S/M No.:TCN001GEF0

Service Manual

Color Television

CHASSIS : CN-001G

Model	
DTQ-14P2/P3FCG	U.S.A CANADA (AC120V)
DTQ-14P2/V1FCWG/P2SCG	
DTQ-14V1/V5FCG/V1/V4SCG	
DTQ-14V5FCNG/15U5SCG	
DTQ-14V6FCBG/FCPG/FBBG/FPPG	
DTQ-14J4FCGG/FCCG	
DTQ-20V1/V4/V5FCG	
DTQ-20V1/V4SCG	
DTQ-20P2/P3FCG/P2SCG	
DTQ-14V6NBG/NPG	Middle America (AC 110V)
DTQ-14V1/V3/V5FSG	
DTQ-14V1/V3/V4/V5/V8/V9SSG	
DTQ-14U1FSG/SSG/20U1FSG/SSG	
DTQ-20P2SSG/15U5FSG/SSG/15U7SSG	
DTQ-20V1/V3/V4FSG	
DTQ-20V1/V3/V4/V5/V8/V9SSG	
DTQ-14V1/V4/V5FSPG	Chile, Peru, Philippines (AC220V)
DTQ-14V1/V4/V5/U1SSPG	
DTQ-14V6NBPM/NPPG	
DTQ-20V1/V4FSPG	
DTQ-20V1/V3/V4/U1SSPG	
DTQ-15U5SSPG	
DTQ-14V1/V4/V8SSFG	(AC90~250)
DTQ-20V1/V4/V8SSFG	
DTQ-14V4/20V4FCFG	Korea, USA, Japen(AC90~260V)

Caution
: In this Manual, some parts can be changed for improving. their performance without notice in the parts list. So, if you need the latest parts information, please refer to PPL(Parts Price List)in Service Information Center(http://svc.dwe.co.kr)

DAEWOO ELECTRONICS Corp.
http : //svc.dwe.co.kr

TABLE OF CONTENTS

SAFETY PRECAUTIONS 2
- PRODUCT SAFTY SERVICING GUIDELINES FOR AUDIO - VIDEO PRODUCS 2
- PRODUCT SAFTY SERVICING GUIDELINES FOR COLOR TELEVISION RECEIVERS 3

SPECIFICATIONS 5

BLOCK DIAGRAM 6

ALIGNMENT INSTRUCTIONS 7
- SERVICE MODE ADJUSTMENTS 7
- ASSEMBLY ADJUSTMENTS 8
- PARENTAL CONTROL PASSWORD SETTINGS 12

VOLTAGE CHART 13

WAVEFORMS 16

SCHEMATIC DIAGRAM 19

EXPLODED VIEW 20

ELECTRICAL PARTS LIST 28

APPENDIX (Appendix is provide only by internet [http://svc.dwe.co.kr])

IC DESCRIPTION 1

TROUBLE SHOOTING CHARTS 7
- NO POWER 7
- NO PICTURE 8
- NO SOUND 9
- CH DON'T MEMORY or CH SKIP 10
- NO COLOR 11
- NO VERTICAL DEFLECTION 11
- NO ON-SCREEN DISPLY 12
- REMOTE CONTROL DOES NOT OPERATE 12

PRODUCT SAFETY SERVICING GUIDELINES FOR AUDIO - VIDEO PRODUCTS

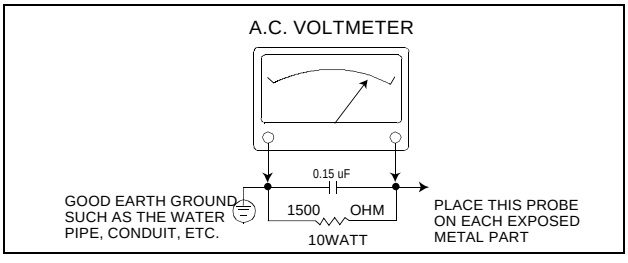
CAUTION : DO NOT ATTEMPT TO MODIFY THIS PRODUCT IN ANY WAY. NEVER PERFORM CUSTOMIZED INSTALLATIONS WITHOUT MANUFACTURER'S APPROVAL. UNAUTHORIZED MODIFICATIONS WILL NOT ONLY VOID THE WARRANTY, BUT MAY LEAD TO YOUR BEING LIABLE FOR ANT RESULTING PROPERTY DAMAGE OR USER INJURY.
SERVICE WORK SHOULD BE PERFORMED ONLY AFTER YOU ARE THOROUGHLY FAMILIAR WITH ALL OF THE FOLLOWING SAFETY CHECKS AND SERVICING GUIDELINES. TO DO OTHERWISE, INCREASES THE RISK OF POTENTIAL HAZARDS AND INJURY TO THE USER.
WHILE SERVICING, USE AN ISOLATION TRANSFORMER FOR PROTECTION FROM A.C. LINE SHOCK.

