

ARCADIA-2001™



BY



Emerson



MICRO COMPUTER SYSTEM VIDEO GAME

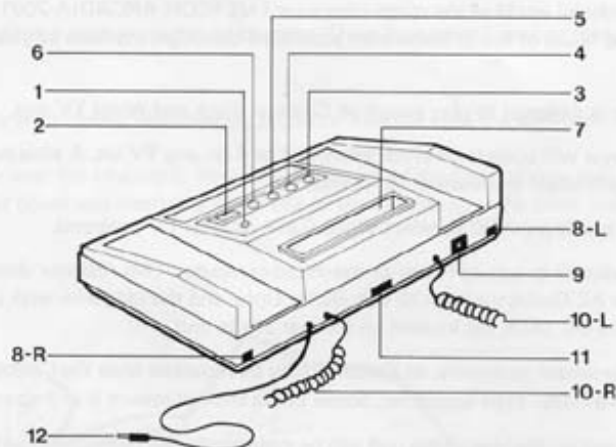


OWNER'S MANUAL

MODEL NO. ADV-1

WHAT INCLUDED WITH THE MICRO-COMPUTER





- 1) **LED POWER INDICATOR**
To indicate when the micro-computer is on. NOTE: DO NOT INSERT OR REMOVE A CARTRIDGE IF THIS LED IS ON, PRESS THE POWER SWITCH TO OFF POSITION.
- 2) **POWER SWITCH**
To turn the micro-computer ON and OFF.
- 3) **RESET BUTTON**
To reset a game selected in a cartridge.
- 4) **SELECT BUTTON**
To select games in a cartridge.
- 5) **OPTION BUTTON**
To select the level skill of game in a cartridge
- 6) **START BUTTON**
To start or restart a game and keep the score on TV screen
- 7) **CARTRIDGE SLOT**
To insert a cartridge for playing
- 8) **LEFT AND RIGHT AUXILIARY CONTROLLER JACKS**
For additional Controllers to be used for future cartridges regarding the Controllers included.
- 9) **AC ADAPTOR INPUT JACK**
To connect the AC adaptor included.
- 10) **LEFT AND RIGHT KEYBOARDS/CONTROLLERS**
For controlling different type of games
- 11) **CHANNEL 3-4 SELECTOR SWITCH**
To select the channel for playing video games
- 12) **OUTPUT CABLE WITH PIN PLUG**
To connect into Antenna switch box

INTRODUCTION

Welcome to the wonderful world of the micro-computer EMERSON ARCADIA-2001. This micro-computer will bring you endless hours of fun at home with additional cartridges available at your EMERSON dealer.

GENERAL

This micro-computer is designed to play games on Color or Black and White TV sets.

The Video Game player will operate on either channel 3 or 4 on any TV set. A slide switch (11) located on the rear of the unit will select the channel for operation.

An Antenna Switch box is provided to select Video Game or local TV programs.

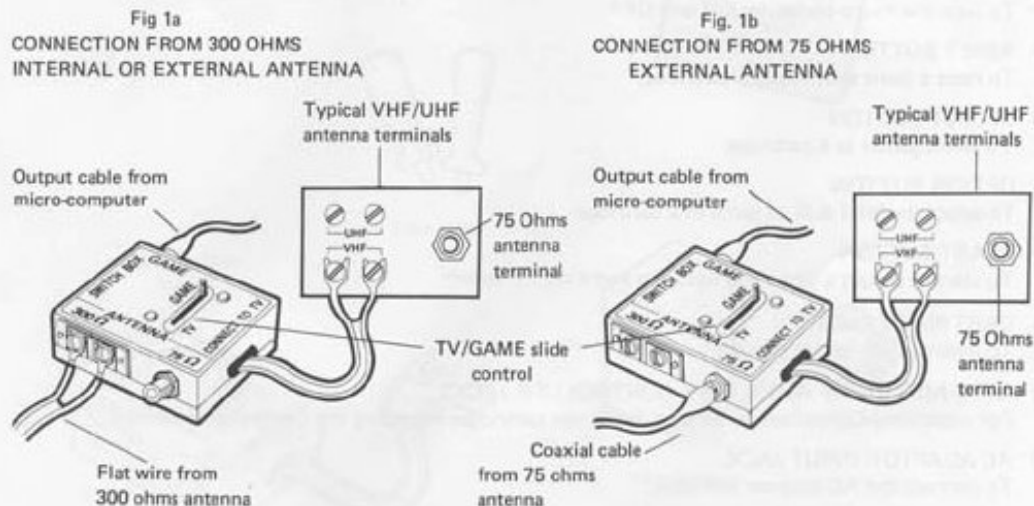
An AC adaptor is included to supply Power to the micro-computer. This Adaptor should be plugged into a conveniently located AC Outlet having 120 Volt 60 Hz Only, and the long wire with a DC Power Plug should be connected into the DC JACK (9) located on the rear of the unit.

Two Joy Sticks are provided separately, so that they may be mounted onto the Control Disc to convert the Hand Controller to a "JOYSTICK" type controller. Screw in the stick to mount it and screw out to remove it.

Two JACKS (8) located on the rear of the unit can be connected with two additional Hand Controllers (not included) for future games.

HOW TO CONNECT THE MICRO-COMPUTER TO A TV SET

Connect the Antenna Switch Box to the TV VHF antenna terminals (see fig 1A or 1B)



Connect the Output Cable (12) from the micro-computer to the Jack in the Antenna switch Box.

Secure the Antenna Switch Box on the back of the TV set by peeling off the adhesive protector label on the Switch Box, and sticking it permanently on the TV set.

This micro-computer has connected (not-detachable) two Hand Controllers with coil wires.

Every Hand Controller has a keyboard with 12 buttons. These buttons are used to feed data to the micro-computer.

Some Game Cartridges are supplied with Overlay (s), to be inserted onto the keyboard (s).

