELECTOR	
D01.02	0310330.1	1N60	Diode	1 C	S02	1105230	Rotary Switch, AUX	2 A	2410670	3P Pin Ass'y (Type F)	
					S03	1170780	Lever Switch, DOLBY NR	1, 2 B C			

5-21. F-2686 4-ch Function Switch & REC CAL Tone Sub Circuit Board (Stock No. 7650511 MODEL QRX-9001) (Stock No. 7650561 MODEL QRX-8001)

5-22. F-2652 Dolby Sub Circuit Board (Stock No. 7660071 MODEL QRX-9001 Only)

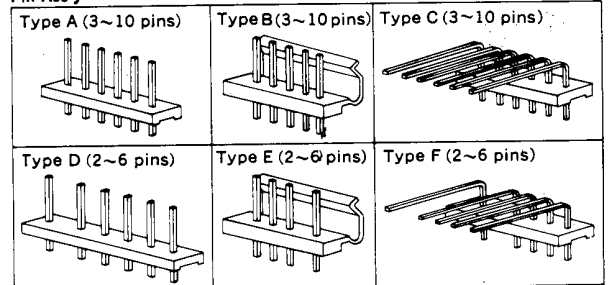
5-23. Figures Connectors & Pin Ass'y

Connectors



NOTE: Since stock number of female connectors (type B) with wires are not shown in each parts list of Complete circuit board, please refer to the above parts list when ordering the connector.