SAFETY CHECKS

AFTER THE ORIGINAL SERVICE PROBLEM HAS BEEN CORRECTED, A CHECK SHOULD BE MADE OF THE FOLLOWING:

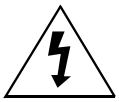
SUBJECT:FIRE & SHOCK HAZARD

1. BE SURE THAT ALL COMPONENTS ARE POSITIONED IN SUCH A WAY AS TO AVOID POSSIBILITY OF ADJACENT COMPONENT SHORTS. THIS IS ESPECIALLY IMPORTANT ON THOSE MODULES WHICH ARE TRANSPORTED TO AND FROM THE REPAIR SHOP.
2. NEVER RELEASE A REPAIR UNLESS ALL PROTECTIVE DEVICES SUCH AS INSULATORS, BARRIERS, COVERS, SHIELDS, STRAIN RELIEFS, POWER SUPPLY CORDS, AND OTHER HARDWARE HAVE BEEN REINSTALLED PER ORIGINAL DESIGN. BE SURE, THAT THE SAFETY PURPOSE OF THE POLARIZED LINE PLUG HAS NOT BEEN DEFEATED.
3. SOLDERING MUST BE INSPECTED TO DISCOVER POSSIBLE COLD SOLDER JOINTS, SOLDER SPLASHES OF SHARP SOLDER POINTS. BE CERTAIN TO REMOVE ALL LOOSE FOREIGN PARTICLES.
4. CHECK FOR PHYSICAL EVIDENCE OF DAMAGE OR DETERIORATION TO PARTS AND COMPONENTS, FOR FRAYED LEADS, DAMAGED INSULATION (INCLUDING A.C. CORD), AND REPLACE IF NECESSARY. FOLLOW ORIGINAL LAYOUT, LEAD LENGTH AND DRESS.
5. NO LEAD OR COMPONENT SHOULD TOUCH A RECEIVING TUBE OR A RESISTOR RATED AT 1 WATT OR MORE. LEAD TENSION AROUND PROTRUDING METAL SURFACES MUST BE AVOIDED.
6. ALL CRITICAL COMPONENTS SUCH AS FUSES, FLAMEPROOF RESISTOR, CAPACITORS, ETC. MUST BE REPLACED WITH EXACT FACTORY TYPES. DO NOT USE REPLACEMENT COMPONENTS OTHER THAN THOSE SPECIFIED OR MAKE UNRECOMMENDED CIRCUIT MODIFICATIONS.
7. AFTER RE-ASSEMBLY OF THE STE ALWAYS PERFORM AN A.C. LEAKAGE TEST ON ALL EXPOSED METALLIC PARTS OF THE CABINET. (THE CHANNEL SELECTOR KNOB, ANTENNA TERMINALS, HANDLE AND SCREWS) TO BE SURE THE SET IS SAFE TO OPERATE WITHOUT DANGER OF ELECTRICAL SHOCK. DO NOT USE A LINE ISOLATION TRANSFORMER DURING THIS TEST USE AN A.C. VOLTMETER, HAVING 5000 OHMS PER VOLT OR MORE SENSITIVITY, IN THE FOLLOWING MANNER : CONNECT A 1500 OHM 10 WATT RESISTOR, PARALLELED BY A .15 MFD. 150V A.C. TYPE CAPACITOR BETWEEN A KNOWN GOOD EARTH GROUND (WATER POPE, CONDUIT, ETC.) AND THE EXPOSED METALLIC PARTS, ONE AT A TIME. MEASURE THE A.C. VOLTAGE ACROSS THE COMBINATION OF 1500 OHM RESISTOR AND .15 MFD CAPACITOR. REVERSE THE A.C. PLUG AND REPEAT A.C. VOLTAGE MEASUREMENTS FOR EACH EXPOSED METALLIC PART. VOLTAGE MEASURED MUST NOT EXCEED .75 VOLTS R.M.S THIS CORRESPONDS TO 0.5 MILLIAMP A.C. NAY VALUE EXCEEDING THIS LIMIT CONSTITUTES A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED IMMEDIATELY.



