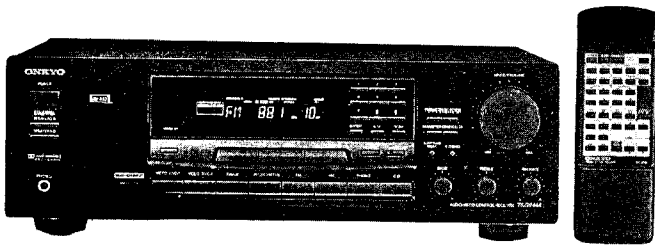


# ONKYO® SERVICE MANUAL

## QUARTZ SYNTHESIZED TUNER AMPLIFIER MODEL TX-SV444 / MODEL TX-SE500



**Black model**

BMD/BMDN	120V AC, 60Hz
BMP	230V AC, 50Hz
BMW	120V or 220V AC, 50/60Hz



**Black and Golden models**

BMP/GMP	230V AC, 50Hz
BMW/GMW	120V or 220V AC, 50/60Hz

### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\Delta$  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.



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# SPECIFICATIONS

## AMPLIFIER SECTION

Power Output	
Stereo mode	
Front L/R channels:	70 watts per channel, min. RMS at 8 ohms, both channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.
Continuous Power output:	2 x 80 watts at 8 ohms, 1 kHz (DIN)
Surround mode	
Front L/R and Center channels:	60 watts per channel, min. RMS at 8 ohms, both channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.
Rear channels (Rear only driven):	20 watts per channel, min. RMS at 8 ohms, both channels driven from 20 Hz to 20 kHz with no more than 0.3% total harmonic distortion.
Total Harmonic Distortion:	0.08% at rated power (Front)
IM Distortion:	0.08% at rated power (Front)
Damping Factor:	60 at 8 ohms (Front)
Sensitivity and Impedance	
Phono:	2.5 mV/50 kohms
CD, Multi-CH, Tape Play:	150 mV/50 kohms
Tape Rec:	150 mV/2.2 kohms
Subwoofer Pre out:	2 V/2.2 kohms
Phono Overload:	120 mV RMS at 1 kHz, 0.5% T.H.D.
Frequency Response:	20 Hz to 30 kHz, $\pm 1$ dB
RIAA Deviation:	20 Hz to 20 kHz, $\pm 0.8$ dB
Tone Control	
Bass:	$\pm 10$ dB at 100 Hz
Treble:	$\pm 10$ dB at 10 kHz
Signal-to-Noise Ratio	
Phono:	80 dB (IHF A, 5 mV input)
CD/Tape:	100 dB (IHF A)

## VIDEO SECTION

Signal sensitivity and impedance:	1 V <sub>p-p</sub> , 75 ohms (VDP/VCR input, output)
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## TUNER SECTION

### FM

Tuning Range:	87.5 — 108.0 MHz
Usable Sensitivity	
Mono:	11.2 dBf, 1.0 $\mu$ V (75 ohms)
Stereo:	18.2 dBf, 2.2 $\mu$ V (75 ohms)
50 dB Quieting Sensitivity	
Mono:	18.2 dBf, 2.2 $\mu$ V (75 ohms)
Stereo:	39.2 dBf, 24 $\mu$ V (75 ohms)
Capture Ratio:	1.5 dB
Image Rejection Ratio	
U.S.A. & Canadian models:	40 dB
Other area models:	85 dB

IF Rejection Ratio:	90 dB
Signal-to-Noise Ratio	
Mono:	73 dB
Stereo:	67 dB
Alternate Channel Attenuation:	55 dB
Selectivity:	50 dB (DIN)
AM Suppression Ratio:	50 dB
Total Harmonic Distortion	
Mono:	0.15%
Stereo:	0.25%
Frequency Response:	30 Hz — 15 kHz, $\pm 1.5$ dB
Stereo Separation:	
	45 dB at 1 kHz
	30 dB at 100 Hz — 10 kHz

### AM

Tuning Range	
U.S.A. & Canadian models:	530—1,710 kHz (10 kHz steps)
European & Australian models:	522—1,611 kHz (9 kHz steps)
Worldwide models:	531—1,602 kHz (9 kHz steps), 530—1,710 kHz (10 kHz steps)
Usable Sensitivity:	30 $\mu$ V
Image Rejection Ratio:	40 dB
IF Rejection Ratio:	40 dB
Signal-to-Noise Ratio:	40 dB
Total Harmonic Distortion:	0.7%

## GENERAL

Power Supply	
U.S.A. & Canadian models:	AC 120 V, 60 Hz
European & Australian models:	AC 230 V, 50 Hz
Worldwide models:	AC 220-230 V and 120 V switchable, 50/60 Hz
Power Consumption	
U.S.A. & Canadian models:	3.5 A (420 W)
Other area models:	250 W
Dimensions (W x H x D):	435 x 150 x 322 mm 17-1/8" x 5-7/8" x 12-11/16"
Weight:	9.6 kg, 21.2 lbs.


## REMOTE CONTROL


Transmitter:	Infrared
Signal range:	Approx. 5 meters, 16 ft.
Power supply:	Two "AA" batteries (1.5 V x 2)
Dimensions (W x H x D):	65 x 18 x 194 mm 2-9/16" x 11/16" x 7-5/8"
Weight:	110 grams, 3.9 oz. (including batteries)

Specifications and features are subject to change without notice.

# SERVICE PROCEDURES

## 1. Replacing the fuses

 This symbol located near the fuse indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating refer to the marking adjacent to the symbol.

 Ce symbole indique que le fusible utilise est a rapide. Pour une protection permanente, n'utiliser que des fusibles de meme type. Ce dernier est indique la qu le present symbol est appose.

CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252164Y	5A-UL/T-237,Primary <D/W>
F902	252076	3.15A-SE-EAK ,Primary <P/W>
F903	252075	2.5A-SE-EAK,Primary <P>
F921,F922	252163Y	4A-UL/T-237,Secondary<D>
	252077	4A-SE-EAK,Secondary<P/W>

NOTE : <D> : 120V model only  
<P> : 230V model only  
<W> : Worldwide model

## 2. To Initialize the unit

This device employs a microprocessor to perform various functions and operations. If interference generated by an external power supply, radio wave, or other electrical source results in accident which causes the specified operations and functions to operate abnormally.

To perform a result, please follow the procedure below.

1. Turn the power button "ON"
2. Press and hold down the Video 1 button, then press the SPEAKER A button.
3. After "clear" is displayed, the preset memory and each mode stored in the memory, such as surround, are initialized and will return to the factory settings.

## 3. Safety-check out

(Only U.S.A. model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and the screw on the back panel.

Specifications: 3.3 Mohm $\pm$ 10% at 500V.

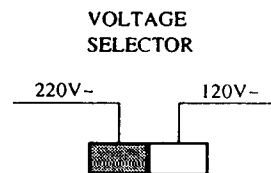
## 4. Change of voltage

Worldwide models are equipment with a voltage selector to conform with local power supplies. This switch is located on the back panel.

Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on.

This switch is set to 220V at the factory. Voltage is changed by

sliding the groove in the switch with the screwdriver to the right or left. Confirm that the switch has been moved all the way to the right or left before turning the power switch on.



## 5. Memory preservation

This unit does not require memory preservation batteries.

A built-in memory power back-up system preserves contents of the memory during power failures and even when the unit is unplugged.

The unit must be plugged in and the power switch turned on and off once in order to charge the back-up system. Note that since this is not a permanent memory, the power switch must be turned on and off a few times each month the keep the back-up system operative.

The period of the time during which memory contents are preserved after power has last been turned off varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of 3 to 4 weeks (a minimum of 2 weeks) after the last time power has been turned off. This period is shorted when the unit is exposed to very high humidity or used in an area with an extremely humid climate.

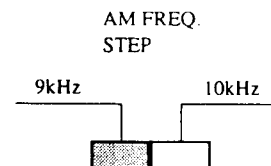
## 6. Setting the tuning step frequency

Worldwide models are equipped with a step band selector switch. This switch is located on the back panel. This switch is set to 9 kHz at the factory, but may have to be reset to 10 kHz depending on the area where the unit is used.

AM band step

Europe: 9 kHz

U.S.A.: 10 kHz



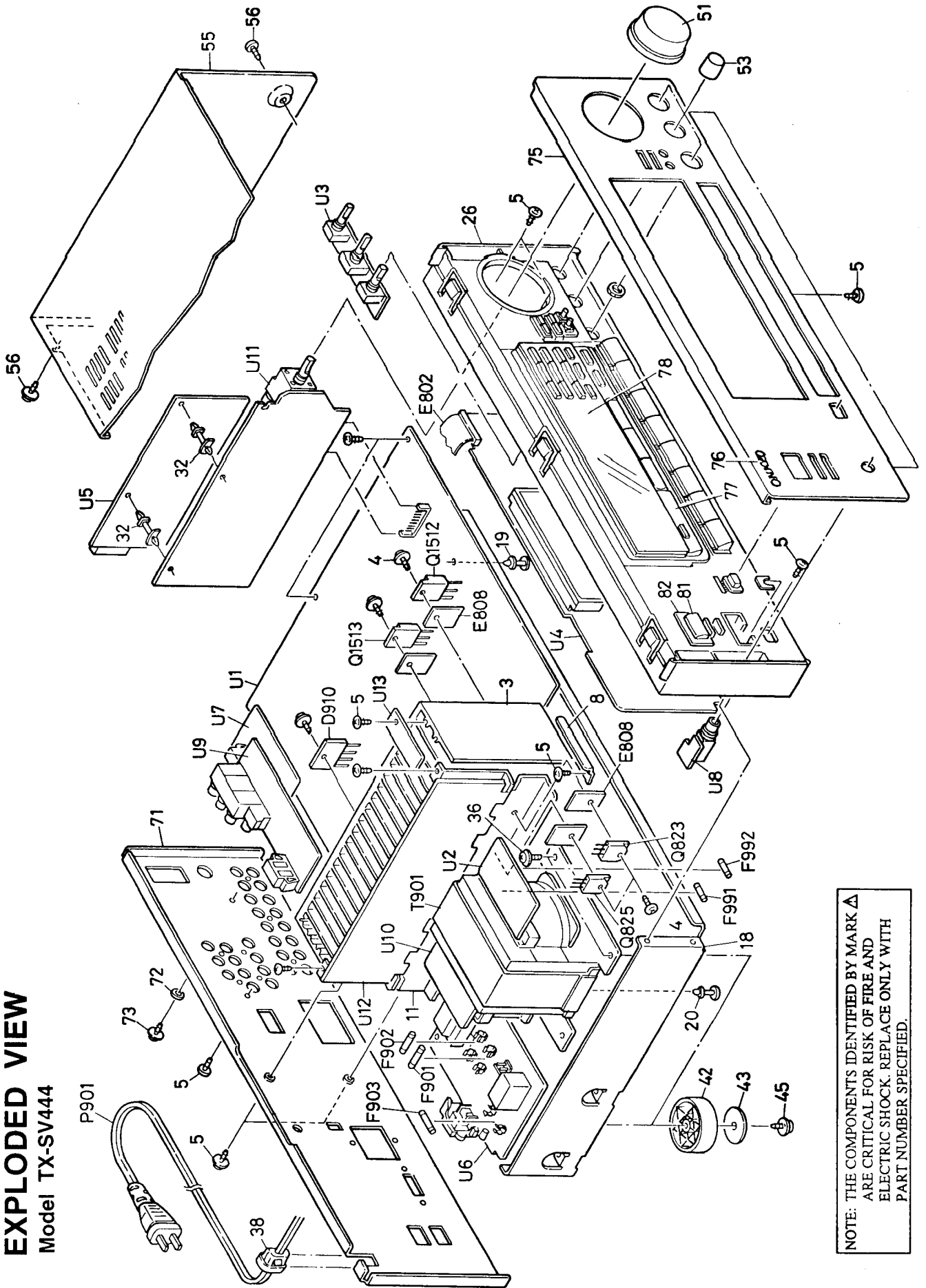
## 7. Changing the band step

With the exception of the worldwide models, a tuning step selector switch is not provided. When you change the band step, change the parts as shown below.

	To 10kHz	To 9kHz
R727	Open	Short
R724	3.3kohm	Remove

# EXPLODED VIEW

Model TX-SV444



NOTE: THE COMPONENTS IDENTIFIED BY MARK **A** ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

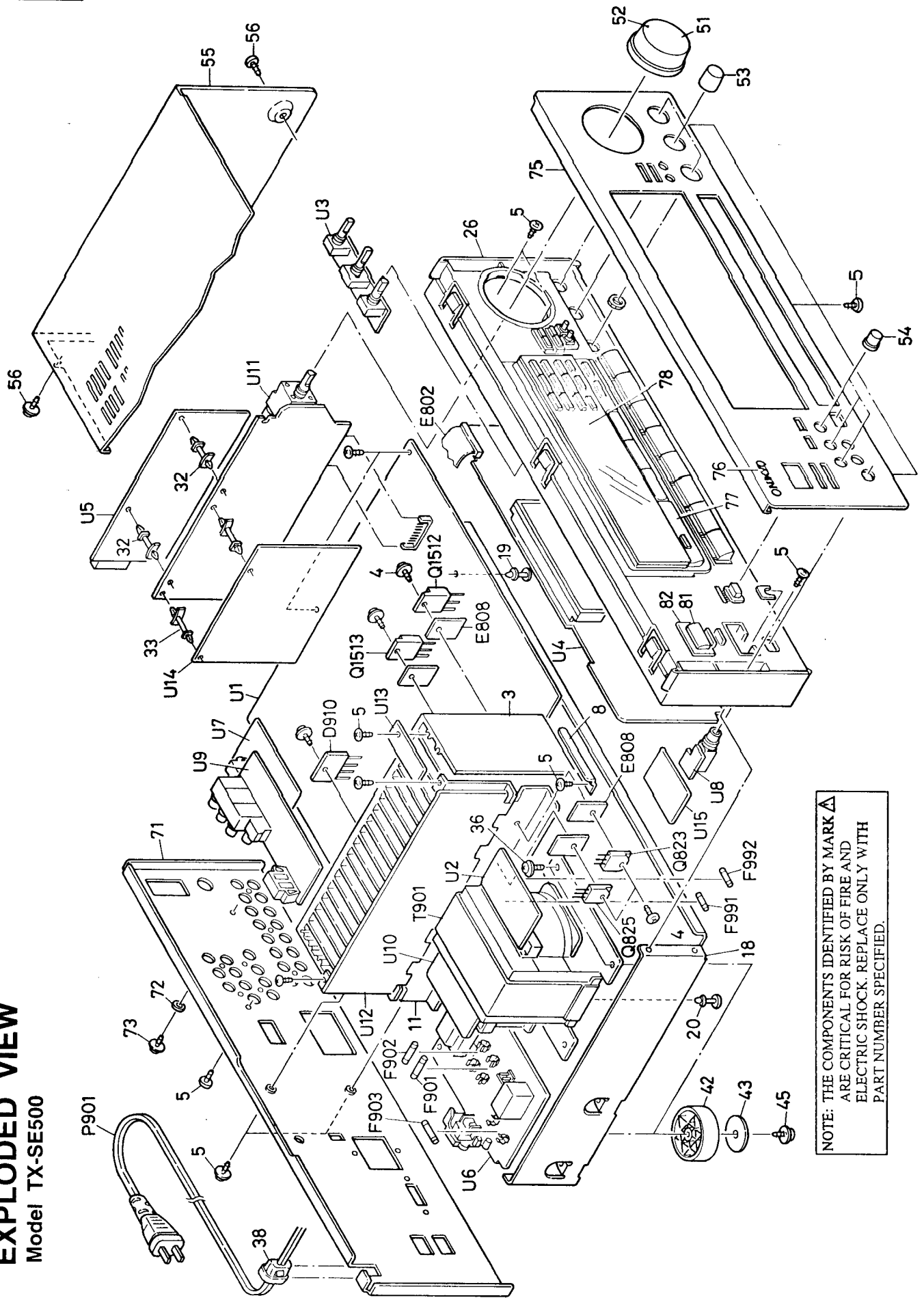
# PARTS LIST


NOTE: <D>:120V model only  
<P>:230V model only  
<W>:Taiwanese model only  
<A>:Australian model only  
<T>:Asian model only  
<K>:Korean model only

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
3	27160375Y	Heatsink	T901	2301228Y	▲ NPT-1287D, Power transformer <D>
4	801433	3SM58W, SW+1AB(BC), Special screw		2301229Y	▲ NPT-1287P, Power transformer <P/A/T>
5	838130088	3TTB+8B, Self-lapping screw	U1	IA720584-1A	▲ NPT-1301DG, Power transformer <K/W>
8	27141671	Retainer		IA720584-1B	NA AR-5884-1A, Main circuit pc board ass'y <D>
11	27160376	Heatsink S	U2	IA720584-1BY	NA AR-5884-1B, Main circuit pc board ass'y <K/W/P/A/T>
18	27100320AY	Chassis	U3	IA720585-1A	NA ETC-5885-1A, Secondary circuit pc board ass'y <P/W/T/A/K>
19	27190503A	KGLS-8RF, Holder	U4	IA720586-1A	NA ETC-5886-1A, Tone control circuit pc board ass'y <D>
20	27190266	KGLS-12RF, Holder		IA720587-1A	NA DIS-5887-1A, Display circuit pc board ass'y <D>
24	28175225Y	Isolation plate		IA720587-1B	NA DIS-5887-1B, Display circuit pc board ass'y <D>
26	27110952Y	Front bracket		IA720587-1CY	NA DIS-5887-1C, Display circuit pc board ass'y <T>
32	27190896	KGLS-10S, Holder		IA720587-1DY	NA DIS-5887-1D, Display circuit pc board ass'y <W>
36	830440089	4TTT+8C(BC), Self-lapping screw		IA720587-1EY	NA DIS-5887-1E, Display circuit pc board ass'y <K>
38	27300750	▲ #2271, Bushing cord	U5	IA720587-1FY	NA DIS-5887-1F, Display circuit pc board ass'y <A>
42	27175319Y	Leg		IA720588-1A	NA RF-5888-1A, Tuner circuit pc board ass'y <D>
43	28141332Y	Cushion for leg		IA720588-1B	NA RF-5888-1B, Tuner circuit pc board ass'y <D>
45	831430088	3TTW+8B(BC), Self-lapping screw		IA720588-1C	NA RF-5888-1C, Tuner circuit pc board ass'y <T>
51	28325456Y	Knob, Volume		IA720588-1D	NA RF-5888-1D, Tuner circuit pc board ass'y <W>
53	28325454Y	Knob, Tone		IA720588-1E	NA RF-5888-1E, Tuner circuit pc board ass'y <K>
55	28184663Y	Top cover	U6	IA720588-1FY	NA RF-5888-1F, Tuner circuit pc board ass'y <A>
56	838430088	3TTB+8B(BC), Self-lapping screw		IA720589-1A	NA PS-5889-1A, Power supply circuit pc board ass'y <D>
71	27122260Y	Rear panel <D>		IA720589-1B	NA PS-5889-1B, Power supply circuit pc board ass'y <D>
	27122261Y	Rear panel <P>		IA720589-1C	NA PS-5889-1C, Power supply circuit pc board ass'y <T>
	27122262Y	Rear panel <W>		IA720589-1D	NA PS-5889-1D, Power supply circuit pc board ass'y <W>
	27122263Y	Rear panel <A>		IA720589-1E	NA PS-5889-1E, Power supply circuit pc board ass'y <K>
	27122264Y	Rear panel <T>		IA720589-1FY	NA PS-5889-1F, Power supply circuit pc board ass'y <A>
	27122269Y	Rear panel <K>	U7	IA720590-1A	NA ETC-5890-1A, Video terminal pc board ass'y <D>
72	87643010	W3x10F(BC), Washer		IA720590-1B	NA ETC-5890-1B, Video terminal pc board ass'y <D>
73	838230088	3TTB+8B(NI), Nickel screw		IA720590-1C	NA ETC-5890-1C, Video terminal pc board ass'y <T>
75	27211859Y	Front panel <D>		IA720590-1D	NA ETC-5890-1D, Video terminal pc board ass'y <W>
				IA720590-1E	NA ETC-5890-1E, Video terminal pc board ass'y <K>
76	28135244Y	Badge	U8	IA720591-1A	NA ETC-5891-1A, Headphone terminal pc board ass'y <D>
77	27215273Y	Decorative frame		IA720591-1B	NA ETC-5891-1B, Headphone terminal pc board ass'y <D>
78	28191752AY	Clear plate		IA720591-1C	NA ETC-5891-1C, Headphone terminal pc board ass'y <T>
81	28325451Y	Knob, power <P/A/K/T/W>		IA720591-1D	NA ETC-5891-1D, Headphone terminal pc board ass'y <T>
82	27267955Y	Guide, power <P/A/K/T/W>		IA720591-1EY	NA ETC-5891-1E, Headphone terminal pc board ass'y <K>
D910	22380038	▲ RBV602		IA720591-1FY	NA ETC-5891-1F, Headphone terminal pc board ass'y <A>
E801	262028	Binder	U9	IA720592-1A	NA ETC-5892-1A, Video terminal pc board ass'y <D>
E802	2047352012Y	NCFC7-352012, Flexible flat cable		IA720592-1B	NA ETC-5892-1B, Video terminal pc board ass'y <D>
E808	223024	▲ AC238, Isolation sheet		IA720592-1C	NA ETC-5892-1C, Video terminal pc board ass'y <T>
				IA720592-1D	NA ETC-5892-1D, Video terminal pc board ass'y <W>
				IA720592-1EY	NA ETC-5892-1E, Video terminal pc board ass'y <K>
F901	252164Y	▲ 5A-UL/T-237, Fuse <D/W>	U10	IA720593-1A	NA ETC-5893-1A, Primary terminal pc board ass'y
F902	252076	▲ 3.15A-SE-EAK, Fuse <P/A/T/K/W>		IA720593-1B	NA ETC-5893-1B, Primary terminal pc board ass'y
F903	252075	▲ 2.5A-SE-EAK, Fuse <P/T>		IA720593-1C	NA ETC-5893-1C, Primary terminal pc board ass'y
F991, P992	252077	▲ 4A-SE-EAK, Fuse <P/A/T/K/W>		IA720593-1DY	NA ETC-5893-1D, Primary terminal pc board ass'y
	252163Y	▲ 4A-UL/T-237, Fuse <D>		IA720593-1EY	NA ETC-5893-1E, Primary terminal pc board ass'y
P901	253192HIT	▲ AS-UC-6#18, Power supply cord <D>	U11	IA720594-1A	NA AF-5894-1A, Volume circuit pc board ass'y <D>
	253193HIT	▲ AS-CBE, Power supply cord <P/T>		IA720594-1B	NA AF-5894-1B, Volume circuit pc board ass'y <D>
	253197HIT	▲ AS-SAA, Power supply cord <A>		IA720594-1C	NA AF-5894-1C, Volume circuit pc board ass'y <W>
	253213WSE	▲ AS-KS, Power supply cord <K>		IA720595-1A	NA AF-5895-1A, Rear amplifier pc board ass'y <D>
	253233KAW	▲ AS-CEE-2, Power supply cord <W>		IA720595-1B	NA AF-5895-1B, Rear amplifier pc board ass'y <D>
P904, P905	25051266	▲ NSCT-2P1056, AC outlet <K>		IA720595-1CY	NA AF-5895-1C, Rear amplifier pc board ass'y <P/T/A/K>
	25051570	▲ NSCT-2P1357, AC outlet <A>		IA720594-1BY	NA AF-5894-1B, Volume circuit pc board ass'y <D>
Q523, Q524	2202843 or	2SC5242-O or		IA720594-1CY	NA AF-5894-1C, Volume circuit pc board ass'y <W>
Q1512	2202842	2SC5242-R, Transistor	U12	IA720595-1A	NA AF-5895-1A, Rear amplifier pc board ass'y <D>
Q525, Q526	2202833 or	2SA1962-O or		IA720595-1B	NA AF-5895-1B, Rear amplifier pc board ass'y <D>
Q1513	2202832	2SA1962-R, Transistor		IA720595-1CY	NA AF-5895-1C, Rear amplifier pc board ass'y <P/T/A/K>
Q823, Q824	2202923 or	2SC5196-O or		25135984	NCETC-5984, Holder for lead wire
	2202922	2SC5196-R, Transistor			
Q825, Q826	2202913 or	2SA1939-O or			
	2202912	2SA1939-R, Transistor			