Pin Ass'y

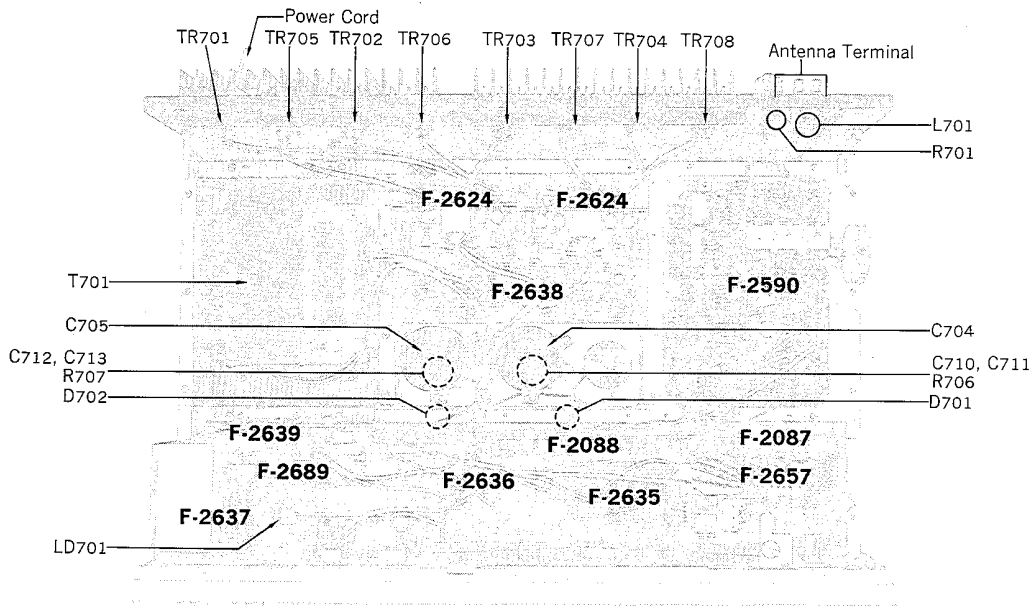


Abbreviations

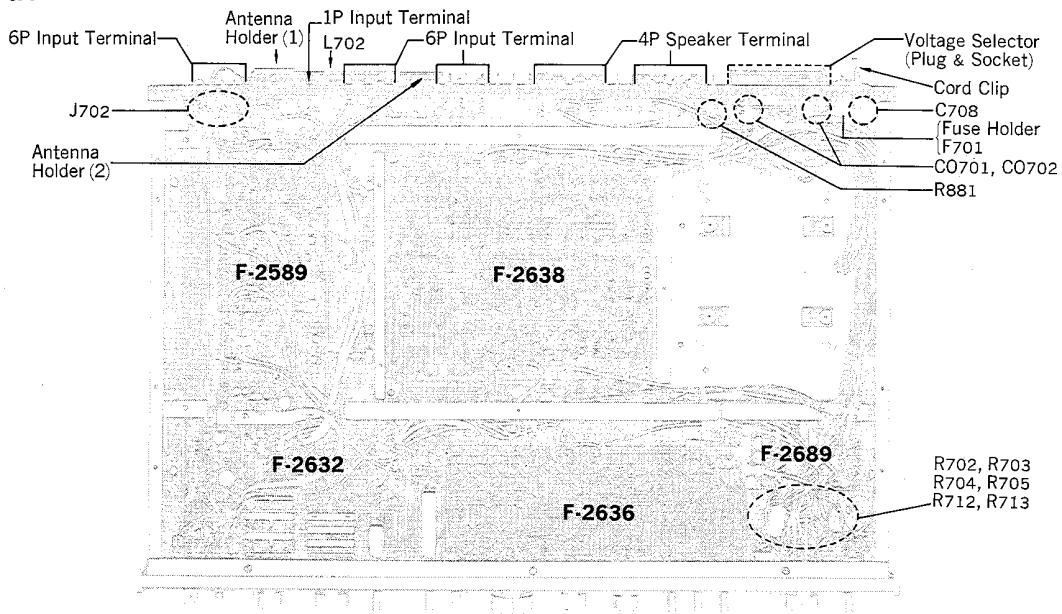
C.R. : Carbon Resistor	E.C. : Electrolytic Capacitor
S.R. : Solid Resistor	BP.E.C. : Bi-Polar Electrolytic Capacitor
Ce.R. : Cement Resistor	C.C. : Ceramic Capacitor
M.R. : Metallized Film Resistor	Mi.C. : Mica Capacitor
F.R. : Fusing Resistor	O.C. : Oil Capacitor
N.I.R. : Non-Inflammable Resistor	P.C. : Polystyrene Capacitor
M.C. : Mylar Capacitor	T.C. : Tantalum Capacitor

