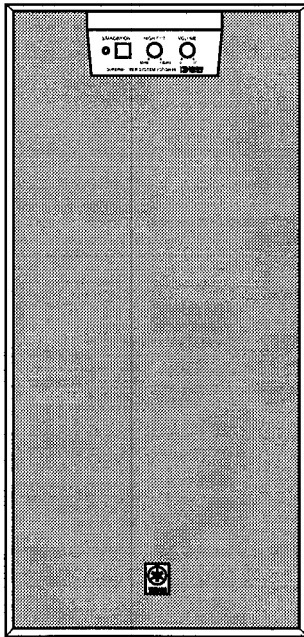


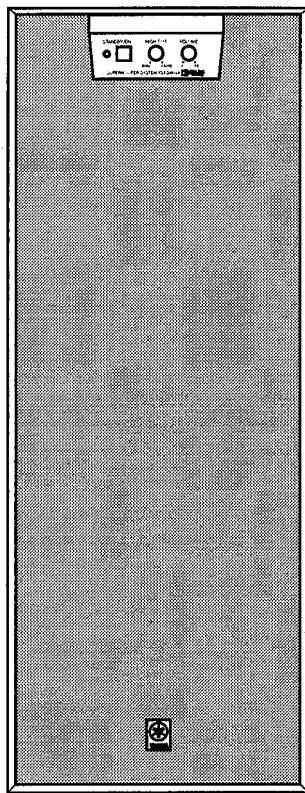
POWERED SUBWOOFER SYSTEM

YST-SW90/160

SERVICEMANUAL



YST-SW90



YST-SW160

IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel.

It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

CONTENTS

TO SERVICE PERSONNEL	1
SPECIFICATIONS	1
DIMENSIONS	2
INTERNAL VIEW	2
REAR PANELS	3
DISASSEMBLY PROCEDURES	4

ADJUSTMENT AND CHECK	5
BLOCK DIAGRAM	6~7
PRINTED CIRCUIT BOARD	8~12
IC BLOCK	13
SCHEMATIC DIAGRAM	14~15
PARTS LIST	16~27



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This Service Manual uses recycled paper.

100670

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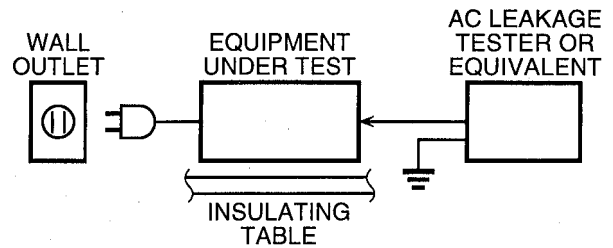
YAMAHA

YAMAHA CORPORATION
P.O.Box 1, Hamamatsu, Japan

2.65K-512 ♪ Printed in Japan '99.2

■ TO SERVICE PERSONNEL

Critical Components Information.
 Components having special characteristics are marked and must be replaced with parts having specifications equal to those originally installed.



WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and /or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

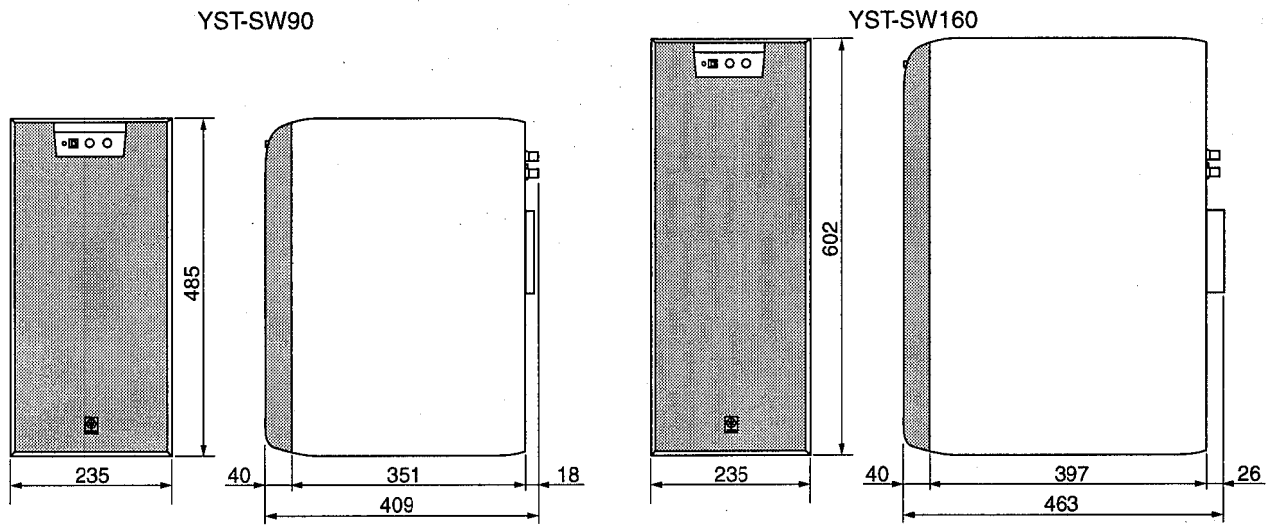
If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

■ SPECIFICATIONS * Specifications subject to change without notice.

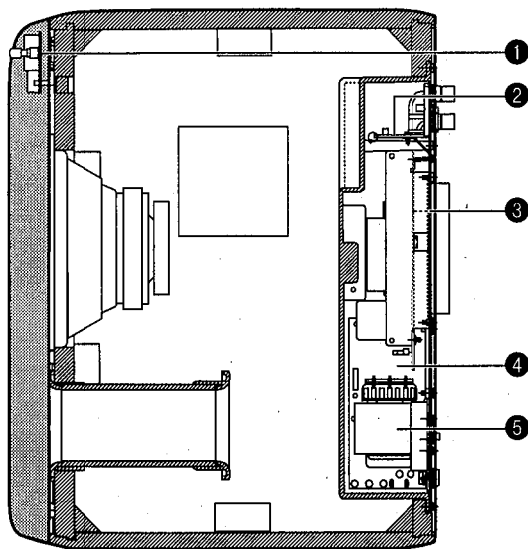
	YST-SW90	YST-SW160
Type	Active Servo Processing Subwoofer System	←
Speaker Unit	20 cm (8") cone woofer (JA2161) magnetic shielding type	20 cm (8") cone woofer (JA2160) magnetic shielding type x 2
Amplifier Output	100 W/5 ohms	150 W/5 ohms
High-Cut Filter	50 Hz-150Hz (-24 dB/oct.)	40 Hz-140Hz (-24 dB/oct.)
Frequency Response	23 Hz-170Hz (-10 dB)	20 Hz-160Hz (-10 dB)
Power Supply		
U.S.A. and Canada model	AC120V, 60Hz	←
Australia model	AC240V, 50Hz	←
U.K. and Europe model	AC230V, 50Hz	←
General and Chine model	AC110/120/220/240V, 50/60Hz (Adjustable with Voltage Selector)	←
Power Consumption	80 W	100W
Dimensions (W x H x D)	235 x 485 x 409 mm (9-5/16" x 19-1/8" x 16-1/8")	235 x 602 x 463 mm (9-5/16" x 23-3/4" x 18-1/4")
Weight	14 kg (30 lbs. 13 oz.)	20 kg (44 lbs. 1 oz.)

DIMENSIONS

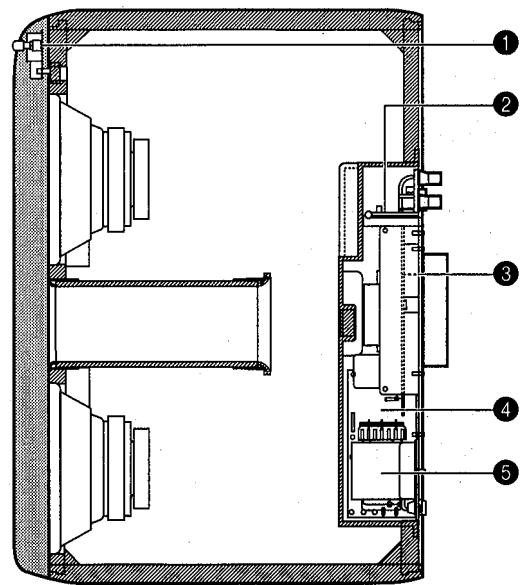
Unit: mm (inch)



INTERNAL VIEW



YST-SW90 right side internal view



YST-SW160 right side internal view

- ① MAIN P.C.B. (4)
- ② MAIN P.C.B. (3)
- ③ MAIN P.C.B. (1)
- ④ MAIN P.C.B. (2)
- ⑤ Power Transformer

REAR PANELS

YST-SW90

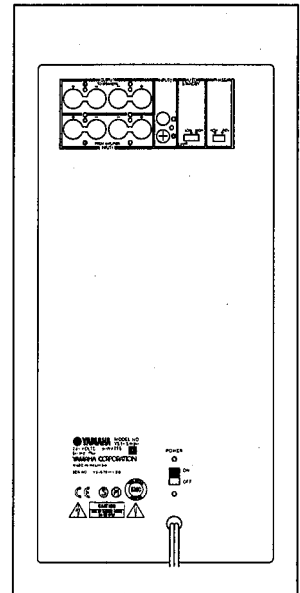
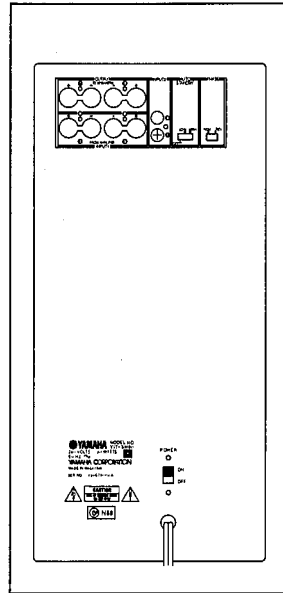
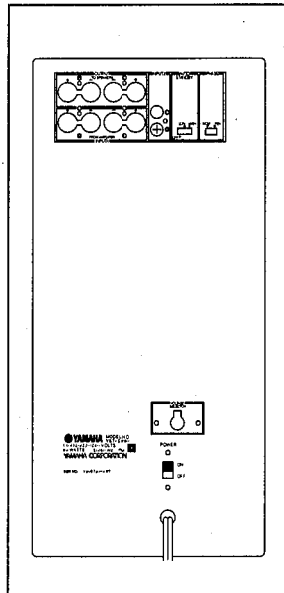
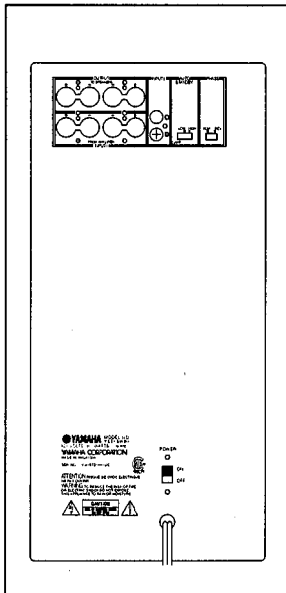
● YST-SW90

U, C models

R, T model

A model

B, G models



YST-SW160

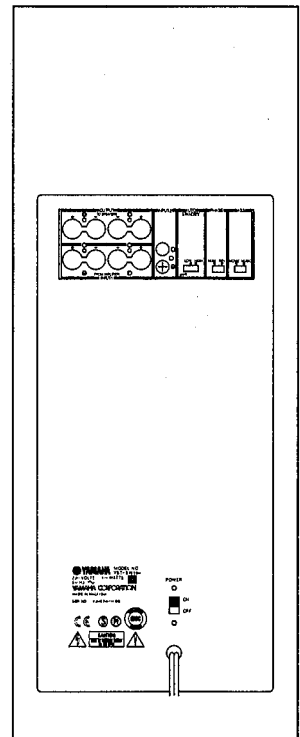
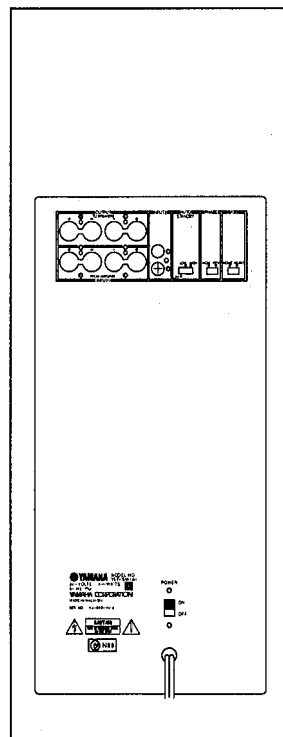
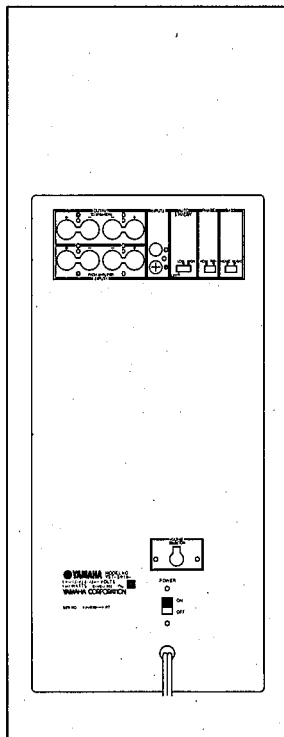
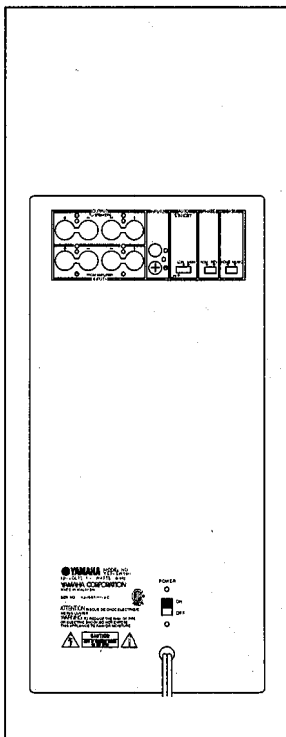
● YST-SW160

U, C models

R, T model

A model

B, G models



DISASSEMBLY PROCEDURES

(Remove parts in the order as numbered.)

1. Removal of Front Grille

The front grille is fixed to the cabinet with dowels at 6 locations.

As a screwdriver (for slotted head screw) is used for removal, use special care not to cause damage to the cabinet.

- a. Apply the block to the rear panel so as to avoid damage to the Terminal and radiator of the rear panel.
- b. Use the screwdriver inserted in the gap between the front grille and the cabinet (bottom side first), push up the front grille. (Fig. 1)
- c. Remove the front grille by lifting it up. (Fig. 1)

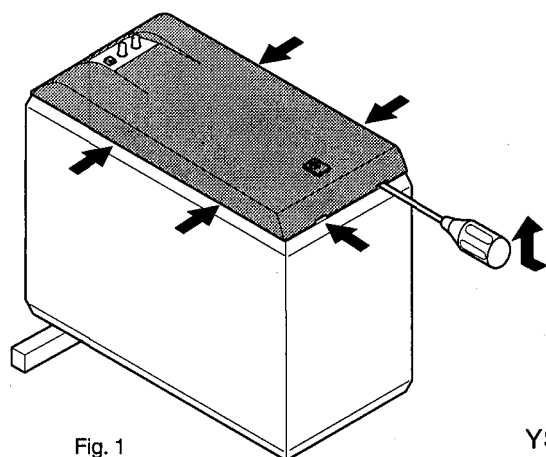


Fig. 1

2. Removal of Speaker

- a. Remove 4 (8 when YST-SW160) screws (①) in Fig. 2, and remove the speaker.
- b. Remove the cable cord.