# EXPLODED VIEW

Model TX-SE500



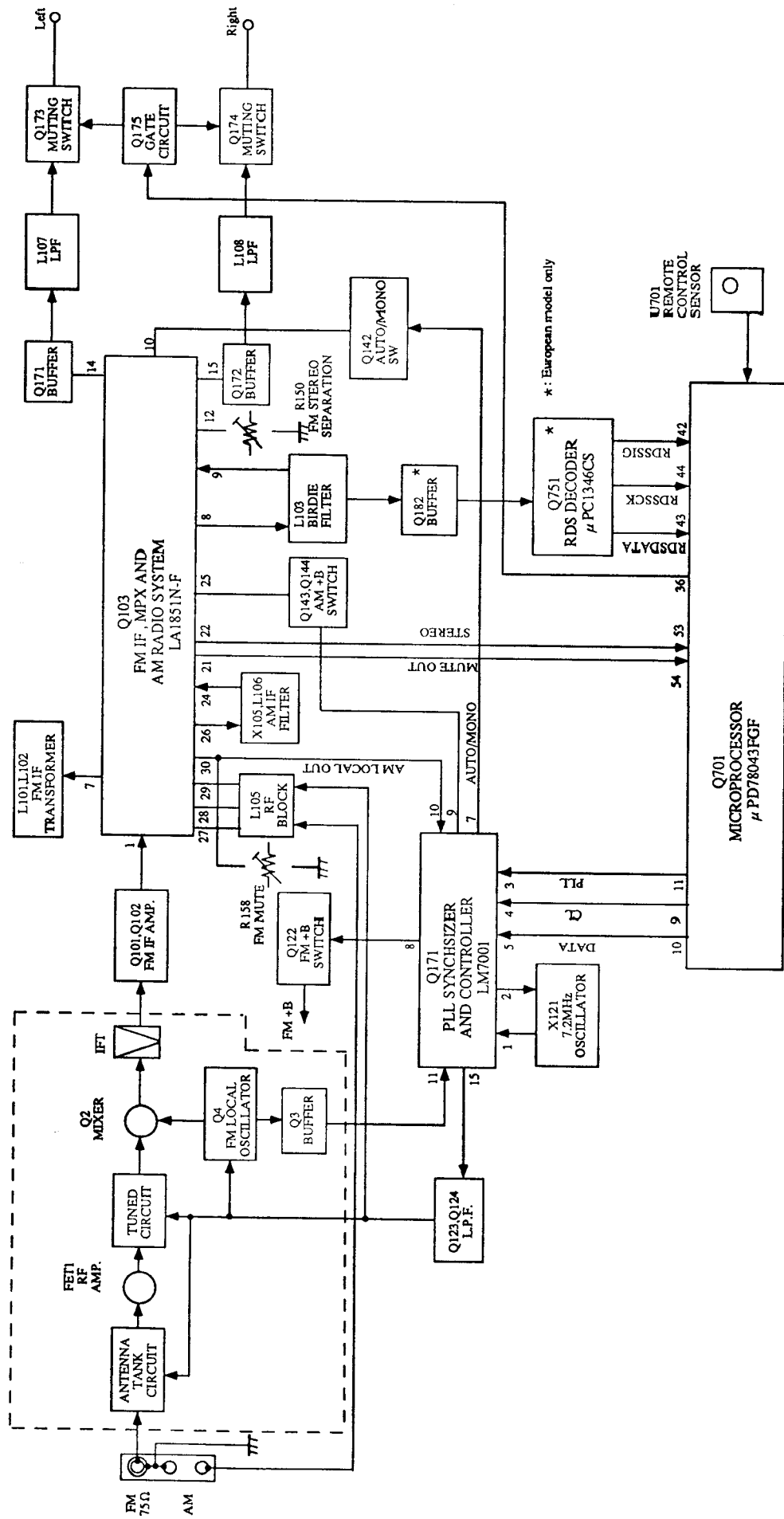
NOTE: THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

# PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
3	27160375Y	Heatsink	F901	252164Y	5A-UL/T-237, Fuse <W>
4	801433	3SMS8W.SW+14B(BC), Special screw	F902	252076	3.15A-SE-EAK, Fuse
5	838130088	3TTB+8B, Self-tapping screw	F903	252075	2.5A-SE-EAK, Fuse <P>
8	27141671	Retainer	F991.F992	252077	4A-SE-EAK, Fuse
11	27160376	Heatsink S	P901	253193HIT	AS-CEE, Power supply cord <P>
18	27100320AY	Chassis	P901	253213WSE	AS-KS, Power supply cord <K>
19	27190503A	KGLS-8RF, Holder	P901	253233KAW	AS-CEE-2, Power supply cord <W>
20	27190266	KGLS-12RF, Holder	P904.P905	25051266	NSCT-2P1056, AC outlet <K>
24	28175225Y	Isolation plate	Q523.Q524	2202843 or	2SC5242-O or
26	27110952Y	Front bracket <B>	Q1512	2202842	2SC5242-R, Transistor
32	27110992Y	Front bracket <G>	Q525.Q526	2202833 or	2SA1962-O or
33	27190896	KGLS-10S, Holder	Q1513	2202832	2SA1962-R, Transistor
36	27190470Y	KGLS-18S, Holder	Q823.Q824	2202923 or	2SC5196-O or
38	830440089	4TTC+8C(BC), Self-tapping screw	Q825.Q826	2202922	2SC5196-R, Transistor
42	27300750	#2271, Bushing cord	T901	2202912	2SA1939-R, Transistor
44	27175319Y	Leg			
43	28141332Y	Cushion for leg			
45	831430088	3TTW+8B(BC), Self-tapping screw			
51	28325456Y	Knob, Volume <B>	U1	1A721584-2Y	NPT-1287P, Power transformer <P>
53	28325493Y	Knob, Volume <G>	U2	1A721585-2Y	NPT-1301DG, Power transformer <K/W>
54	28325494Y	Knob, Tone <B>	U3	1A721586-2Y	NAAR-5884-2, Main circuit pc board ass'y
54	28325452Y	Knob, Tone <G>	U4	1A721587-2AY	NAETC-5885-2, Secondary circuit pc board ass'y
55	28325495Y	Knob, Mic. <B>			
55	28184663Y	Knob, Mic. <G>			
56	28184682Y	Top cover <B>			
56	838430088	Top cover <G>			
71	838230088	3TTB+8B(BC), Self-tapping screw <B>			
71	27122265Y	3TTB+8B(NT), Self-tapping screw <G>			
72	27122267Y	Rear panel <P>			
72	27122268Y	Rear panel <W>			
73	87643010	Rear panel <K>			
75	27211862Y	W3x10F(BC), Washer			
76	27211907Y	Front panel <B>			
76	28135244Y	Front panel <G>			
77	28135245Y	Badge <B>			
77	27215273Y	Badge <G>			
78	27215275Y	Decorative frame <B>			
78	28191752AY	Decorative frame <G>			
81	28191778Y	Clear plate <B>			
81	28325451Y	Clear plate <G>			
82	28325496Y	Knob, power <B>			
82	27267955Y	Knob, power <G>			
D910	27267959Y	Guide, power <B>			
E801	22380038	Guide, power <G>			
E802	260208	RBV602			
E808	2047352012Y	Binder			
E815	223024	NCFC7-352012, Flexible flat cable			
	260208Y	AC238, Isolation sheet			
		Wire tie			

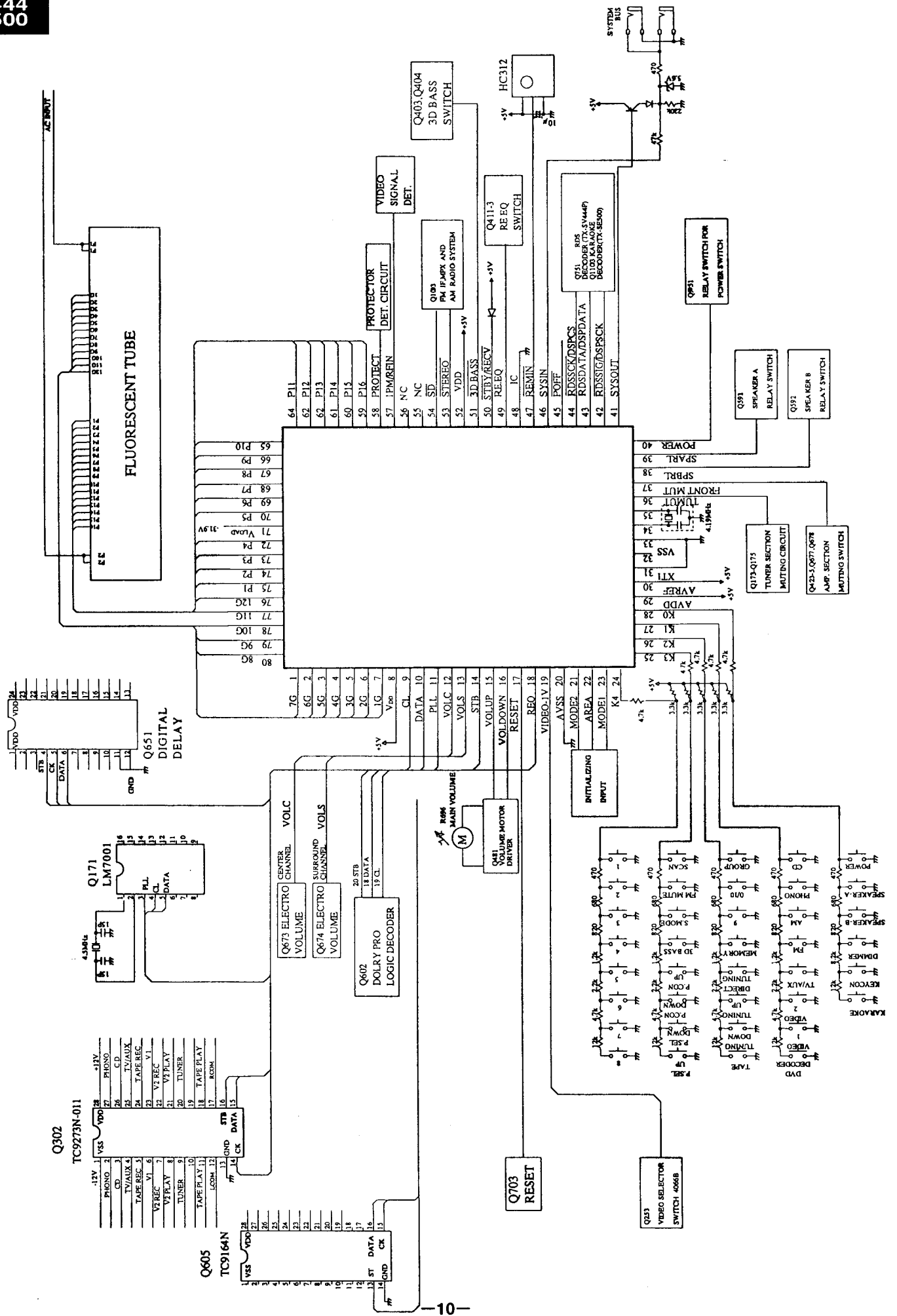
**NOTES:**  
 <B>: Black model only  
 <G>: Golden model only  
 <P>: Asian model only  
 <W>: Taiwanese model only  
 <K>: Korean model only

OTHER MODELS





# MICROPROCESSOR CONNECTION DIAGRAM



# MICROPROCESSOR TERMINAL DESCRIPTION

Pin No.	Function	Descriptions
1-7	7G-1G	Grid output terminals
8	VDD	Positive power supply terminal (+5V)
9	CL	Clock output terminal.
10	DATA	Data output terminal.
11	PLL	Chip enable output terminal for PLL IC
12	VOLC	Clock output terminal for electro volume of center channel.
13	VOLS	Clock output terminal for electro volume of surround channels.
14	STB	Strobe output terminal
15	VOLUP	Volume control output terminal
16	VOLDOWN	Volume control output terminal
17	RESET	System reset input terminal
18	REQ	Request terminal for Digital delay and Dolby ICs
19	VIDEO-1V	Video signal selector terminal
20	AVSS	Ground terminal for A/D converter
21	MODE2	Initializing input terminal
22	AREA	Initializing input terminal for region of frequency range
23	MODE1	Initializing input terminal
24	K4-K0	Key input terminals
29	AVDD	Analog power supply terminal (+5V)
30	AVREF	Reference voltage input terminal for A/D converter
31	XT1	Crystal connection terminals for subsystem clock
32	XT2	Not used.
33	VSS	Ground terminal
34	X1	Crystal connection terminals for main system clock
35	X2	Connect the 4.19MHz ceramic oscillator.
36	TUMUT	Muting output terminal for tuner section
37	FRONTMUT	Muting output terminal for amplifier of front channels.
38	SPBRL	Speaker relay B control output terminal
39	SPARL	Speaker relay A control output terminal
40	POWER	Power source control output terminal
41	SYSOUT	System code output terminal
42	RDSSIG	Detection input terminal for RDS broadcast
43	RDSDATA	Data input terminal for RDS broadcast
44	RDSSCK	Clock input terminal from RDS demodulator
42	DSPSCK	Clock output terminal for KARAOKE IC.
43	DSPDATA	Data output terminal for KARAOKE IC.

Pin No.	Function	Descriptions
44	DSPCS	Chip select output terminal for KARAOKE IC.
45	POFF	Power failure detection input terminal
46	SYSIN	system code input terminal
47	REMIN	Remote control signal input terminal
48	IC	Internal connection terminal
49	RE-EQ	RE-EQ control output terminal
50	STBY/RECV	STANDBY/RECEIVED indication output terminal
51	3DB	3-D bass control output terminal
52	VDD	Power supply terminal (+5V)
53	STEREO	Stereo broadcast detection input terminal
54	SD	Broadcast detection input terminal
55,56	NC	Not used.
57	IPM	Audio IPM operation input terminal
58	PROTECT	Detection input terminal for protection circuit
59	P16-P5	Segment output terminals
71	VLOAD	Pull-down resistor connection terminal for FIP controller and driver
72	P4-P1	Segment output terminals
76-80	12G-8G	Grid output terminals

## Volume control output

	15	16
Stop	H	H
Up	H	L
Down	L	H

## FM band

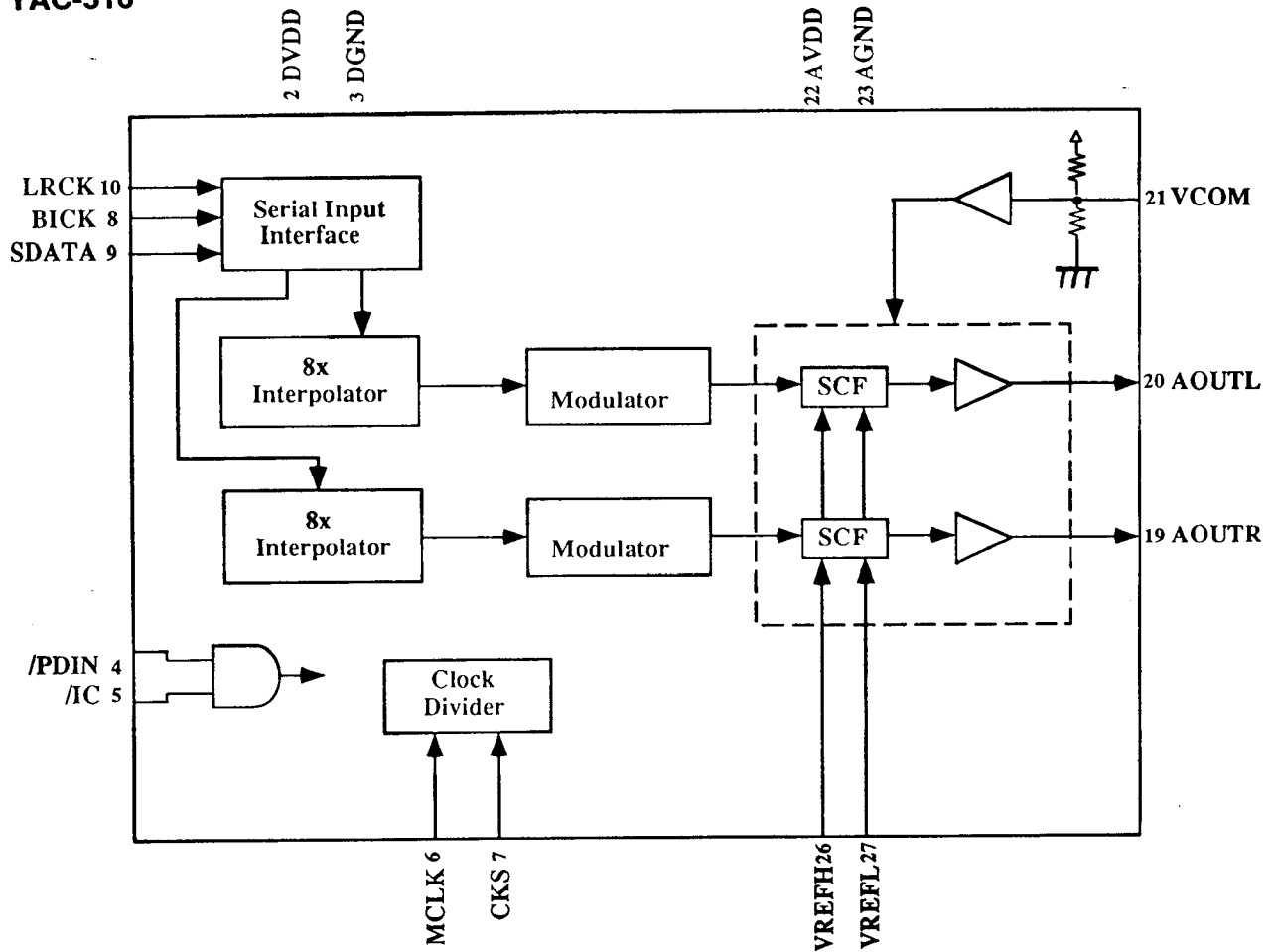
BAND1	BAND0	Region	Frequency Range	Channel space
0	0	Europe	87.50~108.00MHz	50kHz
0	1	Saudi	87.50~108.00MHz	50kHz
1	0	Japan	76.0~90.0MHz	100kHz
1	1	U.S.A	87.5~108MHz	100kHz

## AM band

BAND1	BAND0	AM10K	Region	Frequency Range	Channel space
0	0	0	Europe	522~1611kHz	9 kHz
0	1	0	Saudi	531~1602kHz	9 kHz
1	0	0	Japan	522~1629kHz	9 kHz
1	1	0	U.S.A	522~1629kHz	9 kHz
1	1	1	U.S.A	530~1710kHz	10 kHz

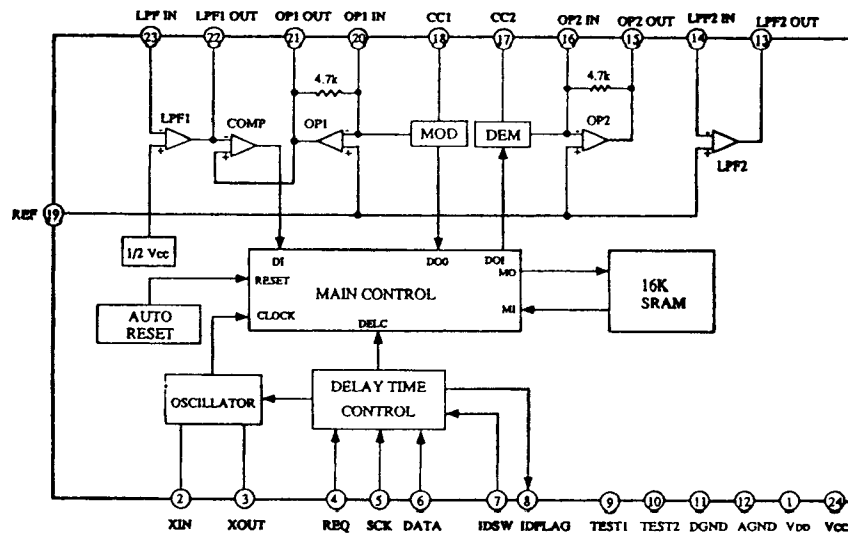
# IC BLOCK DIAGRAM AND DESCRIPTIONS

YAC-516



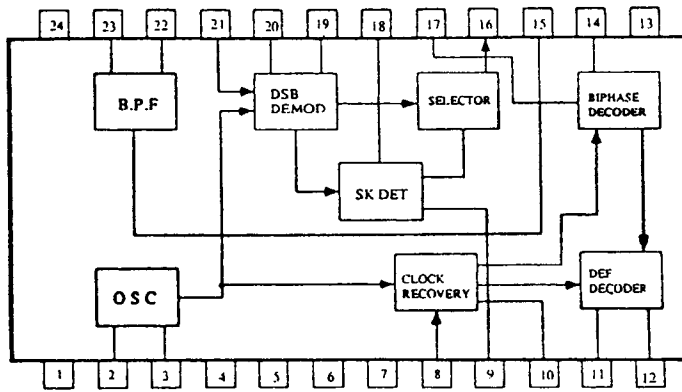
Pin No.	Terminal	I/O	Function
1	TST 1	I	Test terminal
2	DVDD	—	Power supply terminal for digital section
3	DGND	—	Ground terminal for digital section
4	/PDIN	I	Power down mode input terminal
5	/IC	I	Initializing clear input terminal
6	MCLK	I	Master clock input terminal
7	CKS	I	Clock select terminal
8	BICK	I	Serial bit clock input terminal
9	SDATA	I	Serial data input pin
10	LRCK	I	Serial L/R clock input terminal
19	AOUTR	OA	Right channel analog output terminal
20	AOUTL	OA	Left channel analog output terminal
21	VCOM	OA	Common voltage terminal
22	AVDD	—	Power supply terminal for analog section
23	AGND	—	Ground terminal for analog section
26	VREFH	IA	Reference voltage input terminal when high level
27	VREFL	IA	Reference voltage input terminal when low level
28	TST 2	O	Test terminal

### NJU9702D (Digital Delay)



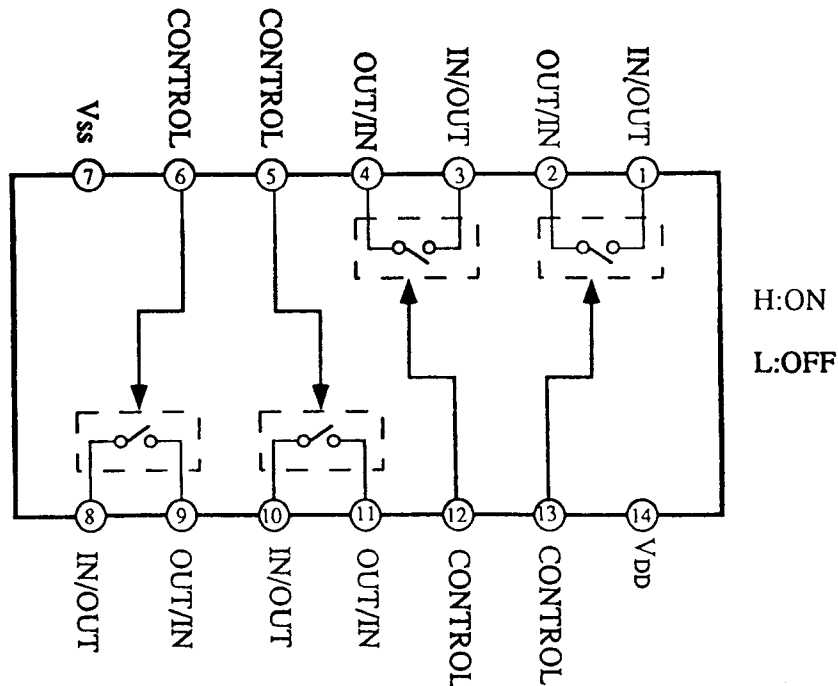
Pin No.	Mark	Function	I/O	Description
1	VDD	Digital power supply	-	
2	XIN	Resonator input	I	Connect the 2MHz ceramic resonator
3	XOUT	Resonator output	O	
4	REQ	Request	I	Data request input
5	SCK	Shift lock	I	Serial data shift clock input
6	DATA	Data	I	Serial data input
7	IDSW	ID switch	I	External input of 4th bit of ID code
8	IDFLAG	ID flag	O	Data input confirmation pulse and serial data output
9	TEST1	Test 1	-	Normal mode when low level
10	TEST2	Test 2	-	Normal mode when low level
11	D GND	Digital ground	-	
12	A GND	Analog ground	-	
13	LPF2 OUT	LPF filter 2 output	O	
14	LPF2 IN	LPF filter 2 input	I	
15	OP2 OUT	Operation amp. 2 output	O	
16	OP2 IN	Operation amp. 2 input	I	
17	CC2	Current control 2	-	Demodulation ADM control
18	CC1	Current control 1	-	Modulation ADM control
19	REF	Reference	-	Analog reference voltage=1/2VCC
20	OP1 IN	Operation amp. 1 input	I	
21	OP1 OUT	Operation amp. 1 output	O	
22	LPF1 OUT	LPF filter 1 output	O	
23	LPF1 IN	LPF filter 1 input	I	
24	VCC	Analog power supply	-	

μPC1346CS (RDS Decoder)