6. OTHER PARTS/6-1. QRX-8001

Top Side



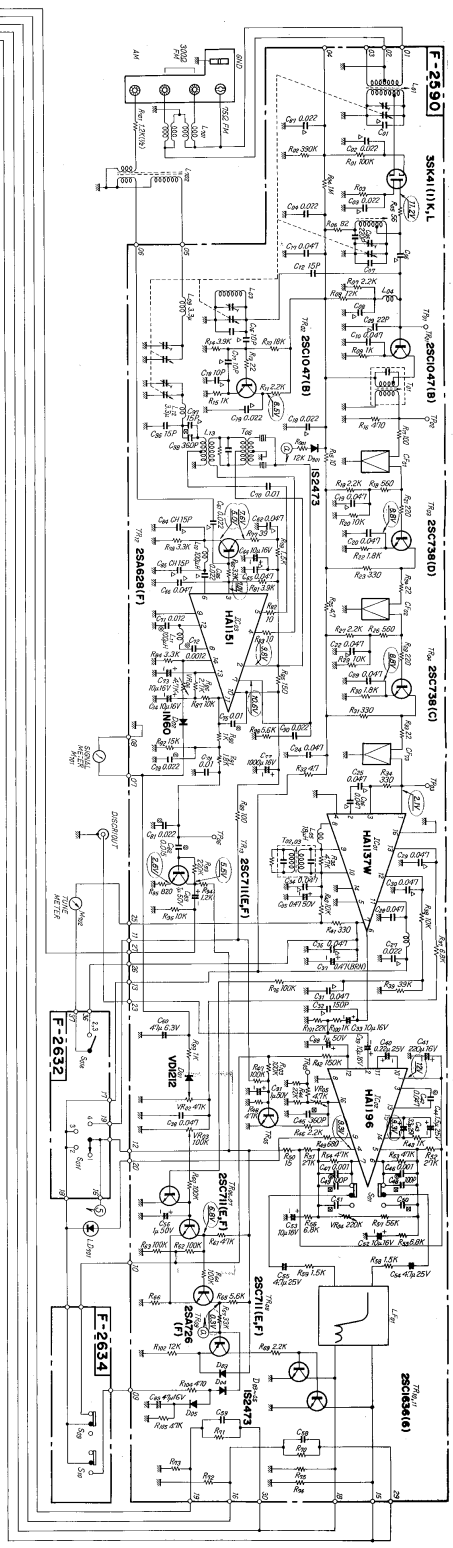
Bottom Side



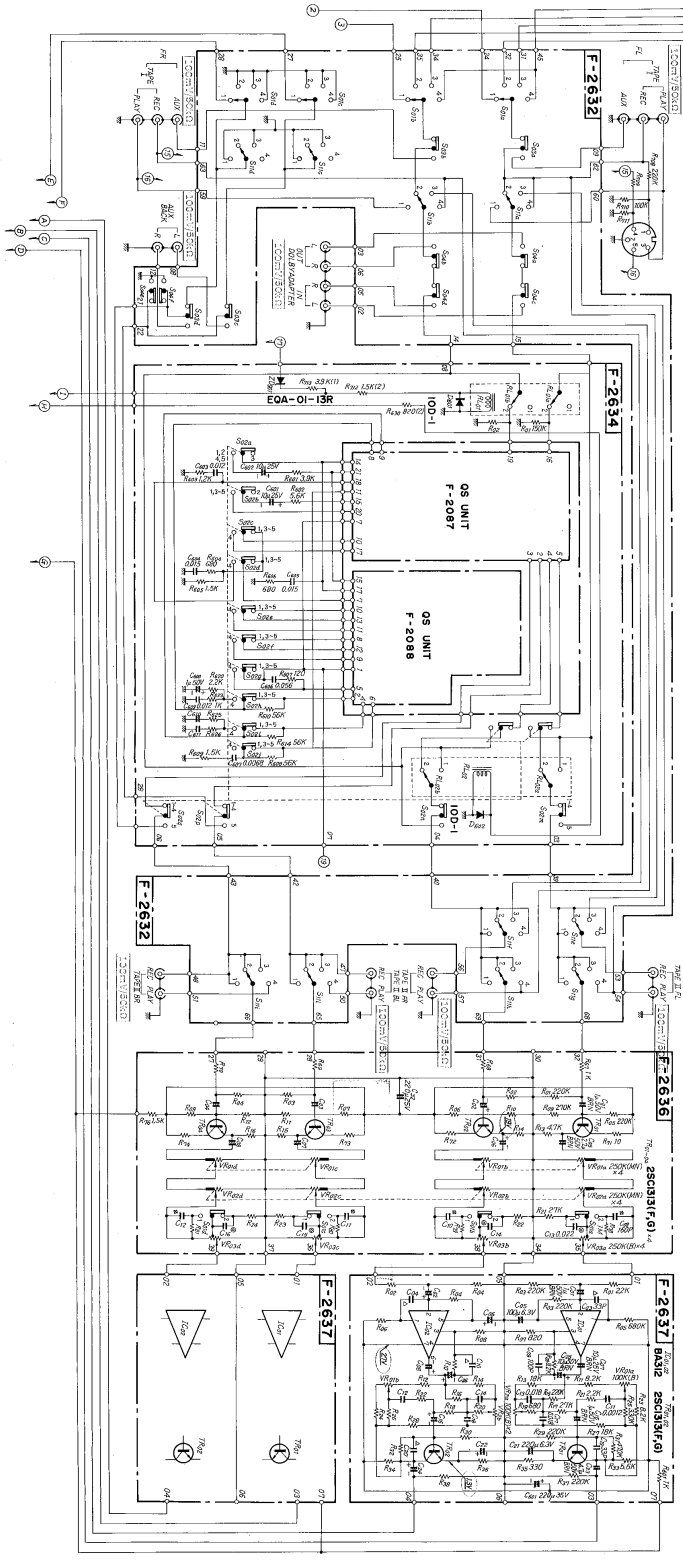
Parts List (Top Side & Bottom Side)

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
TR701-704	0303430 or 0303431	2S8611 (B) 2S8611 (C)	R702-705	0163221	220Ω 3W Ce.R.	J702	2430041	5P DIN Jack
TR705-708	0308600 or 0308601	2SD581 (B) 2SD581 (C)		R706	0202332		3.3kΩ 2W M.R.	2030040
D701	0311440	SG-5T (S)	R707	0202332	3.3kΩ 2W M.R.	2200290	1P Output Terminal	
D702	0311450	SG-5T (R)	R712	0201122	1.2kΩ 1W N.I.R.	2200330	6P Input Terminal	
LD701	0319090	Light Emitted Diode	R713	0201392	3.9kΩ 1W N.I.R.	2210310	Antenna Terminal	
C704	0559350	15000μF 50V E.C.	R881	0114335	3.3MΩ 1/2W S.R.	2290160	4P Speaker Terminal	
C705	0559350	15000μF 50V E.C.	L701	4290021	75Ω/300Ω Antenna Transformer	2200320	4P Input Terminal	
C707	0605337	0.033μF 250V M.C.	L702	4200830 or 4200831	ARS-26 235μH 6G-013 265μH	2410091	Voltage Selector, plug	
C708	0659802	0.0047μF 150V C.C.	T701	4002510	Power Transformer	2410830	Voltage Selector, socket	
C710-713	0655103	10000pF 500V C.C.	F701	0432500 0432280 2300060	7A 125V (AC 100-120V) 4A 125V (AC 220-240V) Fuse Holder	2230052	Ground Terminal	
R701	0103122	1.2kΩ 1/2W Ce.R.	CO701, 702	2450060	AC Outlet	3800010	Power Cord	
						3910490	Cord Clip, power cord	
						5286480	Antenna Holder (1)	
						5286450	Antenna Holder (2)	