To mount the Overlay over the keyboard, insert the upper side of the Overlay into the upper side of the keyboard, then bend it down and insert the lower side of the Overlay into the lower side of the keyboard (see fig 2)

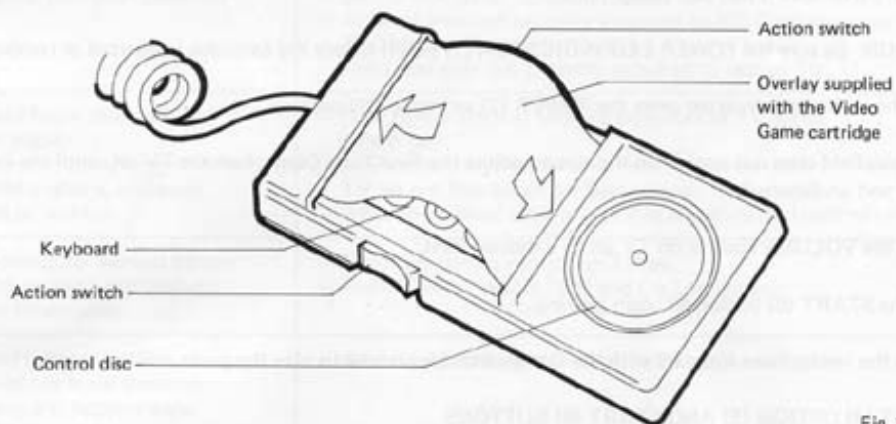


Fig. 2

Every overlay matches the particular game to be played and indicates which button of the keyboard is operated to control the game.

Some cartridges are supplied with two overlays for two players, indicating in which keyboard they should be inserted.

There is one ACTION button on each side of every Hand Controller. They perform the same function for the convenience of either right or left hand player.

The function of the keyboard depends on the cartridge being used and is different in every cartridge.

The Control Disc on the lower side of the Hand Controller is to control the direction of the moving object on the screen.

Example: By pressing the lower edge of the disc, or pulling the Joy Stick to the lower side of the disc, the object will move to the lower side of the screen and so forth.

To stop the motion of the object, just release the disc or the Joy Stick.

OPERATION

Slide the Control on the Antenna Switch box to GAME position.

Before connecting the Power to the unit be sure the POWER (2) switch be in OFF (extended) position.

Turn On the TV set and set the Channel Selector to channel 3 or 4, whichever is not in use. If both channels are in use, select the channel with weaker reception.

Set the Channel 3-4 (11) switch located on the rear of the unit to the channel selected.

Insert the Video Game cartridge into the Cartridge Slot (7), located on top of the unit, firmly but do not force it. To remove it just pull straight up.

CAUTION: Be sure the POWER LED INDICATOR (1) be off before the cartridge is inserted or removed.

After the cartridge is inserted press the POWER (2) switch to ON position.

If the playfield does not appear on the screen, adjust the Fine Tune Control on the TV set, until the image is clear and undistorted.

Adjust the VOLUME control on TV set to a desired level.

Press the START (6) button to begin playing.

Follow the instructions supplied with the Game cartridge on how to play the game.

SELECT (4) OPTION (5) AND START (6) BUTTONS

For their functions see the description on page 3.

The way to use these buttons are described on instructions supplied with every game cartridge.

To tune the TV set for local TV programs, slide the Control on the Antenna Switch Box to TV position.

GENERAL INFORMATION

When the micro-computer is not in use, be sure to set the unit OFF by pressing the POWER (2) switch.

Replace the Hand Controllers in place (see fig 3).

Store the cartridge games in a clean and dry place.

Keep the cartridges away from heat or moisture places.

Do not clean the cartridges or micro-computer with detergents or solvents. For cleaning, use slightly water moistened cloth only. Chemicals or excessive moisture may damage the cartridges and micro-computer.

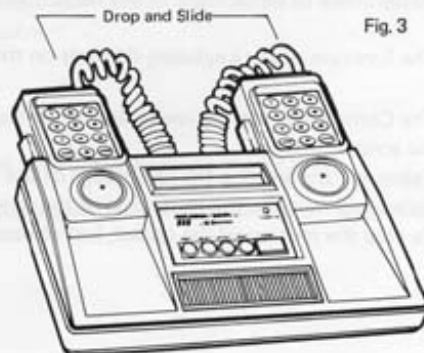


Fig. 3

TROUBLE SHOOTING CHECK LIST

Symptom	Cause And Remedy
No playfield image on TV screen or whitish gray screen	– Switch box set at "TV". Change to "Game" position. – Check TV is switched to channel 3 or channel 4. – Game cable not properly plugged into the switch box. – Twin-lead wire not properly attached to rear of TV. – A.C. Power supply unit not plugged into wall and/or control unit, check LED lite on console is lit. – On/Off switch not pushed to "On" position, check LED is lit. – Adjust TV fine tuning control. – Turn AFC control off.
No regular television programs	– Switch box set at "Game". Change to "TV" – Antenna wire not properly attached to 300 Ohm screws or 75 Ohms Jack, on switch box. – Twin lead wire not properly attached to rear of TV.
Playfield fuzzy like weak TV station signal	– Poor connections at antenna terminals of TV set or switch box.
Playfield unsharp, unsteady, blurred or wobbly	– TV set not fine-tuned for best picture. – Adjust horizontal control on TV or adjust vertical control on TV.
Micro-computer worked before but picture suddenly unsharp, unclear or unstable.	– Tune fine-tuning control on TV set. – Push "Power" switch "Off and On" on console.
Top and bottom borders of playfield not equal distance from top and bottom edge of TV picture tube	– Adjust vertical height control on TV set.
Game playfield does not appear correctly	– Turn game off and turn on.
Does not play in color on Color TV	– Turn off Auto Fine Tune (AFT or AFC) and fine tune TV manually. – Turn off Auto Color Control and adjust Color Control(s) on TV.
No sound from TV	– Turn TV volume up or down and tune TV
Buzzing sound or sound distortion or wobbly picture	– Television set not properly tuned, adjust controls to make sound and picture clear. – Broadcast interference on channel 3, 4 or cable TV from an especially strong television station in your area. Disconnect the TV-VHF antenna wires from the switch box and continue playing, but you will have to reconnect again for TV viewing.