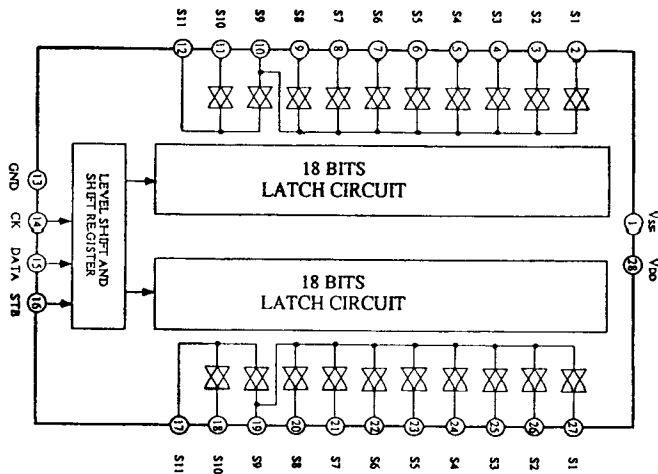


No.	Terminal	Description	No.	Terminal	Description
1	Vcc	Supply voltage for the digital circuit	13	GND	Ground for the analog circuit
2	OSC IN	Resonator input	14	INTEG	Integrating filter terminal
3	OSC OUT	Resonator output	15	BPF ADJ	Adjustment fc of band pass filter
4	GND	Ground for the digital circuit	16	PSK OUT	Biphase signal output
5	TEST1	Test input	17	PSK IN	Biphase decoder input
6	TEST2	Test input	18	LPF SK	Low pass filter for the detection SK
7	OP.CTL	Control input of the operation stop	19	LPF Q	Low pass filter for the crossed detector
8	S/L CTL	Mode control input of the synchronizing detection	20	LPF I	Low pass filter for the synchronizing detector
9	SK OUT	SK detection output	21	DSB IN	DSB demodulator circuit input
10	RDS OUT	RDS synchronizing detection output	22	BPF OUT	Band pass filter output
11	CLOCK OUT	Bit rate clock output	23	BPF IN	Band pass filter input
12	DATA OUT	RDS data output	24	Vcc	Supply voltage for analog circuit

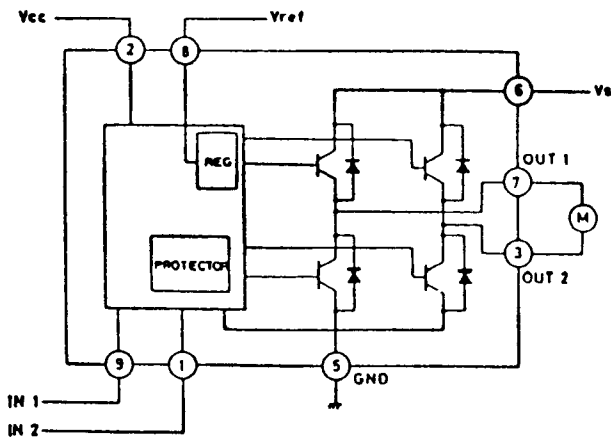
LC4966 (Analog Switch)



TC9273N-010 (Analog Switch)



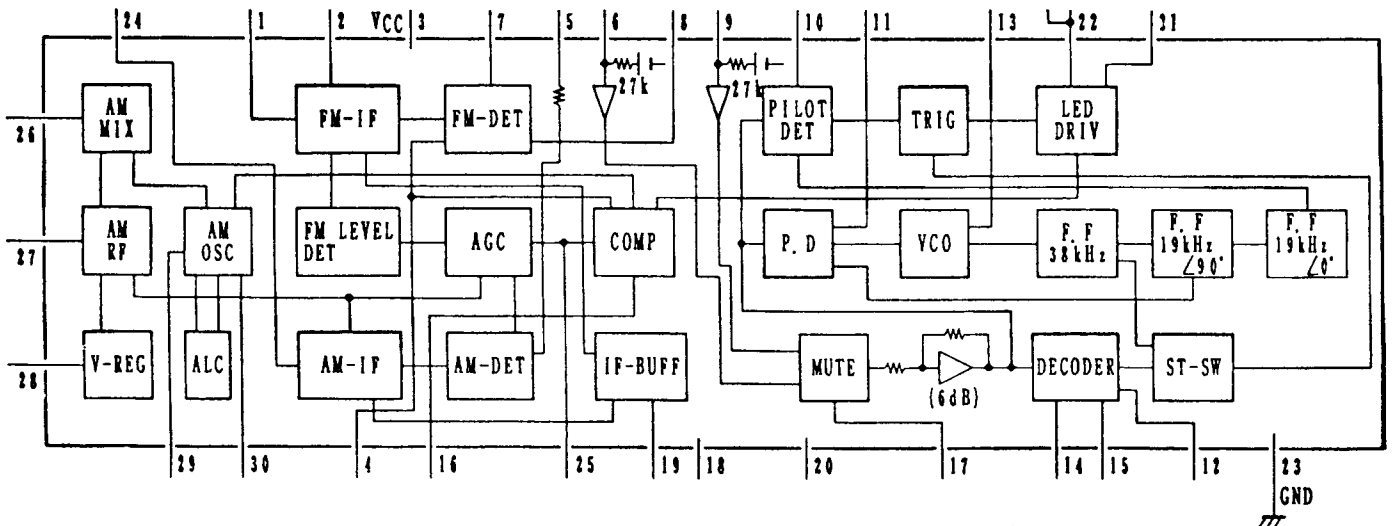
TA7291S (Volume driver)



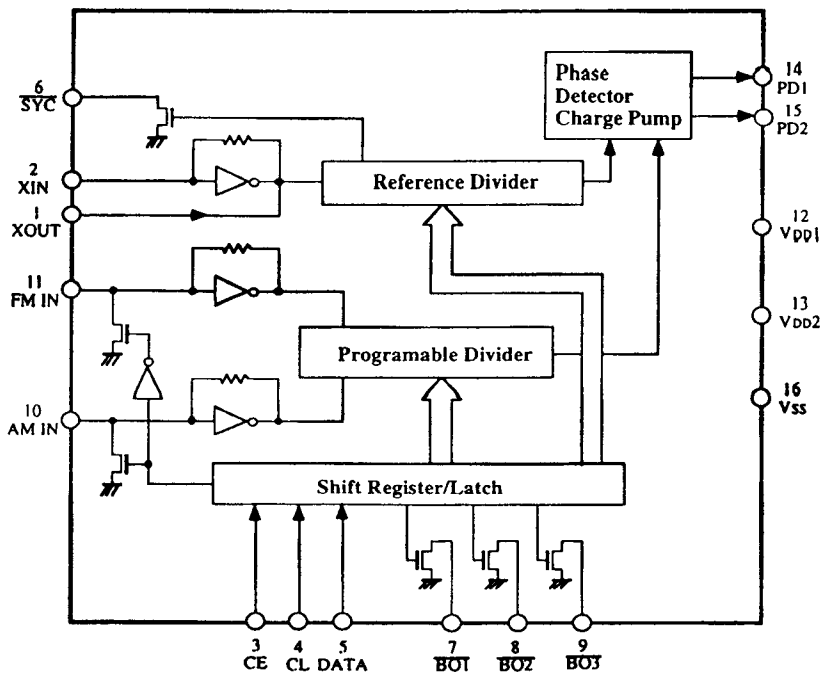
INPUT		OUTPUT		MODE
IN 1	IN 2	OUT 1	OUT 2	
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

CCW: Counter clockwise direction  
CW: Clockwise direction

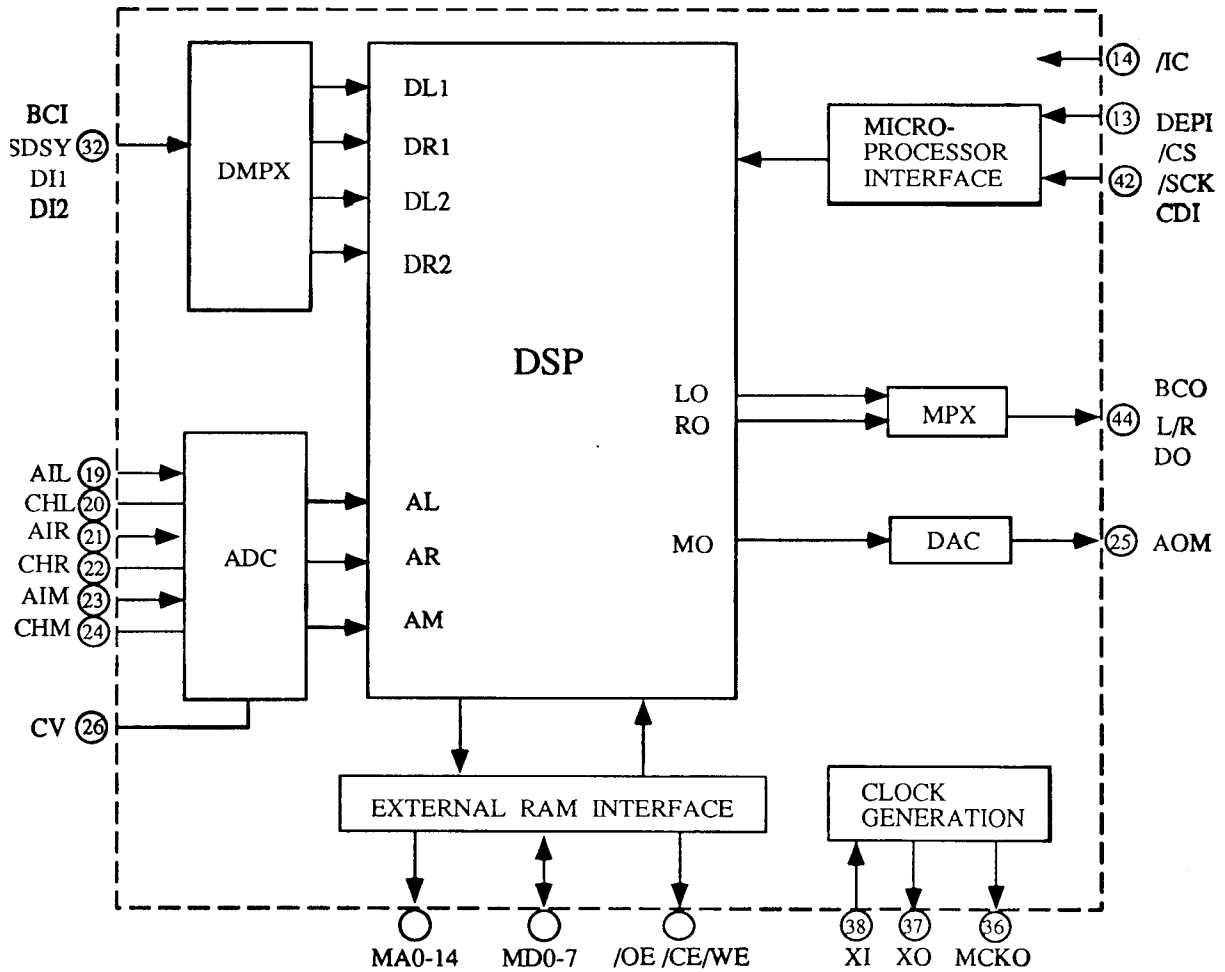
LA1851N (AM, FM IF and MPX)



LM7001 (PLL Frequency Synthesized IC)



YSS240-F (Karaoke Decoder)



# ADJUSTMENT PROCEDURES

## Preparation

### 1. Input

FM mono: 1kHz, 75kHz devi., 60dB/ $\mu$ V  
 FM stereo: 1kHz, 67.5kHz devi., 60dB/ $\mu$ V  
 Pilot signal 19kHz 7.5kHz devi.

AM: 400Hz, 30% mod.

### 2. Outputs

Connect the non-inductive type resistor of 8 ohms to the all speaker terminals unless otherwise noted.

## 1.FM ADJUSTMENT

Item	Step	Connection of instrument	FM SG output	Stereo modulator output	Tuning frequency	Output indicator	Adjustment point	Adjust for	Remarks
FM IF/RF	1	Fig.1	99.0MHz 1kHz 75kHz devi. 65dBf(60dB)	—	99.0MHz	DC voltmeter	L101	0 $\pm$ 20mV	FM MUTE/MODE switch:ON/AUTO Repeat the steps 1 and 3 until no further adjustment is necessary.
	AC voltmeter					IFT on the front end	Maximum		
	Distortion analyzer					L102	Minimum		
Stereo Distortion		Fig.2	99.0MHz Ext. mod.65dBf(60dB)	Channel L or R 1kHz	99.0MHz	Distortion analyzer	IFT on the front end	Minimum	FM MUTE/MODE switch:ON/AUTO Don't turn more than $\pm 180^\circ$
Stereo Separation		Fig.2	99.0MHz Ext. mod.65dBf(60dB)	Channel L or R 1kHz	99.0MHz	Oscilloscope	R150	Maximum separation	
Muting Level		Fig.1	99.0MHz 19.2dBf(14dB)	—	99.0MHz	Oscilloscope	R158	Signal output	
RDS		Fig.3	99.0MHz Ext. mod.60dB	RDS data or 57kHz 3% devi.	99.0MHz	Oscilloscope	R798	Maximum	European model only

## 2.AM ADJUSTMENT

### 120V model

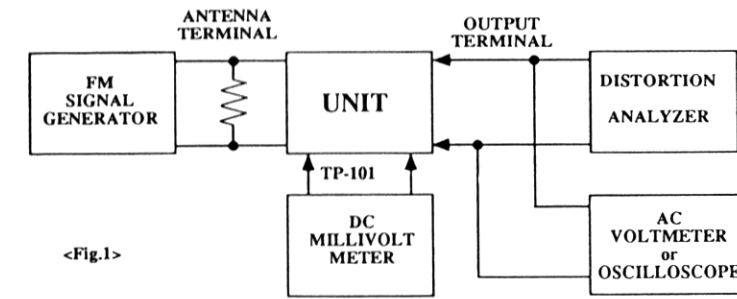
Step	AM SG output	Tuning Frequency	Output Indicator	Adjustment point	Adjust for
1		530kHz	Digital DC voltmeter	OSC coil on RF block L105	1.3 $\pm$ 0.2V
2	600kHz 400Hz 30% mod. 60dB/m	600kHz	AC voltmeter	RF coil on RF block L105	Maximum
3	990kHz 400Hz 30% mod. 60dB/m	990kHz	AC voltmeter	L106	Maximum

Reference Specification  
 FM tuned voltage:87.50MHz~108.00MHz  
 More than 1.2V~Less than 10V  
 AM tuned voltage:530kHz~1710kHz  
 1.3 $\pm$ 0.2~Less than 9.0V

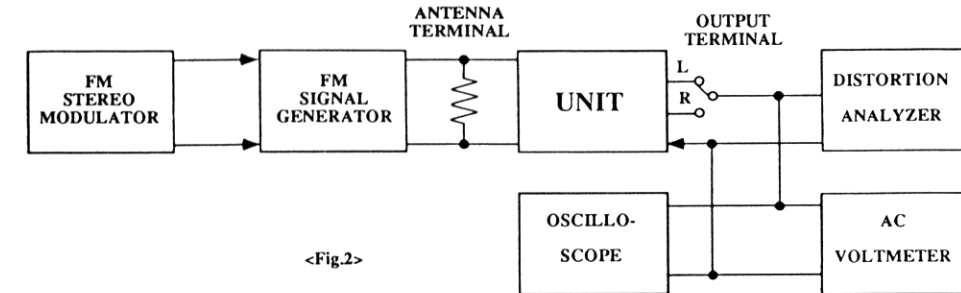
### 230V and Wolrdwide models

Step	AM SG output	Tuning Frequency	Output Indicator	Adjustment point	Adjust for
1		522kHz or 531kHz	Digital DC voltmeter	OSC coil on RF block L105	1.3 $\pm$ 0.2V
2	603kHz 400Hz 30% mod. 60dB/m	603kHz	AC voltmeter	RF coil on RF block L105	Maximum
3	999kHz 400Hz 30% mod. 60dB/m	999kHz	AC voltmeter	L106	Maximum

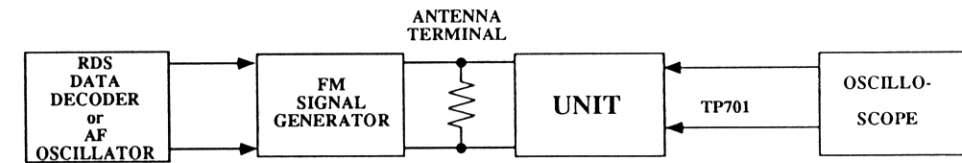
Reference Specification  
 FM tuned voltage:87.50MHz~108.00MHz  
 More than 1.2V~Less than 10V  
 AM tuned voltage:522kHz~1611kHz  
 1.3 $\pm$ 0.2~Less than 9.0V (230V model)  
 AM tuned voltage:531kHz~1602kHz  
 1.3 $\pm$ 0.2~Less than 9.0V (Worldwide model)