7. SCHEMATIC DIAGRAM /7-1. QRX-8001 Tuner Section

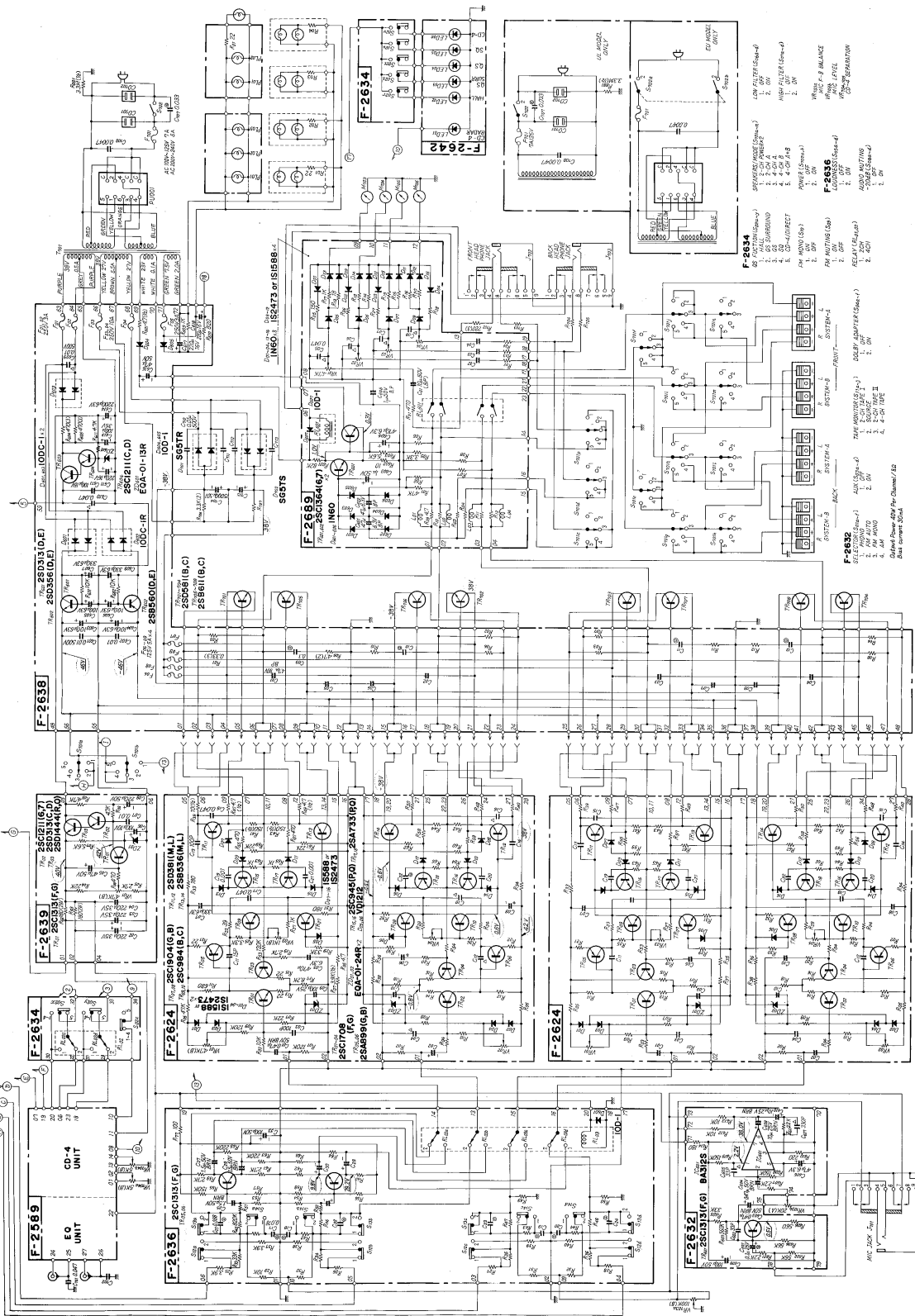


The presentation of the specifications and measurements, other modifications and repairs are previous per rules & regulations of electronics.
 • Design and specifications subject to change without notice for improvements.