3. Removal of the Rear Panel

- a. Remove 12 screws (②) in Fig. 2, and remove the rear panel.

* When removing the rear panel, replacing the packing.

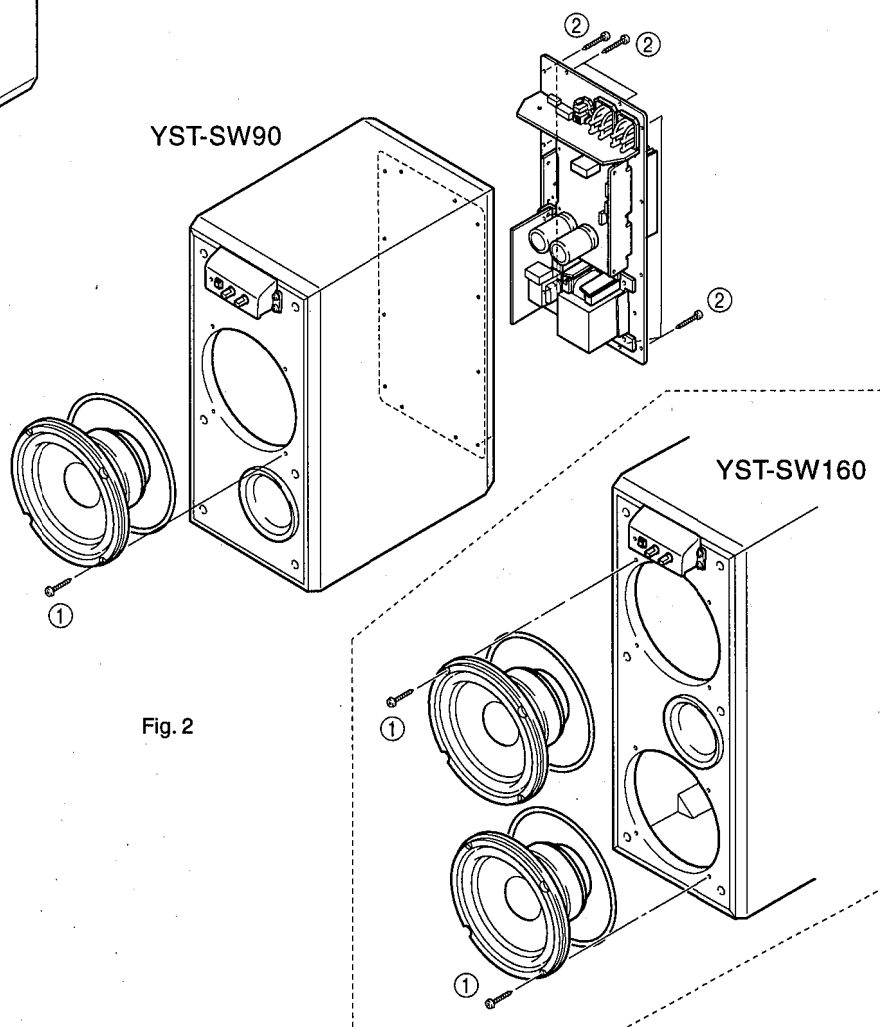


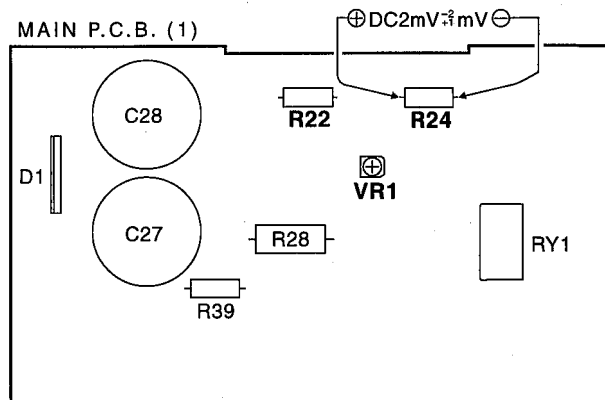
Fig. 2

■ ADJUSTMENT AND CHECK

● Idling Adjustment

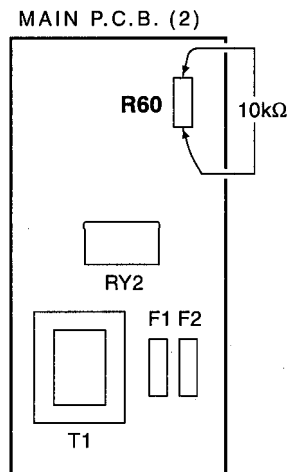
To stabilize operation of the amplifier, turn ON the power in the no-signal state and wait for 1 to 2 minutes before the adjustment.

Adjust VR1 so that the voltage at both ends of R22 or R24 (0.15 ohms) becomes DC 2 mV \pm 1 mV.



● Checking the Auto Power ON/OFF response

1. Connect the resistor (10kohms) to both ends of R60.
2. Input signal level is 4 mV (L+R). (Input signal level is 8 mV at either L ch or R ch input.)
3. Set the AUTO STANDBY switch to the LOW position.
4. The unit turns off (on standby) after 5 ± 3 second.
5. Set the AUTO STANDBY switch to the HIGH position.
6. The unit turns on (light STANDBY/ON indicator LED).



● Checking the noise

Condition:

STANDBY/ON ON

HIGH CUT maximum

VOLUME maximum

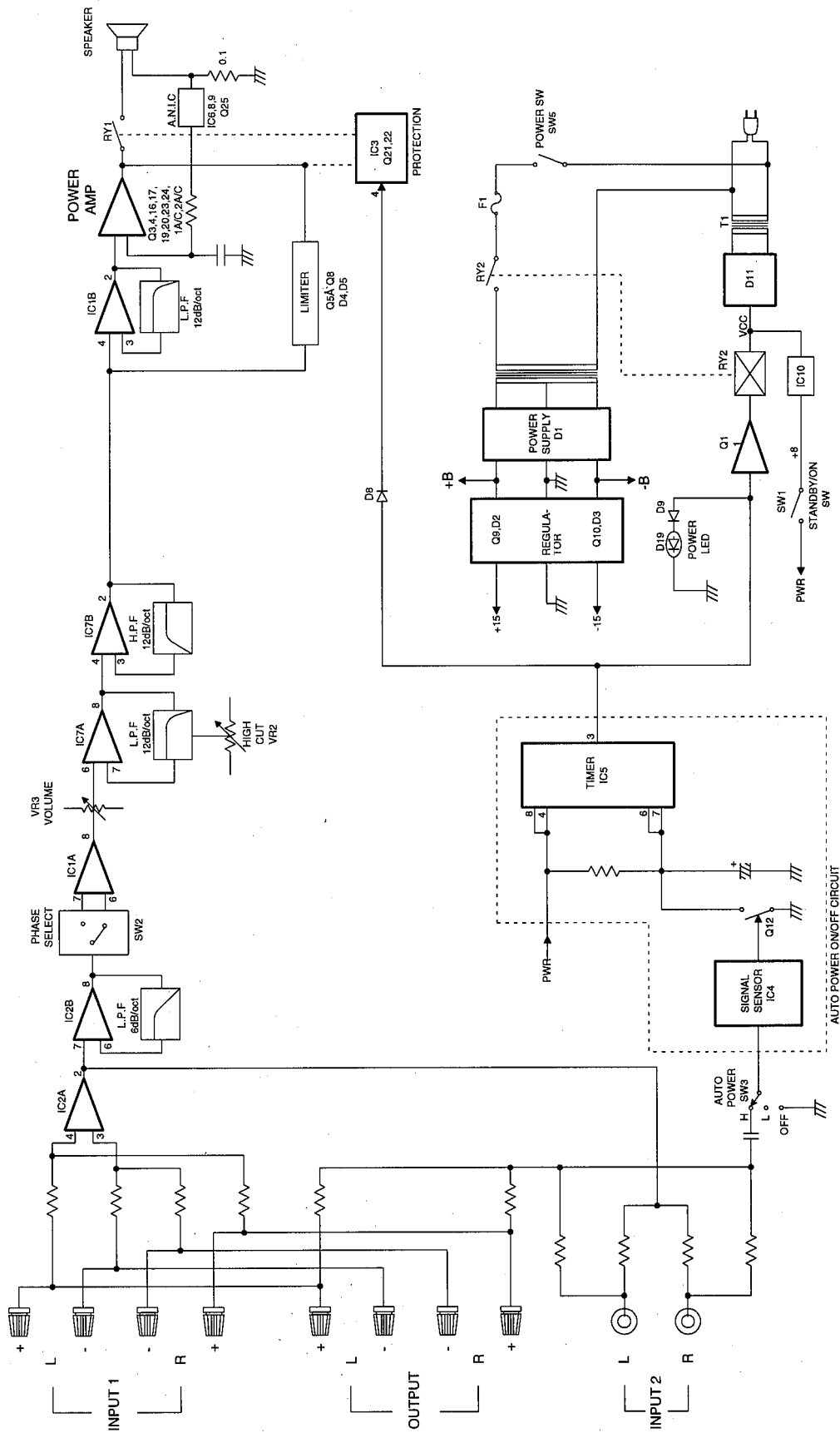
Input (L+R), Sweep Time 5 sec.

1=0.3 V, 2=10 mV, F=20Hz to 2kHz

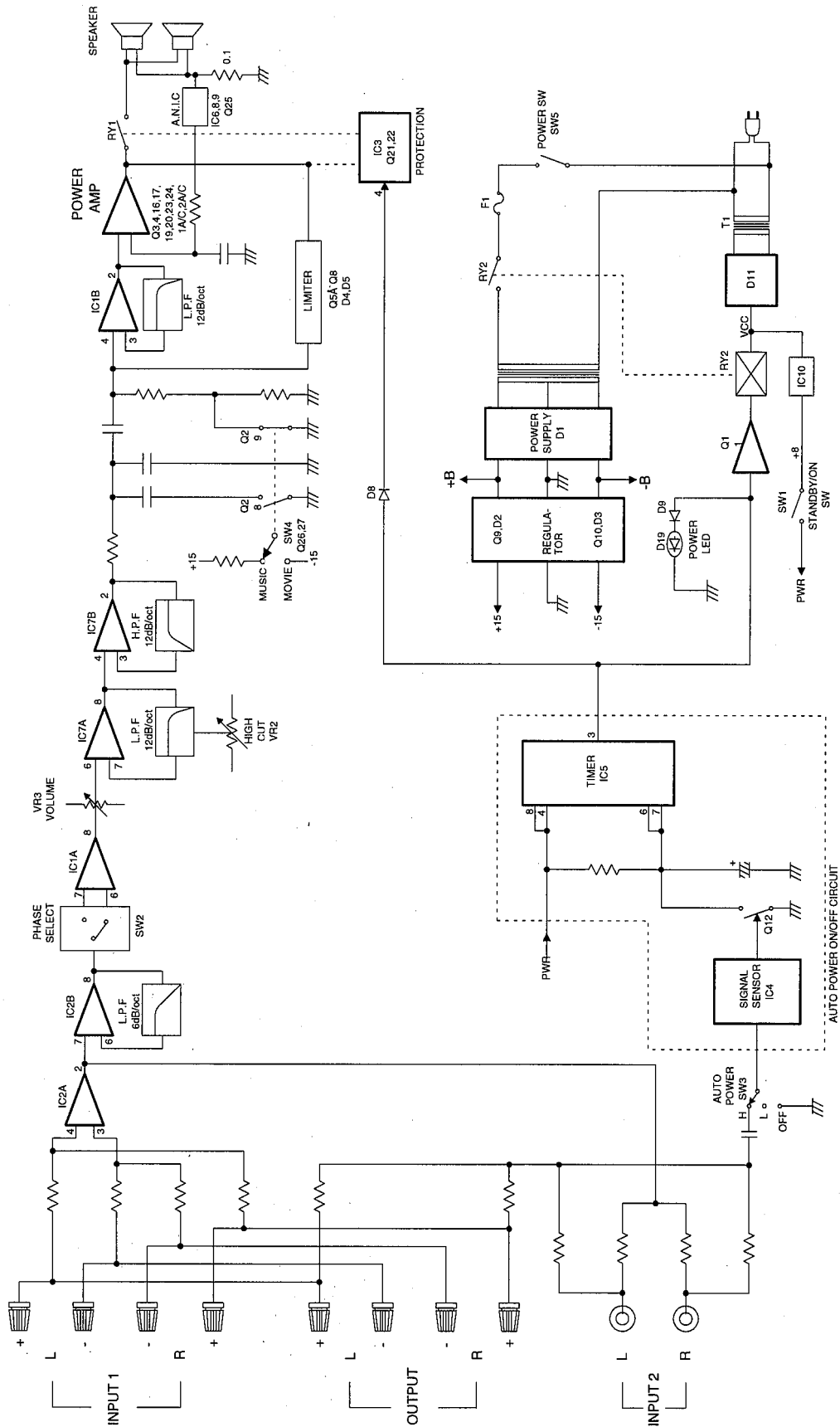
Amplified signal shall operate without any distortion, resonance, rattle, air-turbulent noise, rub & buzz noise, and air-leak from all joints, exceed the limit.