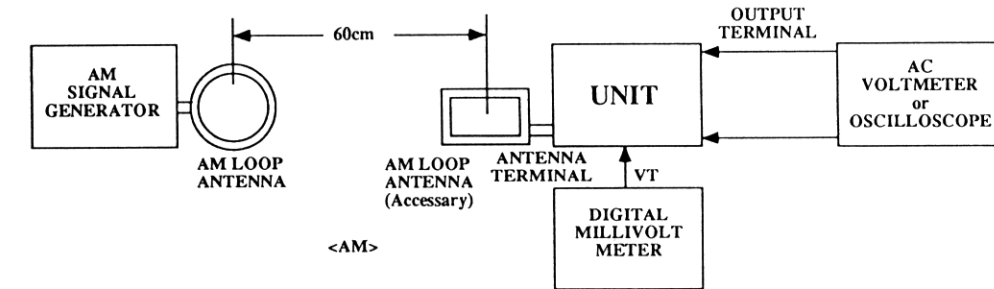
<Fig.1>



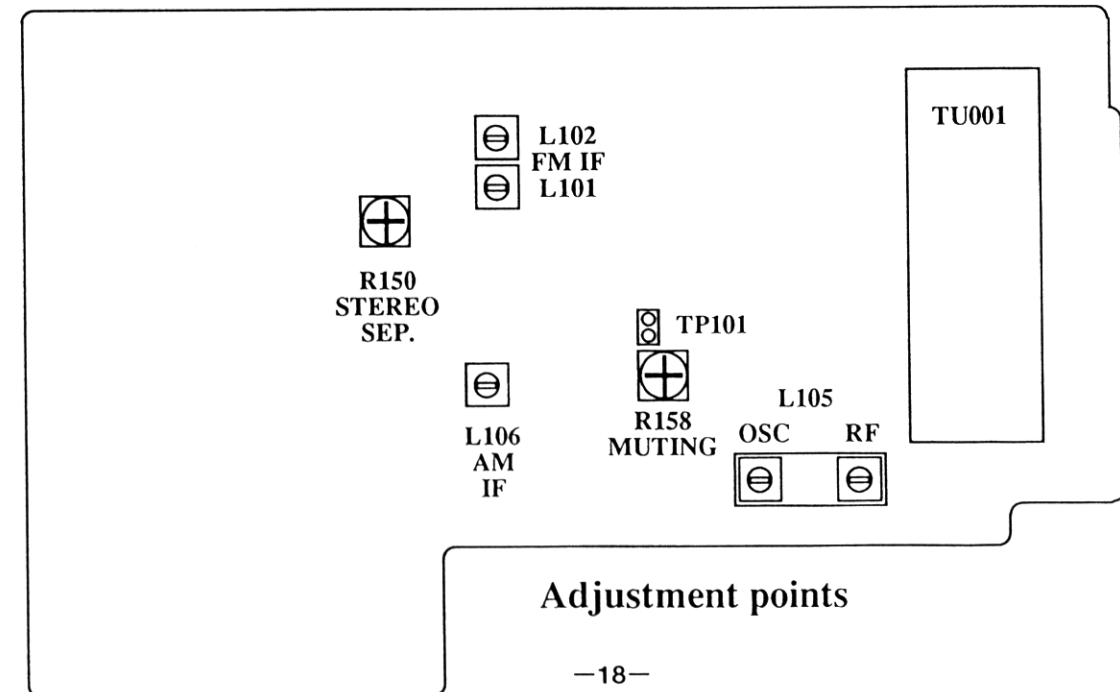
<Fig.2>



<Fig.3>



<AM>



Adjustment points



A B C D

# SCHEMATIC DIAGRAM

## TX-SE500

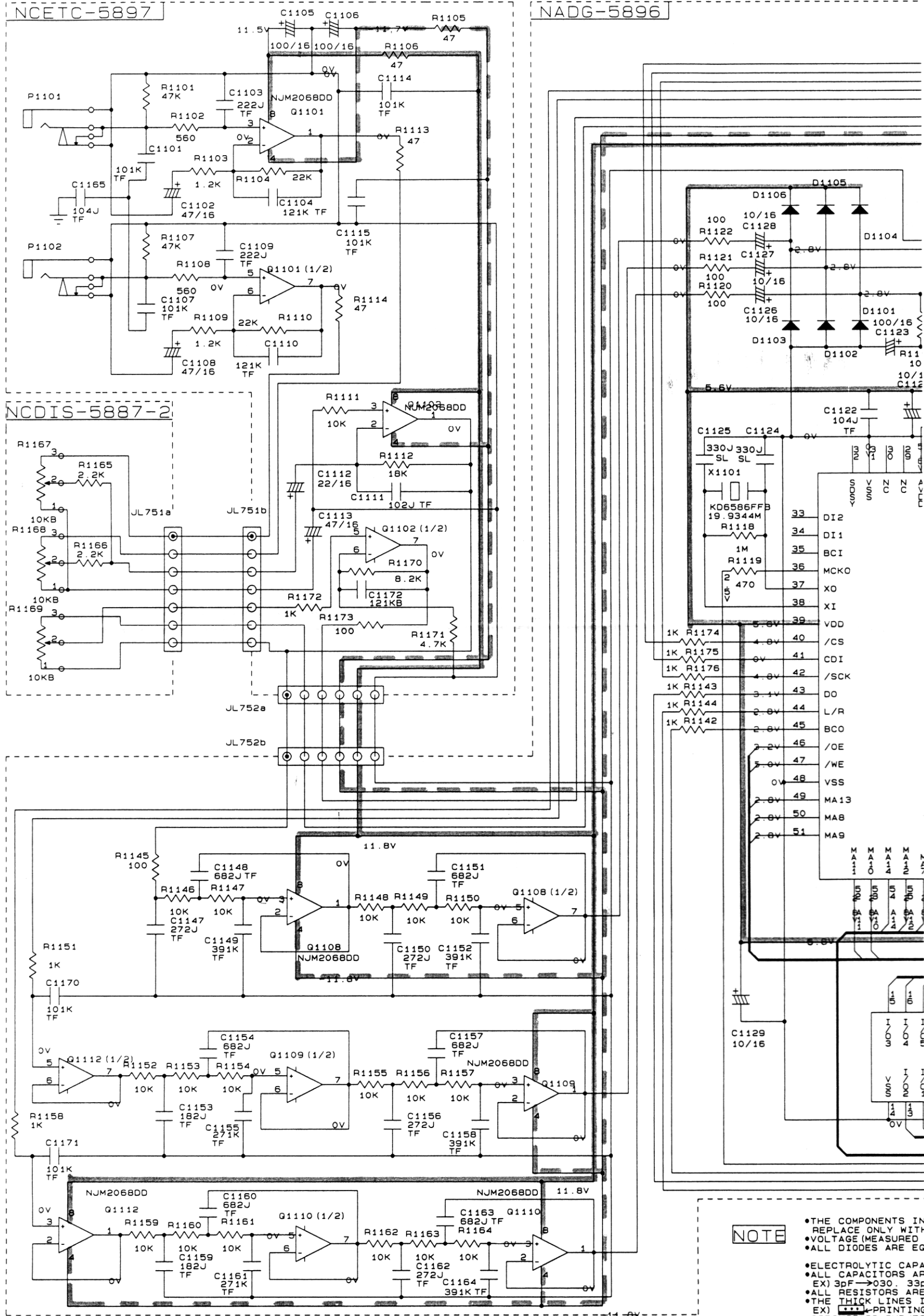
1

2

3

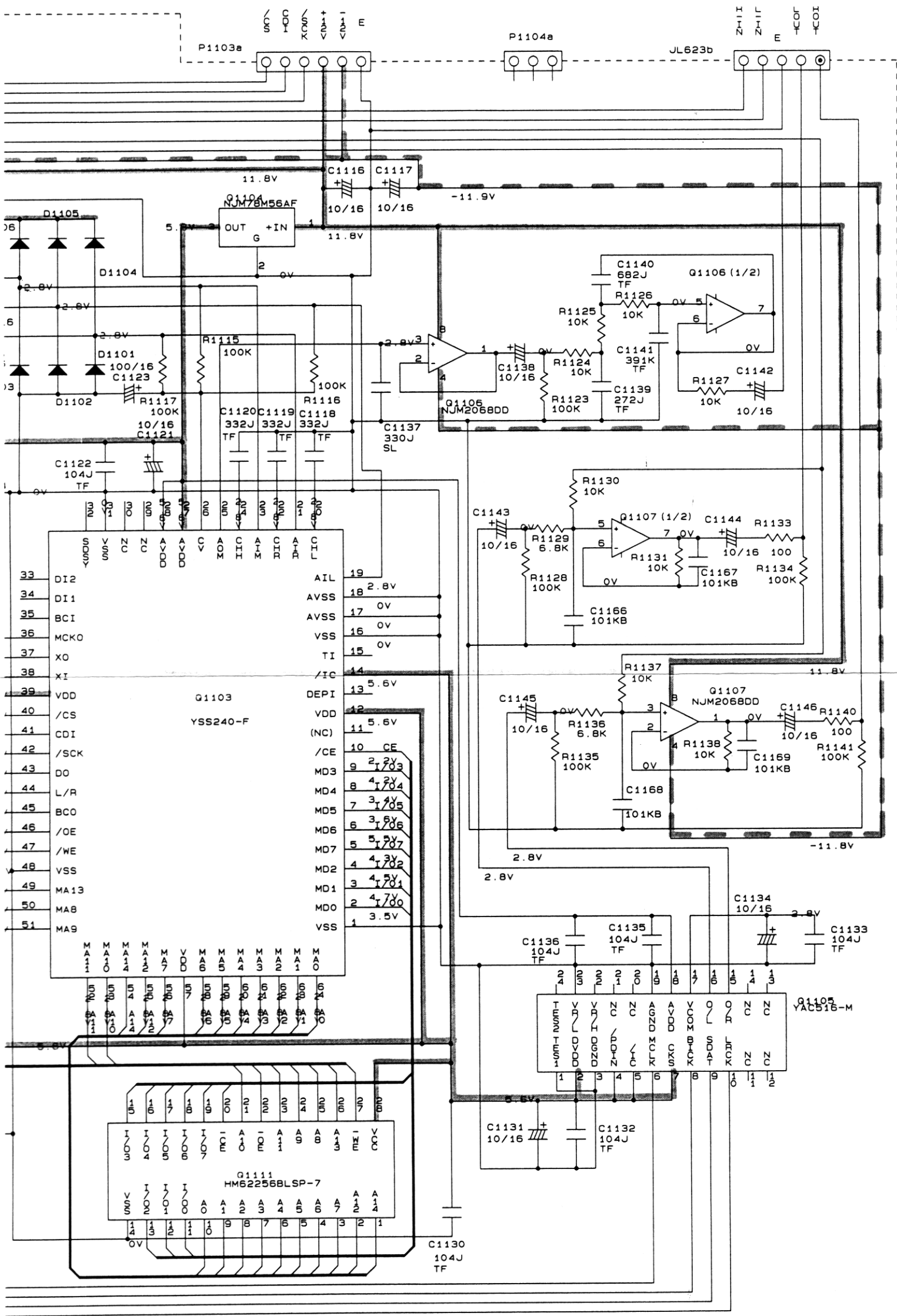
4

5



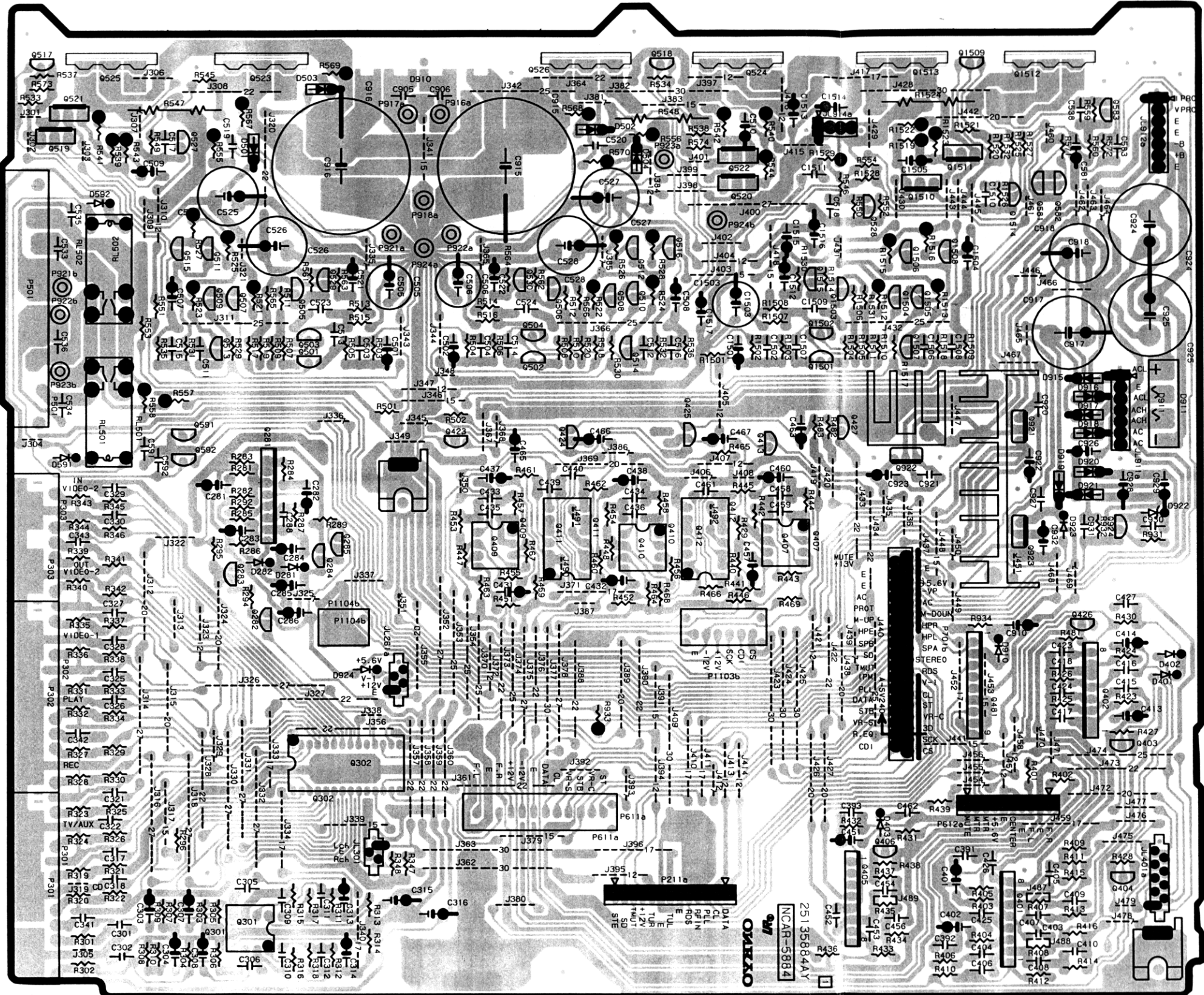
**NOTE**

- THE COMPONENTS IN THIS SCHEMATIC ARE TO BE REPLACED ONLY WITH THE SAME PART NUMBER.
- VOLTAGE (MEASURED AT POWER-UP)
- ALL DIODES ARE EQUALLY BIPOLAR.
- ELECTROLYTIC CAPACITORS ARE SHOWN WITH POLARITY.
- ALL CAPACITORS ARE IN PFD UNLESS OTHERWISE SPECIFIED.
- EX) 30F → 030 33C
- ALL RESISTORS ARE IN KΩ UNLESS OTHERWISE SPECIFIED.
- THE THICK LINES IN THIS SCHEMATIC INDICATE PRINTING TOLERANCES.
- EX) 10K → 10K PRINTING TOLERANCE
- CIRCUIT IS SUBJECT TO CHANGE WITHOUT NOTICE.

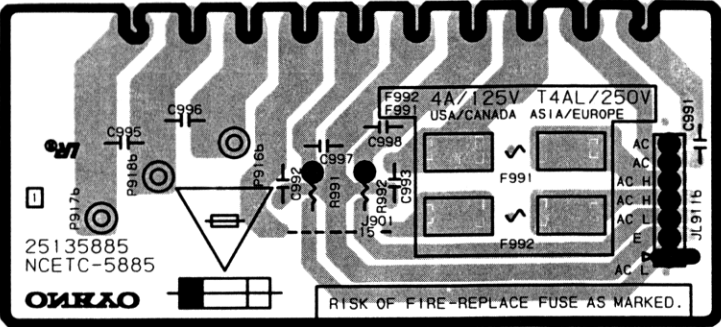


- THE COMPONENTS IDENTIFIED BY MARK ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) IS DC VOLTAGE. (NO INPUT SIGNAL)
- ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS () ARE IN uF/V.
- ALL CAPACITORS ARE IN pF/50V UNLESS OTHERWISE NOTED.
- EX) 3pF → 030. 33pF → 330. 330pF → 331. 0.033uF → 333.
- ALL RESISTORS ARE IN OHMS 1/6WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
- EX) PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT

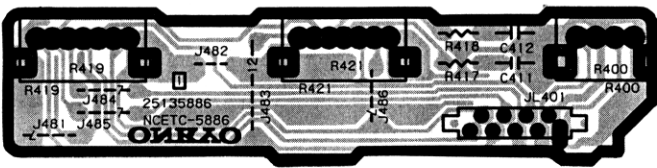
PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE



MAIN CIRCUIT PC BOARD

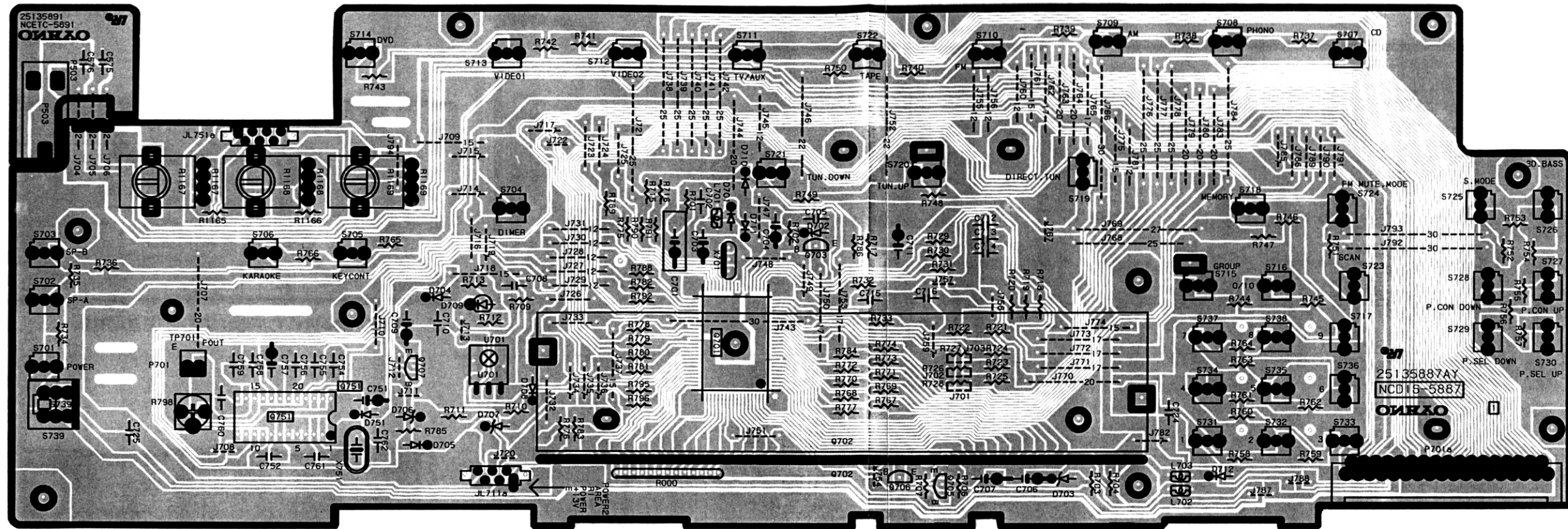


SECONDARY CIRCUIT PC BOARD

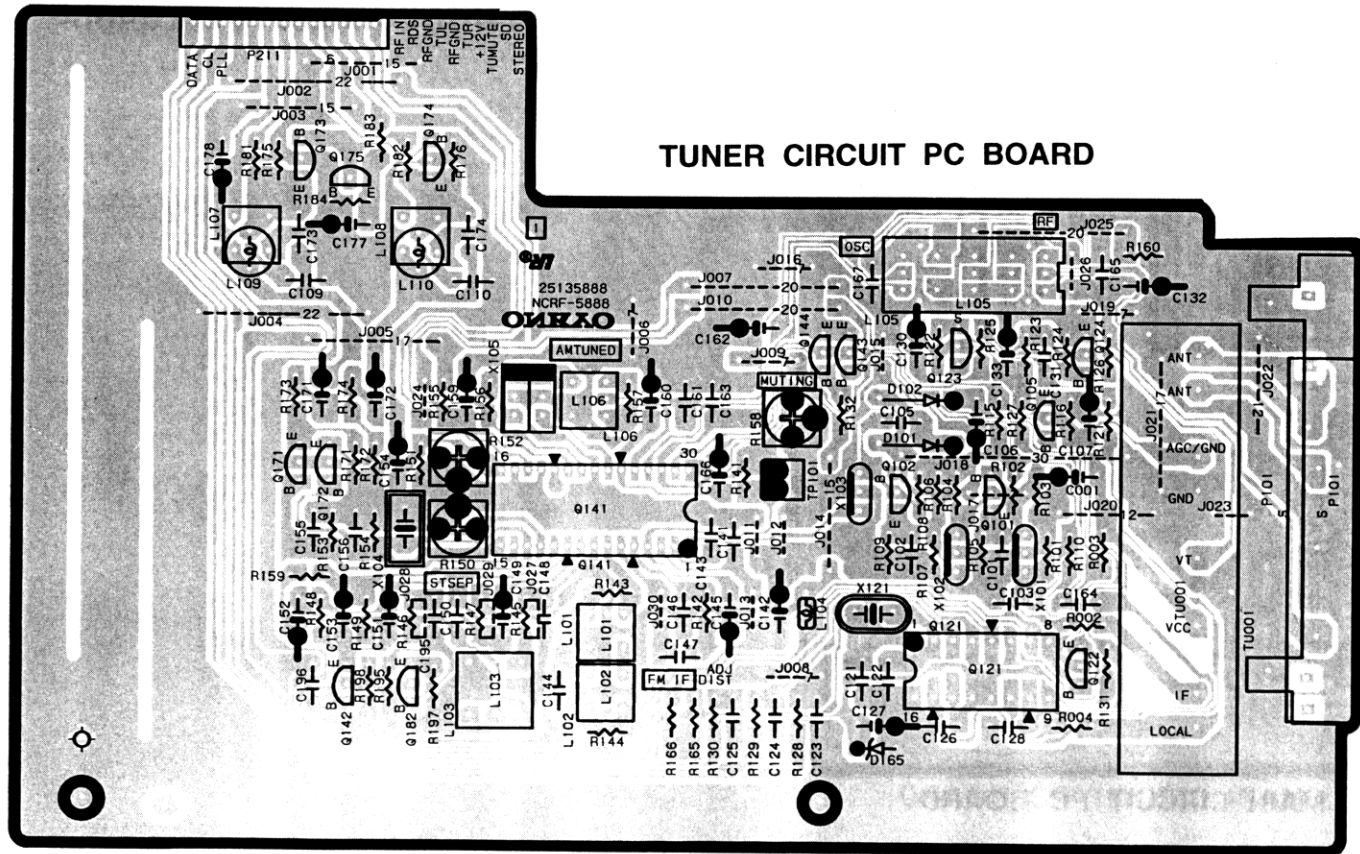


TONE CONTROL CIRCUIT PC BOARD

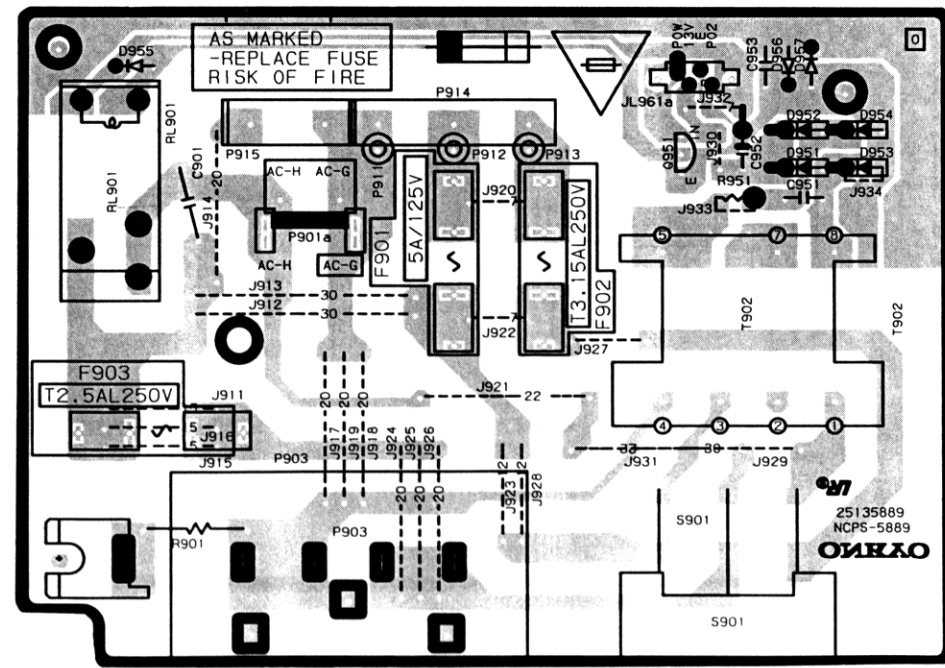
HEADPHONE TERMINAL PC BOARD



DISPLAY CIRCUIT PC BOARD

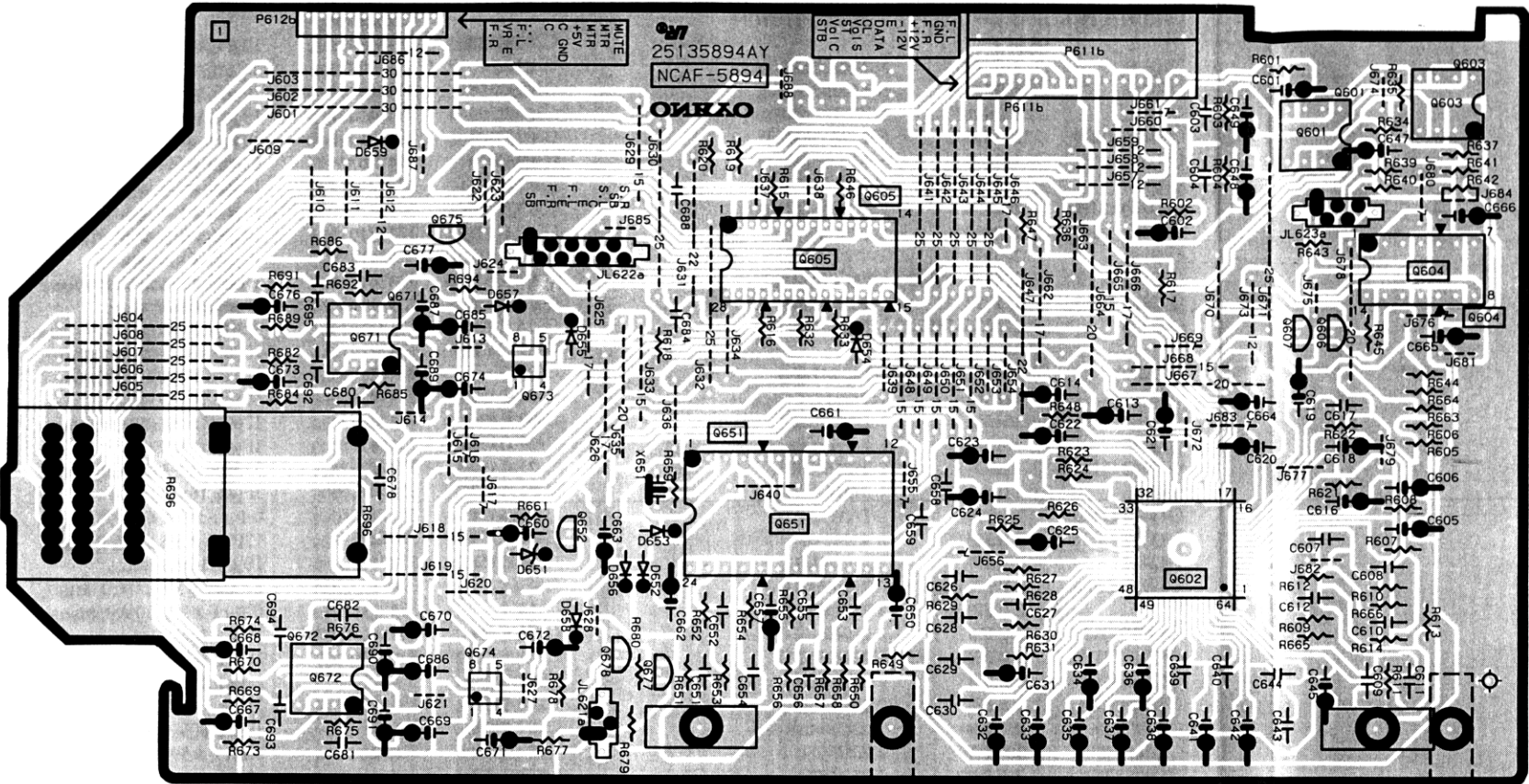


TUNER CIRCUIT PC BOARD

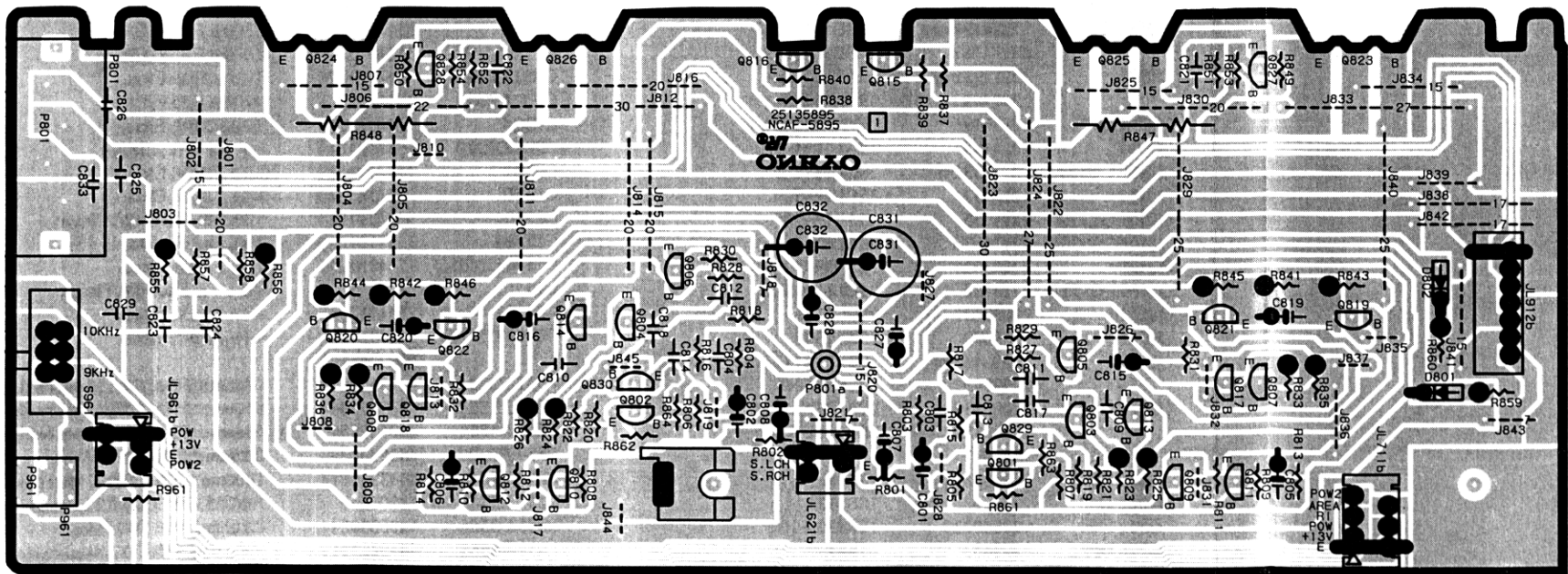


POWER SUPPLY CIRCUIT PC BOARD

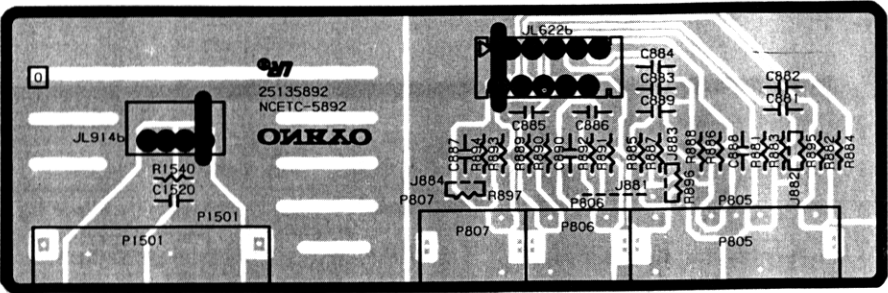
PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE



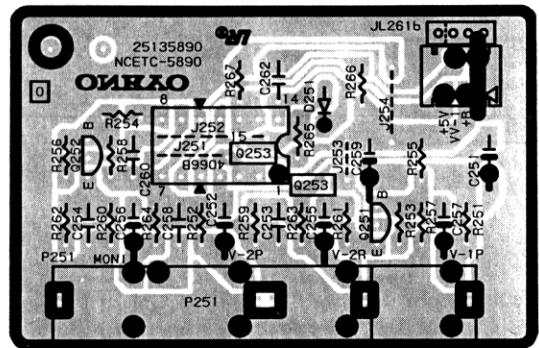
VOLUME CIRCUIT PC BOARD



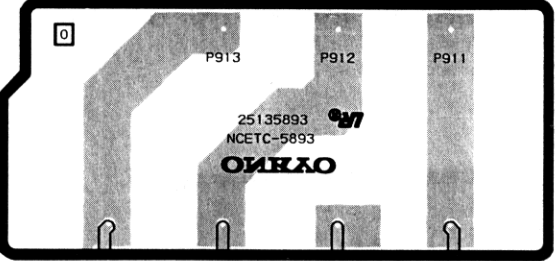
REAR AMPLIFIER PC BOARD



VIDEO TERMINAL PC BOARD

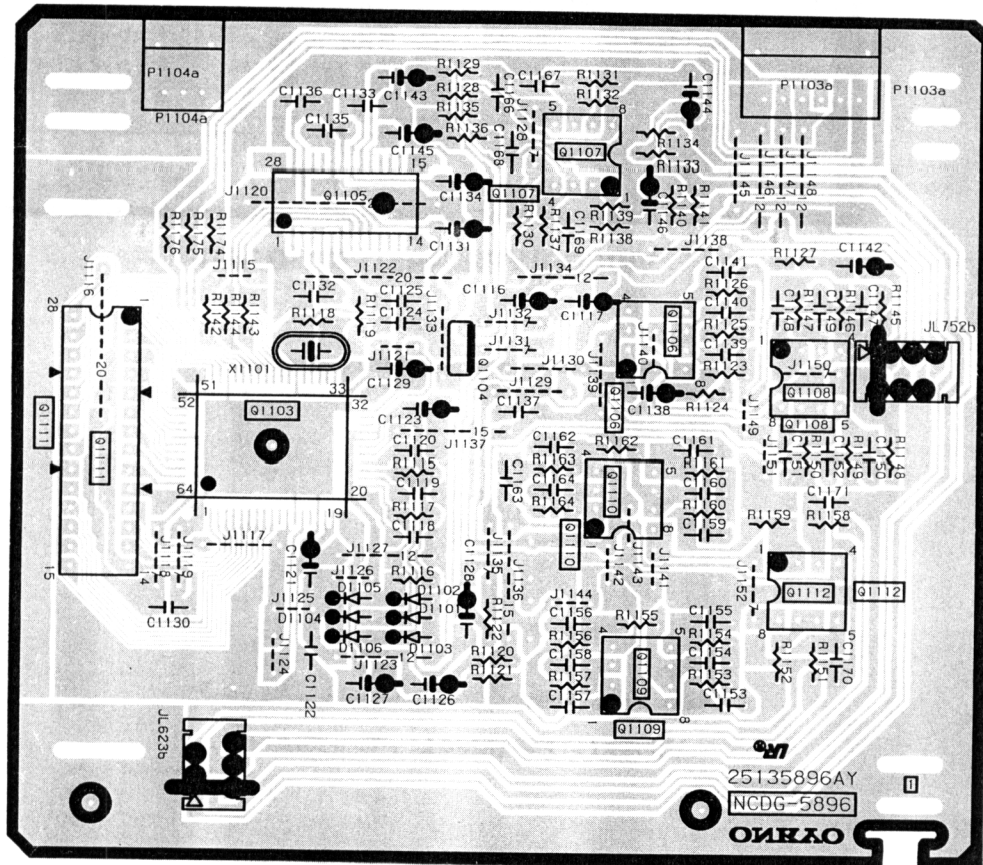


VIDEO TERMINAL PC BOARD

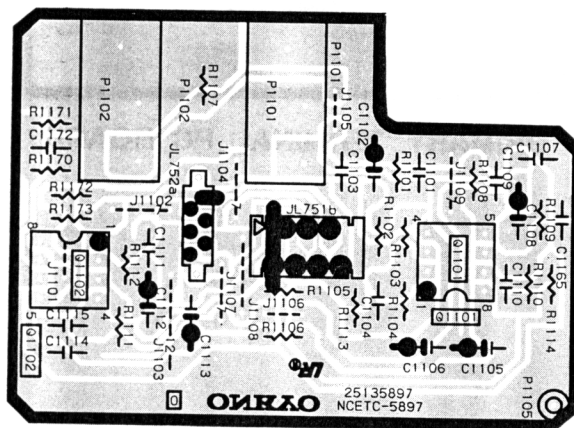


PRIMARY TERMINAL PC BOARD

MODEL TX-SE500 ONLY



DIGITAL CIRCUIT PC BOARD



MIC. TERMINAL PC BOARD

NOTE: <D>:120V model only  
 <P>:230V model only  
 <W>:Worldwide model only

CAUTION: Replacement for transistor of mark \*, if necessary,  
 must be made from the same beta group (HFE) as  
 the original type.

# CIRCUIT BOARD-PARTS LIST

## MAIN CIRCUIT PC BOARD (NAAR-5884-1A/1B/2)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>ICs</b>	
Q281	22240293	NJM4558L-D
Q301	2225502	NJM4558D-X
Q302	22240881	TC9273N-010
Q401,Q402	22240250	NJM2068L-D
Q405	22240250	NJM2068L-D
Q407	222956	NJM2068D-D
Q409,Q410	222956	NJM2068D-D
Q411,Q412	22240025	LC4966
Q481	22240239	TA7291S
Q921	222780125NEC	MPC78M12AHF
Q922	222790125	79M12HF
Q923	222780565JRC	NJM78M56FA
	<b>Transistors</b>	
Q282	2212600	DTA124ES
Q283	2213816	2SD1450-T
Q284	2213160	DTC124ES
Q285	2215240	DTA114TS
Q403,Q404	2211945	2SK246-GR
Q406	2211945	2SK246-GR
Q413,Q426	2213090	DTA114YS
Q423*Q425	2213631	RN1241-A
Q427	2213510	DTA114ES
Q501*Q506	2211733 or 2211732	* 2SC1845-E or * 2SC1845-F
Q507*Q510	2211353	2SA949-O
Q511,Q512	2211633	2SC2229-O
Q513,Q514	2211353	2SA949-O
Q515,Q516	2211633	2SC2229-O
Q517,Q518	2213284	2SC1740S-R
Q519,Q520	2203010	2SC5171
Q521,Q522	2203000	2SA1930
Q523,Q524	2202843 or 2202842	* 2SC5242-O or * 2SC5242-R
Q525,Q526	2202833 or 2202832	* 2SA1962-O or * 2SA1962-R
Q527,Q528	2211733 or 2211732	2SC1845-E or 2SC1845-F
Q529,Q530	2213284	2SC1740S-R
Q581,Q582	2211733 or 2211732	2SC1845-E or 2SC1845-F
Q583	2211792 or 2211793	2SA992-F or 2SA992-E
Q591,Q592	2213640	DTC123JS
Q924	2211455	2SA1015-GR
Q1501*Q1503	2211733 or	* 2SC1845-E or
Q1514	2211732	* 2SC1845-F
Q1504,Q1505	2211353	2SA949-O
Q1506,Q1508	2211633	2SC2229-O
Q1507	2211353	2SA949-O
Q1509,Q1515	2213284	2SC1740S-R
Q1510	2203010	2SC5171
Q1511	2203000	2SA1930
Q1512	2202843 or 2202842	* 2SC5242-O or * 2SC5242-R
Q1513	2202833 or 2202832	* 2SA1962-O or * 2SA1962-R
	<b>Diodes</b>	
D281,D282	223163	1SS133
D401*D403	223163	1SS133
D501*D504	22380032	1SR139-100
D591,D592	223163	1SS133
D910	223163	1SS133
D911	22380021	△ RS403L
D915*D921	22380032	△ 1SR139-100
D922	224473304	MTZJ33D
D923,D924	223163	1SS133

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Capacitors</b>	
C281*C283	354741009	10 $\mu$ F,16V, Elect.
C284	354780229	2.2 $\mu$ F,50V, Elect.
C285,C286	354741009	10 $\mu$ F,16V, Elect.
C303,C304	354741009	10 $\mu$ F,16V, Elect.
C307,C308	354721019	100 $\mu$ F,6.3V, Elect.
C309,C310	374726224	6200pF $\pm$ 5%, 50V, Plastic
C311,C312	374721824	1800pF $\pm$ 5%, 50V, Plastic
C313*C316	354741009	10 $\mu$ F,16V, Elect.
C391*C393	374721015	100pF $\pm$ 10%, 50V, Plastic
C401,C402	354741009	10 $\mu$ F,16V, Elect.
C407*C410	374721044	0.1 $\mu$ F $\pm$ 5%, 50V, Plastic
C413,C414	354741009	10 $\mu$ F,16V, Elect.
C415,C416	374721534	0.015 $\mu$ F $\pm$ 5%, 50V, Plastic
C417,C418	374721015	100pF $\pm$ 10%, 50V, Plastic
C427	374721044	0.1 $\mu$ F $\pm$ 5%, 50V, Plastic
C431,C432	354741009	10 $\mu$ F,16V, Elect.
C433*C436	374721224	1200pF $\pm$ 5%, 50V, Plastic
C437,C438	354741009	10 $\mu$ F,16V, Elect.
C439,C440	374722224	2200pF $\pm$ 5%, 50V, Plastic
C451,C457	354741009	10 $\mu$ F,16V, Elect.
C454,C456	374721044	0.1 $\mu$ F $\pm$ 5%, 50V, Plastic
C458,C459	374721224	1200pF $\pm$ 5%, 50V, Plastic
C460,C463	354741009	10 $\mu$ F,16V, Elect.
C461	374722224	2200pF $\pm$ 5%, 50V, Plastic
C462	374721044	0.1 $\mu$ F $\pm$ 5%, 50V, Plastic
C465*C467	354741009	10 $\mu$ F,16V, Elect.
C501,C502	354741009	10 $\mu$ F,16V, Elect.
C503,C504	374721015	100pF $\pm$ 10%, 50V, Plastic
C505,C506	354742219	220 $\mu$ F,16V, Elect.
C507*C510	354781009	10 $\mu$ F,50V, Elect.
C519,C520	374721044	0.1 $\mu$ F $\pm$ 5%, 50V, Plastic
C521,C522	354744709	47 $\mu$ F,16V, Elect.
C525*C528	354774719	470 $\mu$ F,6.3V, Elect.
C581	354721019	100 $\mu$ F,6.3V, Elect.
C910	354732219	220 $\mu$ F,10V, Elect.
C915,C916	3504280 or 3504298	8200 $\mu$ F,56V or 8200 $\mu$ F,56V, Elect. <D>
C915,C916	3504285 or 3504299	10000 $\mu$ F,56V or 10000 $\mu$ F,56V, Elect. <P/W/A/T/K>
C917	354753329	3300 $\mu$ F,25V, Elect.
C918	354761029	1000 $\mu$ F,35V, Elect.
C922,C923	354781009	10 $\mu$ F,50V, Elect.
C924,C925	3504213	4700 $\mu$ F,35V, Elect.
C926	354781009	10 $\mu$ F,50V, Elect.
C928,C929	354781019	100 $\mu$ F,50V, Elect.
C932	354741009	10 $\mu$ F,16V, Elect.
C1501	354742209	22 $\mu$ F,16V, Elect.
C1502	374721015	100pF $\pm$ 10%, 50V, Plastic
C1503	354741019	100 $\mu$ F,16V, Elect.
C1504,C1505	354781009	10 $\mu$ F,50V, Elect.
C1511	374721044	0.1 $\mu$ F $\pm$ 5%, 50V, Plastic
C1512	354744709	47 $\mu$ F,16V, Elect.
C1513*C1517	354781009	10 $\mu$ F,50V, Elect.
	<b>Resistors</b>	
R521*R524	443526804	68ohm $\pm$ 5%, 1/2W, Metal oxide
R525,R526	443525604	56ohm $\pm$ 5%, 1/2W, Metal oxide
R527,R528	443526804	△ 68ohm $\pm$ 5%, 1/2W, Metal oxide
R539*R542	453530224	2.2ohm $\pm$ 5%, 1/2W, Metal
R543,R544	443521014	100ohm $\pm$ 5%, 1/2W, Metal oxide
R547,R548	4800045	RGC55, 0.1 OHM X2, Metal plate
R555,R556	453630824	8.2ohm $\pm$ 5%, 1W, Metal
R557,R558	443623914	390ohm $\pm$ 5%, 1W, Metal oxide
R567*R570	453530224	2.2ohm $\pm$ 5%, 1/2W, Metal
R933	443524704	47ohm $\pm$ 5%, 1/2W, Metal oxide
R1512,R1513	443526804	68ohm $\pm$ 5%, 1/2W, Metal oxide
R1515	443525604	56ohm $\pm$ 5%, 1/2W, Metal oxide
R1516	443526804	△ 68ohm $\pm$ 5%, 1/2W, Metal oxide

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Resistors</b>			<b>Diodes</b>	
R1519	443521014	100ohm ± 5%, 1/2W, Metal oxide	D704,D705	223163	1SS133
R1522,R1523	453530224	2.2ohm ± 5%, 1/2W, Metal	D706,D707	224470562	MTZJ5.6B, Zener
<b>R1524</b>	4800045	RGC55, 0.1 Ohm X2, Metal plate	D708	223163	1SS133
<b>R1529</b>	453630824	8.2ohm ± 5%, 1W, Metal	D709	225290	SEL4110R, LED
	<b>Relay</b>		D710-D712	223163	1SS133
RL501,RL502	25065517	NRL-2P5A-DC24-098	D751	223163	1SS133 <P>
	<b>Terminals</b>			<b>Coils</b>	
P301,P302	25045458 or 25045300	NPJ-6PDBL279 or NPJ-6PDBL159	L701-L703	233454K220	NCH-1452, 220K, Choke
P303	25045460Y or 25045303Y	NPJ-4PDBL280 or NPJ-4PDBL162	X701	3010163	CST4.19MGW, Ceramic
P501	25060224Y or 25060158Y	NTM-8PDML146 or NTM-8PDML084	X751	3010203	AF6146CG, Crystal <P>
	<b>Plugs</b>			<b>Capacitors</b>	
P211a	25055709	NPLG-13P665	C701	3000075	EECS5R5T473, Super
P612a	25055706Y	NPLG-10P662	C702	375524744	0.47 μ F ± 5%, 50V, Plastic
	<b>Sockets</b>		C703	355721019	100 μ F, 6.3V, Elect.
P611a	25051752Y	NSCT-12P1539	C704	355780109	1 μ F, 50V, Elect.
P701b	25050975Y or 25051842	NSCT-35P762 NSCT-35P1629	C706,C707	355780109	1 μ F, 50V, Elect.
JL261a	25051088	NSCT-4P875	C709,C711	355721019	100 μ F, 6.3V, Elect.
JL401a	25051093	NSCT-9P880	C751	354721019	100 μ F, 6.3V, Elect. <P>
JL911a,JL912a	25051111	NSCT-7P898	C754,C760	374724724	4700pF ± 5%, 50V, Plastic <P>
JL914a	25051108	NSCT-4P895	C755,C756	374723324	3300pF ± 5%, 50V, Plastic <P>
P1103b	25051751Y	NSCT-6P1538 <SE>	C757	354780229	2.2 μ F, 50V, Elect. <P>
P1104b	25051753Y	NSCT-3P1540 <SE>	C758	374724734	0.047 μ F ± 5%, 50V, Plastic <P>
	<b>Radiators</b>		C759	374722234	0.022 μ F ± 5%, 50V, Plastic <P>
Q921a	27160209	RAD-67		<b>Resistors</b>	
Q922a	27160227	RAD-076	R798	5210265	N06HR50KBC, Trimming <P>
	<b>Screws</b>		R1167-R1169	5104393Y	N11RL10KB17Z, Variable <SE>
Q921b,Q922b	838430107	3TTB+10S(BC), Self-tapping		<b>Switches</b>	
	<b>SECONDARY CIRCUIT PC BOARD (NAETC-5885-1A/1B/2)</b>		S701	25035652	NPS-111-S604, Push <D>
CIRCUIT NO.	PART NO.	DESCRIPTION	S702-S704	25035652	NPS-111-S604, Push
F991a,F992a	25050065	△ YSH403T, Fuseholder	S705,S706	25035652	NPS-111-S604, Push <SE>
F991,F992	252077	△ 4A-SE-EAK, Fuse <P/A/T/K/W>	S707-S738	25035652	NPS-111-S604, Push
F991,F992	252163Y	△ 4A-UL/T-237, Fuse <D>	S739	25035653	NPS-122-L605, Push <P/W/T/A/K>
JL911b	25051111	NSCT-7P898, Socket		<b>Sockets and Holder</b>	
C992,C993	374721044	0.1 μ F ± 5%, 50V, Plastic capacitor	JL711a	25051090	NSCT-6P877 or
C995,C996	374731044	0.1 μ F ± 5%, 50V, Plastic capacitor	JL711a	25051879	NSCT-35P1666
C997,C998	374721044	0.1 μ F ± 5%, 50V, Plastic capacitor	P701	25055038	NPLG-2P29 <P>
R991,R992	453530224	2.2ohm ± 5%, 1/2W, Metal resistor	P701a	25050941Y or 25051842Y	NSCT-35P728 or NSCT-35P1269
	<b>TONE CONTROL CIRCUIT PC BOARD (NAETC-5886-1A/1B/2)</b>		JL751a	25051091	NSCT-7P878 <SE>
CIRCUIT NO.	PART NO.	DESCRIPTION		<b>Holder</b>	
R400	5104288	N11RCL250KWT20Z, Variable resistor	Q702a	27190989	Holder FL
R419,R421	5104356	N14RCL100KWT20Z, Variable resistor		<b>TUNER CIRCUIT PC BOARD</b>	
JL401b	25051093	NSCT-9P880, Wire holder		<b>(NARF-5888-1A/1B/1C/1D/1E/1F/2A/2B/2C)</b>	
C411,C412	374721534	0.015 μ F ± 5%, 50V, Plastic capacitor	CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>DISPALY CIRCUIT PC BOARD</b>			<b>Front end</b>	
	<b>(NADIS-5887-1A/1B/1C/1D/1E/1F/2A/2B/2C)</b>		TU001	240098	ENV172D1G1, Front end <D>
CIRCUIT NO.	PART NO.	DESCRIPTION	TU001	240102	FE417-G02, Front end <P/W/T/A/K>
	<b>Remote sensor</b>			<b>ICs</b>	
U701	24130011	PIC-12043TE2, Remote sensor	Q121	22240090	LM7001
	<b>FL tube</b>		Q141	22240983	LA1851N-F
Q702	212156	12-BT-101GK		<b>Transistors</b>	
	<b>ICs</b>		Q101	2210746	2SC945A-P <P/W/T/A/K>
Q701	22241059	μ PD78043FGF-018	Q102	2211723	2SC1923-O
Q751	22240679	μ PC1346CS <P>	Q122,Q142	2213510 or	DTA114ES or
	<b>Transistors</b>		Q175	2214350	RN2202
Q703	221282	DTC144ES	Q123	2212445	2SK365-GR
Q705,Q706	2213284	2SC1740S-R	Q124	2212115 or	2SC2458-GR or
Q707	2213510	DTA114ES	Q171,Q172	2213284	2SC1740S-R
	<b>Diodes</b>		Q143	221282	DTC144ES
D701D702	223163	1SS133	Q144	2213640	DTC123JS
D703	224471203	MTZJ12C, Zener	Q173,Q174	2212794	2SD1468-R
			Q182	2212115 or	2SC2458-GR or
				2213284	2SC1740S-R <P>
				<b>Diode</b>	
			D165	224470512	MTZJ5.1B, Zener



NOTE: THE COMPONENTS IDENTIFIED BY MARK  $\Delta$   
ARE CRITICAL FOR RISK OF FIRE AND  
ELECTRIC SHOCK. REPLACE ONLY WITH  
PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
<b>Coils and transformers</b>			<b>Capacitors</b>		
L101	233457	NFIF-4081, IF Transformer	C901	3500191	$\Delta$ DE7150F-103M, AC400V/125V, IS
L102	233458	NFIF-4082, IF Transformer	C952	354743319	330 $\mu$ F, 16V, Elect.
L103	233471	NMC-6084 <P/W/T/A/K>	<b>Fuseholders</b>		
L104	233454K220	NCH-1452, 220K, Choke coil	F901a	25050065	$\Delta$ YSH403T, Fuseholder <D/W>
L105	232174	NMRF-5077, RF block	F902a	25050065	$\Delta$ YSH403T, Fuseholder <P/T/A/K>
L106	232139	NMIF-4062, IF transformer	F903a	25050065	$\Delta$ YSH403T, Fuseholder <P/T>
L107,L108	233484	NMC-4085 <P/W/T/A/K>	<b>Fuses</b>		
L109,L110	231092	NCH-2140, Choke coil <D>	F901	252164Y	$\Delta$ 5A-UL/T-237, Fuse <D/W>
<b>Capacitors</b>			F902	252076	$\Delta$ 3.15A-SE-EAK, Fuse <P/A/T/K/W>
C001	354741019	100 $\mu$ F, 16V, Elect.	F903	252075	$\Delta$ 2.5A-SE-EAK, Fuse <P/T>
C109,C110	374722724	2700pF $\pm$ 5%, 50V, Plastic <P/W/T/A/K>	<b>Holder</b>		
C127	354721019	100 $\mu$ F, 6.3V, Elect.	JL961a	25051088	NSCT-4P875, Wire
C130	354780229	2.2 $\mu$ F, 50V, Elect.	P901a	25055675Y	NPLG-2P631, Plug
C131	374722234	0.022 $\mu$ F $\pm$ 5%, 50V, Plastic	<b>Terminal</b>		
C132,C153	354783399	0.33 $\mu$ F, 50V, Elect.	P902	25051126Y	$\Delta$ NSCT-4P913, AC outlet <D>
C133,C142	354741019	100 $\mu$ F, 16V, Elect.	P903	25051125Y	$\Delta$ NSCT-4P912, AC outlet <P/W/T>
C145,C154	354741009	10 $\mu$ F, 16V, Elect.	<b>Resistors</b>		
C146	374723324	3300pF $\pm$ 5%, 50V, Plastic	R901	431533355	$\Delta$ 3.3 Mohm, 1/2W, Solid <D>
C147	374721034	0.01 $\mu$ F $\pm$ 5%, 50V, Plastic <P/W/T/A/K>	R951	453530824	8.2ohm $\pm$ 5%, 1/2W, Metal <P/W/T/A/K>
	374721534	0.015 $\mu$ F $\pm$ 5%, 50V, Plastic <D>	<b>Relay</b>		
C149	354780479	4.7 $\mu$ F, 50V, Elect.	RL901	25065515	$\Delta$ NRL-1P5A-DC12-096
C151,C152	354780109	1 $\mu$ F, 50V, Elect.	<b>Switch</b>		
C155,C156	374721034	0.01 $\mu$ F $\pm$ 5%, 50V, Plastic <D>	S901	25065437	$\Delta$ NSS-22157P, Slide <W>
	374724724	4700pF $\pm$ 5%, 50V, Plastic <P/T/A/K>	<b>VIDEO TERMINAL PC BOARD</b>		
	374725624	5600pF $\pm$ 5%, 50V, Plastic <W>	<b>(NAETC-5890-1A/1B/1C/1D/1E/1F/2A/2B/2C)</b>		
C159,C177	354780229	2.2 $\mu$ F, 50V, Elect.	CIRCUIT NO.	PART NO.	DESCRIPTION
C160	354784799	0.47 $\mu$ F, 50V, Elect.	Q253	222840661	4066B, IC
C162,C166	354741009	10 $\mu$ F, 16V, Elect.	Q251, Q252	2213284	2SC1740S-R, Transistor
C171,C172	354741009	10 $\mu$ F, 16V, Elect.	D251	223163	1SS133, Diode
C173,C174	374721024	1000pF $\pm$ 5%, 50V, Plastic <D>	C251, C252	354721019	100 $\mu$ F, 6.3V, Elect. capacitor
C178	354741009	10 $\mu$ F, 16V, Elect.	C255, C256	354724719	470 $\mu$ F, 6.3V, Elect. capacitor
<b>Oscillators</b>			C257	354721019	100 $\mu$ F, 6.3V, Elect. capacitor
X104	3010268	CSB456F23, Ceramic	C259	354741019	100 $\mu$ F, 16V, Elect. capacitor
X121	3010141	XTL-7.2M, Crystal	JL261b	25055625	NPLG-4P587, Wire trap
<b>Ceramic filters</b>			P251	25045339	NPJ-4PDYE190, Terminal
X101, X103	3010071	SFE10.7MA5(RED)	<b>HEADPHONE TERMINAL PC BOARD</b>		
X102	3010130	SFE10.7MZ2A <P/W/T/A/K>	<b>(NAETC-5891-1A/1B/1C/1D/1E/1F/2A/2B/2C)</b>		
X105	3010123	SFZ-450JL	CIRCUIT NO.	PART NO.	DESCRIPTION
<b>Resistors</b>			P503	25045255Y	YKB21-5009, Headphone
R150	5210261	N06HR5KBC, Trimming	<b>VIDEO TERMINAL PC BOARD</b>		
R158	5210264	N06HR30KBC, Trimming	<b>(NAETC-5892-1A/1B/1C/1D/1E/1F/2A/2B/2C)</b>		
<b>Terminals</b>			CIRCUIT NO.	PART NO.	DESCRIPTION
P101	25060117	NTM-2PDML051 or	JL914b	25050281	NSCT-4P109, Wire trap
	25060222	NTM-2PDML144 <P/W/T/A/K>	JL622b	25055631	NPLG-10P593, Wire trap
	25060195	NTM-4PDML117 or	P1501	25060114	NTM-2PDMNL048, Terminal
	25060239	NTM-4PDML161 <D>	P805	25045460Y	NPJ-4PDBL281, Terminal
<b>Plug</b>			P806	25045456Y	NPJ-2PDBL277, Terminal
TP101	25055038Y	NPLG-2P29	P807	25045459Y or	NPJ-1PDBL280 or
<b>Socket</b>				25045302Y	NPJ-1PDBL161, Terminal
P211b	25051238	NSCT-13P1028	<b>VOLUME CIRCUIT PC BOARD (NAAF-5894-1A/1B/1C/2/2A)</b>		
<b>POWER SUPPLY CIRCUIT PC BOARD</b>			CIRCUIT NO.	PART NO.	DESCRIPTION
<b>(NAPS-5889-1A/1B/1C/1D/1E/1F/2A/2B/2C)</b>			<b>ICs</b>		
CIRCUIT NO.	PART NO.	DESCRIPTION	Q601, Q603	222502	NJM4558D-X
Q951	2213640	DTC123JS	Q602	22241053	NJW1102AF
<b>Transistor</b>			Q604	222840661	4066B <SE>
D951, D953	22380032	1SR139-100 <P/W/T/A/K>	Q605	22240800	TC9164AN
D952	22380032	1SR139-100	Q651	22240995 or	NJU9702D or
D954	22380032	1SR139-100 <P/W/T/A/K>		22240686	M65830P
D955	223163	1SS133	Q671, Q672	222956	NJM2068D-D
<b>Power transformer</b>			Q673, Q674	22241054	M62429FP
T902	2300670AY or $\Delta$	NPT-1111D or			
	2301258Y $\Delta$	NPT-1294D, Power transformer <D>			
	2300671A $\Delta$	NPT-1111P, Power transformer <P/T/A>			
	2300672AY $\Delta$	NPT-1111DG, Power transformer <W/K>			