NOTE:

Due to differences in color circuitry on various makes of TV receivers; activating the reset button of the console may not always clear and reset the screen properly. If this occurs please turn the console off for 2-3 seconds, and turn on again.

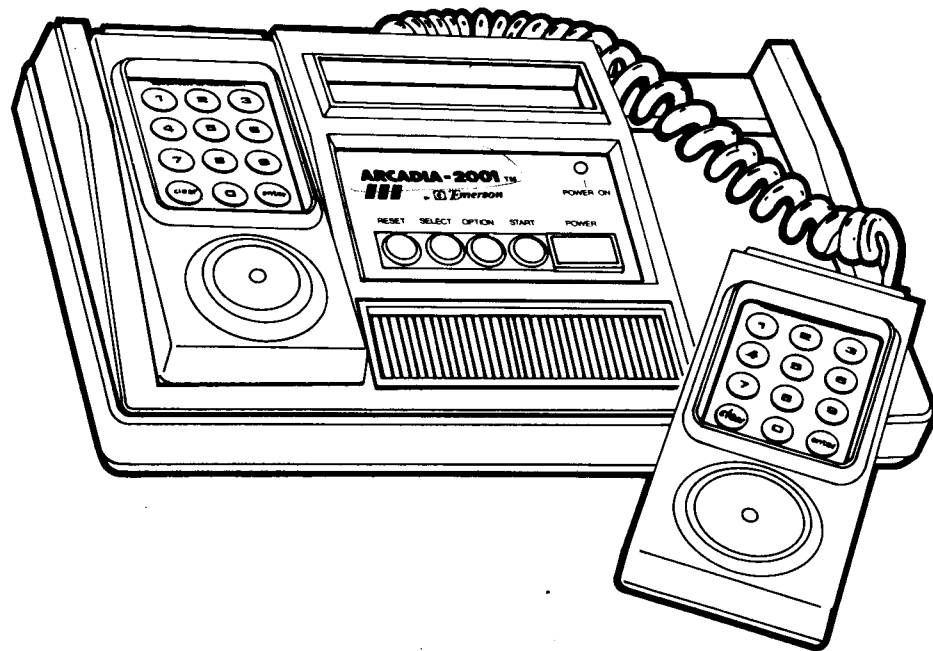
Due to variations in Color Picture Tube quality, not all colors will appear same on every TV set.