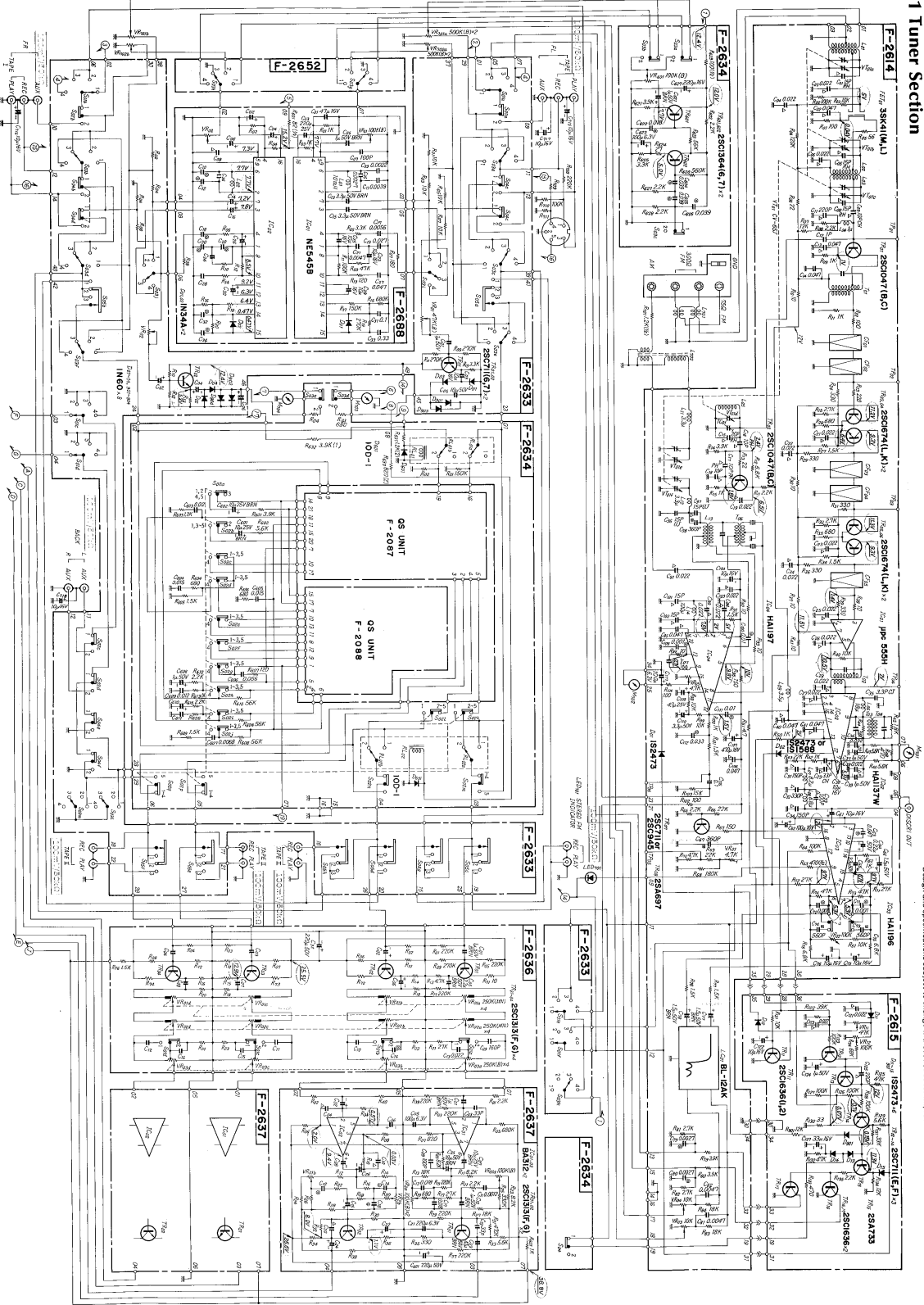


* La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
 * Änderungen die dem technischen Fortschritt dienen, bleiben vorbehalten.
 * Design and specifications subject to change without notice for improvement.