BLOCK DIAGRAM

YST-SW90



YST-SW160

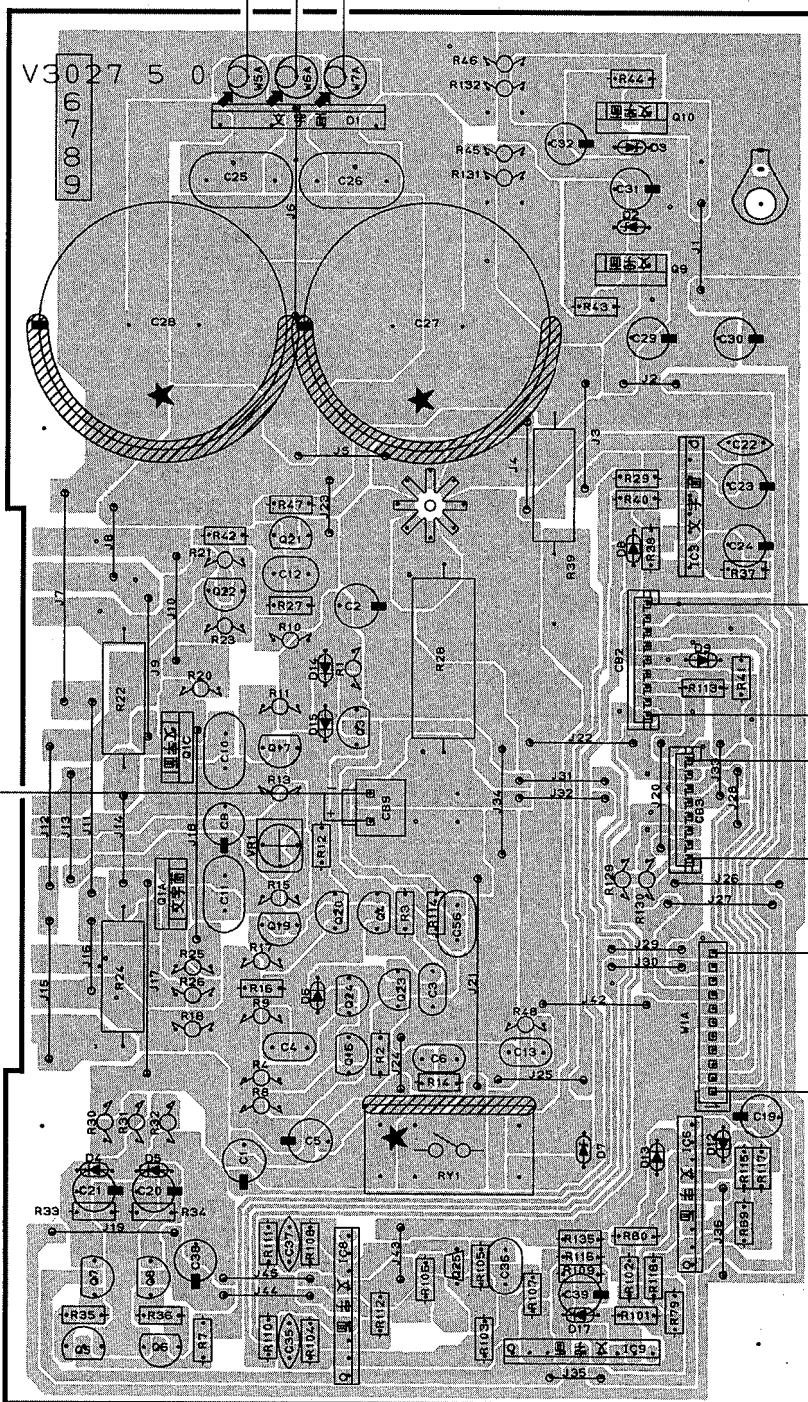


YST-SW90

PRINTED CIRCUIT BOARD (Foil side)

MAIN P.C.B. (1)

FROM : MAIN (7)



FROM : MAIN (2)

FROM : MAIN (4)

FROM : MAIN (3)

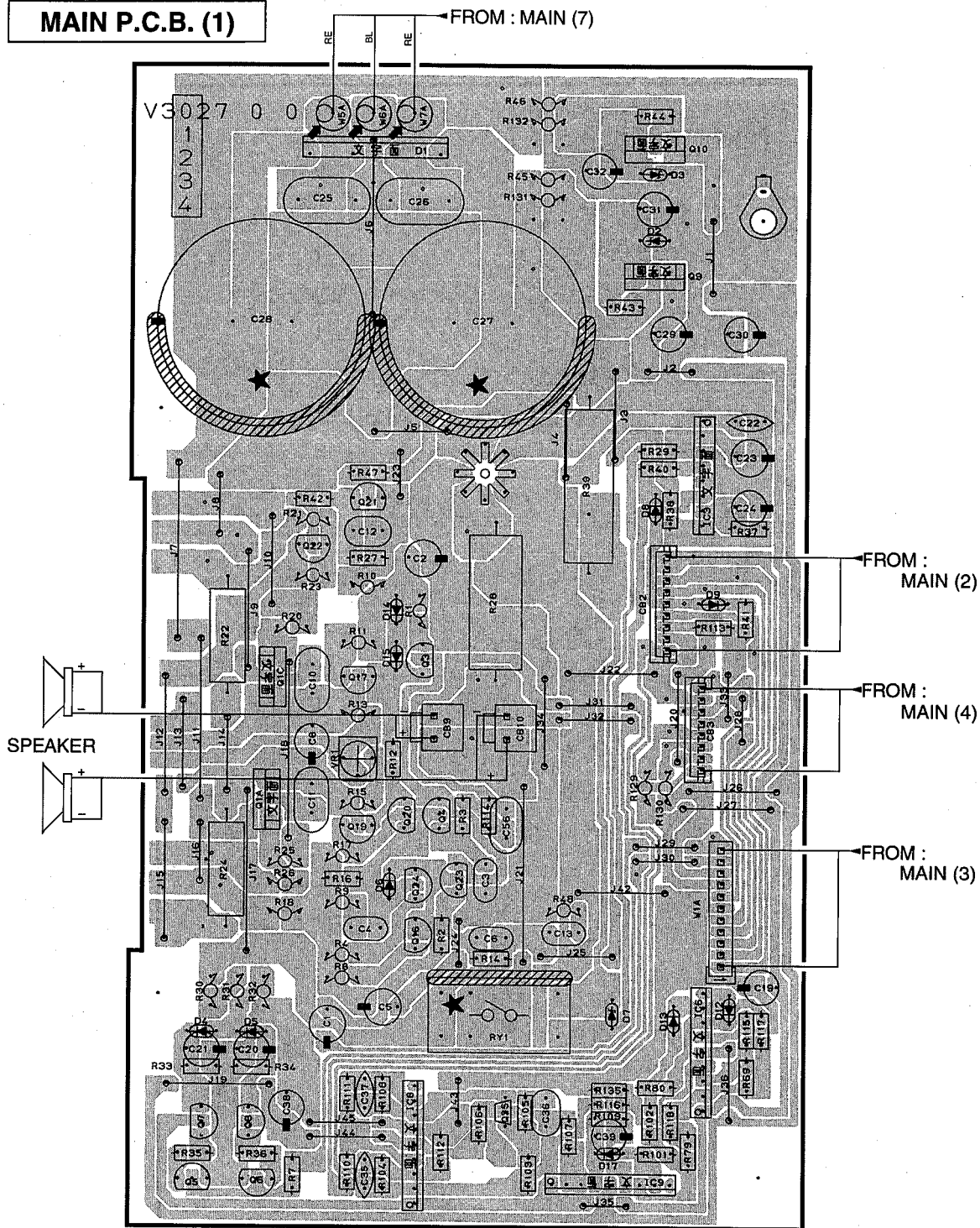
SPEAKER

1
2
3
4
5
6
7

YST-SW160

PRINTED CIRCUIT BOARD (Foil side)

MAIN P.C.B. (1)

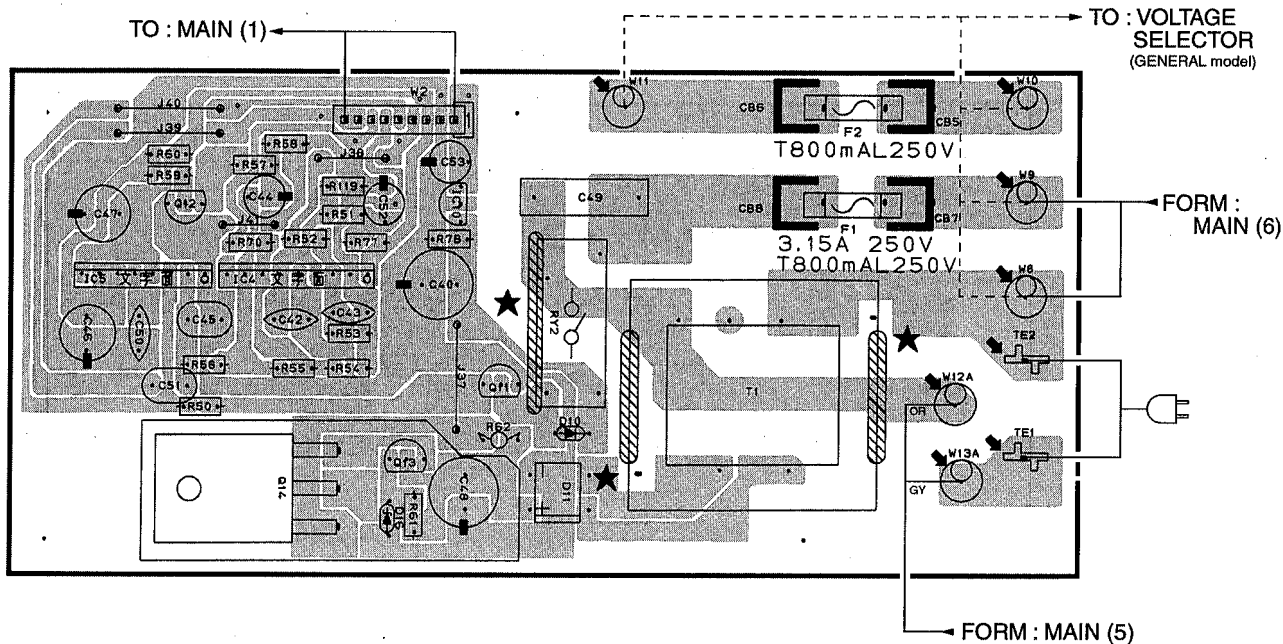


YST-SW90

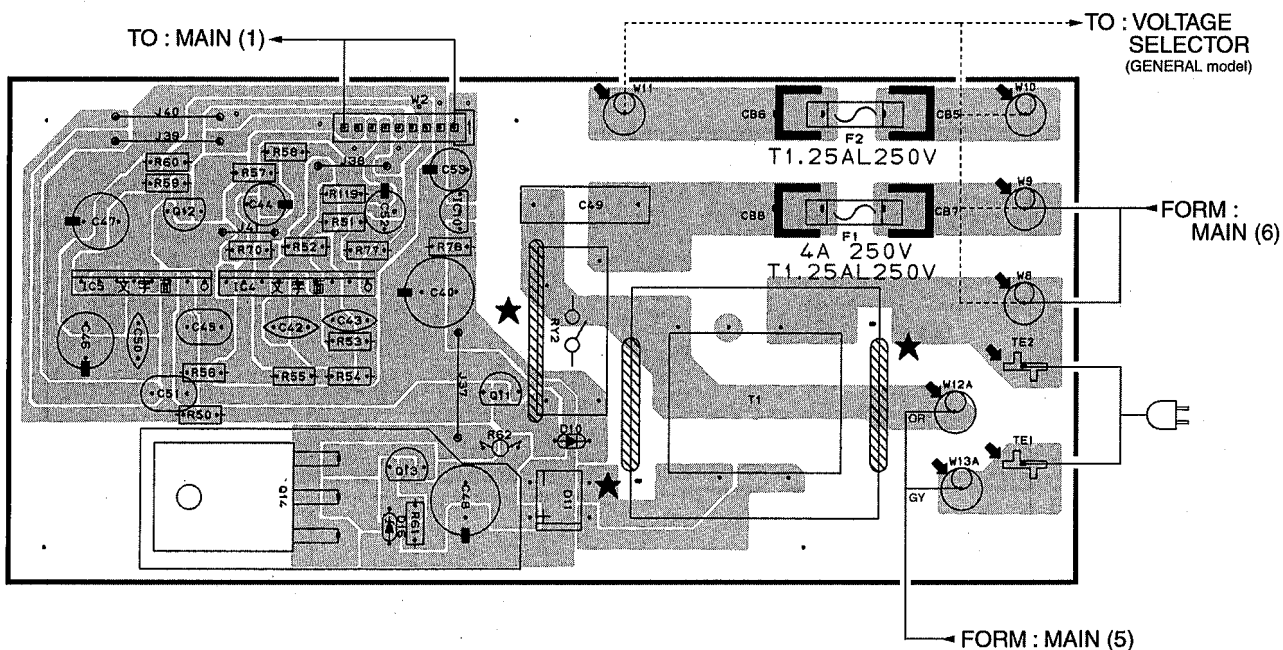
YST-SW160

PRINTED CIRCUIT BOARD (Foil side)

MAIN P.C.B. (2) (YST-SW90)



MAIN P.C.B. (2) (YST-SW160)



A

B

C

D

E

YST-SW90/160

YST-SW90

YST-SW160

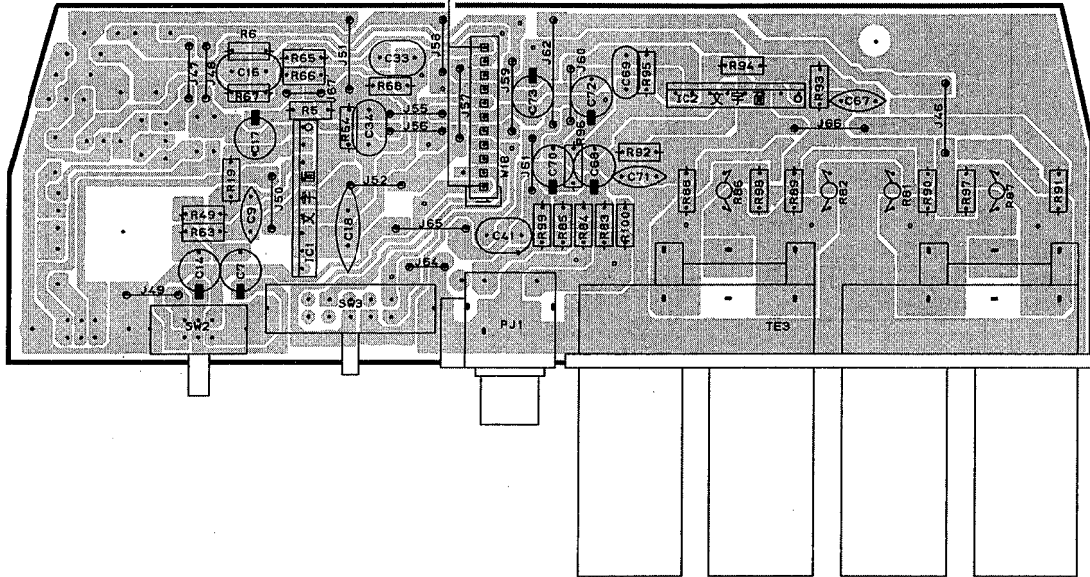
1

PRINTED CIRCUIT BOARD (Foil side)

MAIN P.C.B. (3) (YST-SW90)

2

TO : MAIN (1)