Emerson

SERVICE MANUAL

MICRO COMPUTER SYSTEM VIDEO GAME MODEL NO. ADV-1



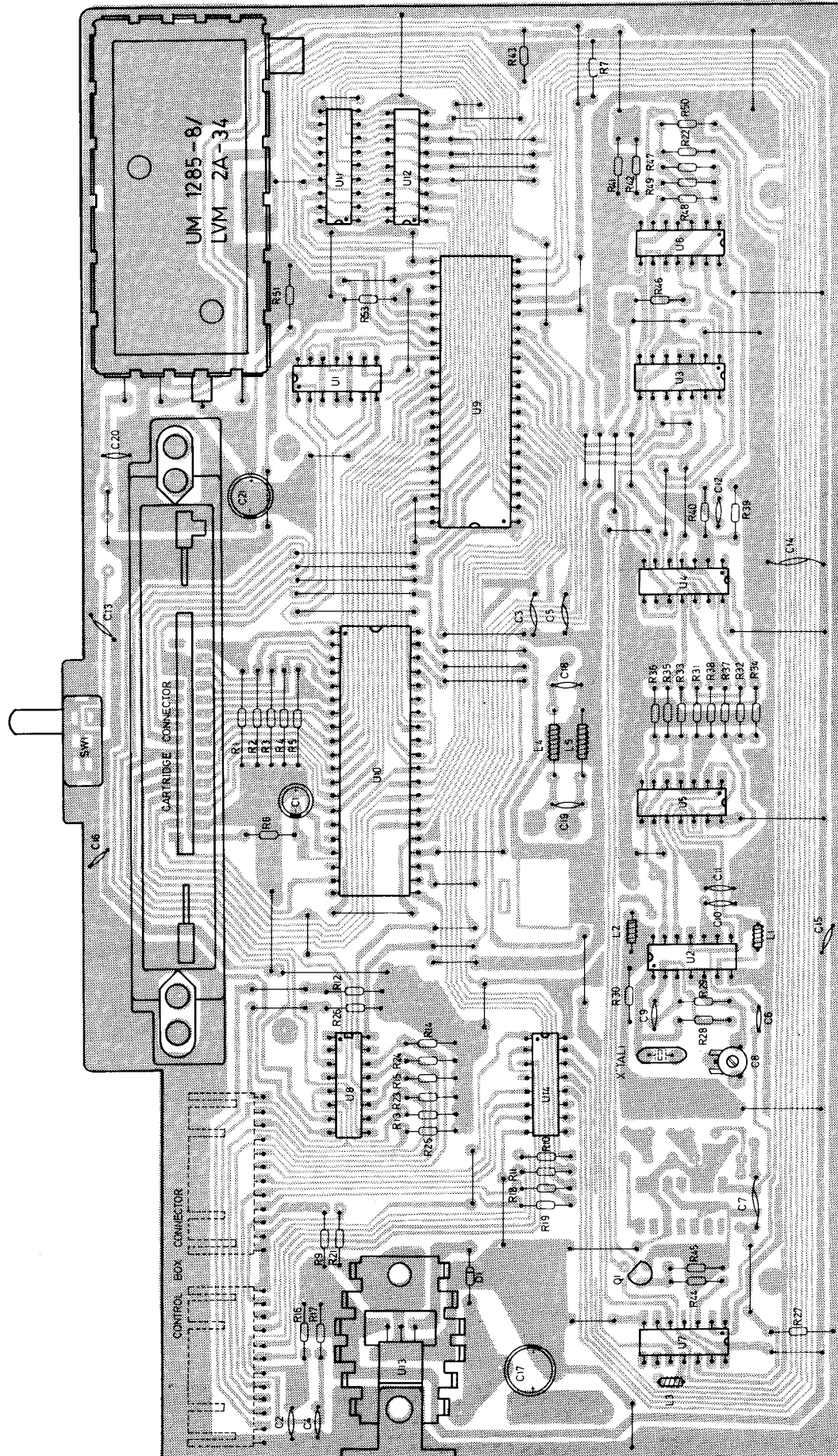
SPECIFICATION

R.F. FREQUENCY	: CHANNEL SWITCH SELECTED TO CH.3 — 61.25 MHz CH.4 — 67.25 MHz
VIDEO CARRIER OUTPUR	: 1.5 mV r m s
SOUND CARRIER FREQUENCY	: 4.5 MHz
CURRENT DRAIN	: 580 mA MAX.
POWER SUPPLY	: USE EXT. AC ADAPTOR WITH INPUT : AC 117V/60 Hz OUTPUT: DC 12V— 0.5 A
POWER CONSUMPTION	: 10 W MAX.

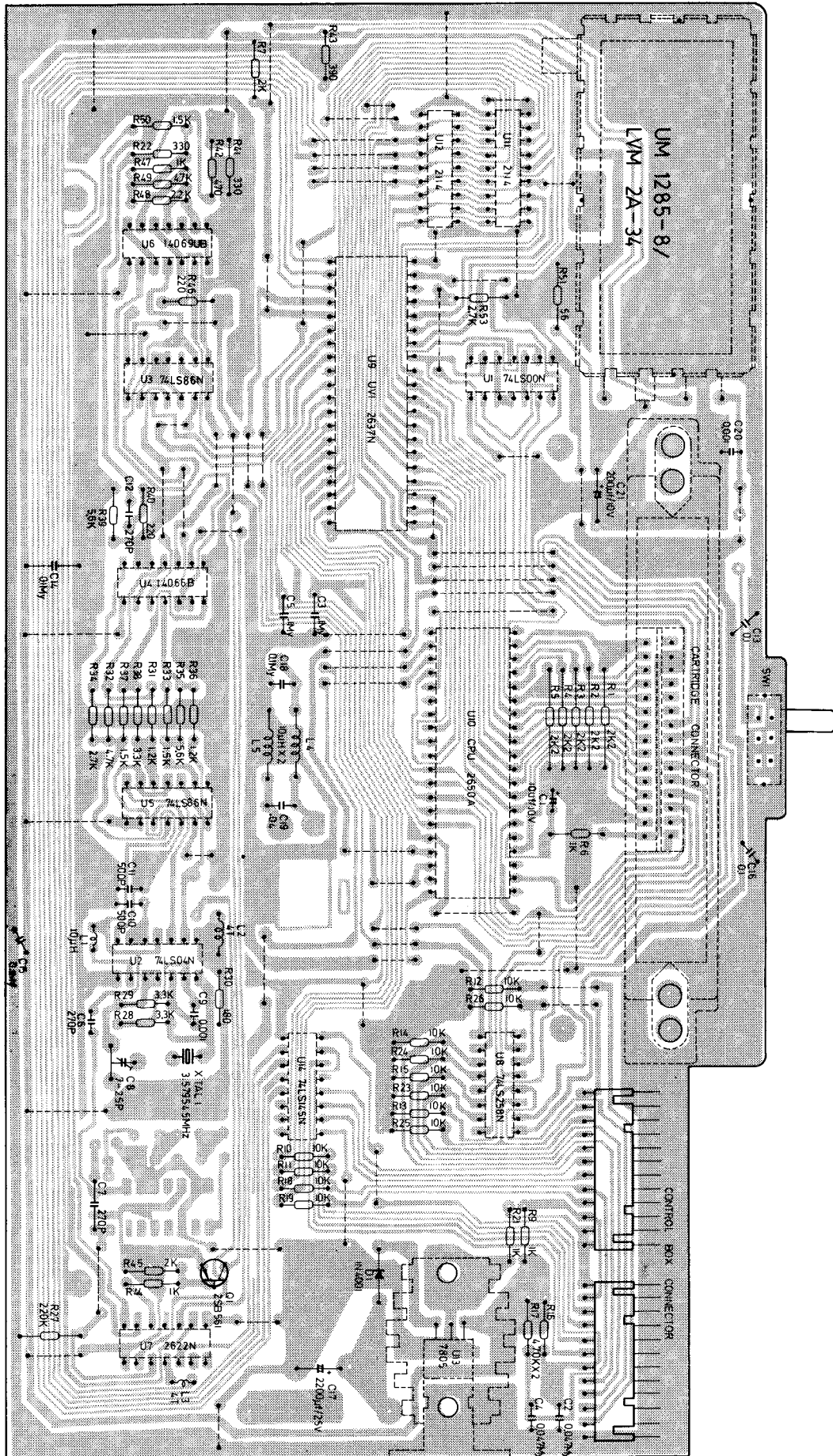
SERVICE PUBLICATION # 66-82

*All features and specifications subject to change without notice for improvement.