7-2. QRX-8001 Audio Section



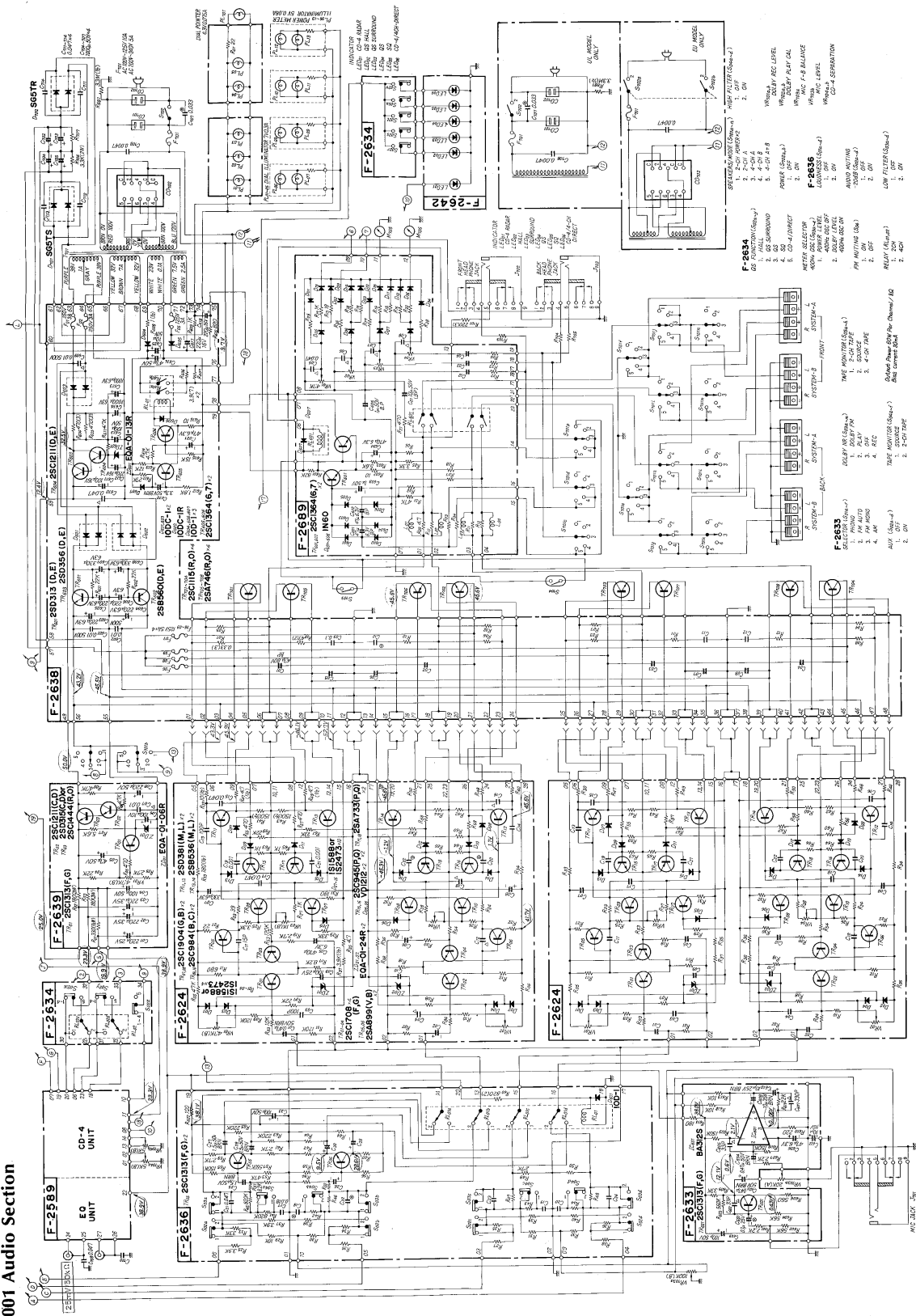
7-3. QRX-9001 Tuner Section



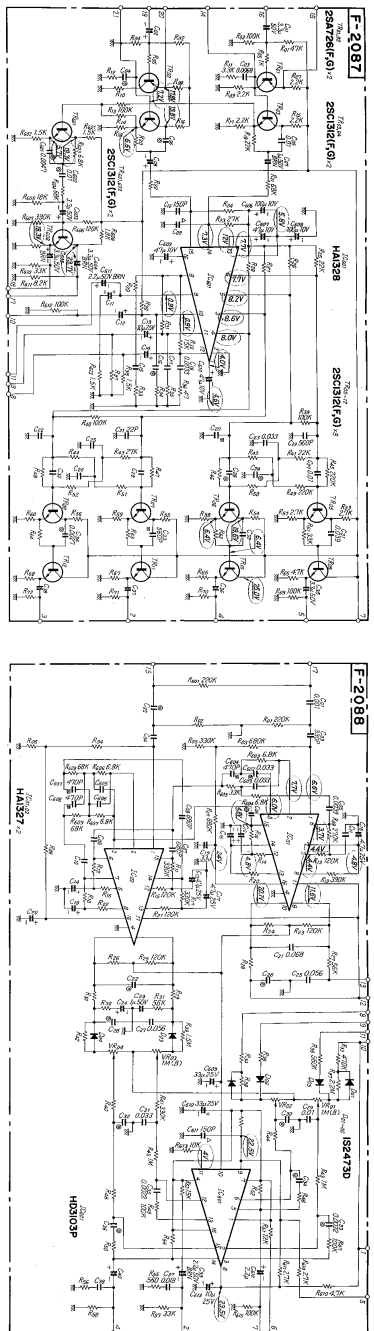
1. La presentation et les specifications sont susceptibles d'être modifiées sans préavis par suite d'améliorations éventuelles.
 2. Design and specifications subject to change without notice for improvements.