SUBJECT : GRAPHIC SYMBOLS

THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.



THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF IMPORTANT SAFETY INFORMATION ON SERVICE LITERATURE.

SUBJECT : X-RADIATION

1. BE SURE PROCEDURES AND INSTRUCTIONS TO ALL SERVICE PERSONNEL COVER THE SUBJECT OF X-RADIATION. THE ONLY POTENTIAL SOURCE OF X-RAYS IN CURRENT T.V. RECEIVERS IS THE PICTURE TUBE. HOWEVER, THIS TUBE DOES NOT EMIT X-RAYS WHEN THE HIGH VOLTAGE IS AT THE FACTORY SPECIFIED LEVEL. THE PROPER VALUE IS GIVEN IN THE APPLICABLE SCHEMATIC. OPERATION AT HIGHER VOLTAGES MAY CAUSE A FAILURE OF THE PICTURE TUBE OR HIGH VOLTAGE SUPPLY AND UNDER CERTAIN CIRCUMSTANCES, AMY PRODUCE RADIATION IN EXCESS OF DESIRABLE LEVELS.
2. ONLY FACTORY SPECIFIED C.R.T ANODE CONNECTORS MUST BE USED. DEGAUSSING SHIELDS ALSO SERVE AS X-RAY SHIELD IN COLOR SETS. ALWAYS RE-INSTALL THEM.
3. IT IS ESSENTIAL THAT SERVICE PERSONNEL HAVE AVAILABLE AN ACCURATE AND RELIABLE HIGH VOLTAGE METER. THE CALIBRATION OF THE METER SHOULD BE CHECKED PERIODICALLY AGAINST A REFERENCE STANDARD. SUCH AS THE ONE AVAILABLE AT YOUR DISTRIBUTOR.
4. WHEN THE HIGH VOLTAGE CIRCUITRY IS OPERATING PROPERLY THERE IS NO POSSIBILITY OF AN X-RADIATION PROBLEM. EVERY TIME A COLOR CHASSIS IS SERVICED, THE BRIGHTNESS SHOULD BE RUN UP AND DOWN WHILE MONITORING THE HIGH VOLTAGE WITH A METER TO BE CERTAIN THAT THE HIGH VOLTAGE DOES NOT EXCEED THE SPECIFIED VALUE AND THAT IT IS REGULATING CORRECTLY. WE SUGGEST THAT YOU AND YOUR SERVICE ORGANIZATION REVIEW TEST PROCEDURES SO THAT VOLTAGE REGULATION IS ALWAYS CHECKED AS A STANDARD SERVICING PROCEDURE, AND THAT THE HIGH VOLTAGE READING BE RECORDED ON EACH CUSTOMER'S INVOICE.
5. WHEN TROUBLESHOOTING AND MAKING TEST MEASUREMENTS IN A PRODUCT WITH A PROBLEM OF EXCESSIVE HIGH VOLTAGE, AVOID BEING UNNECESSARILY CLOSE TO THE PICTURE TUBE AND THE HIGH VOLTAGE SUPPLY. DO NOT OPERATE THE PRODUCT LONGER THAN IS NECESSARY TO LOCATE THE CAUSE OF EXCESSIVE VOLTAGE.
6. REFER TO HV, B+ AND SHUTDOWN ADJUSTMENT PROCEDURES DESCRIBED IN THE APPROPRIATE SCHEMATIC AND DIAGRAMS (WHERE USED).

