



SANYO

SANYO STEREO TUNER FMT-200KU SERVICE MANUAL



FM TUNER SECTION

Frequency Range	88 MHz to 108 MHz
Usable Sensitivity (IHF)	1.8 μ V
Capture Ratio (IHF)	1.8 dB
Selectivity (IHF)	65 dB
Image Rejection (98 MHz)	58 dB
IF Rejection (98 MHz)	75 dB
Signal to Noise Ratio (@ Stereo)	70 dB
Harmonic Distortion (100% mod.)	
Mono	0.2%
Stereo	0.3%
Stereo Separation (@1KHz)	40 dB

AUDIO SECTION

Output Level/Impedance	
Fixed	700mV/1 K ohm
Variable	0 to 1,700mV/1 K ohm

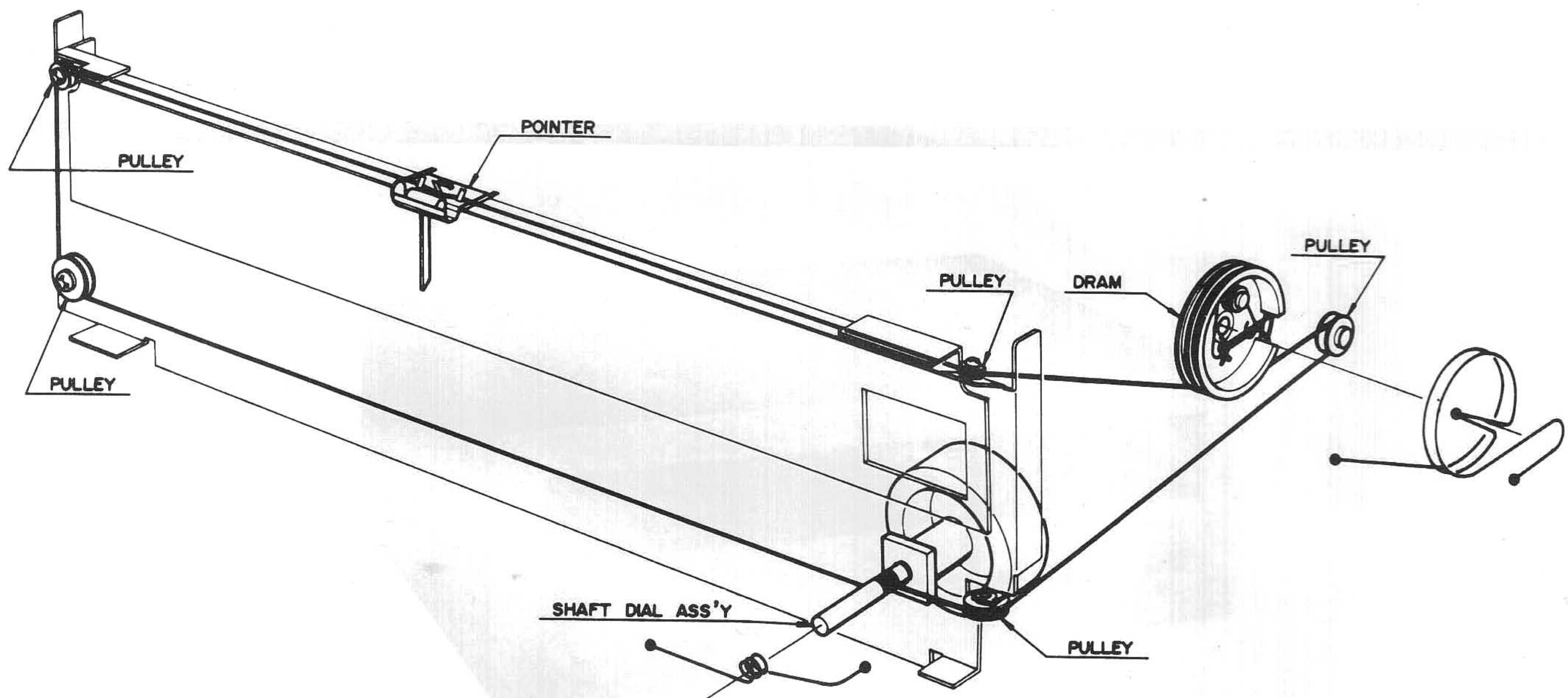
MISCELLANEOUS

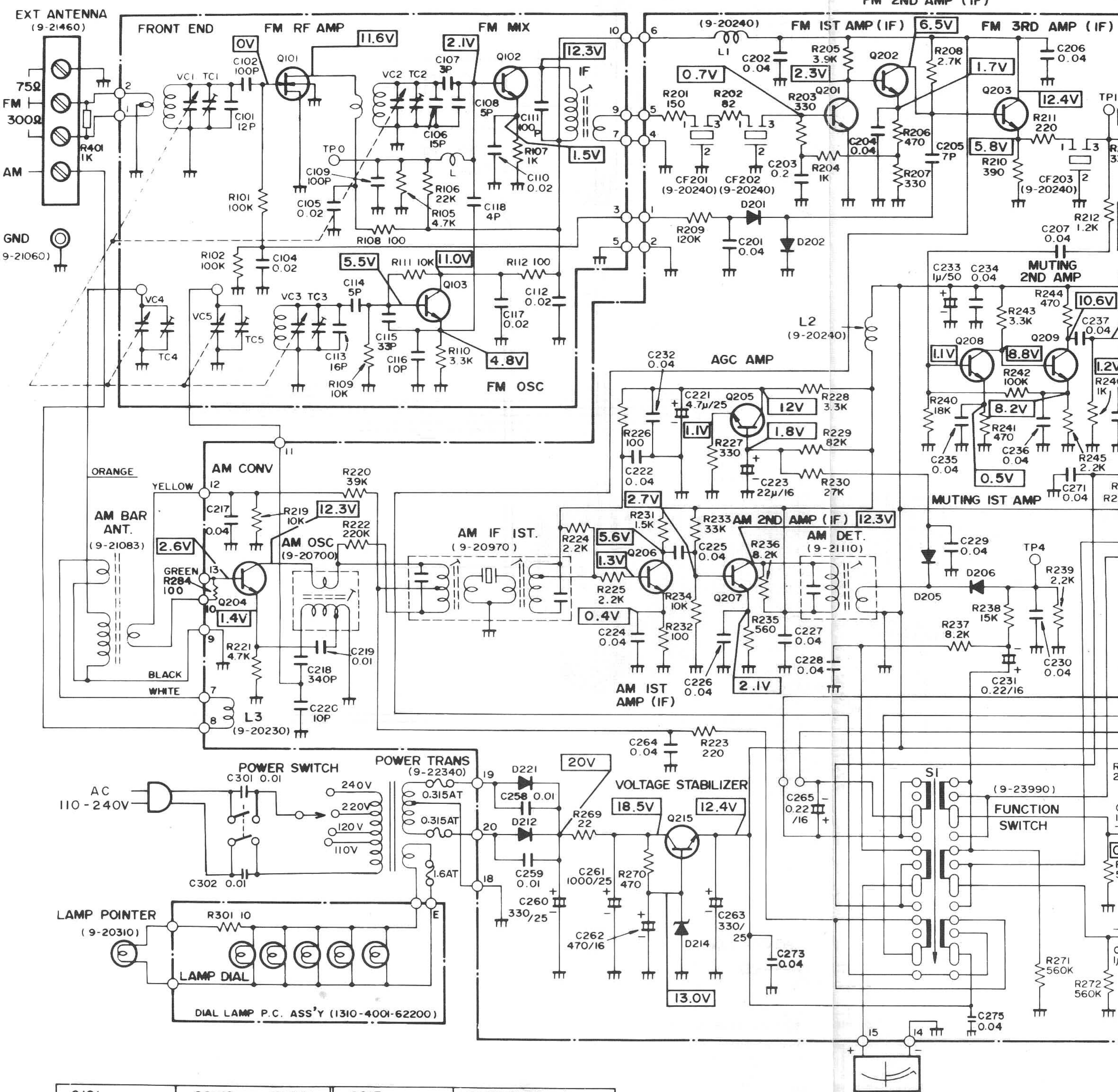
Power Requirements	110/120/220/240V 50/60Hz
Power Consumption	20W
Dimensions (overall)	
Wide	350 mm
Depth	295 mm
Height	120 mm
Weight	4.0 Kg

AM TUNER SECTION

Frequency Range	535 KHz to 1,605 KHz
S/N 20dB Usable Sensitivity	100 μ V/m
Image Rejection	58 dB
IF Rejection	40 dB
Selectivity (\pm 10 KHz)	32 dB
AGC Ratio	55 dB
S/N Ratio	54 dB
Harmonic Distortion	
1 K μ V/M	0.25%