La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suite d'améliorations éventuelles.
 The presentation and specifications are subject to change without notice for improvements.

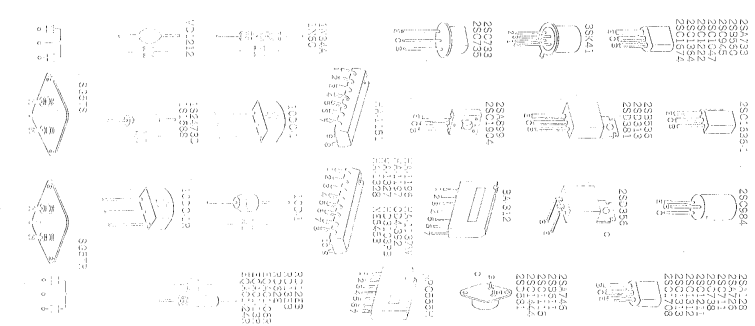
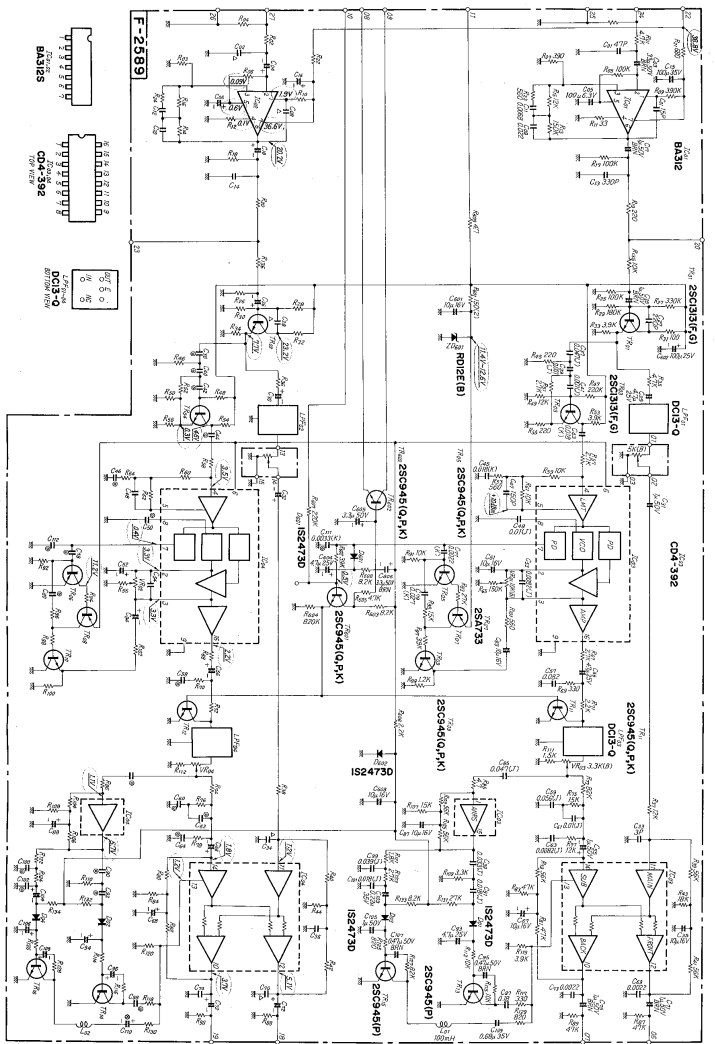
7-4. QRX-9001 Audio Section



7-5. QRX-8001/9001 4-Channel Section



*La presentación de las especificaciones son susceptibles de ser modificadas sin previo aviso por parte de nuestros clientes.
 *Auftraggeber, die dem Technischen Fachblatt dienen, bleiben vorbehalten.
 Design and specification subject to change without notice for improvement.