**REAR AMPLIFIER PC BOARD (NAAF-5895-1A/1B/1C/2/2A)**

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Transistors</b>	
Q801,Q802	2211732 or 2215116	2SC1845-F or 2SC1775-F
Q803~Q806	2211353	2SA949-O
Q807,Q808	2211633	2SC2229-O
Q809,Q810	2211732 or 2215116	2SC1845-F or 2SC1775-F
Q811,Q812	2213284	2SC1740S-R
Q813,Q814	2211353	2SA949-O
Q815,Q816	2213284	2SC1740S-R
Q817,Q818	2211633	2SC2229-O
Q819,Q820	2215163	2SD667A-C
Q821,Q822	2215173	2SB647A-C
Q823,Q824	2202923 or 2202922	* 2SC5196-O or * 2SC5196-R
Q825,Q826	2202913 or 2202912	* 2SA1939-O or * 2SA1939-R
Q827~Q830	2211732 or 2215116	2SC1845-F or 2SC1775-F
	<b>Diode</b>	
D801,D802	22380032	1SR139-100
	<b>Capacitors</b>	
C801,C802	354742209	22 $\mu$ F,16V, Elect.
C805,C806	354744709	47 $\mu$ F,16V, Elect.
C807,C808	354741019	100 $\mu$ F,16V, Elect.
C815,C816	354781009	10 $\mu$ F,50V, Elect.
C819,C820	354781009	10 $\mu$ F,50V, Elect.
C823,C824	374724734	0.047 $\mu$ F $\pm$ 5%, 50V, Plastic
C827,C828	354764709	47 $\mu$ F,35V, Elect.
C831,C832	354762219	220 $\mu$ F,35V, Elect.
	<b>Resistors</b>	
R823-R826	443526804	68ohm $\pm$ 5%, 1/2W, Metal oxide
R833,R834	443525604	56ohm $\pm$ 5%, 1/2W, Metal oxide
R835,R836	443526804	68ohm $\pm$ 5%, 1/2W, Metal oxide
R841,R842	443521014	100ohm $\pm$ 5%, 1/2W, Metal oxide
R843~R846	453530224	2.2ohm $\pm$ 5%, 1/2W, Metal
R847,R848	4800047	RGC22,0.1 ohm $\times$ 2, Metal plate
R855,R856	453630824	8.2ohm $\pm$ 5%, 1W, Metal
R859,R860	453530224	2.2ohm $\pm$ 5%, 1/2W, Metal
	<b>Wire traps</b>	
JL621b	25055624	NPLG-3P586
JL711b	25055627	NPLG-6P589
JL912b	25050271	NSCT-7P99
JL961b	25055625	NPLG-4P587
	<b>Switch</b>	
S961	25065286	NSS-22112, Slide <W>
	<b>Terminals</b>	
P961	25045439Y	NPJ-1PDBL263
P801	25060161Y	NTM-4PDMNL087

**DIGITAL CIRCUIT PC BOARD (NADG-5896-1)**

TX-SE500 only

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>ICs</b>	
Q1103	22241060	YSS240
Q1104	222780565JRC	NIM78M56FA
Q1105	22241061	YAC516
Q1106~Q1110	222956	NJM2068D-D
Q1111	22241062	HM62256BLS7-P
Q1112	222956	NJM2068D-D
	<b>Diodes</b>	
D1101~D1106	223163	1SS133
	<b>Oscillator</b>	
X1101	3010112	KD6586FFB

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Transistors</b>	
Q606	221281	DTC114YS <SE>
Q607	2213090	DTA114YS <SE>
Q652	2215163	2SD667A-C
Q675	2213631	RN1241-A
Q677,Q678	2213631	RN1241-A
	<b>Oscillator</b>	
X651	3010217	CST2.04MG040, Ceramic
	<b>Diodes</b>	
D651	224470682	MTZJ6.8B, Zener
D652~D657	223163	1SS133
D659	223163	1SS133
	<b>Capacitors</b>	
C601,C602	354780229	2.2 $\mu$ F,50V, Elect.
C605,C606	354781009	10 $\mu$ F,50V, Elect.
C607~C610	374721044	0.1 $\mu$ F $\pm$ 5%, 50V, Plastic
C611,C612	374726814	680pF $\pm$ 5%, 50V, Plastic
C613,C614	354741009	10 $\mu$ F,16V, Elect.
C616,C619	354742209	22 $\mu$ F,16V, Elect.
C617	374724724	4700pF $\pm$ 5%, 50V, Plastic
C618,C657	354744709	47 $\mu$ F,16V, Elect.
C620~C622	354741009	10 $\mu$ F,16V, Elect.
C623,C638	354781099	0.1 $\mu$ F,50V, Elect.
C624	354741009	10 $\mu$ F,16V, Elect.
C625	354722219	220 $\mu$ F,6.3V, Elect.
C627	374725614	560pF $\pm$ 5%, 50V, Plastic
C628	374721024	1000pF $\pm$ 5%, 50V, Plastic
C629,C656	374725624	5600pF $\pm$ 5%, 50V, Plastic
C630	374724734	0.047 $\mu$ F $\pm$ 5%, 50V, Plastic
C631	354786899	0.68 $\mu$ F,50V, Elect.
C632,C633	354782299	0.22 $\mu$ F,50V, Elect.
C634,C635	354780479	4.7 $\mu$ F,50V, Elect.
C636,C637	354782299	0.22 $\mu$ F,50V, Elect.
C639,C640	374724734	0.047 $\mu$ F $\pm$ 5%, 50V, Plastic
C641,C642	354781099	0.1 $\mu$ F,50V, Elect.
C643,C644	374722234	0.022 $\mu$ F $\pm$ 5%, 50V, Plastic
C645	354781099	0.1 $\mu$ F,50V, Elect.
C647~C649	354741009	354741009
C650	354780479	4.7 $\mu$ F,50V, Elect.
C651	374722224	2200pF $\pm$ 5%, 50V, Plastic
C652,C653	374725614	560pF $\pm$ 5%, 50V, Plastic
C654,C655	374721044	0.1 $\mu$ F $\pm$ 5%, 50V, Plastic
C658,C659	374724734	0.047 $\mu$ F $\pm$ 5%, 50V, Plastic
C660	354781009	10 $\mu$ F,50V, Elect.
C661,C662	354721019	100 $\mu$ F,6.3V, Elect.
C663	354741009	10 $\mu$ F,16V, Elect.
C664	354741019	100 $\mu$ F,16V, Elect.
C665,C666	354741009	10 $\mu$ F,16V, Elect. <SE>
C667,C668	354741009	10 $\mu$ F,16V, Elect.
C669,C670	354780229	2.2 $\mu$ F,50V, Elect.
C671~C673	354741009	10 $\mu$ F,16V, Elect.
C674	354780229	2.2 $\mu$ F,50V, Elect.
C676,C677	354741009	10 $\mu$ F,16V, Elect.
C685,C686	354721019	100 $\mu$ F,6.3V, Elect.
C687	354741009	10 $\mu$ F,16V, Elect.
C689~C691	354741009	10 $\mu$ F,16V, Elect.
	<b>Resistor</b>	
R696	5104392	N16RFL50KA25F, Variable
	<b>Sockets</b>	
JL621a	25051087	NSCT-3P874
JL622a	25051094	NSCT-10P881
P611b	25055885Y	NPLG-12P841
P612b	25051235Y	NSCT-10P1025

CIRCUIT NO.	PART NO.	DESCRIPTION
<b>Capacitors</b>		
C1116,C1117	354741009	10 $\mu$ F,16V, Elect.
C1118~C1120	374723324	3300pF $\pm$ 5%, 50V, Plastic
C1121,C1131	354741009	10 $\mu$ F,16V, Elect.
C1122	374721024	1000pF $\pm$ 5%, 50V, Plastic
C1123	354741019	100 $\mu$ F,16V, Elect.
C1126~C1129	354741009	10 $\mu$ F,16V, Elect.
C1130,C1165	374721044	0.1 $\mu$ F $\pm$ 5%, 50V, Plastic
C1132,C1133	374721044	0.1 $\mu$ F $\pm$ 5%, 50V, Plastic
C1134,C1138	354741009	10 $\mu$ F,16V, Elect.
C1135,C1136	374721044	0.1 $\mu$ F $\pm$ 5%, 50V, Plastic
C1139,C1147	374722724	2700pF $\pm$ 5%, 50V, Plastic
C1140,C1148	374726824	6800pF $\pm$ 5%, 50V, Plastic
C1141,C1149	374723915	390pF $\pm$ 10%, 50V, Plastic
C1142~C1146	354741009	10 $\mu$ F,16V, Elect.
C1150,C1156	374722724	2700pF $\pm$ 5%, 50V, Plastic
C1151,C1154	374726824	6800pF $\pm$ 5%, 50V, Plastic
C1152,C1158	374723915	390pF $\pm$ 10%, 50V, Plastic
C1153,C1159	374721824	1800pF $\pm$ 5%, 50V, Plastic
C1155,C1161	374722715	270pF $\pm$ 10%, 50V, Plastic
C1157,C1160	374726824	6800pF $\pm$ 5%, 50V, Plastic
C1162	374722724	2700pF $\pm$ 5%, 50V, Plastic
C1163	374726824	6800pF $\pm$ 5%, 50V, Plastic
C1164	374723915	390pF $\pm$ 10%, 50V, Plastic
C1170,C1171	374721015	100pF $\pm$ 10%, 50V, Plastic
<b>Plugs</b>		
JL623b	25055626Y	NPLG-5P588
JL752b	25055672Y	NPLG-6P589
P1103a	25055884Y	NPLG-6P840
P1104a	25055889Y	NPLG-3P842

**MIC. TERMINAL PC BOARD (NAETC-5897-1)**

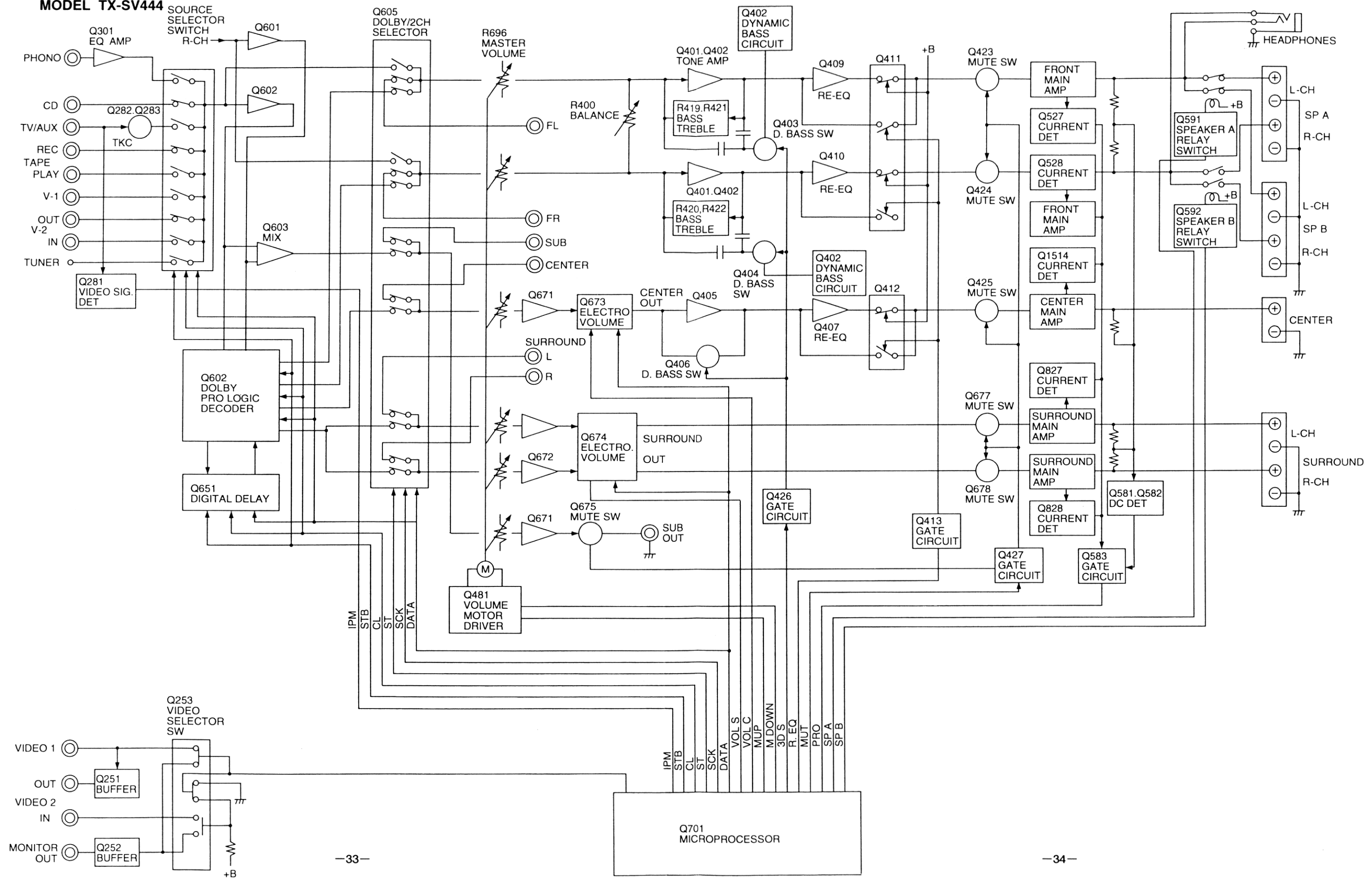
TX-SE500 only

CIRCUIT NO.	PART NO.	DESCRIPTION
<b>ICs</b>		
Q1101,Q1102	222956	NJM2068D-D
<b>Capacitors</b>		
C1101	374721015	100pF $\pm$ 10%, 50V, Plastic
C1102	354744709	47 $\mu$ F,16V, Elect.
C1103	374722224	2200pF $\pm$ 5%, 50V, Plastic
C1104	374721215	120pF $\pm$ 10%, 50V, Plastic
C1105,C1106	354741019	100 $\mu$ F,16V, Elect.
C1107	374721015	100pF $\pm$ 10%, 50V, Plastic
C1108	354744709	47 $\mu$ F,16V, Elect.
C1109	374722224	2200pF $\pm$ 5%, 50V, Plastic
C1110	374721215	120pF $\pm$ 10%, 50V, Plastic
C1111	374721024	1000pF $\pm$ 5%, 50V, Plastic
C1112	354742209	22 $\mu$ F,16V, Elect.
C1113	354744709	47 $\mu$ F,16V, Elect.
C1114,C1115	374721015	100pF $\pm$ 10%, 50V, Plastic
<b>Terminals</b>		
P1101,P1102	25045492Y	NPJ-1PDBL309
<b>Plug</b>		
JL751a	25055628Y	NPLG-7P590
<b>Socket</b>		
JL752a	25051090Y	NSCT-6P877

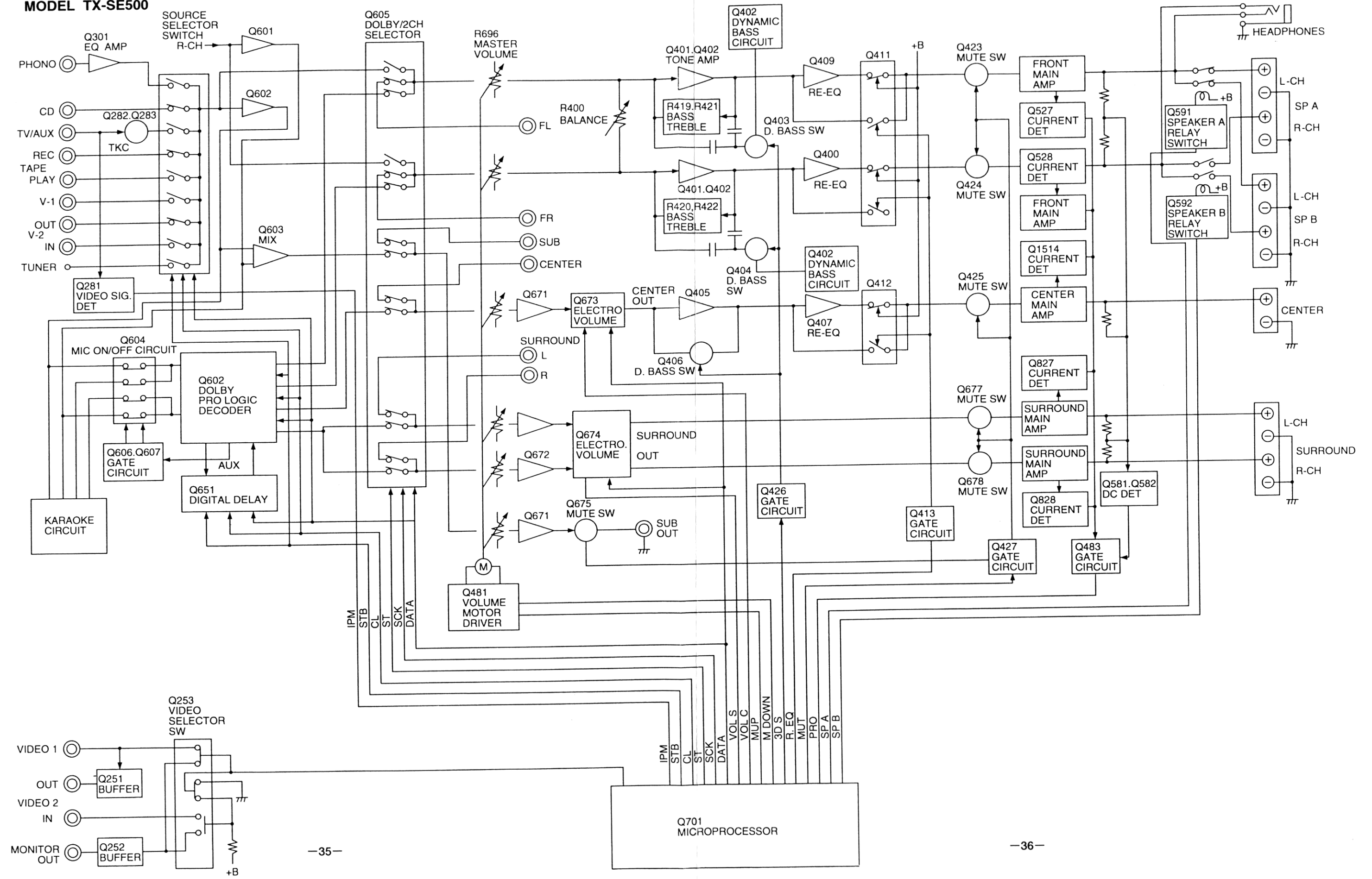
**NOTE:** <D>:120V model only  
 <P>:230V model only  
 <W>: Asian model only  
 <T>: Taiwanese model only  
 <A>: Australian model only  
 <K>: Korean model only  
 <SE>: TX-SE500 only

# BLOCK DIAGRAM

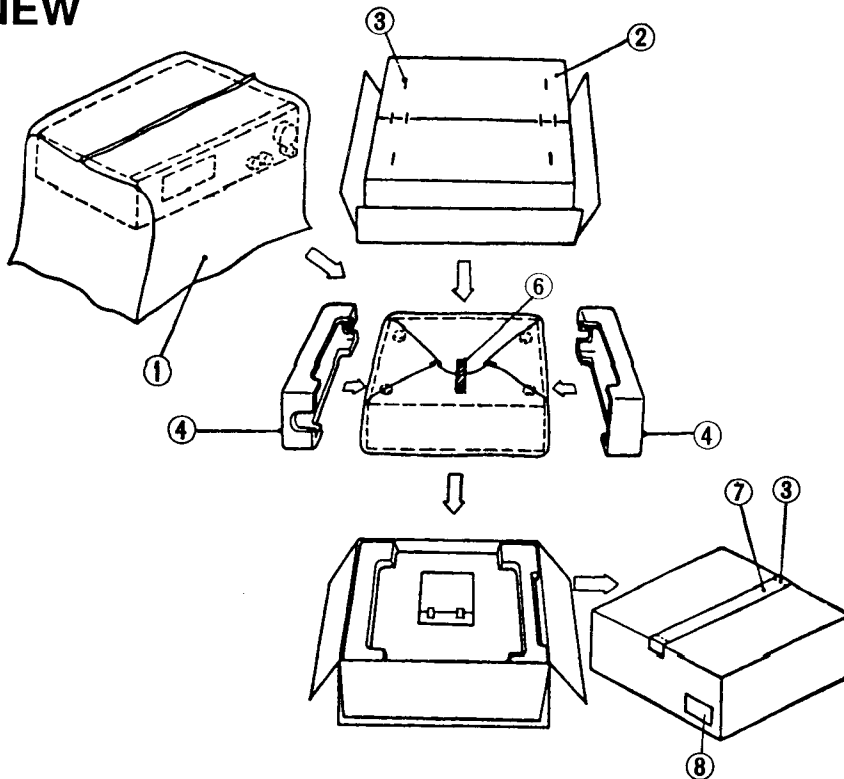
## MODEL TX-SV444



**BLOCK DIAGRAM**  
MODEL TX-SE500



# PACKING VIEW



## MODEL TX-SV444

REF. NO.	PART NO.	DESCRIPTION
1	29100034-1AY	850x650, Poly bag
2	29053089Y	Carton box <D>
2	29053090AY	Carton box <A/K/T/W>
2	29053091Y	Carton box <P>
3	282321	Staple
4	29091763AY	Pad ass'y
6	261504	Paper tape
7	29110071	P. P tape
8	29362093Y	Label EAN <P>
	232140	NMA-3057, AM loop antenna
	3010054	UM-3, Battery
	24140327Y	RC-327S, Remote control
	25055018	CV-1K-1, Conversion plug <W>
	25065462Y	YAE21-0237, FM adaptor <K/A/T>
	29100097-1AY	350x250, Poly bag
	292111Y	FM antenna <D>
	292112Y	FM antenna <P/K/A/T/W>
	29342375Y	Instruction manual E
	29342376Y	Instruction manual FSI <P>
	29342377Y	Instruction manual GSWD <P>
	29342378Y	Instruction manual T <T/W>
	29358002K	Service station list <D>
	29361786Y	Label <K/A/W>
	29365019B	Warranty card <D>