SUBJECT : IMPLOSION

1. ALL DIRECT VIEWED PICTURE TUBES ARE EQUIPPED WITH AN INTEGRA IMPLOSION PROTECTION SYSTEM. BUT CARE SHOULD BE TAKEN TO AVOID DAMAGE DURING INSTALLATION. AVOID SCRATCHING THE TUBE. OF SCRATCHED REPLACE IT.
2. USE ONLY RECOMMENDED FACTORY REPLACEMENT TUBES.

SUBJECT : TIPS ON PROPER INSTALLATION

1. NEVER INSTALL ANY PRODUCT IN A CLOSED-IN RECESS, CUBBYHOLE OR CLOSELY FITTING SHELF SPACE, OVER OR CLOSE TO HEAT DUCT, OR IN THE PATH OF HEATED AIR FLOW.
2. AVOID CONDITIONS OF HIGH HUMIDITY SUCH AS: OUTDOOR PATIO INSTALLATIONS WHERE DEW IS A FACTOR, NEAR STEAM RADIATORS WHERE STEAM LEAKAGE IS A FACTOR, ETC.
3. AVOID PLACEMENT WHERE DRAPERIES MAY OBSTRUCT REAR VENTING. THE CUSTOMER SHOULD ALSO AVOID THE USE OF DECORATIVE SCARVES OR OTHER COVERINGS WHICH MIGHT OBSTRUCT VENTILATION.
4. WALL AND SHELF MOUNTED INSTALLATIONS USING A COMMERCIAL MOUNTING KIT, MUST FOLLOW THE FACTORY APPROVED MOUNTING INSTRUCTIONS. A PRODUCT MOUNTED TO A SHELF OR PLATFORM MUST RETAIN ITS ORIGINAL FEET (OR THE EQUIVALENT THICKNESS IN SPACERS)TO PROVIDE ADEQUATE AIR FLOW ACROSS THE BOTTOM, BOLTS OR SCREWS USED FOR FASTENERS MUST NOT TOUCH ANY PARTS OR WIRING. PERFORM LEAKAGE TEST ON CUSTOMIZED INSTALLATIONS.
5. CAUTION CUSTOMERS AGAINST THE MOUNTING OF A PRODUCT ON SLOPING SHELF OR A TILTED POSITION, UNLESS THE PRODUCT IS PROPERLY SECURED.
6. A PRODUCT ON A ROLL-ABOUT CART SHOULD BE STABLE ON ITS MOUNTING TO THE CART. CAUTION THE CUSTOMER ON THE HAZARDS OF TRYING TO ROLL A CART WITH SMALL CASTERS ACROSS THRESHOLDS OR DEEP PILE CARPETS.
7. CAUTION CUSTOMERS AGAINST THE USE OF A CART OR STAND WHICH HAS NOT BEEN LISTED BY UNDERWRITERS LABORATORIES. INC. FOR USE WITH THEIR SPECIFIC MODEL OF TELEVISION RECEIVER OR GENERICALLY APPROVED FOR USE WITH T.V.S OF THE SAME OR LARGER SCREEN SIZE.
8. CAUTION CUSTOMERS AGAINST THE USE OF EXTENSION CORDS, EXPLAIN THAT A FOREST OF EXTENSIONS SPROUTING FROM A SINGLE OUTLET CAN LEAD TO DISASTROUS CONSEQUENCES TO HOME AND FAMILY.

PRODUCT SAFETY SERVICING GUIDELINES FOR COLOR TELEVISION RECEIVERS

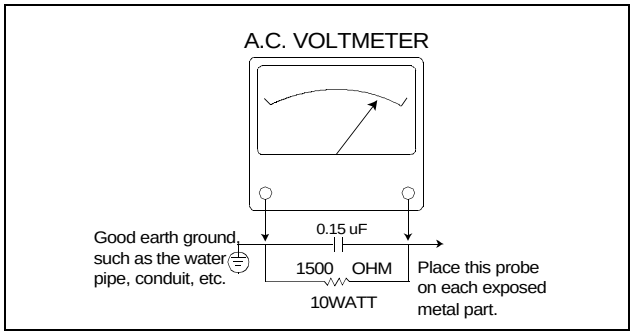
CAUTION : Do not attempt to modify this product in any way. Unauthorized modifications will not only void the warranty, but may lead to your being liable for any resulting property damage or user injury.
Service work should be performed only after you are thoroughly familiar with all of the following safety checks and servicing guidelines. To do otherwise, increases the risk of potential hazards and injury to the user.