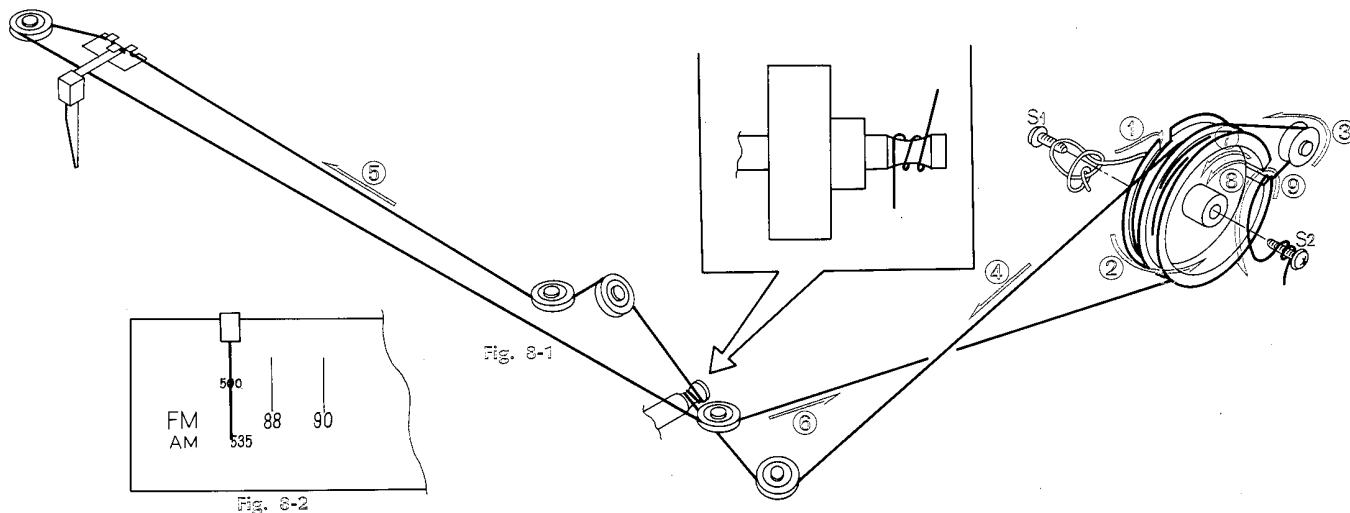


8. THREADING OF DIAL CORD

*If a dial cord is cut off or slips, replace it by following procedures.

As this units use 0.6mm ϕ cord, please replace it with the same type certainly.

*The length of dial cord is approximately 190cm (74 inch).



8-1. Threading of Dial Cord

Thread the dial cord in numerical order from ① to ⑨ as Fig. 8-1.

- 1) Close the variable capacitor completely (Max. capacitance).
- 2) Tie dial cord to the screw, S1 of the dial pulley.
- 3) Thread cord in the direction of arrow from ① to ⑨
- 4) After ⑨, tie the cord to the screw S2 of the dial pulley.

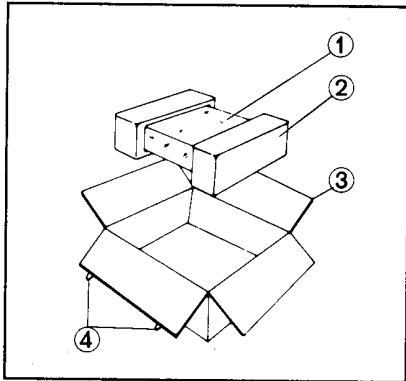
8-2. Attachment of Dial Pointer

- 1) Close the variable capacitor completely.
 - 2) Set the dial pointer as Fig. 8-2.
- *Confirm that the dial pointer runs smoothly on the dial scale by turning the tuning shaft.

Stock No.	Description
6036050	Dial Cord (0.6mm ϕ)
6146670	44 Type Pulley

9. PACKING LIST

Parts No.	Stock No.	Description
1	9116631	Vinyl Cover
2	9028010	Stylofoam Packing
3	{ 9009290	Carton Case (MODEL QRX-8001)
	{ 9009280	Carton Case (MODEL QRX-9001)
4	5996080	Curl Stopper



10. ACCESSORY PARTS LIST

Stock No.	Description
9202400	Operating Instructions (MODEL QRX-8001)
9202410	Operating Instructions (MODEL QRX-9001)
9237440	Schematic Diagram (MODEL QRX-8001)
9237430	Schematic Diagram (MODEL QRX-9001)
9416010	CD-4 Adjustng Record (MODEL QRX-9001)

Sansui

SANSUI ELECTRIC CO., LTD.
14-1 Izumi 2-Chome, Suginami-ku, TOKYO 168 JAPAN
TELEPHONE: (03) 323-1111/TELEX. 232-2076