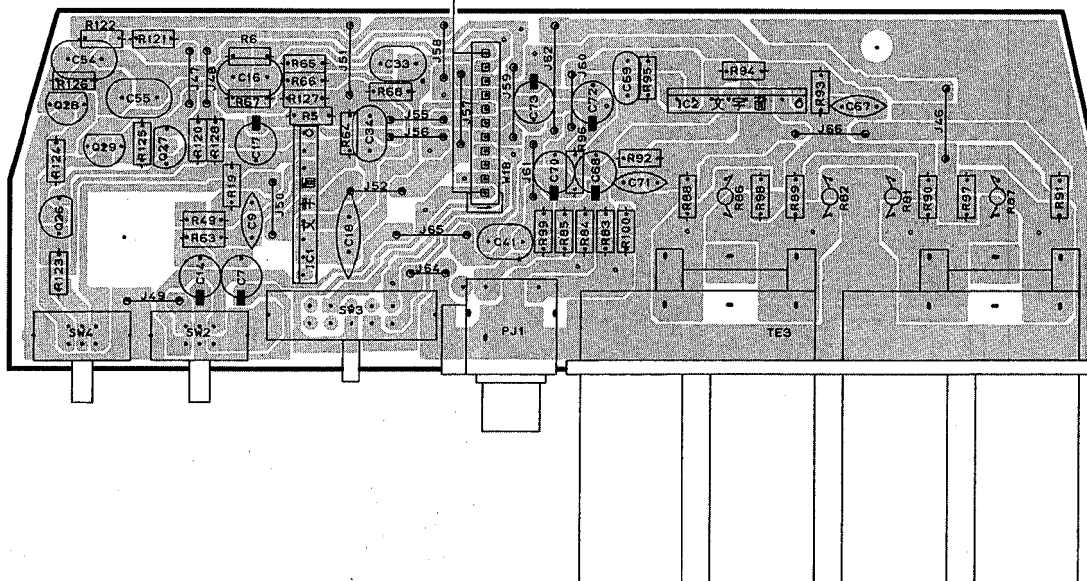
3

4

MAIN P.C.B. (3) (YST-SW160)

5

TO : MAIN (1)



6

7

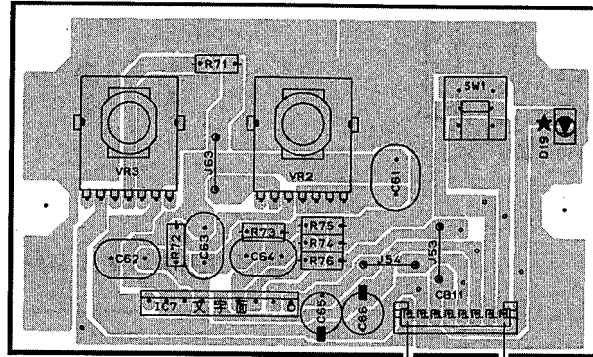
YST-SW90

YST-SW160

1

PRINTED CIRCUIT BOARD (Foil side)

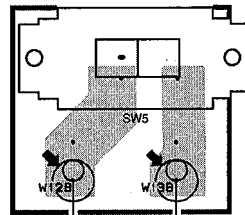
MAIN P.C.B. (4)



2

3

MAIN P.C.B. (5)

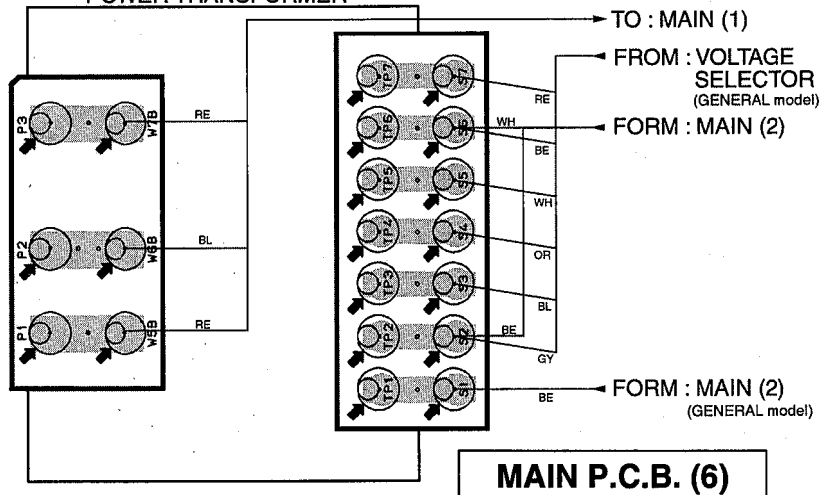


4

5

MAIN P.C.B. (7)

POWER TRANSFORMER

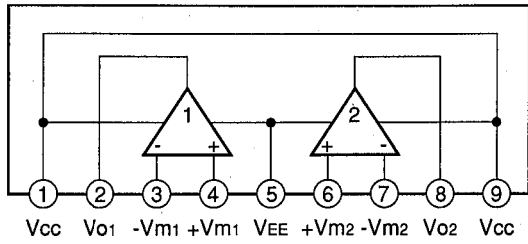


6

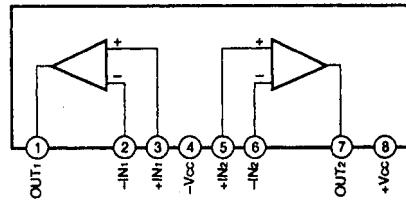
7

IC BLOCK

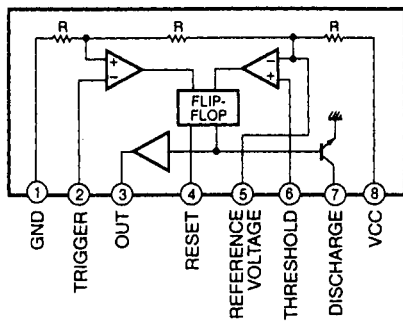
● **NJM4570HA (OP Amp.)**



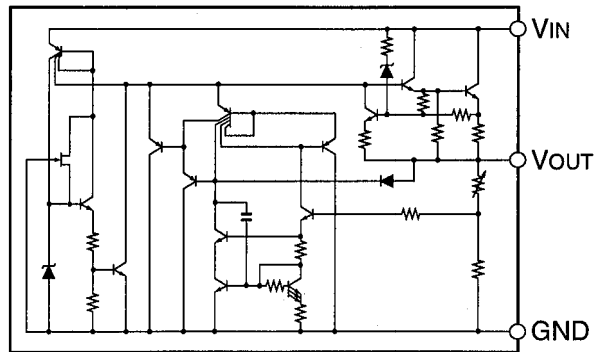
● **NJM4558L (OP Amp.)**



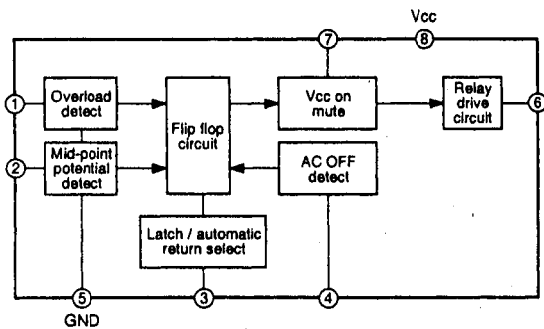
● **M51848L (CR Timer)**



● **NJM78L08A (Voltage Regulator)**



● **μPC1237HA (Protect IC)**

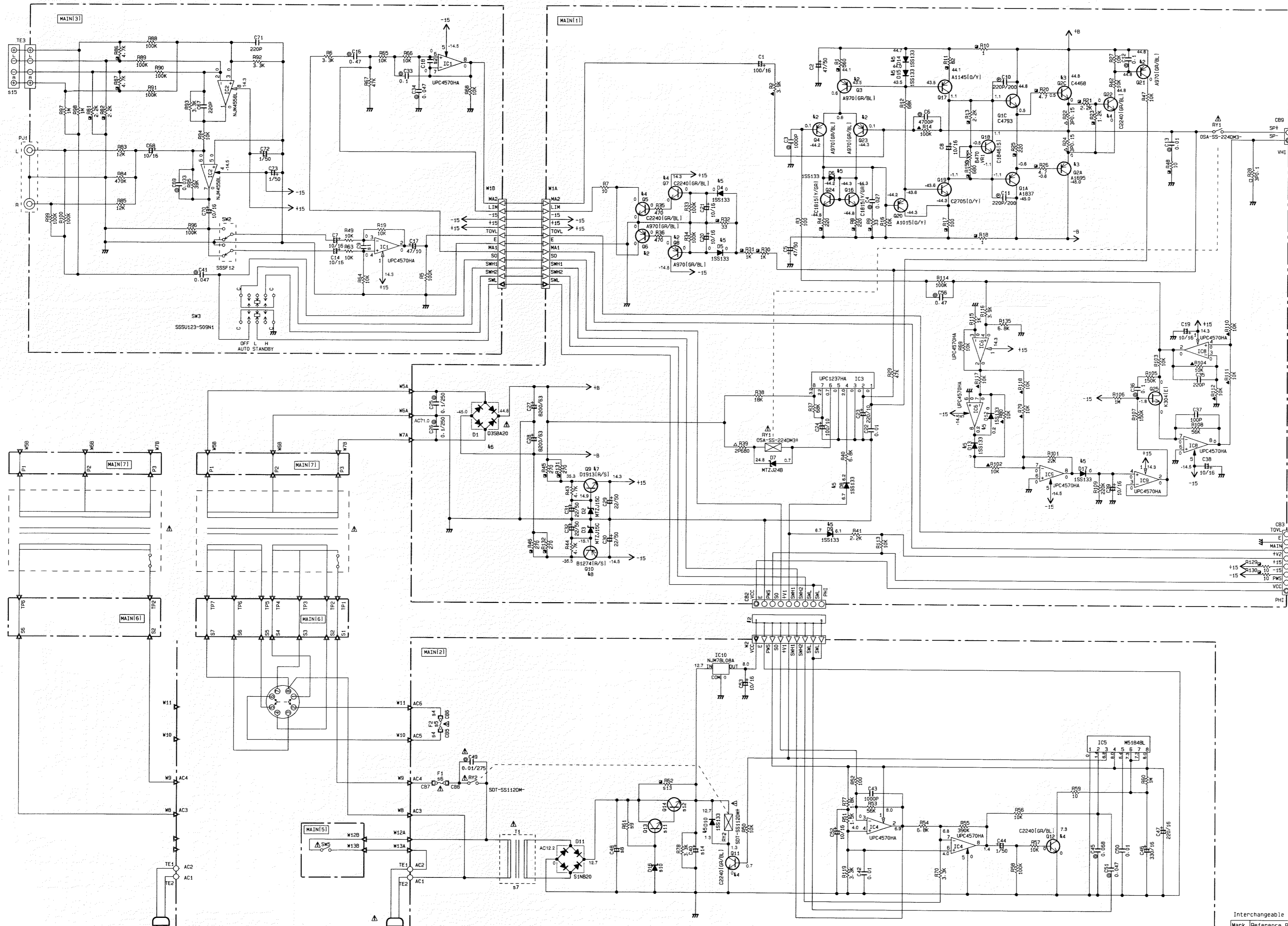


PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.

2SA1837 2SC4793 2SD1913 2SB1274 <p>BCE</p>	2SA1695 2SC4468 <p>BCE</p>	2SA970 2SC1815 2SC2240 2SA1145 2SC2705 2SA1015 <p>ECB</p>	2SC1846 <p>ECB</p>	D3SBA20 <p>+ - - +</p>	S1NB20 <p>+ - ~ ~</p>
1SS133 MTZ15C MTZJ24B <p>Anode Cathode</p>	M51848L μPC1237HA <p>1 C 8</p>	μPC4570HA <p>1 C 9</p>	NJM4558L <p>1 C 8</p>	NJM78L08A <p>OUT COM IN</p>	

SCHEMATIC DIAGRAM / 総回路図

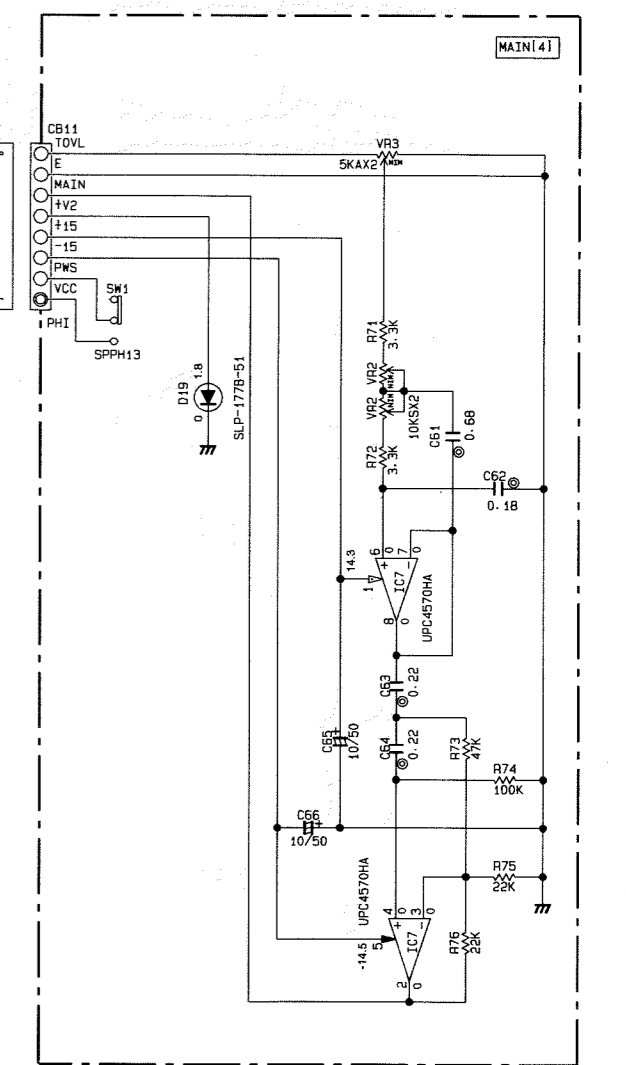
YST-SW90



RESISTOR	
REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
□	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
▴	METAL PLATE RESISTOR
▾	FIRE PROOF CARBON FILM RESISTOR
■	CEMENT MOLDED RESISTOR
⊖	SEMI VARIABLE RESISTOR
⊙	CHIP RESISTOR

CAPACITOR	
REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊖	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
⊙	CERAMIC TUBULAR CAPACITOR
⊖	POLYESTER FILM CAPACITOR
⊖	POLYSTYRENE FILM CAPACITOR
⊖	MICA CAPACITOR
⊖	POLYPROPYLENE FILM CAPACITOR
●	SEMICONDUCTIVE CERAMIC CAPACITOR

REMARKS	LOCATION	DESTINATION				
		J	U-C	R-T	A	B-G
S1	C9	×	×	×	×	22PCH
S2	C18	×	×	×	×	220PCH
S3						
S4	CB5-6	×	×	×	×	×
S5	F2	×	×	×	×	×
S6	F1	3.15A250V	3.15A250V	3.15A250V	1800MA250V	1800MA250V
S7	T1	XQB42	XQB43	XQB44	XQB45	XQB46
S8	C48	×	×	100/63	×	×
S9	R61	×	×	5.6K	×	×
S10	D16	×	×	MTZJ12C	×	×
S11	D13	×	×	C2240[GR/BL]	×	×
S12	D14	×	×	C4881R/01	×	×
S13	R62	2.2	2.2	×	2.2	2.2
S14	C40	1000/25	1000/25	10/25	1000/25	1000/25
S15	TE3	VC31370	VC31370	VC31370	VC31370	VK50620



★ All voltage are measured with a 10MΩ/V DC electric volt meter.
 ★ Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.
 ★ Schematic diagram is subject to change without notice.