DIAL CORD STRING





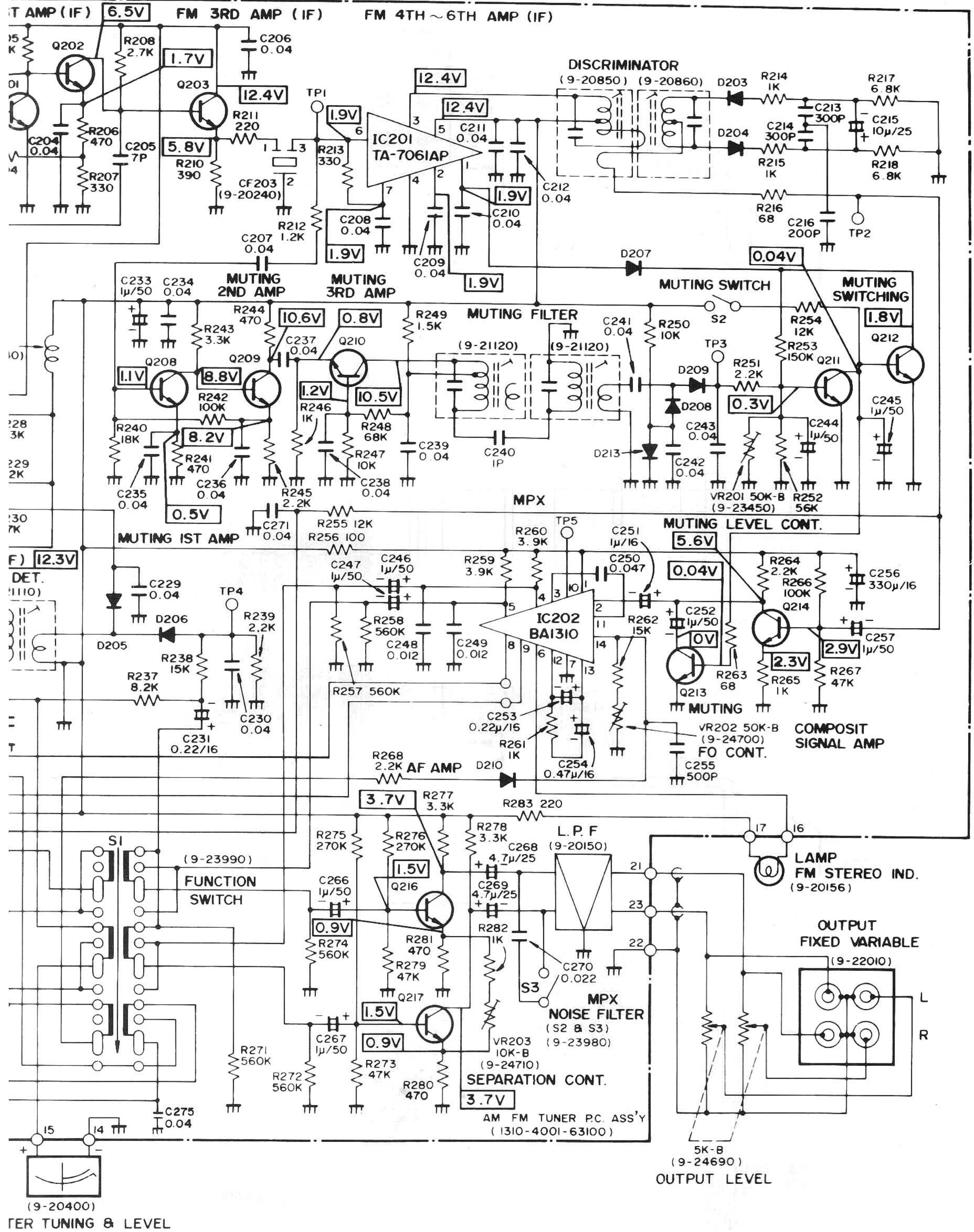
Q101	2SK19 or 2SK55	Q213	2SC536 E
Q102 , Q103	2SC535	Q214	2SC536 D or E
Q201 ~ Q203	2SC930 D or E	Q215	2SD325 D or E
Q204	2SC929 E	Q216 , Q217	2SC693 FU
Q205	2SC536 D or E	D201 ~ D210	1S188 FM-1
Q206	2SC668 D or E	D211 , D212	1N4002
Q207 ~ Q210	2SC930 D or E	D213	DS-442
Q211 , Q212	2SC536 D or E	D214	RD-13A

METER TUNING & LEVEL

FM 2ND AMP (IF)

FM 3RD AMP (IF)

FM 4TH~6TH AMP (IF)



FM 2ND AMP (IF)

FM 3RD AMP (IF)

FM 4TH~6TH AMP (IF)

DISCRIMINATOR

MUTING 2ND AMP

MUTING 3RD AMP

MUTING FILTER

MUTING SWITCH

MUTING 1ST AMP

MPX

MUTING LEVEL CONT.

COMPOSIT SIGNAL AMP

AF AMP

L.P.F.

MPX NOISE FILTER

SEPARATION CONT.

OUTPUT

FIXED VARIABLE

OUTPUT LEVEL

AM FM TUNER P.C. ASS'Y (1310-4001-63100)