MAIN CHASSIS COMPONENT LAYOUT (COMPONENT SIDE)



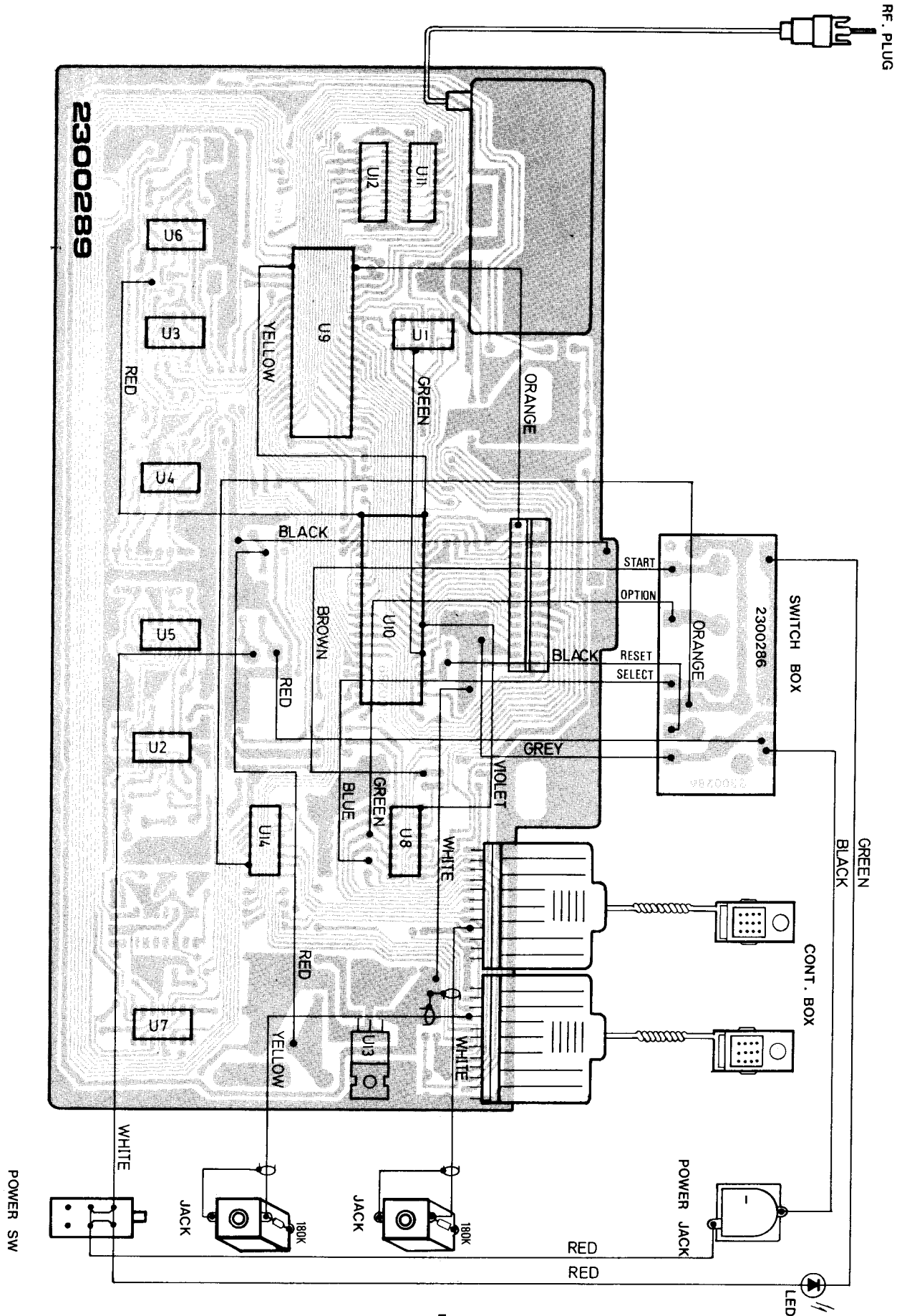
MAIN CHASSIS COMPONENT LAYOUT (SOLDER SIDE)