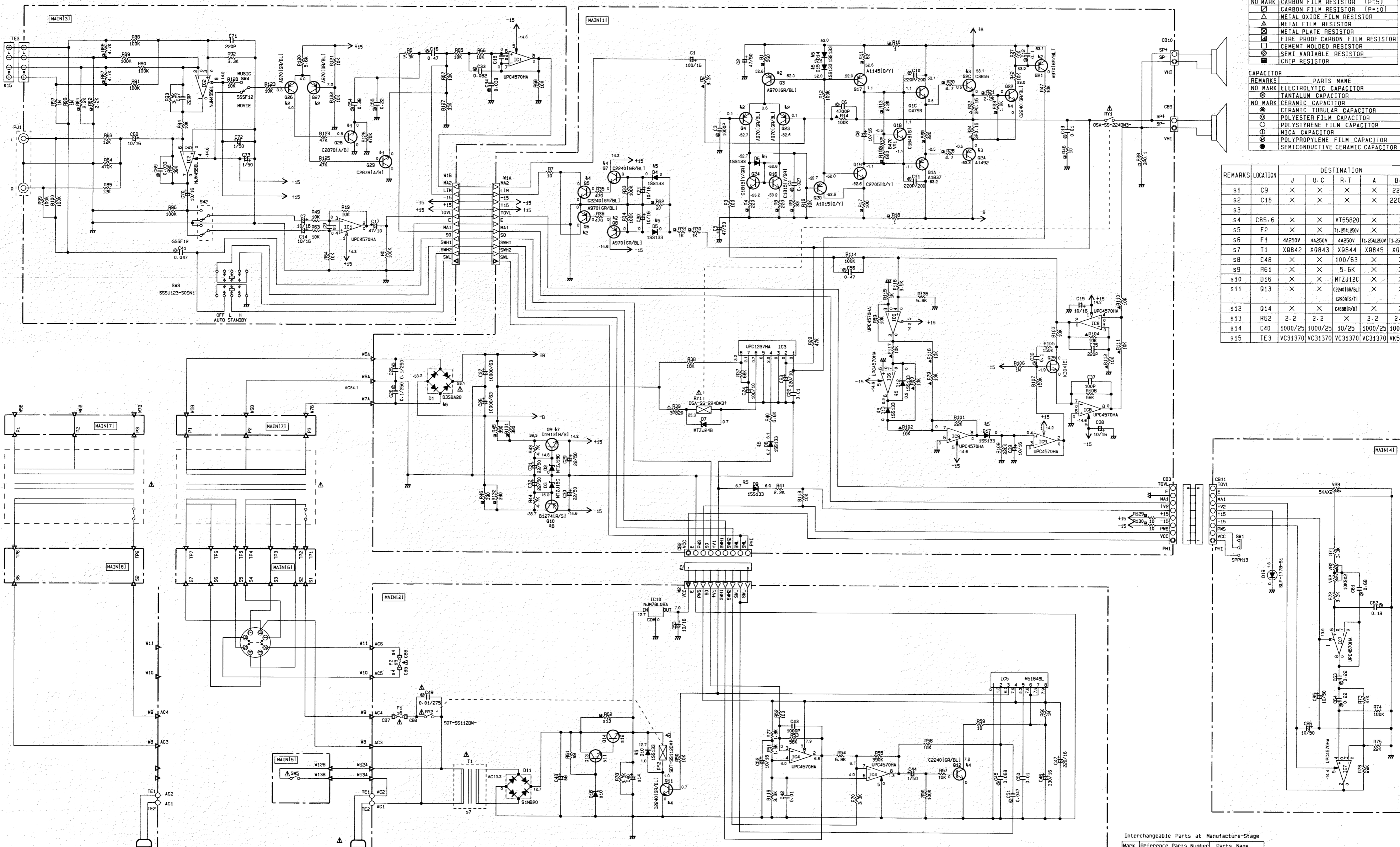
● 電圧は、内部抵抗10MΩの電圧計で測定したものです。
 ● △印のある部品は、安全性確保部品を示しています。部品の交換が必要な場合、パーツリストに記載されている部品を使用してください。
 ● 本回路図は標準回路図です。改良のため予告なく変更することがございます。

NOTICE (model)
 (J)..... JAPANESE
 (U)..... U. S. A
 (C)..... CANADIAN
 (A)..... AUSTRALIAN
 (B)..... BRITISH
 (G)..... EUROPEAN
 (T)..... CHINA
 (L)..... SINGAPORE

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
k1		
k2	Q3-4-6-8-21-23	2S4970[GR/BL] 2S412071S/11
k3	Q2	A1695/C4468[D/P/Y] A1941/C5198[S/T]
k4	Q5-7-11-12-22	2S2240[GR/BL] 2S2909[S/T]
k5	D4-6-8-10-12-15-17	1S5133 HSS104D
k6	D1	D3SBA20 REV-402
k7	Q9	2SD1913[R/S] 2SD2394[E/F]
k8	D10	2SB1274[R/S] 2SB1565[E/F]
k9		

YST-SW160



RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
□	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
⊠	METAL FILM RESISTOR
⊞	METAL PLATE RESISTOR
⊞	FIRE PROOF CARBON FILM RESISTOR
⊞	CEMENT MOLDED RESISTOR
⊞	SEMI VARIABLE RESISTOR
⊞	CHIP RESISTOR

CAPACITOR

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⊞	POLYESTER FILM CAPACITOR
⊞	POLYSTYRENE FILM CAPACITOR
⊞	MICA CAPACITOR
⊞	POLYPROPYLENE FILM CAPACITOR
⊞	SEMICONDUCTIVE CERAMIC CAPACITOR

REMARKS	LOCATION	DESTINATION				
		J	U-C	R-T	A	B-G
S1	C9	X	X	X	X	22PCH
S2	C18	X	X	X	X	220PCH
S3						
S4	CB5-6	X	X	VT65B20	X	X
S5	F2	X	X	11-25M250V	X	X
S6	F1	4A250V	4A250V	11-25M250V	11-25M250V	
S7	T1	XG842	XG843	XG844	XG845	XG846
S8	C4B	X	X	100/63	X	X
S9	R61	X	X	5.6K	X	X
S10	D16	X	X	MTZJ12C	X	X
S11	Q13	X	X	C2240(GR/BL)	X	X
S12	Q14	X	X	C2909(S/I)	X	X
S13	R62	2.2	2.2	X	2.2	2.2
S14	C40	1000/25	1000/25	10/25	1000/25	1000/25
S15	TE3	VC31370	VC31370	VC31370	VC31370	VK50620

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
41	Q28-29	C2678(A/B)
42	Q3-4-6-8-21-23-26-27	2SA970(GR/BL)
43	Q2	2SA1207(S/I)
44	Q5-7-11-12-22	A1492(C3856)O/P/P1
45	D4-6-8-10-12-15-17	2SC2240(GR/BL)
46	Q1	2SC2909(S/I)
47	Q9	1SS133
48	Q10	HSS104TD
49		D338A20
		RBV-402
		2SD1913(R/S)
		2SD2394(E/P)
		2SD1274(R/S)
		2SD1565(E/F)

★ All voltage are measured with a 10MQ/V DC electric volt meter.
 ★ Components having special characteristics are marked △ and must be replaced with parts having specifications equal to those originally installed.
 ★ Schematic diagram is subject to change without notice.

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NOTICE (model)
 (J)..... JAPANESE
 (U)..... U. S. A
 (C)..... CANADIAN
 (R)..... GENERAL
 (A)..... AUSTRALIAN
 (B)..... BRITISH
 (G)..... EUROPEAN
 (T)..... CHINA
 (L)..... SINGAPORE

PARTS LIST

■ ELECTRICAL PARTS

■ WARNING

Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

- Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS List. For the parts No. of the carbon resistors, refer to last page.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

C.A.EL.CHP	: CHIP ALUMI.ELECTROLYTIC CAP	L.EMIT	: LIGHT EMITTING MODULE
C.CE	: CERAMIC CAP	LED.DSPLY	: LED DISPLAY
C.CE.ARRAY	: CERAMIC CAP ARRAY	LED.INFRD	: LED,INFRARED
C.CE.CHP	: CHIP CERAMIC CAP	MODUL.RF	: MODULATOR,RF
C.CE.ML	: MULTILAYER CERAMIC CAP	PHOT.CPL	: PHOTO COUPLER
C.CE.M.CHP	: CHIP MULTILAYER CERAMIC CAP	PHOT.INTR	: PHOTO INTERRUPTER
C.CE.SAFTY	: RECOGNIZED CERAMIC CAP	PHOT.RFLCT	: PHOTO REFLECTOR
C.CE.TUBLR	: CERAMIC TUBULAR CAP	PIN.TEST	: PIN,TEST POINT
C.CE.SMI	: SEMI CONDUCTIVE CERAMIC CAP	PLST.RIVET	: PLASTIC RIVET
C.EL	: ELECTROLYTIC CAP	R.ARRAY	: RESISTOR ARRAY
C.MICA	: MICA CAP	R.CAR.	: CARBON RESISTOR
C.ML.FLM	: MULTILAYER FILM CAP	R.CAR.CHP	: CHIPRESISTOR
C.MP	: METALLIZED PAPER CAP	R.CAR.FP	: FLAME PROOF CARBON RESISTOR
C.MYLAR	: MYLAR FILM CAP	R.FUS	: FUSABLE RESISTOR
C.MYLAR.ML	: MULTILAYER MYLAR FILM CAP	R.MTL.CHP	: CHIP METAL FILM RESISTOR
C.PAPER	: PAPER CAPACITOR	R.MTL.FLM	: METAL FILM RESISTOR
C.PLS	: POLYSTYRENE FILM CAP	R.MTL.OXD	: METAL OXIDE FILM RESISTOR
C.POL	: POLYESTER FILM CAP	R.MTL.PLAT	: METAL PLATE RESISTOR
C.POLY	: POLYETHYLENE FILM CAP	RSNR.CE	: CERAMIC RESONATOR
C.PP	: POLYPROPYLENE FILM CAP	RSNR.CRY	: CRYSTAL RESONATOR
C.TNTL	: TANTALUM CAP	R.TW.CEM	: TWIN CEMENT FIXED RESISTOR
C.TNTL.CHP	: CHIP TANTALUM CAP	R.WW	: WIRE WOUND RESISTOR
C.TRIM	: TRIMMER CAP	SCR.BND.HD	: BIND HEAD B-TITE SCREW
CN	: CONNECTOR	SCR.BW.HD	: BW HEAD TAPPING SCREW
CN.BS.PIN	: CONNECTOR,BASE PIN	SCR.CUP	: CUP TITE SCREW
CN.CANNON	: CONNECTOR,CANNON	SCR.TERM	: SCREW TERMINAL
CN.DIN	: CONNECTOR,DIN	SCR.TR	: SCREW,TRANSISTOR
CN.FLAT	: CONNECTOR,FLAT CABLE	SUPRT.PCB	: SUPPORT,P.C.B.
CN.POST	: CONNECTOR,BASE POST	SURG.PRTCT	: SURGE PROTECTOR
COIL.MX.AM	: COIL,AM MIX	SW.TACT	: TACT SWITCH
COIL.AT.FM	: COIL,FM ANTENNA	SW.LEAF	: LEAF SWITCH
COIL.DT.FM	: COIL,FM DETECT	SW.LEVER	: LEVER SWITCH
COIL.MX.FM	: COIL,FM MIX	SW.MICRO	: MICRO SWITCH
COIL.OUTPT	: OUTPUT COIL	SW.PUSH	: PUSH SWITCH
DIOD.ARRAY	: DIODE ARRAY	SW.RT.ENC	: ROTARY ENCODER
DIODE.BRG	: DIODE BRIDGE	SW.RT.MTR	: ROTARY SWITCH WITH MOTOR
DIODE.CHP	: CHIP DIODE	SW.RT	: ROTARY SWITCH
DIODE.VAR	: VARACTOR DIODE	SW.SLIDE	: SLIDE SWITCH
DIOD.Z.CHP	: CHIP ZENER DIODE	TERM.SP	: SPEAKER TERMINAL
DIODE.ZENR	: ZENER DIODE	TERM.WRAP	: WRAPPING TERMINAL
DSCR.CE	: CERAMIC DISCRIMINATOR	THRMST.CHP	: CHIP THERMISTOR
FER.BEAD	: FERRITE BEADS	TR.CHP	: CHIP TRANSISTOR
FER.CORE	: FERRITE CORE	TR.DGT	: DIGITAL TRANSISTOR
FET.CHP	: CHIP FET	TR.DGT.CHP	: CHIP DIGITAL TRANSISTOR
FL.DSPLY	: FLUORESCENT DISPLAY	TRANS	: TRANSFORMER
FLTR.CE	: CERAMIC FILTER	TRANS.PULS	: PULSE TRANSFORMER
FLTR.COMB	: COMB FILTER MODULE	TRANS.PWR	: POWERTRANSFORMER ASS'Y
FLTR.LC.RF	: LC FILTER,EMI	TUNER.AM	: TUNER PACK,AM
GND.MTL	: GROUND PLATE	TUNER.FM	: TUNER PACK,FM
GND.TERM	: GROUND TERMINAL	TUNER.PK	: FRONT-ENDTUNER PACK
HOLDER.FUS	: FUSE HOLDER	VR	: ROTARY POTENTIOMETER
IC.PRTCT	: IC PROTECTOR	VR.MTR	: POTENTIOMETER WITH MOTOR
JUMPER.CN	: JUMPER CONNECTOR	VR.SW	: POTENTIOMETER WITH ROTARY SW
JUMPER.TST	: JUMPER,TEST POINT	VR.SLIDE	: SLIDEPOTENTIOMETER
L.DTCT	: LIGHT DETECTING MODULE	VR.TRIM	: TRIMMER POTENTIOMETER

Note) Those parts marked with "#" are not included in the P.C.B. ass'y.