FUNCTION SWITCH

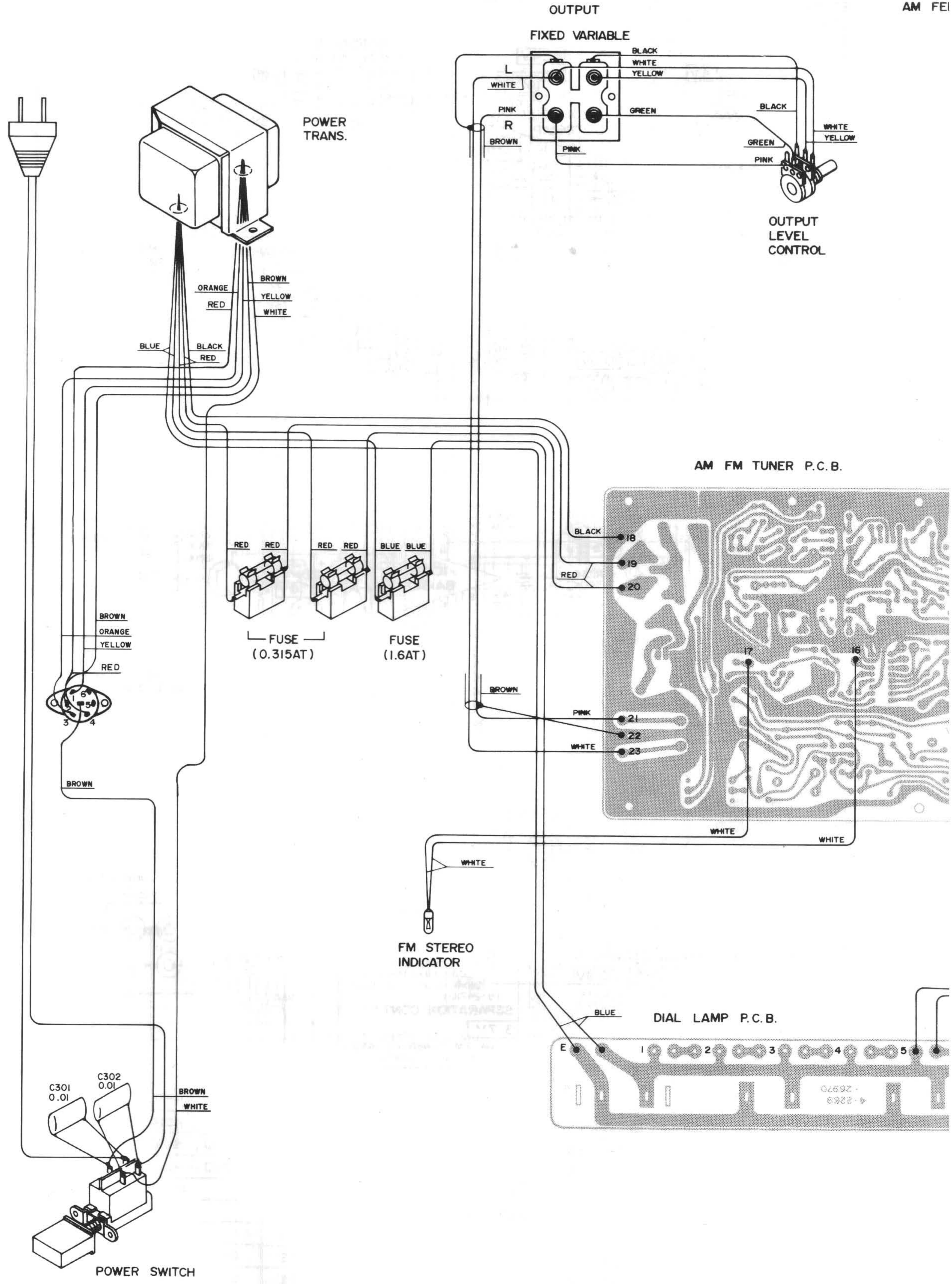
LAMP FM STEREO IND. (9-20156)