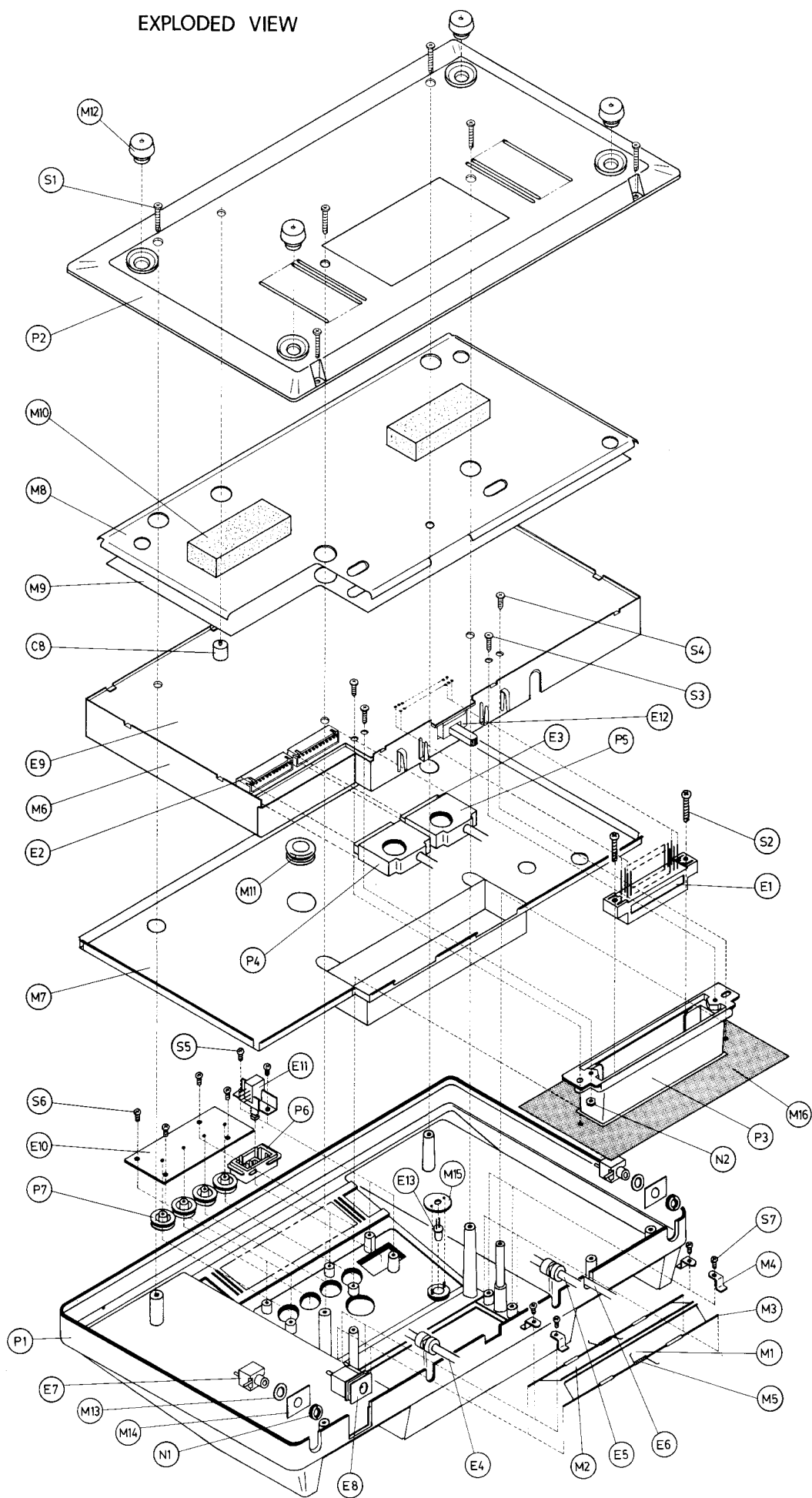
SCHEMATIC DIAGRAM



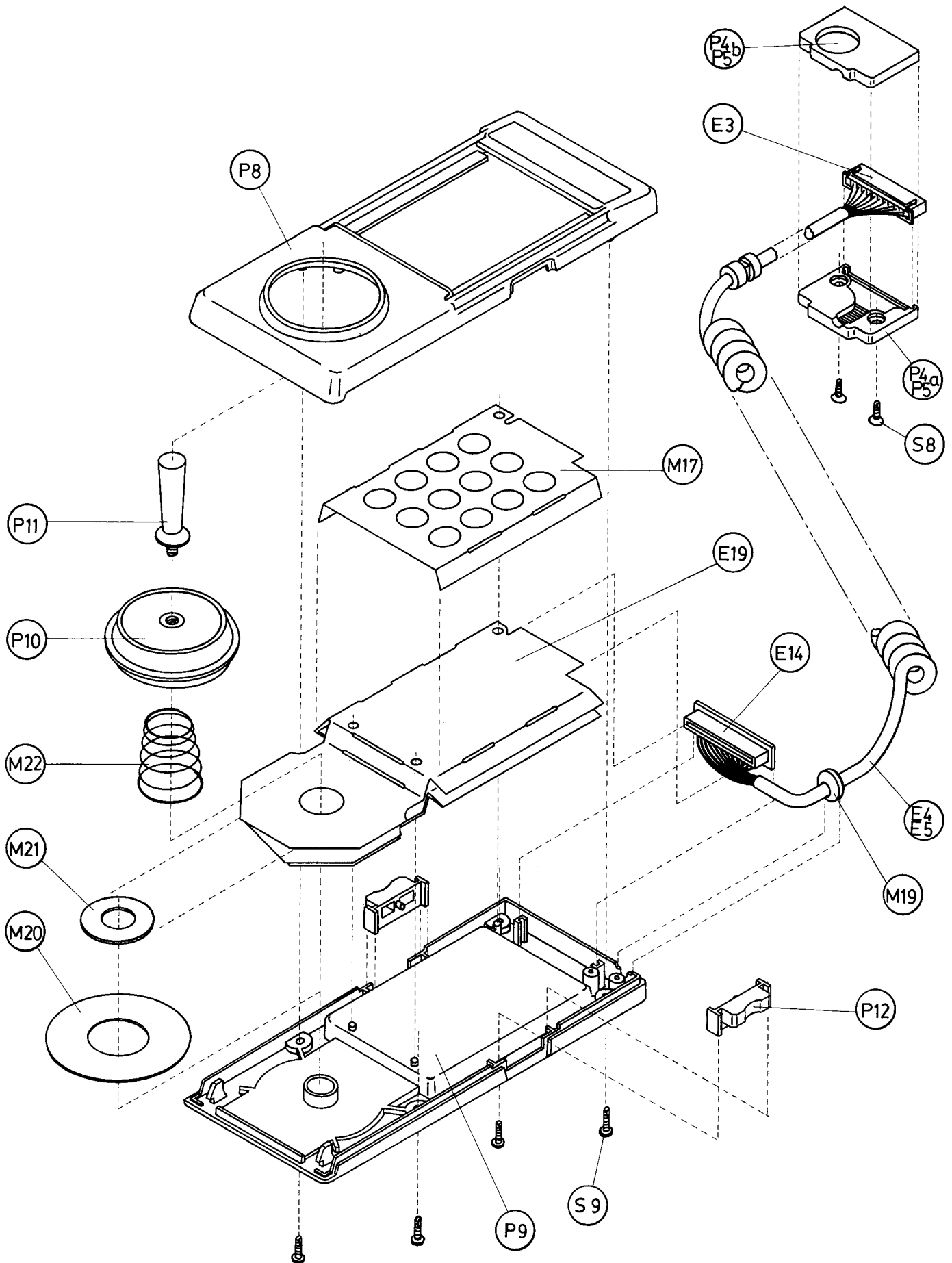
WIRING DIAGRAM



EXPLODED VIEW



EXPLODED VIEW 2



REPLACEMENT PARTS LIST ELECTRICAL PARTS

CAPACITOR

SYMBOL NO.	PART NO.	DESCRIPTION
C 1	2703102	Electrolytic Cap. $\pm 80\%$ 10 uF/10V
C 2	2732475-3	Mylar Cap. $\pm 10\%$ 0.047 uF/50V
C 3	2732106-3	" " 0.1 uF/50V
C 4	2732475-3	" " 0.47 uF/50V
C 5	2732106-3	" " 0.1 uF/50V
C 6	2722273-3	Ceramic Cap. $\pm 10\%$ 270 pF/25V
C 7	2722273-3	" " 270 pF/25V
C 8	2610007	Trimmer Cap. 7-25 pF
C 9	2722104-1	Ceramic Cap. $\pm 80\%$.001 uF/25V
C 10	2722503-3	" $\pm 10\%$ 500 pF/25V
C 11	2722503-3	" " 500 pF/25V
C 12	2722273-3	" " 270 pF/25V
C 13	2722106-1	" $\pm 80\%$ 0.1 uF/25V
C 14	2732106-3	Mylar Cap. $\pm 10\%$ 0.1 uF/50V
C 15	2732106-3	" " 0.1 uF/50V
C 16	2722106-1	Ceramic Cap. $\pm 80\%$ 0.1 uF/25V
C 17	2703224	Electrolytic Cap. " 2200 uF/16V
C 18	2732106-3	Mylar Cap. $\pm 10\%$ 0.1 uF/50V
C 19	2722405-1	Ceramic Cap. $\pm 80\%$.04 uF/25V
C 20	2722104-1	" " 0.001 uF/25V
C 21	2703102	Electrolytic Cap. " 200 uF/10V

RESISTOR

SYMBOL NO.	PART NO.	DESCRIPTION
R 1	3200224	Resistor 1/4 W $\pm 5\%$ 2.2 K Ohm
R 2	3200224	" " 2.2 K "
R 3	3200224	" " 2.2 K "
R 4	3200224	" " 2.2 K "
R 5	3200224	" " 2.2 K "
R 6	3200104	" " 1 K "
R 7	3200204	" " 2 K "
R 8	3200186	" " 180 K "
R 9	3200104	" " 1 K "
R 10	3200105	" " 10 K "
R 11	3200105	" " 10 K "
R 12	3200105	" " 10 K "
R 13	3200105	" " 10 K "
R 14	3200105	" " 10 K "
R 15	3200105	" " 10 K "

REPLACEMENT PARTS LIST ELECTRICAL PARTS

RESISTOR

SYMBOL NO.	PART NO.	DESCRIPTION
R 16	3200476	Resistor 1/4 W $\pm$ 5% 470 K Ohm
R 17	3200476	" " 470 K "
R 18	3200105	" " 10 K "
R 19	3200105	" " 10 K "
R 20	3200186	" " 180 K "
R 21	3200104	" " 1 K "
R 22	3200333	" " 330 K "
R 23	3200105	" " 10 K "
R 24	3200105	" " 10 K "
R 25	3200105	" " 10 K "
R 26	3200105	" " 10 K "
R 27	3200226	" " 220 K "
R 28	3200334	" " 3.3 K "
R 29	3200334	" " 3.3 K "
R 30	3200183	" " 180 "
R 31	3200124	" " 1.2 K "