YST-SW90

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Schm Ref.	PART NO.	Description
	V3027600	P. C. B. MAIN(UC)
	V3027700	P. C. B. MAIN(RT)
	V3027800	P. C. B. MAIN(A)
	V3027900	P. C. B. MAIN(BG)
CB2	VD005200	CN. BS. PIN 9P
CB3	VD005100	CN. BS. PIN 8P
CB5	VT658200	HOLDER. FUS PC-FH1 (RT)
CB6	VT658200	HOLDER. FUS PC-FH1 (RT)
CB7	VT658200	HOLDER. FUS PC-FH1
CB8	VT658200	HOLDER. FUS PC-FH1
CB9	LB932020	CN. BS. PIN 2P
CB11	VD005100	CN. BS. PIN 8P
C1	VF964800	C. EL 100uF 16V
C2	UJ667470	C. EL 47uF 50V
C3	UA653100	C. MYLAR 1000pF 50V
C4	UA654270	C. MYLAR 0.027uF 50V
C5	UJ667470	C. EL 47uF 50V
C6	UA653470	C. MYLAR 4700pF 50V
C7	VJ836900	C. EL 10uF 16V
C8	VJ836900	C. EL 10uF 16V
C9	VA761000	C. CE 22pF 50V(BG)
C10	VK534000	C. PP 220pF 200V
C11	VK534000	C. PP 220pF 200V
C12	UA655100	C. MYLAR 0.1uF 50V
C13	UA654100	C. MYLAR 0.01uF 50V
C14	VJ836900	C. EL 10uF 16V
C16	UA655470	C. MYLAR 0.47uF 50V
C17	Vi531900	C. EL 47uF 10V
C18	VA777700	C. CE 220pF 50V(BG)
C19	VJ836900	C. EL 10uF 16V
C20	VJ836900	C. EL 10uF 16V
C21	VJ836900	C. EL 10uF 16V
C22	FG214100	C. CE 0.01uF 50V
C23	VE117600	C. EL 220uF 10V
C24	VF760000	C. EL 100uF 10V
C25	VT857900	C. POL 0.1uF 250V
C26	VT857900	C. POL 0.1uF 250V
C27	VT544500	C. EL 8200uF 63V
C28	VT544500	C. EL 8200uF 63V
C29	Ui367220	C. EL 22uF 50V
C30	Ui367220	C. EL 22uF 50V
C31	Ui367220	C. EL 22uF 50V
C32	Ui367220	C. EL 22uF 50V
C33	UA655100	C. MYLAR 0.1uF 50V
C34	UA654470	C. MYLAR 0.047uF 50V
C35	FG212220	C. CE 220pF 50V
C36	UA655100	C. MYLAR 0.1uF 50V
C37	FG212100	C. CE 100pF 50V
C38	VJ836900	C. EL 10uF 16V
C39	VJ836900	C. EL 10uF 16V
C40	VF606700	C. EL 1000uF 25V(UCABG)
C40	VH620500	C. EL 10uF 25V(RT)
C41	UA654470	C. MYLAR 0.047uF 50V

* New Parts

Schm Ref.	PART NO.	Description
C42	FG214100	C. CE 0.01uF 50V
C43	FG213100	C. CE 1000pF 50V
C44	VJ839100	C. EL 1uF 50V
C45	UA654680	C. MYLAR 0.068uF 50V
C46	UJ638330	C. EL 330uF 16V
C47	UJ648220	C. EL 220uF 25V
C48	UH178100	C. EL 100uF 63V(RT)
C49	VS741700	C. CE. SAFTY 0.01uF 275V
C50	FG214100	C. CE 0.01uF 50V
C51	UA654470	C. MYLAR 0.047uF 50V
C52	VJ836900	C. EL 10uF 16V
C53	VJ836900	C. EL 10uF 16V
C56	UA655470	C. MYLAR 0.47uF 50V
C57	FG214100	C. CE 0.01uF 50V
C61	UA655680	C. MYLAR 0.68uF 50V
C62	UA655180	C. MYLAR 0.18uF 50V
C63	UA655220	C. MYLAR 0.22uF 50V
C64	UA655220	C. MYLAR 0.22uF 50V
C65	UM417100	C. EL 10uF 50V
C66	UM417100	C. EL 10uF 50V
C67	FG212220	C. CE 220pF 50V
C68	VJ836900	C. EL 10uF 16V
C69	UA654330	C. MYLAR 0.033uF 50V
C70	VJ836900	C. EL 10uF 16V
C71	FG212220	C. CE 220pF 50V
C72	VJ839100	C. EL 1uF 50V
C73	VJ839100	C. EL 1uF 50V
D1	VN011300	DIODE. BRG D3SBA20 4A 200V
D2	VG440900	DIODE. ZENR MTZJ15C 15V
D3	VG440900	DIODE. ZENR MTZJ15C 15V
D4	iF004600	DIODE 1SS133
D5	iF004600	DIODE 1SS133
D6	iF004600	DIODE 1SS133
D7	VG442500	DIODE. ZENR MTZJ24B 24V
D8	iF004600	DIODE 1SS133
D9	iF004600	DIODE 1SS133
D10	iF004600	DIODE 1SS133
D11	VR253700	DIODE. BRG S1NB20 1.0A 200V
D12	iF004600	DIODE 1SS133
D13	iF004600	DIODE 1SS133
D14	iF004600	DIODE 1SS133
D15	iF004600	DIODE 1SS133
D16	VG440300	DIODE. ZENR MTZJ12C 12V(RT)
D17	iF004600	DIODE 1SS133
D19	VU767600	LED(re) SLP-117B-51
F1	KB002610	FUSE T800mA 250V(ABG)
F1	VT756500	FUSE TL3.15A 250V(UCRT)
F2	KB002610	FUSE T800mA 250V(RT)
IC1	XB247301	IC uPC4570HA
IC2	XM922A00	IC NJM4558L
IC3	XF663A00	IC uPC1237HA
IC4	XB247301	IC uPC4570HA
IC5	XP741A00	IC M51848L

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* New Parts

YST-SW90

Schm Ref.	PART NO.	Description
IC6	XB247301	IC uPC4570HA
IC7	XB247301	IC uPC4570HA
IC8	XB247301	IC uPC4570HA
IC9	XB247301	IC uPC4570HA
IC10	iG160100	IC NJM78L08A 8V
PJ1	VT666100	JACK. PIN 2P
Q1A	iX632610	TR 2SA1837 O, Y
Q1C	iX632620	TR 2SC4793 O, Y
Q2A	iX633340	TR 2SA1695 O, P, Y
Q2C	iX633350	TR 2SC4468 O, P, Y
Q3	iA097000	TR 2SA970 GR, BL
Q4	iA097000	TR 2SA970 GR, BL
Q5	iC224030	TR 2SC2240 GR, BL
Q6	iA097000	TR 2SA970 GR, BL
Q7	iC224030	TR 2SC2240 GR, BL
Q8	iA097000	TR 2SA970 GR, BL
Q9	VC407900	TR 2SD1913 R, S
Q10	VC614000	TR 2SB1274 Q, R, S
Q11	iC224030	TR 2SC2240 GR, BL
Q12	iC224030	TR 2SC2240 GR, BL
Q13	iC224030	TR 2SC2240 GR, BL(RT)
Q14	VK801200	TR 2SC4688 R, O(RT)
Q16	iC1815M0	TR 2SC1815 Y, GR
Q17	VE198700	TR 2SA1145 O, Y
Q18	VC398100	TR 2SC1846 S
Q19	VE198800	TR 2SC2705 O, Y
Q20	iA101590	TR 2SA1015 O, Y
Q21	iA097000	TR 2SA970 GR, BL
Q22	iC224030	TR 2SC2240 GR, BL
Q23	iA097000	TR 2SA970 GR, BL
Q24	iC1815M0	TR 2SC1815 Y, GR
Q25	V3028000	FET 2SK304 E
R1	HV455560	R. CAR. FP 560Ω 1/4W
R2	HU576390	R. MTL. FLM 3.9KΩ 1/4W
R4	HV455220	R. CAR. FP 220Ω 1/4W
R8	HV455220	R. CAR. FP 220Ω 1/4W
R9	HV454330	R. CAR. FP 33Ω 1/4W
R10	HV453100	R. CAR. FP 1Ω 1/4W
R11	HV454820	R. CAR. FP 82Ω 1/4W
R13	HV456220	R. CAR. FP 2.2KΩ 1/4W
R14	HU578100	R. MTL. FLM 100KΩ 1/4W
R15	HV455680	R. CAR. FP 680Ω 1/4W
R17	HV455100	R. CAR. FP 100Ω 1/4W
R18	HV453100	R. CAR. FP 1Ω 1/4W
R20	HV453470	R. CAR. FP 4.7Ω 1/4W
R21	HV456220	R. CAR. FP 2.2KΩ 1/4W
R22	VG730500	R. MTL. OXD 0.15Ω 3W
R23	HV456120	R. CAR. FP 1.2KΩ 1/4W
R24	VG730500	R. MTL. OXD 0.15Ω 3W
R25	HV455220	R. CAR. FP 220Ω 1/4W
R26	HV453470	R. CAR. FP 4.7Ω 1/4W
R28	VH930000	R. WW 0.1Ω 3W
R30	HV456100	R. CAR. FP 1KΩ 1/4W

* New Parts

Schm Ref.	PART NO.	Description
R31	HV456100	R. CAR. FP 1KΩ 1/4W
R32	HV454330	R. CAR. FP 33Ω 1/4W
R39	HL325680	R. MTL. OXD 680Ω 2W
R45	HV455270	R. CAR. FP 270Ω 1/4W
R46	HV455270	R. CAR. FP 270Ω 1/4W
R48	HV454100	R. CAR. FP 10Ω 1/4W
R62	HV453220	R. CAR. FP 2.2Ω 1/4W(UCABG)
R79	HU597100	R. MTL. FLM 10KΩ 1/4W
R80	HU597100	R. MTL. FLM 10KΩ 1/4W
R81	HV456220	R. CAR. FP 2.2KΩ 1/4W
R82	HV456220	R. CAR. FP 2.2KΩ 1/4W
R86	HV456470	R. CAR. FP 4.7KΩ 1/4W
R87	HV456470	R. CAR. FP 4.7KΩ 1/4W
R102	HU597100	R. MTL. FLM 10KΩ 1/4W
R104	HU597100	R. MTL. FLM 10KΩ 1/4W
R110	HU597100	R. MTL. FLM 10KΩ 1/4W
R111	HU597100	R. MTL. FLM 10KΩ 1/4W
R112	HU597100	R. MTL. FLM 10KΩ 1/4W
R117	HU597100	R. MTL. FLM 10KΩ 1/4W
R118	HU597100	R. MTL. FLM 10KΩ 1/4W
R129	HV454100	R. CAR. FP 10Ω 1/4W
R130	HV454100	R. CAR. FP 10Ω 1/4W
R131	HV455270	R. CAR. FP 270Ω 1/4W
R132	HV455270	R. CAR. FP 270Ω 1/4W
RY1	VU161600	RELAY DC OSA-SS-224DM3
RY2	VU349800	RELAY DC SDT-SS-112DM
SW1	VS066500	SW. PUSH SPPH13-W
SW2	VL012000	SW. SLIDE SSSF12
SW3	VD179500	SW. SLIDE SSSU12
△ T1	XQ843A00	TRANS. PWR (UC)
△ T1	XQ844A00	TRANS. PWR (RT)
△ T1	XQ845A00	TRANS. PWR (A)
△ T1	XQ846B00	TRANS. PWR (BG)
TE1	VT658100	TERM. WRAP 352-TX119
TE2	VT658100	TERM. WRAP 352-TX119
TE3	VC313700	TERM. SP 8P(UCRTA)
TE3	VK506200	TERM. SP 8P(BG)
VR1	VJ692800	VR. TRIM B470Ω
VR2	V3582800	VR S10KΩ
VR3	V3582700	VR A5KΩ
△ VA932900	VOLT. SELCT ESE-37226(RT)	
BB070700	GND. MTL	
VN774800	GND. WSHR	MEP1866 #11102
V3028400	HOLDER. LED	LE56211-5A

* New Parts

YST-SW160

Schm Ref.	PART NO.	Description	
	V3027100	P. C. B.	MAIN(UC)
	V3027200	P. C. B.	MAIN(RT)
	V3027300	P. C. B.	MAIN(A)
	V3027400	P. C. B.	MAIN(BG)
CB2	VD005200	CN. BS. PIN	9P
CB3	VD005100	CN. BS. PIN	8P
CB5	VT658200	HOLDER. FUS	PC-FH1 (RT)
CB6	VT658200	HOLDER. FUS	PC-FH1 (RT)
CB7	VT658200	HOLDER. FUS	PC-FH1
CB8	VT658200	HOLDER. FUS	PC-FH1
CB9	LB932020	CN. BS. PIN	2P
CB10	LB932020	CN. BS. PIN	2P
CB11	VD005100	CN. BS. PIN	8P
C1	VF964800	C. EL	100uF 16V
C2	UJ667470	C. EL	47uF 50V
C3	UA653100	C. MYLAR	1000pF 50V
C4	UA654270	C. MYLAR	0.027uF 50V
C5	UJ667470	C. EL	47uF 50V
C6	UA653470	C. MYLAR	4700pF 50V
C7	VJ836900	C. EL	10uF 16V
C8	VJ836900	C. EL	10uF 16V
C9	VA761000	C. CE	22pF 50V(BG)
C10	VK534000	C. PP	220pF 200V
C11	VK534000	C. PP	220pF 200V
C12	UA655100	C. MYLAR	0.1uF 50V
C13	UA654100	C. MYLAR	0.01uF 50V
C14	VJ836900	C. EL	10uF 16V
C16	UA655470	C. MYLAR	0.47uF 50V
C17	Vi531900	C. EL	47uF 10V
C18	VA777700	C. CE	220pF 50V(BG)
C19	VJ836900	C. EL	10uF 16V
C20	VJ836900	C. EL	10uF 16V
C21	VJ836900	C. EL	10uF 16V
C22	FG214100	C. CE	0.01uF 50V
C23	VE117600	C. EL	220uF 10V
C24	VF760000	C. EL	100uF 10V
C25	VT857900	C. POL	0.1uF 250V
C26	VT857900	C. POL	0.1uF 250V
C27	VV954400	C. EL	10000uF 63V
C28	VV954400	C. EL	10000uF 63V
C29	Ui367220	C. EL	22uF 50V
C30	Ui367220	C. EL	22uF 50V
C31	Ui367220	C. EL	22uF 50V
C32	Ui367220	C. EL	22uF 50V
C33	UA654820	C. MYLAR	0.082uF 50V
C34	UA654390	C. MYLAR	0.039uF 50V
C35	FG212220	C. CE	220pF 50V
C36	UA655100	C. MYLAR	0.1uF 50V
C37	FG212100	C. CE	100pF 50V
C38	VJ836900	C. EL	10uF 16V
C39	VJ836900	C. EL	10uF 16V
C40	VF606700	C. EL	1000uF 25V(UCABG)
C40	VH620500	C. EL	10uF 25V(RT)

* New Parts

Schm Ref.	PART NO.	Description	
C41	UA654470	C. MYLAR	0.047uF 50V
C42	FG214100	C. CE	0.01uF 50V
C43	FG213100	C. CE	1000pF 50V
C44	VJ839100	C. EL	1uF 50V
C45	UA654680	C. MYLAR	0.068uF 50V
C46	UJ638330	C. EL	330uF 16V
C47	UJ648220	C. EL	220uF 25V
C48	UH178100	C. EL	100uF 63V(RT)
C49	VS741700	C. CE. SAFTY	0.01uF 275V
C50	FG214100	C. CE	0.01uF 50V
C51	UA654470	C. MYLAR	0.047uF 50V
C52	VJ836900	C. EL	10uF 16V
C53	VJ836900	C. EL	10uF 16V
C54	UA655390	C. MYLAR	0.39uF 50V
C55	UA655220	C. MYLAR	0.22uF 50V
C56	UA655470	C. MYLAR	0.47uF 50V
C57	FG214100	C. CE	0.01uF 50V
C61	UA655680	C. MYLAR	0.68uF 50V
C62	UA655180	C. MYLAR	0.18uF 50V
C63	UA655220	C. MYLAR	0.22uF 50V
C64	UA655220	C. MYLAR	0.22uF 50V
C65	UM417100	C. EL	10uF 50V
C66	UM417100	C. EL	10uF 50V
C67	FG212220	C. CE	220pF 50V
C68	VJ836900	C. EL	10uF 16V
C69	UA654330	C. MYLAR	0.033uF 50V
C70	VJ836900	C. EL	10uF 16V
C71	FG212220	C. CE	220pF 50V
C72	VJ839100	C. EL	1uF 50V
C73	VJ839100	C. EL	1uF 50V
D1	VN011300	DIODE. BRG	D3SBA20 4A 200V
D2	VG440900	DIODE. ZENR	MTZJ15C 15V
D3	VG440900	DIODE. ZENR	MTZJ15C 15V
D4	iF004600	DIODE	1SS133
D5	iF004600	DIODE	1SS133
D6	iF004600	DIODE	1SS133
D7	VG442500	DIODE. ZENR	MTZJ24B 24V
D8	iF004600	DIODE	1SS133
D9	iF004600	DIODE	1SS133
D10	iF004600	DIODE	1SS133
D11	VR253700	DIODE. BRG	S1NB20 1.0A 200V
D12	iF004600	DIODE	1SS133
D13	iF004600	DIODE	1SS133
D14	iF004600	DIODE	1SS133
D15	iF004600	DIODE	1SS133
D16	VG440300	DIODE. ZENR	MTZJ12C 12V(RT)
D17	iF004600	DIODE	1SS133
D19	VU767600	LED(re)	SLP-117B-51
F1	KB000680	FUSE	1.25A 250V(ABG)
F1	V3252800	FUSE	TLA.0A(UCRT)
F2	KB000680	FUSE	1.25A 250V(RT)
IC1	XB247301	IC	uPC4570HA
IC2	XM922A00	IC	NJM4558L