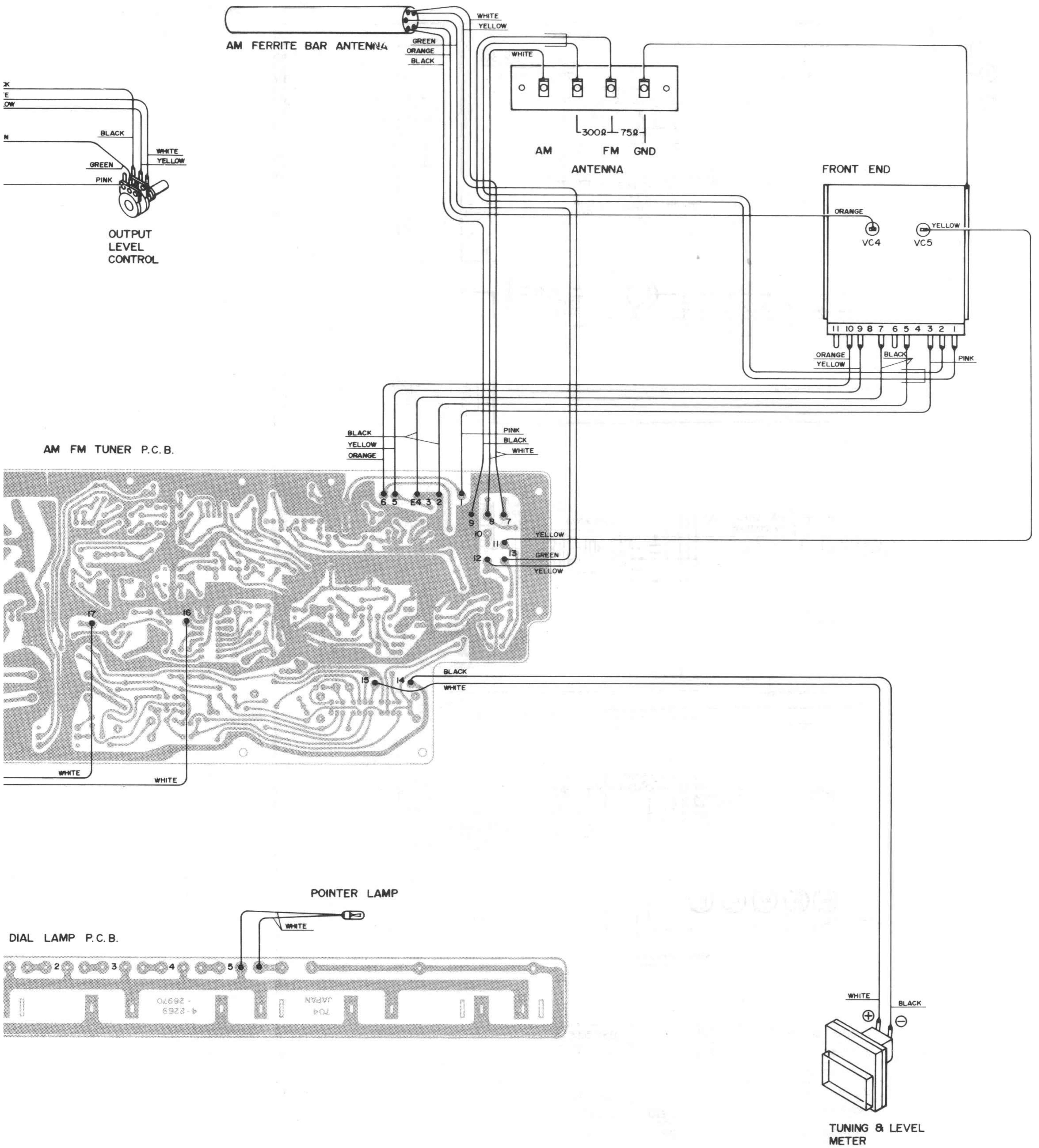
OUTPUT LEVEL

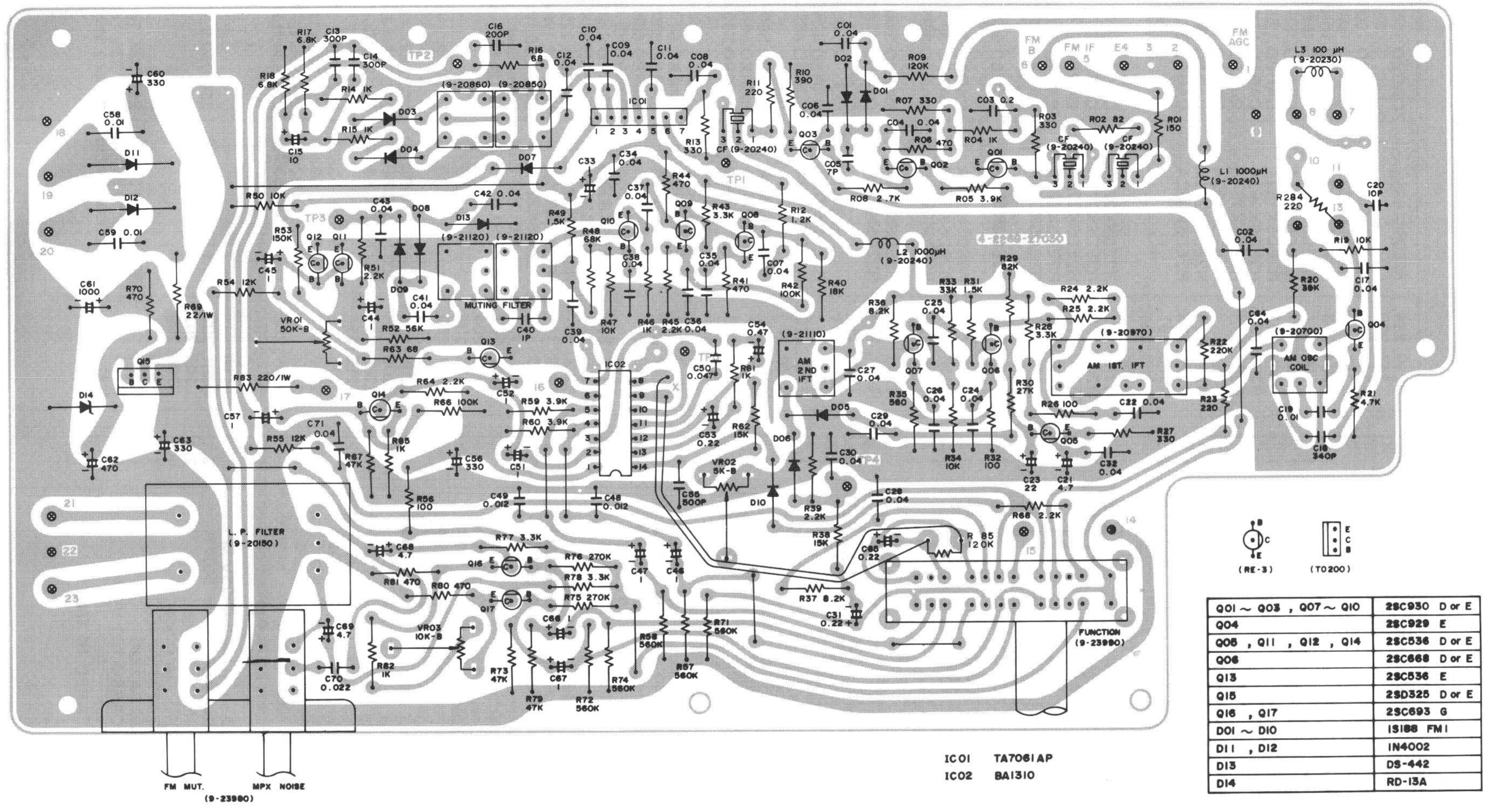
5K-B (9-24690)