R 32	3200474	" " 4.7 K "
R 33	3200154	" " 1.5 K "
R 34	3200274	" " 2.7 K "
R 35	3200564	" " 5.6 K "
R 36	3200124	" " 1.2 K "
R 37	3200154	" " 1.5 K "
R 38	3200334	" " 3.3 K "
R 39	3200564	" " 5.6 K "
R 40	3200223	" " 220 "
R 41	3200333	" " 330 "
R 42	3200473	" " 470 "
R 43	3200393	" " 390 "
R 44	3200104	" " 1 K "
R 45	3200224	" " 2.2 K "
R 46	3200223	" " 220 "
R 47	3200104	" " 1 K "
R 48	3200224	" " 2.2 K "
R 49	3200474	" " 4.7 K "
R 50	3200154	" " 1.5 K "
R 51	3200562	" " 56 "
R 52	3200473	" " 470 "
R 53	3200274	" " 2.7 K "

REPLACEMENT PARTS LIST MECHANICAL PARTS

SYMBOL NO.	PART NO.	DESCRIPTION
P 1	4500241-01	Cabinet Top
P 2	4600222-01	Cabinet Bottom
P 3	4910550-01	Connector Holder
P 4	4910651-01	Plug Left
	4910652-01	
P 5	4910651-01	Plug Right
	4910652-01	
P 6	4420279-12	Long Push Button
P 7	4420358-01	Round Push Button (4 pcs.)
M 1	5000292-01	Top Door 'A'
M 2	5000292-02	Top Door 'B'
M 3	1380236-01	Top Door Shaft (2 pcs.)
M 4	5000293-01	Top Door Shaft Mtg. Bracket (4 pcs.)
M 5	1390257-01	Top Door Spring (2 pcs.)
M 6	5010019-01	Shield Can - Frame
M 7	5010020-01	Shield Can - Cover
M 8	5010021-01	Shield Can - Bottom Cover
M 9	1410109-01	Insulating Paper (For Shield Can)
M 10	2280073-01	Sponge (For Shield Can Bottom Cover) (2pcs.)
M 11	1360066-01	Rubber Grommet (For Shield Can Cover)
M 12	1360019-01	Rubber Stand (4 pcs.)
M 13	1320021-01	Metal Washer (2pcs.)
M 14	1410114-01	PVC Jack Cover Plate (2 pcs.)
M 15	1322070-01	Fibre Washer
M 16	1400152-01	Felt For Masking
S 1	1301034-16	Ph.Rd.Hd. Screw:- M3 x 16 'BT' Type (6pcs.)
S 2	1301014-14	Ph.Rd.Hd. Screw:- M3 x 14 'BT' Type (2pcs.)
S 3	1300034-06	Ph.Rd.Hd. Screw:- M3x0.5Px6 'M/C' (2pcs.)
S 4	1300624-08	Ph.Truss.Hd. Screw:- M3x0.5Px8 'M/C' (2pcs.)
S 5	1301011-06	Ph.Rd.Hd. Screw:- M2.0 x 6 'BT' Type (2pcs.)
S 6	1301011-06	Ph.Rd.Hd. Screw:- M2.0 x 6 'BT' Type (4pcs.)
S 7	1301013-05	Ph.Rd.Hd. Screw:- M2.6 x 5 'BT' Type (4pcs.)
N 1	_____	Nut For Earphone Jack (2 pcs.)
N 2	1310004-02	Nut M3 x 0.5 P (2 pcs.)