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* New Parts

YST-SW160

Schm Ref.	PART NO.	Description
IC3	XP663A00	IC uPC1237HA
IC4	XB247301	IC uPC4570HA
IC5	XP741A00	IC M51848L
IC6	XB247301	IC uPC4570HA
IC7	XB247301	IC uPC4570HA
IC8	XB247301	IC uPC4570HA
IC9	XB247301	IC uPC4570HA
IC10	iG160100	IC NJM78L08A 8V
PJ1	VT666100	JACK. PIN 2P
Q1A	iX632610	TR 2SA1837 O, Y
Q1C	iX632620	TR 2SC4793 O, Y
Q2A	iX606460	TR 2SA1492 O, P, Y
Q2C	iX606470	TR 2SC3856 O, P, Y
Q3	iA097000	TR 2SA970 GR, BL
Q4	iA097000	TR 2SA970 GR, BL
Q5	iC224030	TR 2SC2240 GR, BL
Q6	iA097000	TR 2SA970 GR, BL
Q7	iC224030	TR 2SC2240 GR, BL
Q8	iA097000	TR 2SA970 GR, BL
Q9	VC407900	TR 2SD1913 R, S
Q10	VC614000	TR 2SB1274 Q, R, S
Q11	iC224030	TR 2SC2240 GR, BL
Q12	iC224030	TR 2SC2240 GR, BL
Q13	iC224030	TR 2SC2240 GR, BL(RT)
Q14	VK801200	TR 2SC4688 R, O(RT)
Q16	iC1815M0	TR 2SC1815 Y, GR
Q17	VE198700	TR 2SA1145 O, Y
Q18	VC398100	TR 2SC1846 S
Q19	VE198800	TR 2SC2705 O, Y
Q20	iA101590	TR 2SA1015 O, Y
Q21	iA097000	TR 2SA970 GR, BL
Q22	iC224030	TR 2SC2240 GR, BL
Q23	iA097000	TR 2SA970 GR, BL
Q24	iC1815M0	TR 2SC1815 Y, GR
Q25	V3028000	FET 2SK304 E
Q26	iA097000	TR 2SA970 GR, BL
Q27	iA097000	TR 2SA970 GR, BL
Q28	iC287820	TR 2SC2878 A, B
Q29	iC287820	TR 2SC2878 A, B
R1	HV455560	R. CAR. FP 560Ω 1/4W
R2	HU576330	R. MTL. FLM 3.3KΩ 1/4W
R4	HV455220	R. CAR. FP 220Ω 1/4W
R8	HV455220	R. CAR. FP 220Ω 1/4W
R9	HV454330	R. CAR. FP 33Ω 1/4W
R10	HV453100	R. CAR. FP 1Ω 1/4W
R11	HV454820	R. CAR. FP 82Ω 1/4W
R13	HV456220	R. CAR. FP 2.2KΩ 1/4W
R14	HU578100	R. MTL. FLM 100KΩ 1/4W
R15	HV455680	R. CAR. FP 680Ω 1/4W
R17	HV455100	R. CAR. FP 100Ω 1/4W
R18	HV453100	R. CAR. FP 1Ω 1/4W
R20	HV453470	R. CAR. FP 4.7Ω 1/4W
R21	HV456220	R. CAR. FP 2.2KΩ 1/4W

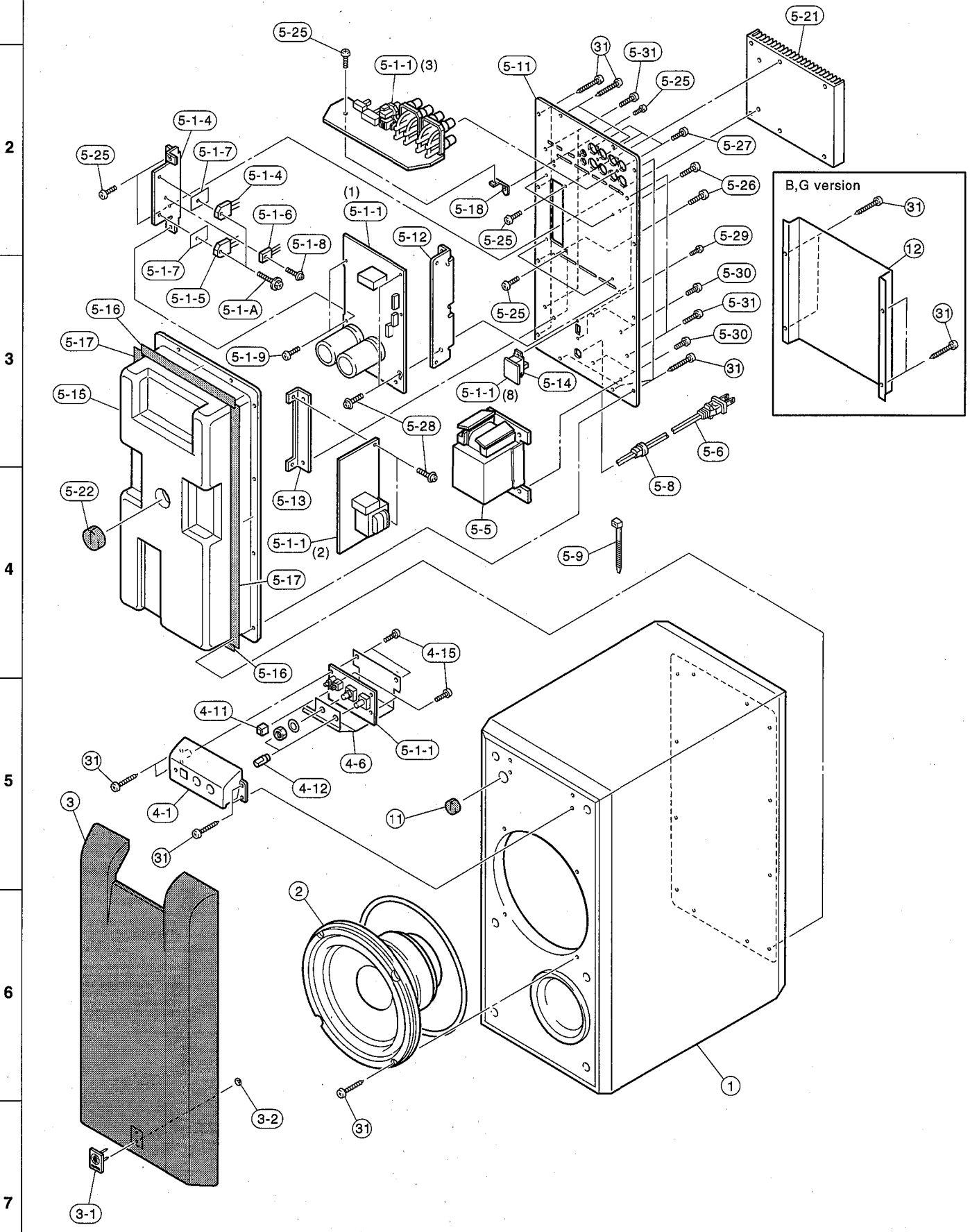
* New Parts

Schm Ref.	PART NO.	Description
R22	VG730500	R. MTL. OXD 0.15Ω 3W
R23	HV456120	R. CAR. FP 1.2KΩ 1/4W
R24	VG730500	R. MTL. OXD 0.15Ω 3W
R25	HV455220	R. CAR. FP 220Ω 1/4W
R26	HV453470	R. CAR. FP 4.7Ω 1/4W
R28	VH930000	R. WW 0.1Ω 3W
R30	HV456100	R. CAR. FP 1KΩ 1/4W
R31	HV456100	R. CAR. FP 1KΩ 1/4W
R32	HV454270	R. CAR. FP 27Ω 1/4W
R39	HL235820	R. MTL. OXD 820Ω 3W
R45	HV455390	R. CAR. FR 390Ω 1/4W
R46	HV455390	R. CAR. FR 390Ω 1/4W
R48	HV454100	R. CAR. FP 10Ω 1/4W
R62	HV453220	R. CAR. FP 2.2Ω 1/4W(UCABG)
R79	HU597100	R. MTL. FLM 10KΩ 1/4W
R80	HU597100	R. MTL. FLM 10KΩ 1/4W
R81	HV456220	R. CAR. FP 2.2KΩ 1/4W
R82	HV456220	R. CAR. FP 2.2KΩ 1/4W
R86	HV456470	R. CAR. FP 4.7KΩ 1/4W
R87	HV456470	R. CAR. FP 4.7KΩ 1/4W
R102	HU597100	R. MTL. FLM 10KΩ 1/4W
R104	HU597100	R. MTL. FLM 10KΩ 1/4W
R110	HU597100	R. MTL. FLM 10KΩ 1/4W
R111	HU597100	R. MTL. FLM 10KΩ 1/4W
R112	HU597100	R. MTL. FLM 10KΩ 1/4W
R117	HU597100	R. MTL. FLM 10KΩ 1/4W
R118	HU597100	R. MTL. FLM 10KΩ 1/4W
R129	HV454100	R. CAR. FP 10Ω 1/4W
R130	HV454100	R. CAR. FP 10Ω 1/4W
R131	HV455390	R. CAR. FR 390Ω 1/4W
R132	HV455390	R. CAR. FR 390Ω 1/4W
RY1	VU161600	RELAY DC OSA-SS-224DM3
RY2	VU349800	RELAY DC SDT-SS-112DM
SW1	VS066500	SW. PUSH SPPH13-W
SW2	VL012000	SW. SLIDE SSSF12
SW3	VD179500	SW. SLIDE SSSU12
SW4	VL012000	SW. SLIDE SSSF12
T1	XQ843A00	TRANS. PWR (UC)
T1	XQ844A00	TRANS. PWR (RT)
T1	XQ845A00	TRANS. PWR (A)
T1	XQ846B00	TRANS. PWR (BG)
TE1	VT658100	TERM. WRAP 352-TX119
TE2	VT658100	TERM. WRAP 352-TX119
TE3	VC313700	TERM. SP 8P(UCRTA)
TE3	VK506200	TERM. SP 8P(BG)
VR1	VJ692800	VR. TRIM B470Ω
VR2	V3582800	VR S10KΩ
VR3	V3582700	VR A5KΩ
	VA932900	VOLT. SELCT ESE-37226(RT)
	BB070700	GND. MTL
	VN774800	GND. WSHR MEP1866 #11102
	VZ189100	CN. ASSY 8P 700mm
	V3028400	HOLDER. LED LE56211-5A

* New Parts

YST-SW90

1
EXPLODED VIEW (YST-SW90)



MECHANICAL PARTS

YST-SW90

Ref. No.	PART NO.	Description	Remarks	Markets
* 1	V3050400	SPEAKER CABINET		(UCRABT)
* 1		SPEAKER CABINET		(UCRABT)
* 1	V3264500	SPEAKER CABINET		(G)
* 1		SPEAKER CABINET		(G)
* 2	XV535A00	LOUD SPEAKER	20cm	
* 3	V3050600	FRONT GRILLE ASS'Y		
* 3		FRONT GRILLE ASS'Y		
* 3- 1	V2192200	EMBLEM	YAMAHA	
* 3- 2	VP161000	PUSH NUT	SPN1.5	
* 4- 1	V3053900	FRONT PANEL		
* 4- 1		FRONT PANEL		
* 4- 6	V3055200	SHIELD SHEET		
* 4-11	V3055400	SWITCH KNOB		
* 4-11		SWITCH KNOB		
* 4-12	V3055300	VOLUME KNOB		
* 4-12		VOLUME KNOB		
* 4-15	EP600290	BIND HEAD P-TITE SCREW	3x6 ZMC2-Y	
* 5-1-1	V3027600	P. C. B. ASS'Y	MAIN	(UC)
* 5-1-1	V3027700	P. C. B. ASS'Y	MAIN	(RT)
* 5-1-1	V3027800	P. C. B. ASS'Y	MAIN	(A)
* 5-1-1	V3027900	P. C. B. ASS'Y	MAIN	(BG)
* 5-1-2	VT535000	RADIATOR A		
# 5-1-3	iX633340	TRANSISTOR	2SA1695 O, P, Y	Q2A
# 5-1-4	iX633350	TRANSISTOR	2SC4468 O, P, Y	Q2C
# 5-1-5	VC398100	TRANSISTOR	2SC1846 S	Q18
* 5-1-6	VK195900	SHEET	19x24	
* 5-1-7	EX600250	CUP B-TITE SCREW	3x10 FCRM3-BL	
* 5-1-8	Ei330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL	
* 5-1-9	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3	
* 5-5	XV525A00	POWER TRANSFORMER		(UC)
* 5-5	XV526A00	POWER TRANSFORMER		(RT)
* 5-5	XV527A00	POWER TRANSFORMER		(A)
* 5-5	XV528A00	POWER TRANSFORMER		(BG)
* 5-6	V2689600	POWER CORD	10A SPT-2 2.0m	(UC)
* 5-6	VE371200	POWER CORD	2.5A 250V 2.0m	(G)
* 5-6	VQ790000	POWER CORD	5A 2.0m	(B)
* 5-6	VT666200	POWER CORD ASS'Y		(A)
* 5-6	VZ555600	POWER CORD	10A 250V 2.0m	(RT)
* 5-8	CB072750	CORD STOPPER	SR-4N-4	
* 5-9	CB069250	BINDING TIE	BK-1	
* 5-11	V3057200	REAR PANEL		(UC)
* 5-11	V3057300	REAR PANEL		(RT)
* 5-11	V3057400	REAR PANEL		(A)
* 5-11	V3057500	REAR PANEL		(BG)
* 5-12	VT534100	PLATE	B	
* 5-13	VT534200	PLATE	C	
* 5-14	V2574000	SLIDE SWITCH	ESD39304T	POWER SW5 (UC)
* 5-14	V2574100	SLIDE SWITCH	ESD39318S	POWER SW5 (RTABG)
* 5-15	V3058000	COVER		
* 5-16	V3057600	PACKING		
* 5-17	V3057800	PACKING		
* 5-18	V3157400	SUPPORT		
* 5-21	VT540600	RADIATOR C		