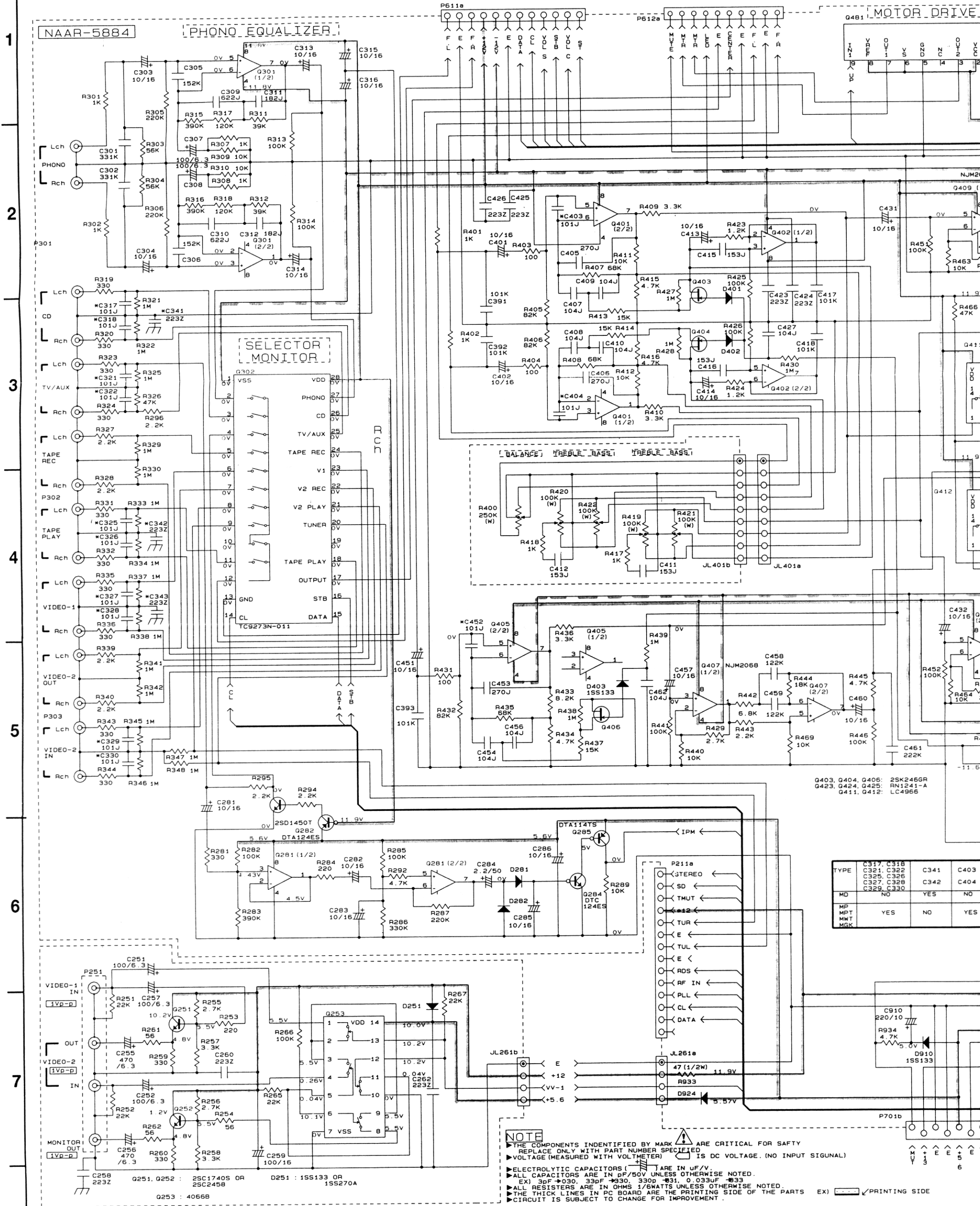
NOTE: <D>:120V model only  
<P>:230V model only  
<W>:Taiwanese model only  
<A>:Australian model only  
<T>:Asian model only  
<K>:Korean model only

## MODEL TX-SE500

REF. NO.	PART NO.	DESCRIPTION
1	29100034-1AY	850x650, Poly bag
2	29053092Y	Carton box <B>
	29053146Y	Carton box <G>
3	282321	Staple
4	29091763AY	Pad ass'y
6	261504	Paper tape
7	29110071	P. P tape
8	29362094Y	Label EAN <B>
	29362134Y	Label EAN <G>
		Accessory bag ass'y
	24140326Y	RC-326S, Remote control
	3010054	UM-3, Battery
	232140	NMA-3057, AM loop antenna
	292112Y	FM antenna
	25065462Y	YAE21-0237, FM adaptor
	29342375Y	Instruction manual E
	29342378Y	Instruction manual T <P/W>
	29355221Y	Instruction sheet
	25055018	CV-1K-1, CV Plug
	29100097-1AY	350x250, Poly bag

NOTES: <B>: Black model only  
<G>: Golden model only  
<P>: Asian model only  
<W>: Taiwanese model only  
<K>: Korean model only

# SCHEMATIC DIAGRAM 1/3

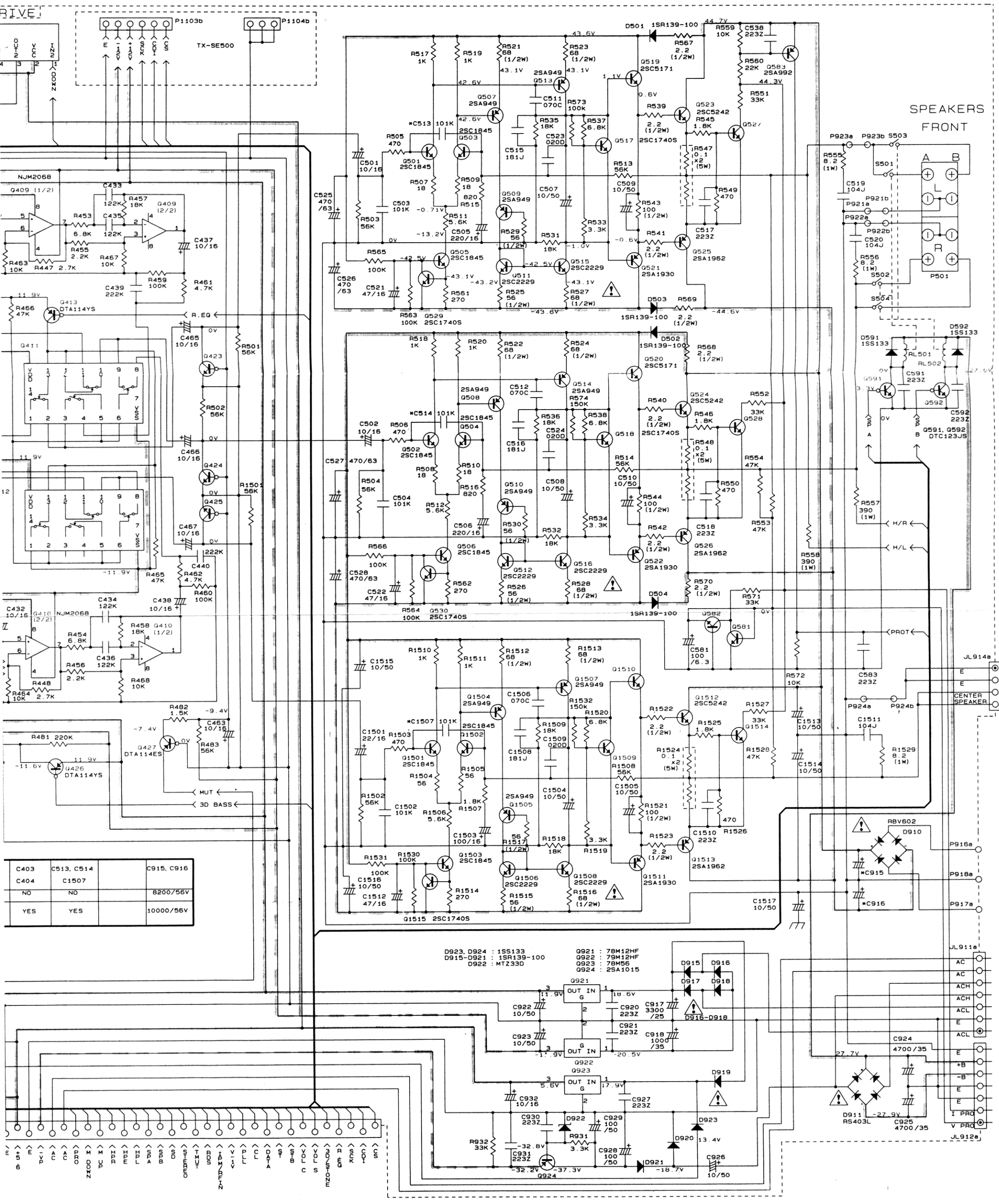


TYPE	C317, C318 C321, C322 C325, C326 C327, C328 C329, C330	C341 C342	C403 C404
MD	NO	YES	NO
MP	YES	NO	YES
MPT			
WNT			
MGK			

**NOTE**

- ▶ THE COMPONENTS IDENTIFIED BY MARK ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- ▶ VOLTAGE (MEASURED WITH VOLTMETER) IS DC VOLTAGE. (NO INPUT SIGNAL)
- ▶ ELECTROLYTIC CAPACITORS ARE IN uF/V.
- ▶ ALL CAPACITORS ARE IN pF/50V UNLESS OTHERWISE NOTED.
- ▶ EX) 3pF → 030, 33pF → 330, 330pF → 331, 0.033uF → 333
- ▶ ALL RESISTORS ARE IN OHMS 1/5WATTS UNLESS OTHERWISE NOTED.
- ▶ THE THICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS
- ▶ CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

1  
2  
3  
4  
5  
6  
7  
8



C403	C513, C514	C915, C916
C404	C1507	
NO	NO	8200/56V
YES	YES	10000/56V

- D923, D924 : 1S5133  
D915, D921 : 1SR139-100  
D922 : MT2330  
Q921 : 78M12HF  
Q922 : 79M12HF  
Q923 : 78M55  
Q924 : 2SA1015

SPEAKERS  
FRONT

CENTER SPEAKER

- JL914a  
E  
AC  
ACH  
ACH  
ACL  
E  
ACL  
E  
+B  
-B  
E  
I PRO  
V PRO  
JL912a



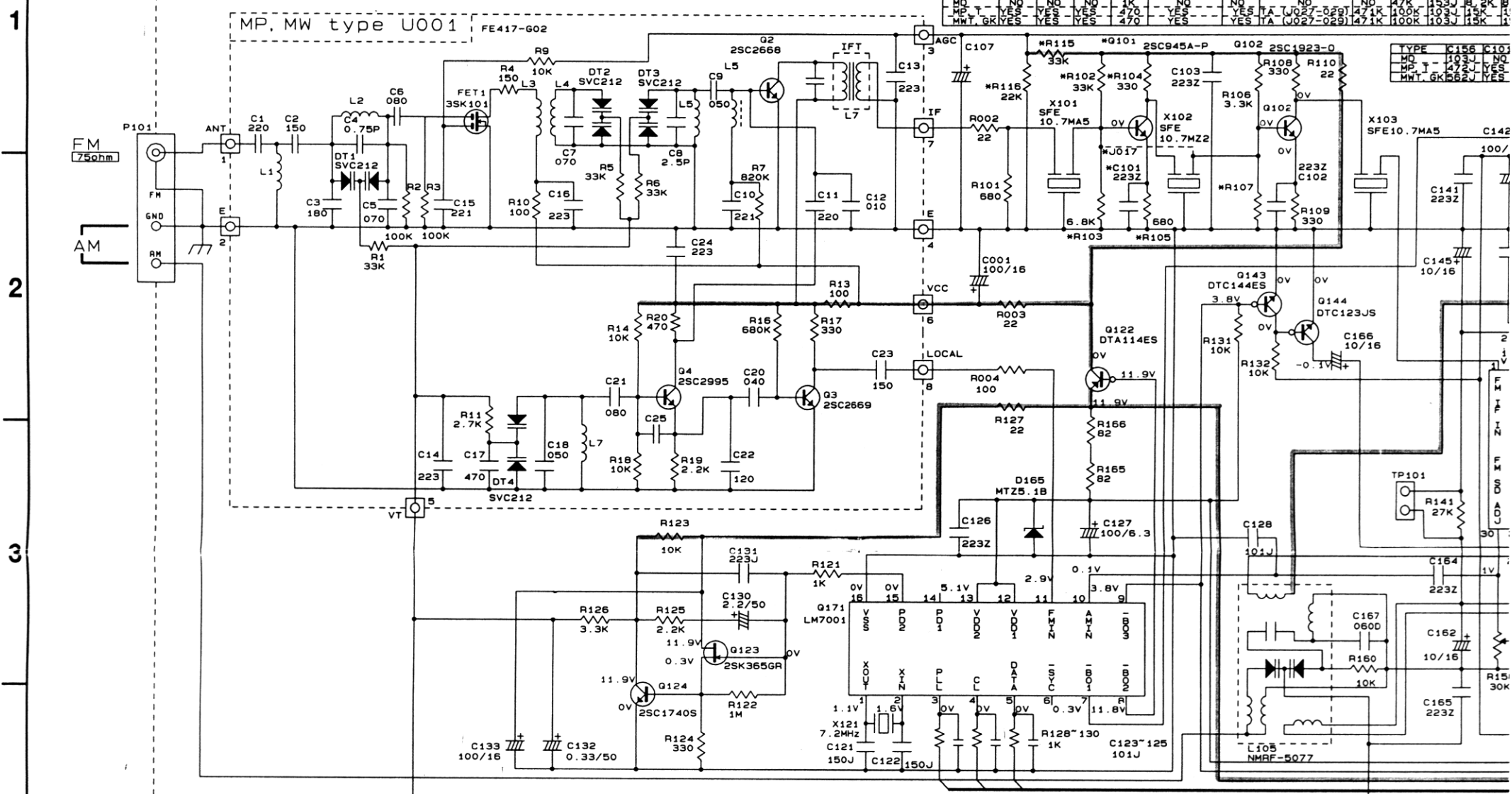
# SCHEMATIC DIAGRAM 2/3

NARF-5888

MP, MW type U001 FE417-602

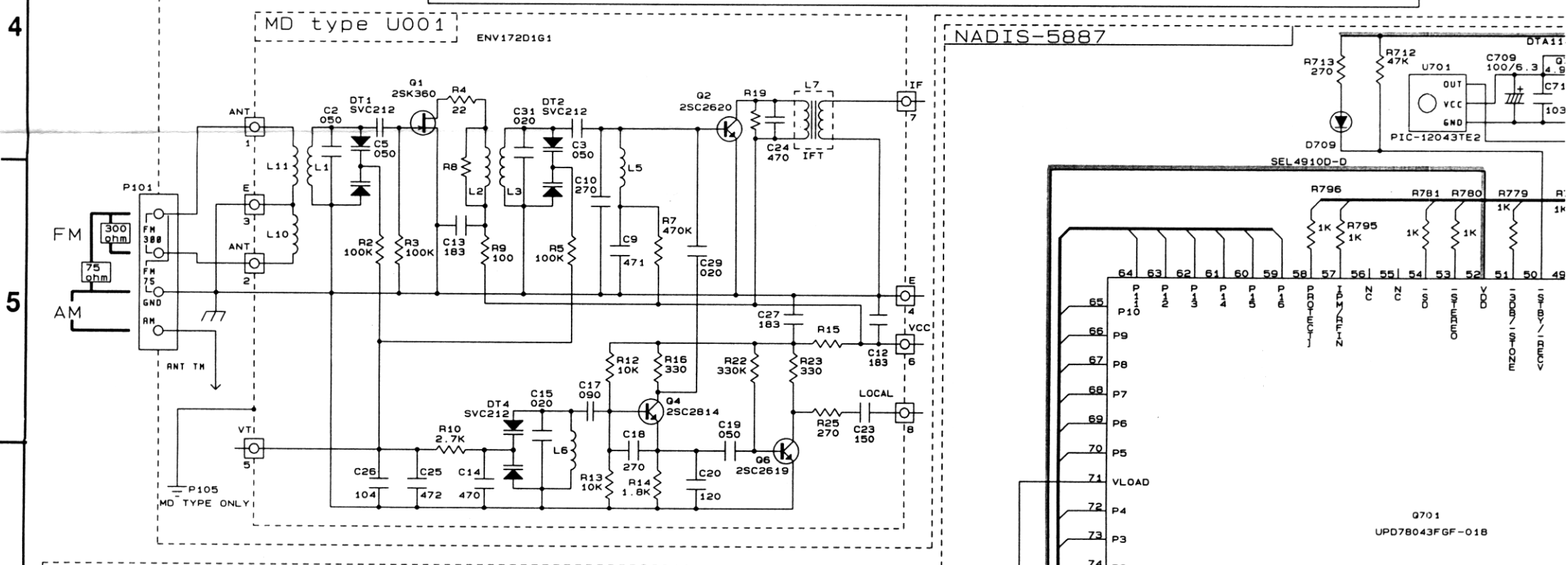
TYPE	R101	R115	R116	R107	R102-R105	L103	R145-R147	C150	R142	C147	R153
MO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
MT	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
MT	GR	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

TYPE	C156	C101
MO	NO	NO
MT	YES	YES
MT	GR	YES



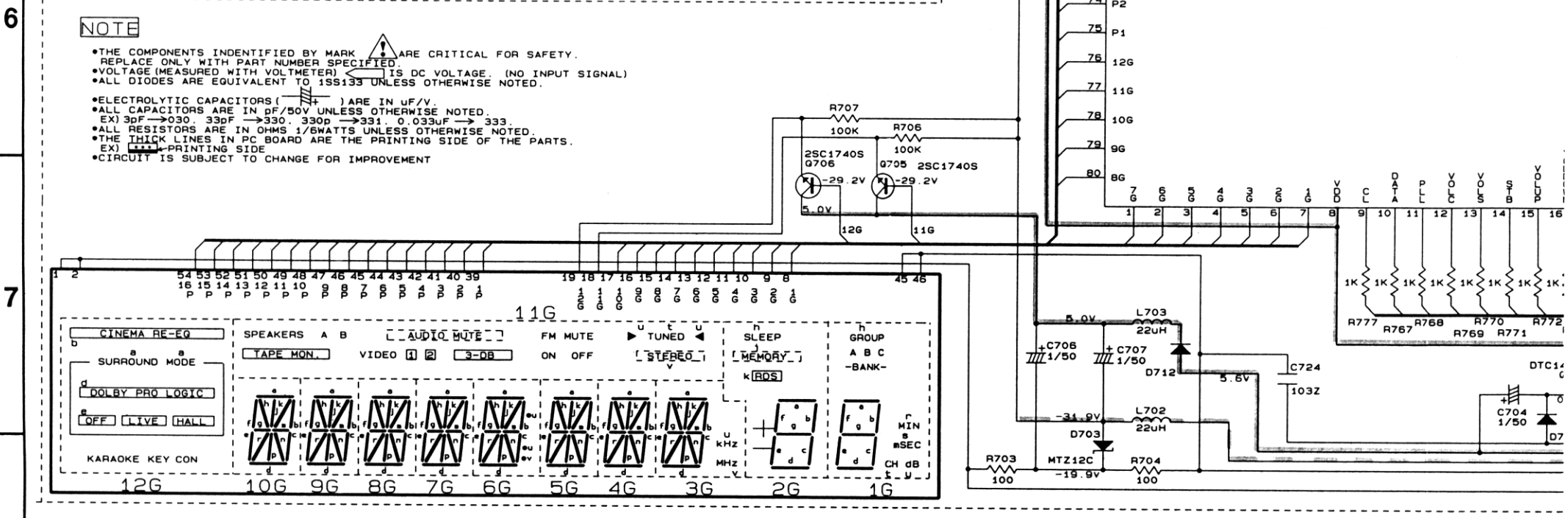
MD type U001 ENV172D161

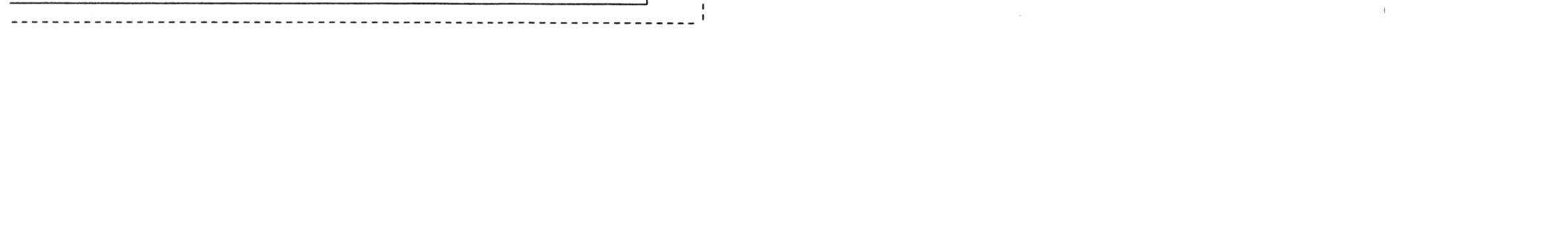
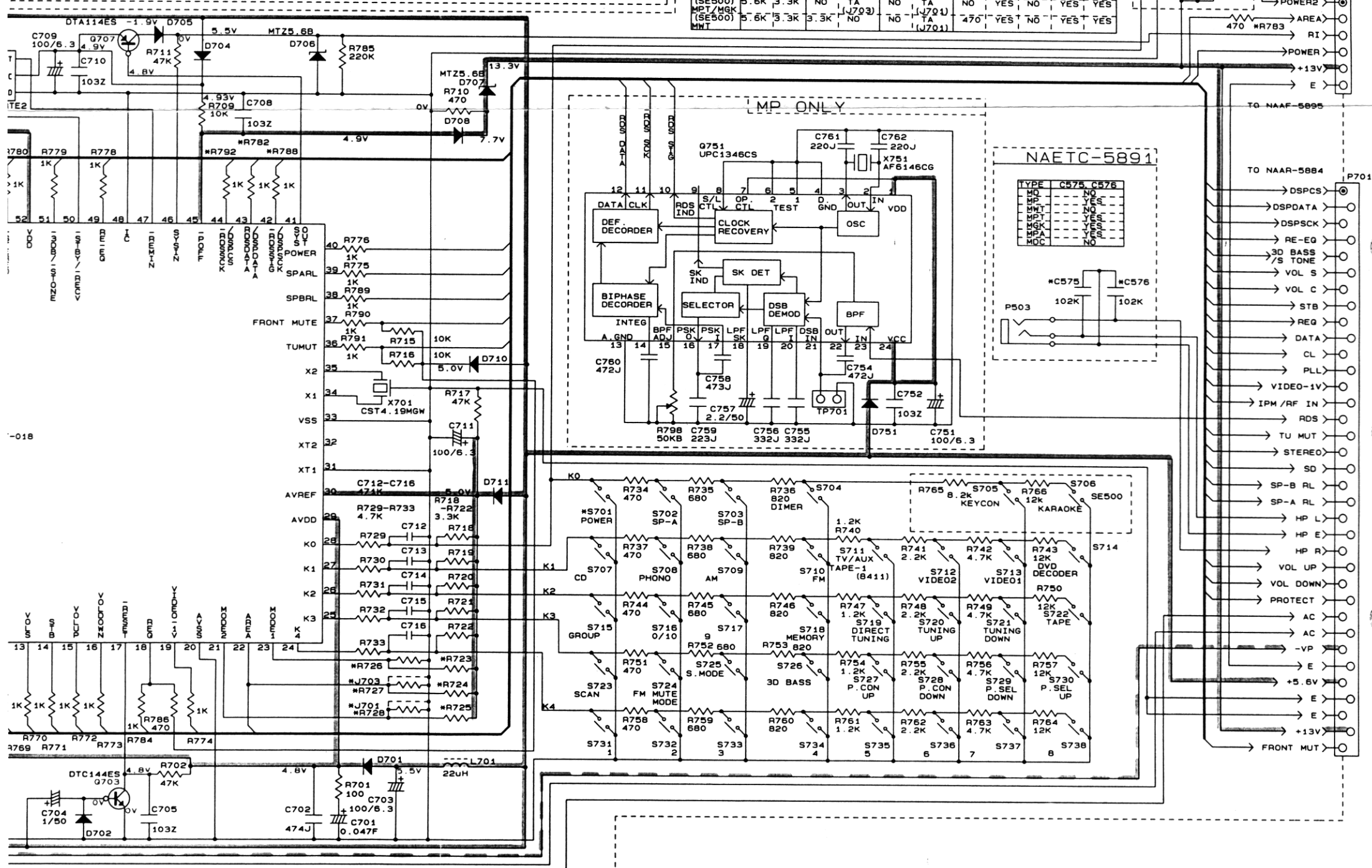
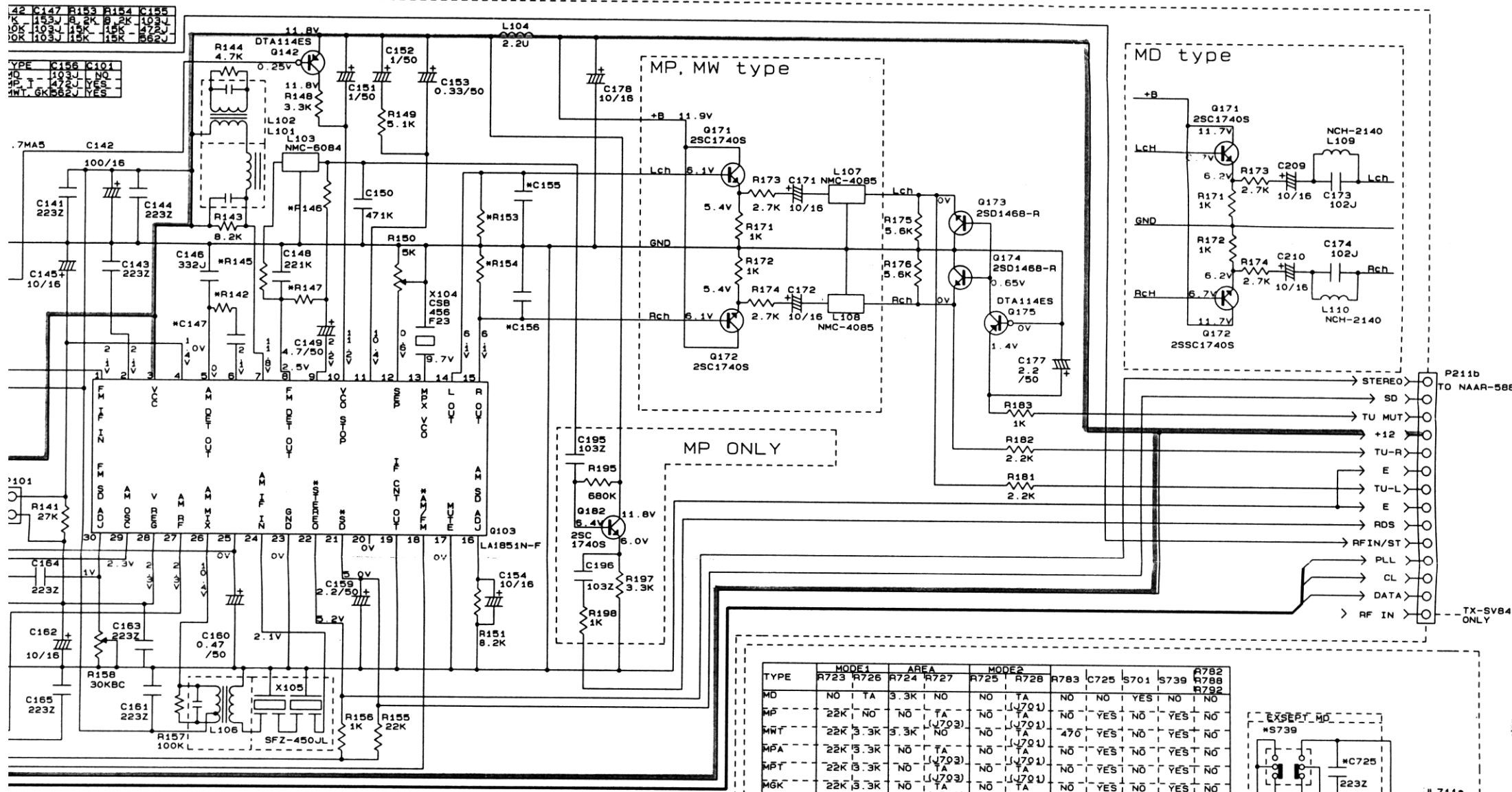
NADIS-5887