CONNECTORS AND MISC.

SYMBOL NO.	PART NO.	DESCRIPTION
E 1	2550093	Edge Connector 15 Pcs. x 2 (2.54 Pitch) Gold Plating with Mounting Ear. (S 51542 D 6F)
E 2	2550107	Connection Pin Wafer 12 Pin Right Angle Type
E 3	2550106	Connection Housing W/12 Pin Terminal.
E 4	3300028-01	Coil Type Shield Cable W/11 pcs. Internal Wires, 130mm Long on Mold Bushing Side.
E 5	3300028-02	Coil Type Shield Cable with 11pcs. Internal Wires, 200mm Long on Bushing Side.
E 6	3300026	75 Ohm Antenna Cable, 12Ft., One End W/RCA Plug. Other End W/Molded RCA Plug.
E 7	2510004	Earphone Jack 3.5mm $\emptyset$ with Nut & Washer
E 8	2510010	D.C. Power Jack (EC 749)
E 9	2300289	Main P.C.B. 265 x 145 x 1.6 mm
E 10	2300286	Switch P.C.B. 65 x 30 x 1.6 mm
E 11	3500187	Push Button Switch 2P 2T with Mounting Bracket (PV 2P 2T)
E 12	3500186	Channel Select Switch Slide Switch 2P 2T (SK 10 RG 18)
E 13	3430004	Led Lamp 5mm $\emptyset$ Red
E 14	2550097	Flat Cable Connector Top Entry Type 11 pin 2.54 Pitch (HBLB 11 S-I J)
E 15	2830019	U.L. and CSA Approval AC Adaptor Model: DV - 1250 120V:12VDC 500mA with output cord. Plug - 12.5mm long O/D-5.5 mm and I/D-2.1mm
E 16	3450008	Switch Matching Box Ass'y with 300 Ohm 75 Ohm Terminals and W/RCA Jack
E 17	5130001	Cable Tie
E 18	2300287	Control Box P.C.Board 36.5 x 8.5 x 1.6mm
E 19	2550096	Flexible Mylar Circuit Board W/Silver Conduct Screening

CONTROL UNIT REPLACEMENT PART LIST

SYMBOL NO.	PART NO.	DESCRIPTION
P 4 a	4910651-01	Plug For Cabinet Bottom
P 5 a	4910652-01	Plug For Cabinet Bottom
P 4 b	4910651-01	Plug For Cabinet Top
P 5 b	4910652-01	Plug For Cabinet Top
P 8	4500242-01	Control Box - Cabinet Top (2 pcs.)
P 9	4600223-01	Control Box - Cabinet Top (2 pcs.)
P 10	4420324-01	Round Push Button For Control Box (2 pcs.)
P 11	4910551-01	Joystick (2 pcs.)
P 12	4420325-01	Side Push Button (2 pcs.)
M 17	1710053-02	Keys Overlay Mylar Sheet with Bubble Keys Formed. (2 pcs.)
M 19	1360048-01	Rubber Grommet For Control Box (2 pcs.)
M 20	1410133-01	Speaker Ring Soft PVC Sheet (2 pcs.)
M 21	1420013-01	Card Paper Spacer For Control Box (2 pcs.)
M 22	1390245-01	Compression Spring For Control Box (2 pcs.)
E 3	2550106	Connection Housing W/12 Pin Terminal
E 4	3300028-01	Coil Type Shield Cable W/11 pcs. Internal Wires, 130mm Long on Mold Bushing Side.
E 5	3300028-02	Coil Type Shield Cable with 11 pcs. Internal Wires, 200mm Long on Bushing Side.
E 14	2550097	Flat Cable Connector Top Entry Type (2 pcs.) 11 Pin x 2.54 Pitch.
E 19	2550096	Flexible Mylar Circuit Board with (2 pcs.) Silver Conduct Screening.
S 8	1301113-06	Ph. Flat. Hd. Screw:- M2.6 x 6 'BT' Type (4 pcs.)
S 9	1301013-08	Ph. Rd. Hd. Screw:- M2.6 x 8 'BT' Type (8 pcs.)

I.C. AND TRANSISTOR AND DIODE

SYMBOL NO.	PART NO.	DESCRIPTION
Q 1	2800030-3	Transistor 2SB 561 C
D 1	2820002	Diode IN 4001
U 1	3400059	Intergrated Circuit (TTL) 74 LS 00 N
U 2	3400140	" " " 74 LS 04 N
U 3	3400064	" " " 74 LS 86 N
U 4	3400157	I.C. (CMOS) 14066 B
U 5	3400064	Intergrated Circuit (TTL) 74 LS 86 N
U 6	3400008	I.C. (CMOS) 14069 UB
U 7	3400137	Intergrated Circuit (TTL) 2622 N
U 8	3400142	" " " 74 LS 258 N
U 9	3400136	" " " 2637 N
U 10	3400135	" " " 2650 A
U 11	3400139	(250 nS) RAM Circuit (TTL) 2114
U 12	3400139	(250 nS) RAM Circuit (TTL) 2114
U 13	3400050	Regulator Transistor 7805
U 14	3400114	Intergrated Circuit (TTL) 74 LS 145 N

COILS AND MISC.

SYMBOL NO.	PART NO.	DESCRIPTION
L 1	2410077	Ferrite Choke Coil (Resistor Type) 10 uH
L 2	2410144	Ferrite Bead 4 T
L 3	2410144	Ferrite Bead 4 T
L 4	2410077	Ferrite Choke Coil (Resistor Type) 10 uH
L 5	2410077	Ferrite Choke Coil (Resistor Type) 10 uH
X'TAL 1	3410025	3.579545 MHz
	3450012	Modulator Unit (N.T.S.C.)
		LVM - 2 A - 34
		UM 1285 - 8