* New Parts

YST-SW90

Ref. No.	PART NO.	Description	Remarks	Markets
*	5-22	V3058100 BUSH C		
	5-25	Ei330086 BIND HEAD B-TITE SCREW	3x8 FCRM3-BL	
	5-26	Ei340086 BIND HEAD TAPPING SCREW	4x8 FCRM3-BL	
	5-27	EX601360 BIND HEAD P-TITE SCREW	3x10 FCRM3-BL	
	5-28	Vi924800 BW HEAD TAPPING SCREW	3x10-8 FCM3-CU	
	5-29	ED330086 BIND HEAD SCREW	3x8 FCRM3-BL	
	5-30	EK396010 BIND HEAD S-TITE SCREW	4x8 FCRM3-BL	
	5-31	EP640110 BIND HEAD P-TITE SCREW	4x12 MFZN2-Y	
	11	VS755300 BUSH, B		
*	12	V3053100 REAR COVER		(BG)
	31	Ei340206 BIND HEAD TAPPING SCREW	4x20 ZMC2-BL	
	32	Ei340256 BIND HEAD TAPPING SCREW	4x25 ZMC2-BL	
		ACCESSORIES		
	VT704200	SPEAKER CABLE	4.0m	
*	V3262500	RCA PIN CORD	1P 3.0m	

* New Parts

A

B

C

D

E

YST-SW90/160

YST-SW160

EXPLODED VIEW (YST-SW160)

1

2

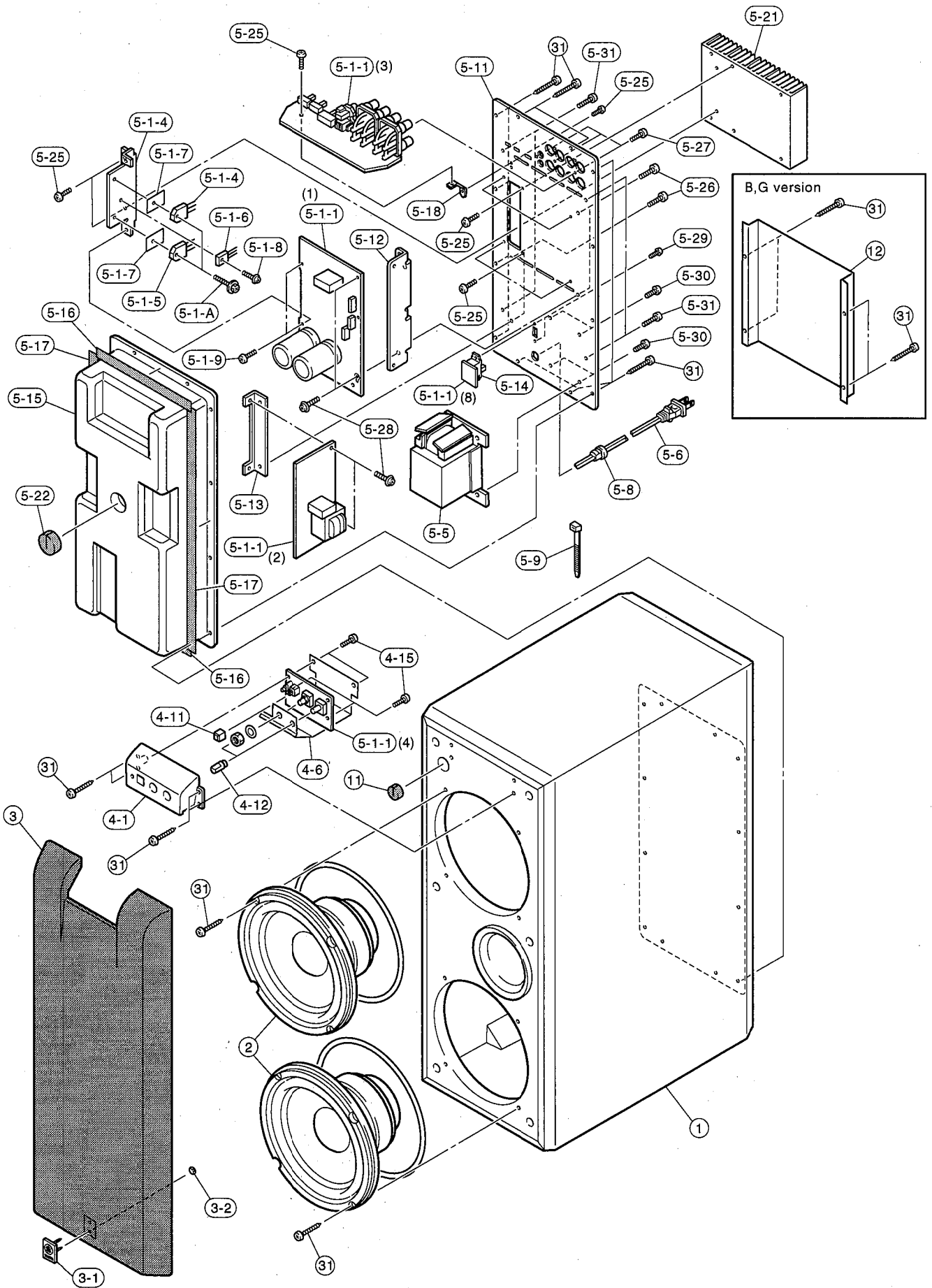
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7



MECHANICAL PARTS

YST-SW160

Ref. No.	PART NO.	Description	Remarks	Markets
*	1	V3050300	SPEAKER CABINET	(UCRABT)
*	1		SPEAKER CABINET	(UCRABT)
*	1	V3264300	SPEAKER CABINET	(G)
*	1		SPEAKER CABINET	(G)
*	2	XV534A00	LOUD SPEAKER	20cm
*	3	V3050500	FRONT GRILLE ASS'Y	
*	3		FRONT GRILLE ASS'Y	
*	3-1	V2192200	EMBLEM	YAMAHA
*	3-2	VP161000	PUSH NUT	SPN1.5
*	4-1	V3053600	FRONT PANEL	
*	4-1		FRONT PANEL	
*	4-6	V3055200	SHIELD SHEET	
*	4-11	V3055400	SWITCH KNOB	
*	4-11		SWITCH KNOB	
*	4-12	V3055300	VOLUME KNOB	
*	4-12		VOLUME KNOB	
*	4-15	EP600290	BIND HEAD P-TITE SCREW	3x6 ZMC2-Y
*	5-1-1	V3027100	P. C. B. ASS'Y	MAIN (UC)
*	5-1-1	V3027200	P. C. B. ASS'Y	MAIN (RT)
*	5-1-1	V3027300	P. C. B. ASS'Y	MAIN (A)
*	5-1-1	V3027400	P. C. B. ASS'Y	MAIN (BG)
*	5-1-2	VT535000	RADIATOR A	
#	5-1-3	iX606460	TRANSISTOR	2SA1492 O, P, Y Q2A
#	5-1-4	iX606470	TRANSISTOR	2SC3856 O, P, Y Q2C
#	5-1-5	VC398100	TRANSISTOR	2SC1846 S Q18
*	5-1-6	VK195900	SHEET	19x24
*	5-1-7	EX600250	CUP B-TITE SCREW	3x10 FCRM3-BL
*	5-1-8	Ei330086	BIND HEAD B-TITE SCREW	3x8 FCRM3-BL
*	5-1-9	VK173200	SCREW, TRANSISTOR	3x15 SP FCM3
* △	5-5	XV519A00	POWER TRANSFORMER	(UC)
* △	5-5	XV521A00	POWER TRANSFORMER	(RT)
* △	5-5	XV522A00	POWER TRANSFORMER	(A)
* △	5-5	XV523A00	POWER TRANSFORMER	(BG)
* △	5-6	V2689600	POWER CORD	10A SPT-2 2.0m (UC)
△	5-6	VE371200	POWER CORD	2.5A 250V 2.0m (G)
△	5-6	VQ790000	POWER CORD	5A 2.0m (B)
△	5-6	VT666200	POWER CORD ASS'Y	(A)
△	5-6	VZ555600	POWER CORD	10A 250V 2.0m (RT)
*	5-8	CB072750	CORD STOPPER	SR-4N-4
*	5-9	CB069250	BINDING TIE	BK-1
*	5-11	V3056700	REAR PANEL	(UC)
*	5-11	V3056800	REAR PANEL	(RT)
*	5-11	V3056900	REAR PANEL	(A)
*	5-11	V3057000	REAR PANEL	(BG)
*	5-12	VT534100	PLATE	B
*	5-13	VT534200	PLATE	C
*	5-14	V2574000	SLIDE SWITCH	ESD39304T POWER SW5 (UC)
*	5-14	V2574100	SLIDE SWITCH	ESD39318S POWER SW5 (RTABG)
*	5-15	V3058000	COVER	
*	5-16	V3057600	PACKING	
*	5-17	V3057800	PACKING	
*	5-18	V3157400	SUPPORT	
*	5-21	V3207400	RADIATOR ASS'Y	

* New Parts

MECHANICAL PARTS

YST-SW160

Ref. No.	PART NO.	Description	Remarks	Markets
*	5-22	V3058100 BUSH C		
	5-25	Ei330086 BIND HEAD B-TITE SCREW	3x8 FCRM3-BL	
	5-26	Ei340086 BIND HEAD TAPPING SCREW	4x8 FCRM3-BL	
	5-27	EX601360 BIND HEAD P-TITE SCREW	3x10 FCRM3-BL	
	5-28	Vi924800 BW HEAD TAPPING SCREW	3x10-8 FCM3-CU	
	5-29	ED330086 BIND HEAD SCREW	3x8 FCRM3-BL	
	5-30	EK396010 BIND HEAD S-TITE SCREW	4x8 FCRM3-BL	
*	5-31	EP640170 SEMS BIND HEAD P-TITE SCREW	4x12 MFC2-BL	
	11	VS755300 BUSH, B		
*	12	V3053000 REAR COVER		
	31	Ei340206 BIND HEAD TAPPING SCREW	4x20 ZMC2-BL	
	32	Ei340256 BIND HEAD TAPPING SCREW	4x25 ZMC2-BL	
		ACCESSORIES		
	VT704200	SPEAKER CABLE	4.0m	
*	V3262500	RCA PIN CORD	1P 3.0m	

* New Parts

Parts List for Carbon Resistors

Value	1/4W Type Part No.	1/6W Type Part No.	Value	1/4W Type Part No.	1/6W Type Part No.
1.0	HJ35 3100	HF85 3100	10 k	HF45 7100	HF45 7100
1.8	HJ35 3180	*	11 k	HF45 7110	HF45 7110
2.2	HJ35 3220	HF85 3220	12 k	HJ35 7120	HF85 7120
3.3	HJ35 3330	HF85 3330	13 k	HF45 7130	HF45 7130
4.7	HJ35 3470	HF85 3470	15 k	HF45 7150	HF45 7150
5.6	HJ35 3560	HF85 3560	18 k	HF45 7180	HF45 7180
10	HF45 4100	HF45 4100	22 k	HF45 7220	HF45 7220
15	HJ35 4150	HF85 4150	24 k	HF45 7240	HF45 7240
22	HF45 4220	HF45 4220	27 k	HJ35 7270	HF85 7270
27	HJ35 4270	HF85 4270	30 k	HF45 7300	HF45 7300
33	HF45 4330	HF45 4330	33 k	HF45 7330	HF45 7330
39	HJ35 4470	HF85 4390	36 k	HF45 7360	HF45 7360
47	HF45 4470	HF45 4470	39 k	HF45 7390	HF45 7390
56	HF45 4560	HF45 4560	47 k	HF45 7470	HF45 7470
68	HF45 4680	HF45 4680	51 k	HF45 7510	HF45 7510
75	HF45 4750	HF45 4750	56 k	HF45 7560	HF45 7560
82	HF45 4820	HF45 4820	62 k	HF45 7620	HF45 7620
91	HF45 4910	HF45 4910	68 k	HF45 7680	HF45 7680
100	HF45 5100	HF45 5100	82 k	HF45 7820	HF45 7820
110	HJ35 5110	HF85 5110	91 k	HF45 7910	HF45 7910
120	HF45 5120	HF45 5120	100 k	HF45 8100	HF45 8100
150	HF45 5150	HF45 5150	110 k	HF45 8110	HF45 8110
160	HJ35 5160	*	120 k	HF45 8120	HF45 8120
180	HF45 5180	HF45 5180	150 k	HF45 8150	HF45 8150
200	HF45 5200	HF45 5200	180 k	HF45 8180	HF45 8180
220	HF45 5220	HF45 5220	220 k	HJ35 8220	HF85 8220
270	HF45 5270	HF45 5270	270 k	HF45 8270	HF45 8270
330	HF45 5330	HF45 5330	300 k	HF45 8300	HF45 8300
390	HF45 5390	HF45 5390	330 k	HF45 8330	HF45 8330
430	HF45 5430	HF45 5430	390 k	HJ35 8390	HF85 8390
470	HF45 5470	HF45 5470	470 k	HF45 8470	HF45 8470
510	HF45 5510	HF45 5510	560 k	HJ35 8560	HF85 8560
560	HF45 5560	HF45 5560	680 k	HJ35 8680	HF85 8680
680	HF45 5680	HF45 5680	820 k	HJ35 8820	HF85 8820
820	HF45 5820	HF45 5820	1.0 M	HF45 9100	HF45 9100
910	HF45 5910	HF45 5910	1.2 M	HJ35 9120	*
1.0 k	HF45 6100	HF45 6100	1.5 M	HJ35 9150	HF85 9150
1.2 k	HF45 6120	HF45 6120	1.8 M	HJ35 9180	HF85 9180
1.5 k	HF45 6150	HF45 6150	2.2 M	HJ35 9220	HF85 9220
1.8 k	HF45 6180	HF45 6180	3.3 M	HJ35 9330	HF85 9330
2.0 k	HJ35 6200	HF85 6200	3.9 M	HJ35 9390	*
2.2 k	HF45 6220	HF45 6220	4.7 M	HJ35 9470	HF85 9470
2.4 k	HJ35 6240	HF85 6240			
2.7 k	HF45 6270	HF45 6270			
3.0 k	HF45 6300	HF45 6300			
3.3 k	HF45 6330	HF45 6330			
3.6 k	HJ35 6360	HF85 6360			
3.9 k	HF45 6390	HF45 6390			
4.7 k	HF45 6470	HF45 6470			
5.1 k	HF45 6510	HF45 6510			
5.6 k	HF45 6560	HF45 6560			
6.8 k	HF45 6680	HF45 6680			
8.2 k	HF45 6820	HF45 6820			
9.1 k	HF45 6910	HF45 6910			

1/4W Type

HJ35 ○○○○

← 10mm →

1/6W Type

HF85 ○○○○

← 5mm →