(9-20400)

FM TUNING & LEVEL

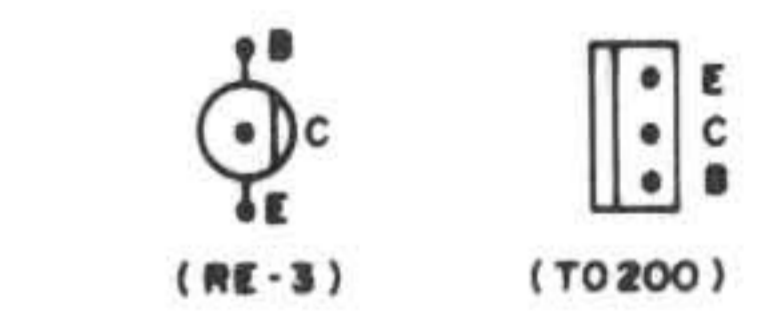




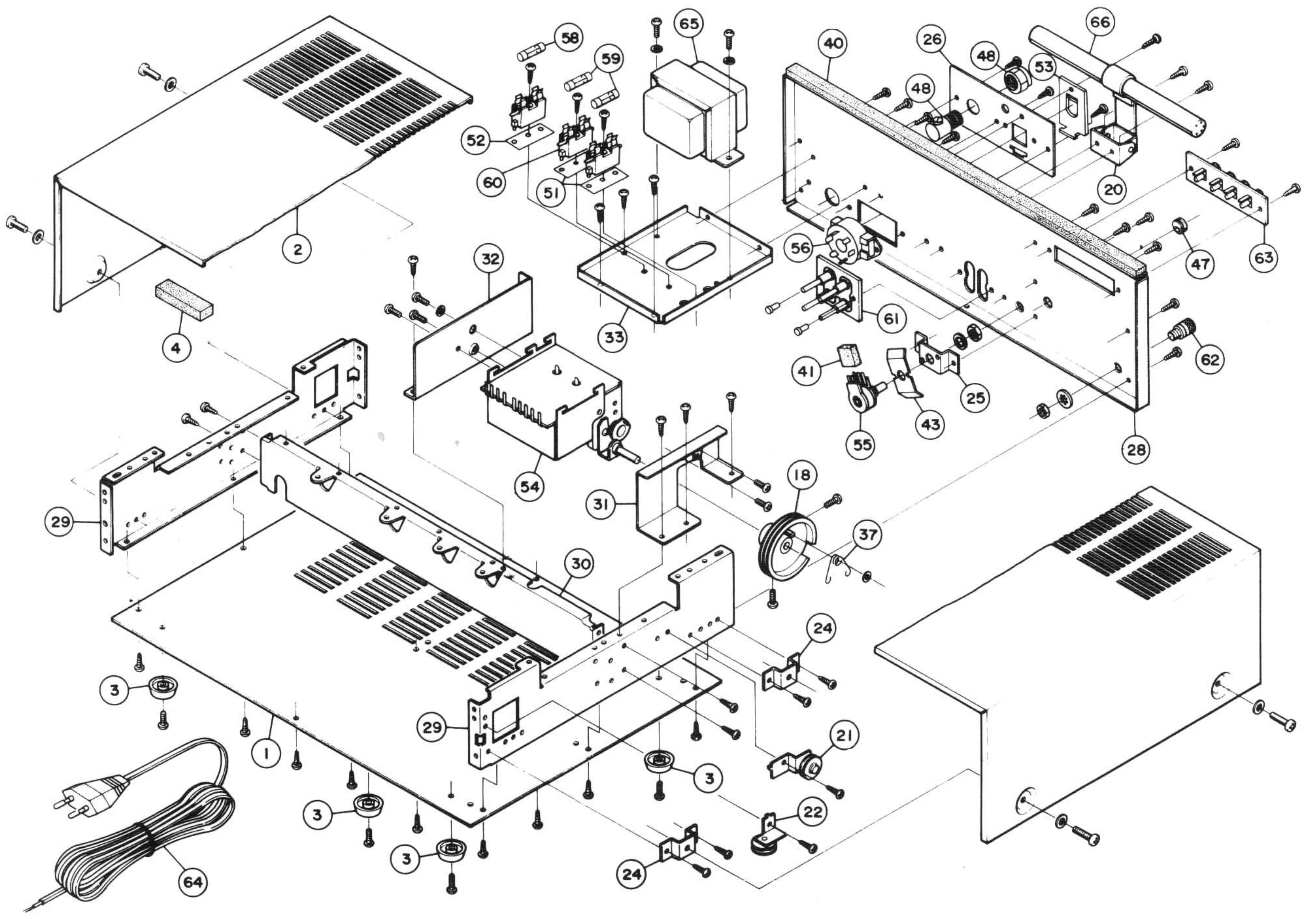
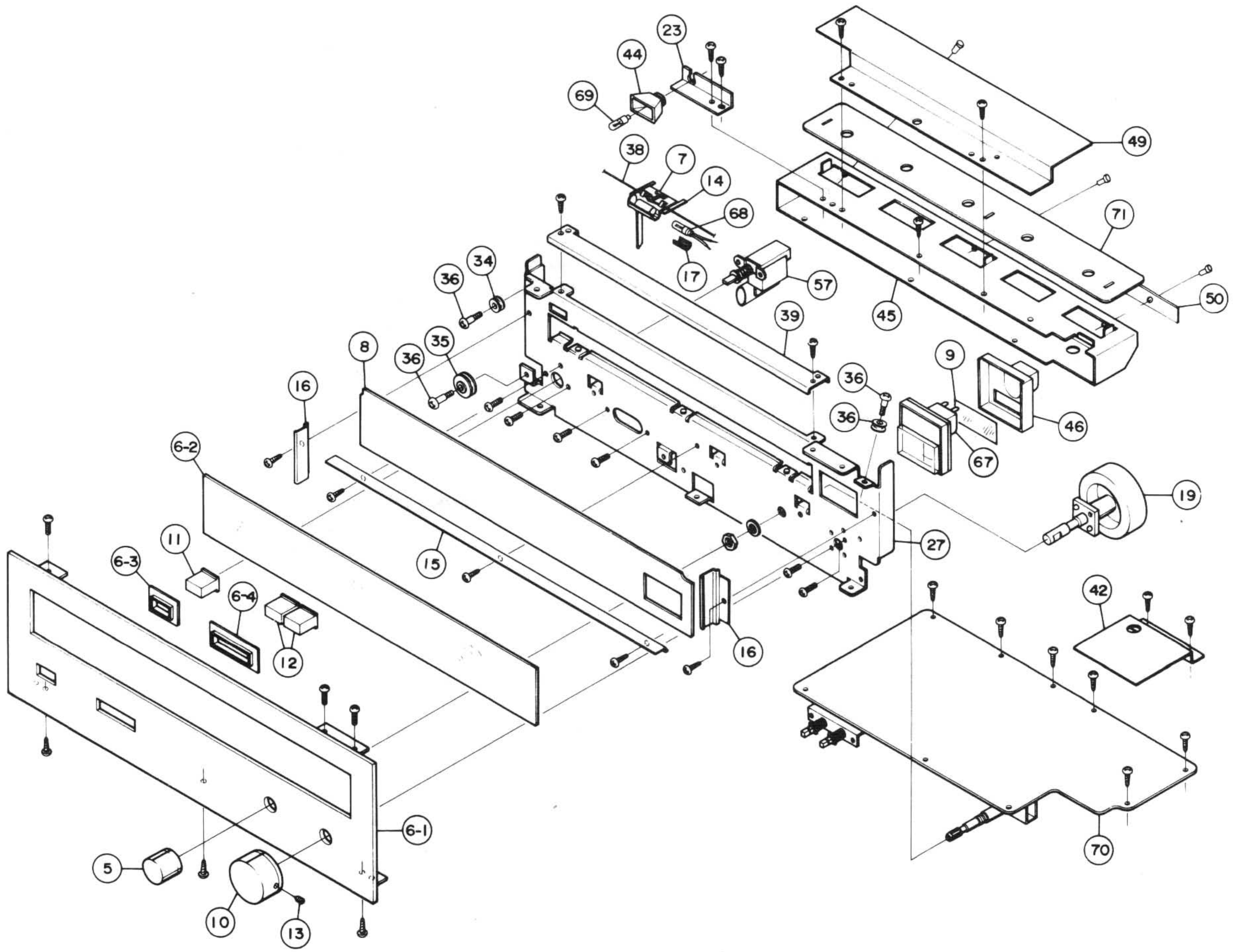


FM MUT. (9-23980) MPX NOISE (9-23980)

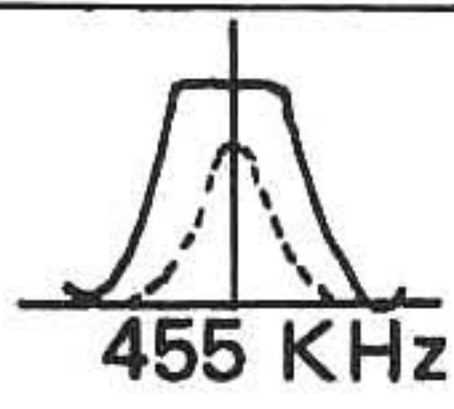
IC01 TA7061AP
IC02 BA1310



Q01 ~ Q03 , Q07 ~ Q10	2SC930 D or E
Q04	2SC929 E
Q05 , Q11 , Q12 , Q14	2SC536 D or E
Q06	2SC668 D or E
Q13	2SC536 E
Q15	2SD325 D or E
Q16 , Q17	2SC693 G
D01 ~ D10	1S188 FM1
D11 , D12	1N4002
D13	DS-442
D14	RD-13A