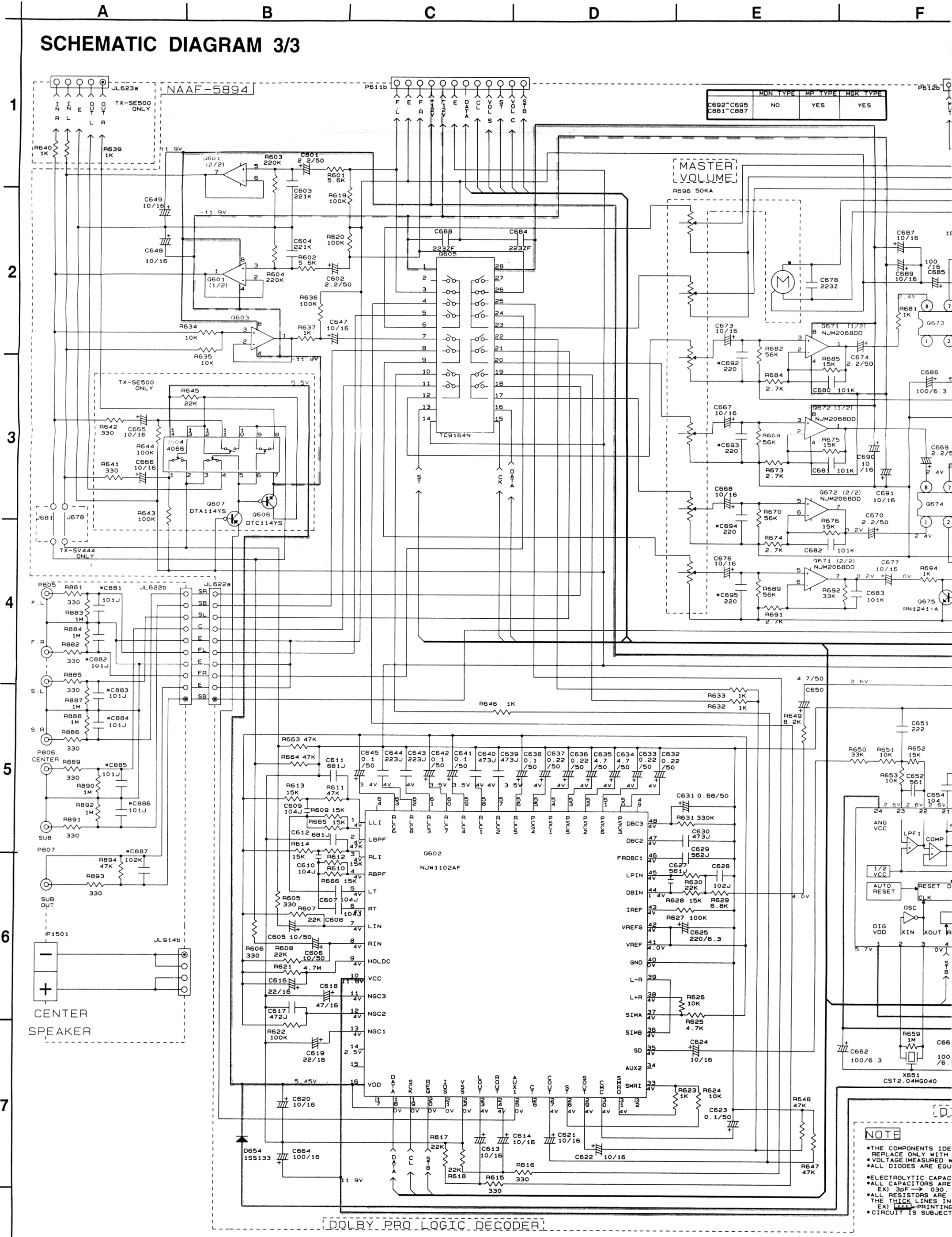
## NOTE

- THE COMPONENTS IDENTIFIED BY MARK ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) IS DC VOLTAGE. (NO INPUT SIGNAL)
- ALL DIODES ARE EQUIVALENT TO 1S5133 UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS () ARE IN uF/V.
- ALL CAPACITORS ARE IN pF/50V UNLESS OTHERWISE NOTED.
- EX) 3pF -> 0.30, 33pF -> 330, 330pF -> 331, 0.033uF -> 333
- ALL RESISTORS ARE IN OHMS 1/8WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
- EX) -PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT





# SCHEMATIC DIAGRAM 3/3



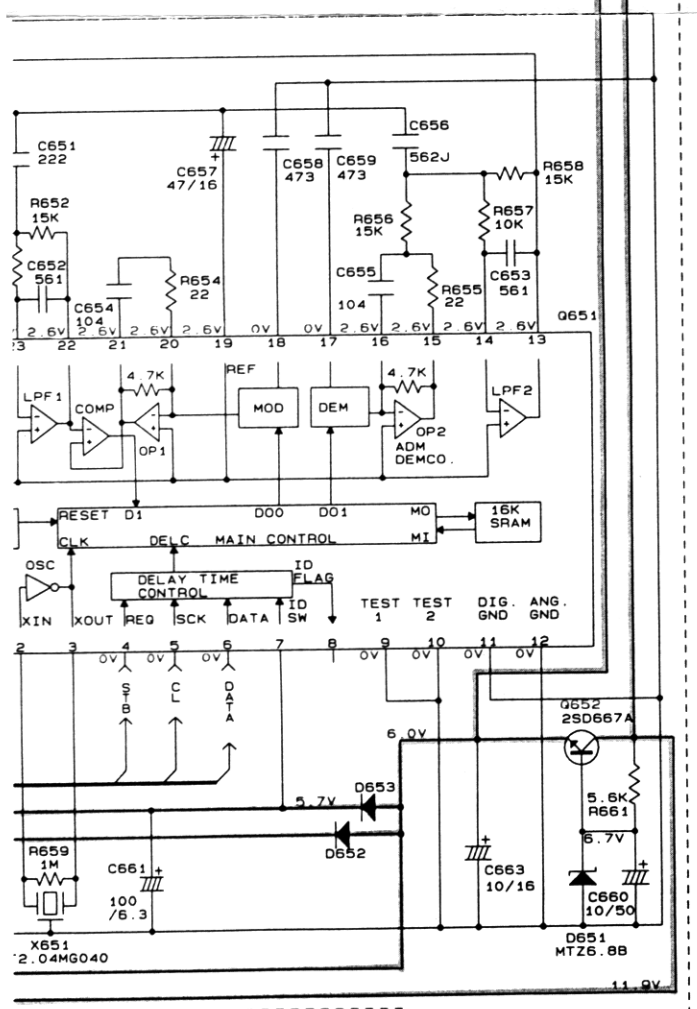
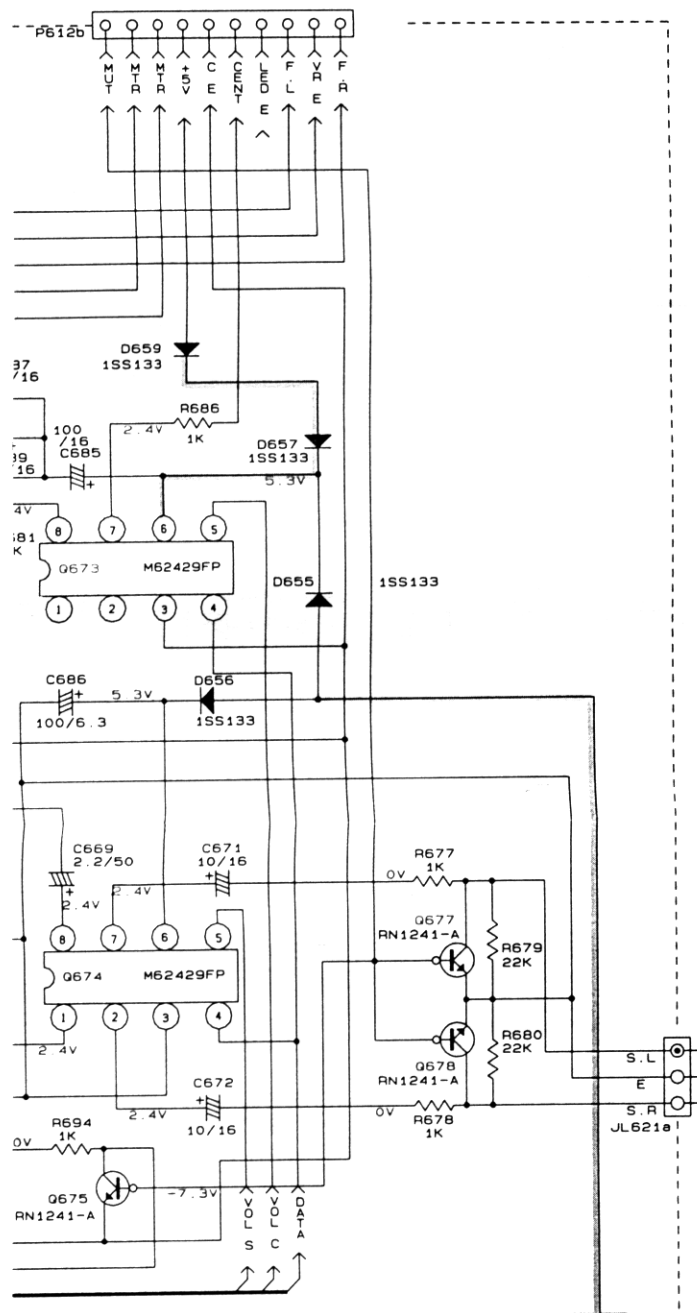
	MON TYPE	MP TYPE	MGK TYPE
C692-C695 C881-C887	NO	YES	YES

MASTER VOLUME  
R696 50KA

DOLBY PRO LOGIC DECODER

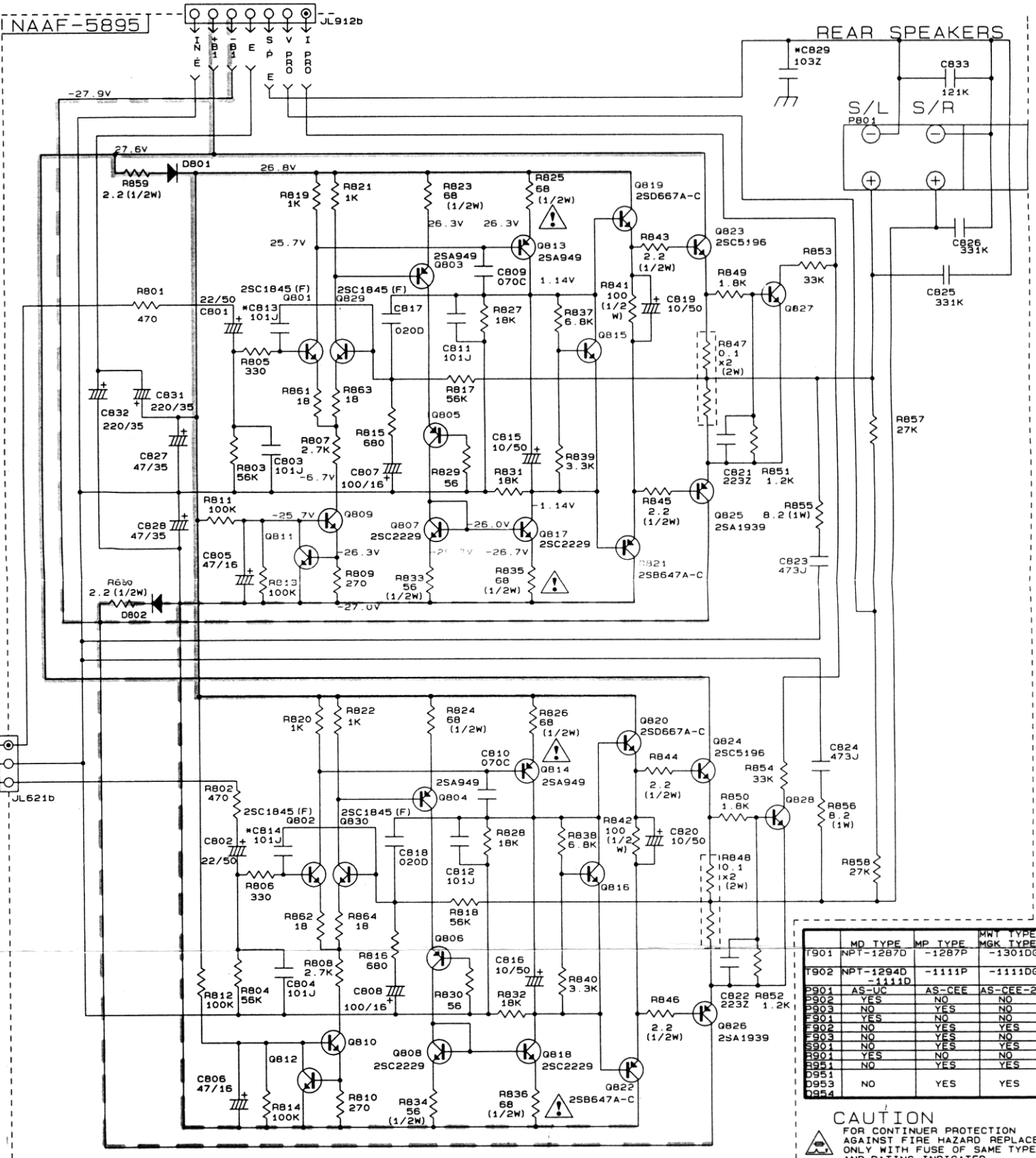
**NOTE**

- THE COMPONENTS IDENTIFIED BY A THICK LINE IN THE SCHEMATIC SHOULD BE REPLACED ONLY WITH THE IDENTICAL TYPE.
- VOLTAGE MEASURED WITH RESPECT TO GND UNLESS OTHERWISE SPECIFIED.
- ALL DIODES ARE EQUIVALENT TO THE PART NUMBER SHOWN.
- ELECTROLYTIC CAPACITORS ARE SHOWN WITH POLARITY UNLESS OTHERWISE SPECIFIED.
- ALL CAPACITORS ARE IN PFD UNLESS OTHERWISE SPECIFIED.
- ALL RESISTORS ARE IN OHMS UNLESS OTHERWISE SPECIFIED.
- THE THICK LINES IN THE SCHEMATIC INDICATE PRINTING TOLERANCES.
- CIRCUIT IS SUBJECT TO CHANGE WITHOUT NOTICE.



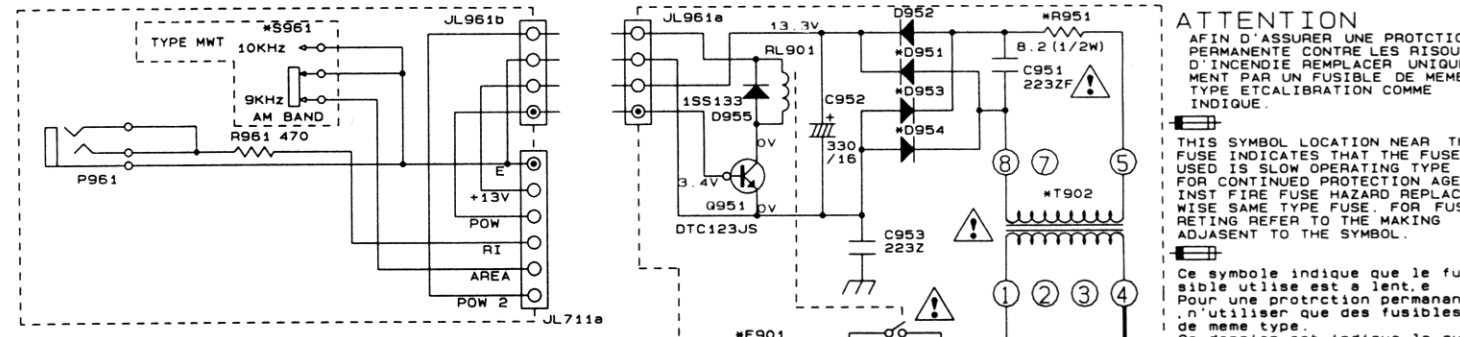
COMPONENTS IDENTIFIED BY MARK ARE CRITICAL FOR SAFETY. USE ONLY WITH PART NUMBER SPECIFIED. VOLTAGE MEASURED WITH VOLTMETER. IS DC VOLTAGE. (NO INPUT SIGNAL) VALUES ARE EQUIVALENT TO 15S133 UNLESS OTHERWISE NOTED.

POLYESTER CAPACITORS ( ) ARE IN uF/V. ALUMINUM ELECTROLYTIC CAPACITORS ARE IN uF/50V UNLESS OTHERWISE NOTED. RESISTORS ARE IN OHMS 1/6WATTS UNLESS OTHERWISE NOTED. HICK LINES IN PC BOARD ARE THE PRINTING SIDE OF THE PARTS. PRINTING SIDE. IT IS SUBJECT TO CHANGE FOR IMPROVEMENT.



	MD TYPE	MP TYPE	MGK TYPE
T901	NPT-1287D	-1287P	-1301DG
T902	NPT-1294D	-1111P	-1111DG
P901	AS-UC	AS-CEE	AS-CEE-2
P902	YES	NO	NO
P903	NO	YES	NO
P904	NO	YES	YES
P905	NO	YES	NO
P906	NO	YES	YES
P907	YES	NO	NO
P908	NO	YES	YES
P909	NO	YES	YES
P910	NO	YES	YES
P911	NO	YES	YES
P912	NO	YES	YES
P913	NO	YES	YES
P914	NO	YES	YES

**CAUTION**  
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD REPLACE ONLY WITH FUSE OF SAME TYPE AND RATING INDICATED.

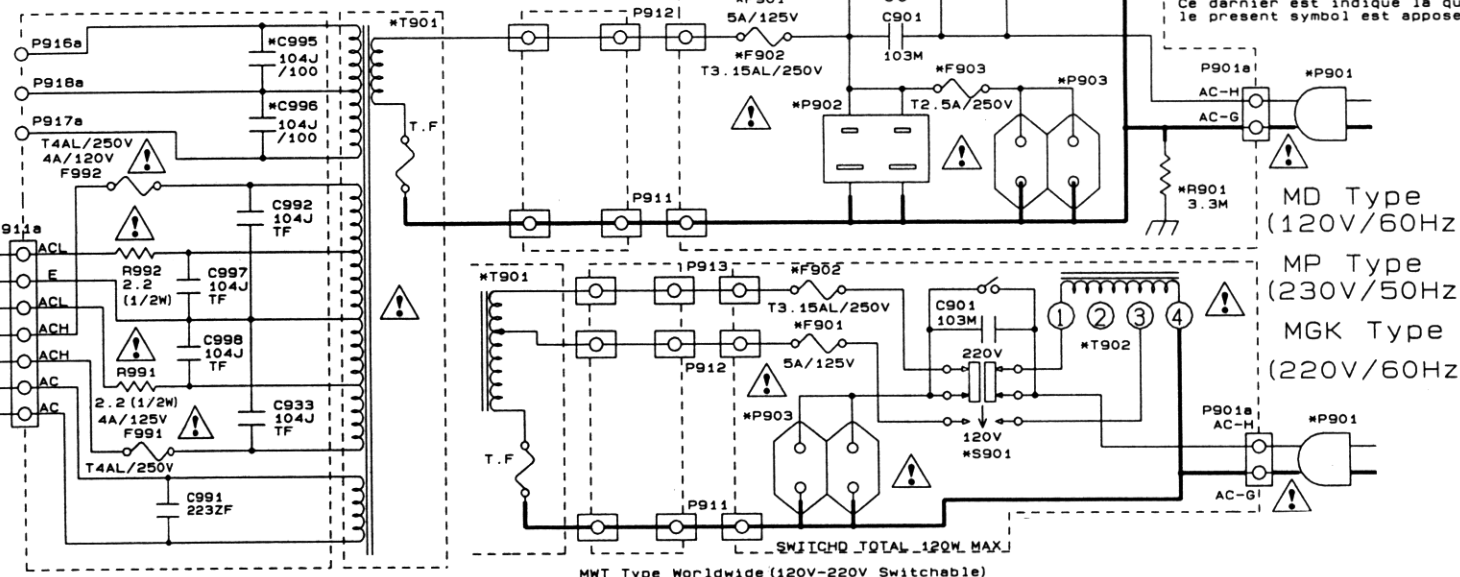


**ATTENTION**  
AFIN D'ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE ET CALIBRAGE COMME INDIQUE.

THIS SYMBOL LOCATION NEAR THE FUSE INDICATES THAT THE FUSE USED IS SLOW OPERATING TYPE FOR CONTINUED PROTECTION AGAINST FIRE HAZARD REPLACE WITH SAME TYPE FUSE. FOR FUSE RATING REFER TO THE MAKING ADJESANT TO THE SYMBOL.

Ce symbole indique que le fusible utilise est à lent. Pour une protection permanente contre les risques d'incendie, n'utiliser que des fusibles de même type.

Ce dernier est indique la que le present symbol est appose.



MD Type (120V/60Hz)  
MP Type (230V/50Hz)  
MGK Type (220V/60Hz)

SWITCHED TOTAL 120W MAX  
MWT Type Worldwide (120V-220V Switchable)