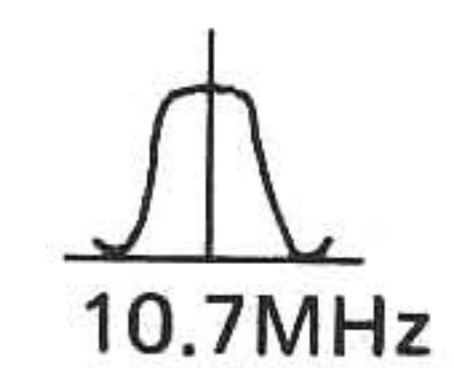
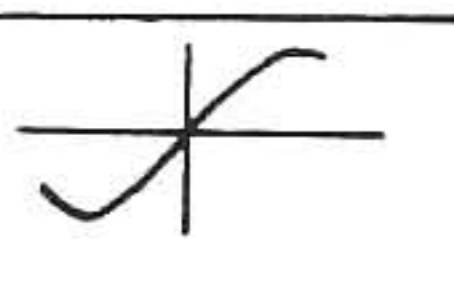
AM ADJUSTMENT

Step	Adjusting circuit	Connection		SG. frequency	Position of tuning dial	Adjustment	V.T.V.M. Oscilloscope
		Input	Output				
1	IF	Connect sweep generator to VC4.	Connect oscilloscope to test point TP4.	455 KHz	Near max. capacity of VC. at position with no unrequired signal.	AM 1st 9-20970 (Red, Blue) AM DET 9-21110	
2	RF	Connect standard loop antenna to output terminal of SG. Place receiver 2 feet from loop antenna	Connect V.T.V.M. to TP4.	600 KHz (400Hz, 30% modulation)	600 KHz	AM ANT 9-21083 AM OSC 9-20700	Max.
3				1400 KHz (400Hz, 30% modulation)	1400 KHz	TC4 TC5	Max.
4	Repeat adjustments.						

PREPARE

1. Variable capacitor completely closed.
2. Set the dial pointer to very left line dial scale.
3. Connect sweep generator, SG, V.T.V.M. and oscilloscope.
4. Function switch to "AM".
5. Use a screwdriver with plastic grip for all adjustments.

FM ADJUSTMENT

Step	Adjusting circuit	Connection		SG. frequency	Position of tuning dial	Adjustment	V.T.V.M. Oscilloscope
		Input	Output				
1	IF	Connect sweep generator to test point TP0 through 0.01 μ F.	Connect oscilloscope to test point TP1.	10.7 MHz (none modulation)	Near max. capacity of VC. at position with no unrequired signal.	IFT in FRONT END	
2	Ratio Det.		Connect oscilloscope to test point TP2.			FM DET 9-20850 (Pink) 9-20860 (Blue)	
3	RF	Connect FM SG. to FM ANT terminals.	Connect V.T.V.M. to TP1	90 MHz (400 Hz, 30% modulation)	90 MHz	TC1 TC2 TC3	Max.
4				106 MHz (400 Hz, 30% modulation)	106 MHz		Max.
5	Repeat adjustments.						

PREPARE

1. Variable capacitor completely closed.
2. Set the dial pointer to very left line of dial scale.
3. Connect sweep generator, FM SG, V.T.V.M. and oscilloscope. FM ANT input impedance is 300 ohm.
4. Function switch to "FM MONO."
5. Use a screwdriver with plastic grip for all adjustments.

FM MPX ADJUSTMENT

Step	Adjusting circuit	Connection		Position of tuning dial	Adjustment	
		Input	Output			
1	PLL IC FO (19KHz) Adjustment	None	Connect Frequency counter or synchroscope to TP5.		Adjust VR202 (5K-B) so that 19KHz may be indicated on the frequency counter or synchroscope.	
2	FM STEREO Signal Separation	Connect FM stereo SG to FM ANT terminals. 19 KHz signal ON. Main channel, sub channel signal ON. Add 1000 Hz signal from L Ch.	Connect V.T.V.M to output terminal (R channel).	Near max. capacity of VC. at position with no unrequired signal	VR203 (10K-B)	V.T.V.M. Min.
		Connect FM stereo SG to FM ANT terminals. 19 KHz signal ON. Main channel, sub channel signal ON. Add 1000 Hz signal from R Ch.	Connect V.T.V.M. to output terminal (L channel)			
3	Repeat steps 1, 2. Set at position with max. channel separation.					

PREPARE

1. Variable capacitor completely closed.
2. Connect FM stereo SG and V.T.V.M.
3. Function switch to "FM AUTO".
4. Use a screw-driver with plastic grip for all adjustments.