SAFETY CHECKS

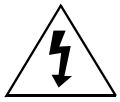
After the original service problem has been corrected, a check should be made of the following:

SUBJECT : FIRE & SHOCK HAZARD

1. Be sure that all components are positioned in such a way as to avoid possibility of adjacent component shorts. This is especially important on those chassis which are transported to and from the repair shop.
2. Never release a repair unless all protective devices such as insulators, barriers, covers, shields, strain reliefs, and other hardware have been reinstalled per original design.
3. Soldering must be inspected to discover possible cold solder joints, frayed leads, damaged insulation (including A.C. cord), solder splashes or sharp solder points. Be certain to remove all loose foreign particals.
4. Check for physical evidence of damage or deterioration to parts and components, and replace if necessary follow original layout, lead length and dress.
5. No leads or components should touch a receiving tube or a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces must be avoided.
6. All critical components such as fuses, flameproof resistors, capacitors, etc. must be replaced with exact factory types. Do not use replacement components other than those specified or make unrecommended circuit modifications.
7. After re-assembly of the set always perform an A.C. leakage test on all exposed metallic parts of the cabinet, (the channel selector knob, antenna terminals, handle and screws) to be sure the set is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this test. Use an A.C. voltmeter, having 5000 ohms per volt or more sensitivity, in the following manner : connect a 1500 ohm 10 watt resistor, paralleled by a 15 mfd. 150V A.C. type capacitor between a known good earth ground (9water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the A.C. voltage across the combination of 1500 ohm resistor and 0.15 MFD capacitor. Reverse the A.C. plug and repeat A.C. voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.75 volts R.M.S. This corresponds to 0.5 milliamp A.C. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.

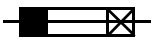


GRAPHIC SYMBOLS :



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the service personnel to the presence of uninsulated "dangerous voltage" that may be of sufficienty magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the service personnel to the presence of important safety information in service literature.



Fuse symbol is printed on pcb adjacent to the fuse, with "RISK OF FIRE REPLACE FUSE AS MARKED". The symbol is explained in the service manual with the following wording or equivalent.

"CAUTION : FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE (4A, 125V)" and "**ATTENTION**: AFIN D'ASSU UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE ET DE "4A, 125V".

SUBJECT : X-RADIATION

1. Be sure procedures and instructions to all service personnel cover the subject of X-rays in current T.V. receivers is the picture tube. However, this tube does not emit X-rays when the high voltage is at the factory specified level. The proper value is given in the applicable schematic. Operation at higher voltages may cause a failure of the picture tube or high voltage supply and, under certain circumstances, may produce radiation in excess of desirable levels.
2. Only factory specified C.R.T. anode connectors must be used. Degaussing shields also serve as X-ray shield in color sets. Always re-install them.
3. It is essential that the serviceman has available an accurate and reliable high voltage meter. The calibration of the meter should be checked perio - dically against a reference standard. Such as the one available at your distributor.
4. When the high voltage circuitry is operating properly there is no possibility of an X-radiation problem. Every time a color chassis is serviced, the brightness should be run up and down while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly. We suggest that you and your service organization review test procedures so that voltage regulation is always checked as a standard servicing procedure. And that the high voltage reading be recorded on each customer's invoice.
5. When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, avoid being unnecessarily close to the picture tub eand the high voltage compartment.
   Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.
6. Refer to HV, B+and Shutdown adjustment procedures described in the appropriate schematic and diagrams(where used).

SUBJECT : IMPLOSION

1. All direct viewed picture tubes are equipped with an integral implosion protection system, but care should be taken to avoid damage during installation. Avoid scratching the tube. If scratched, replace it.
2. Use only recommended factory replacement tubes.

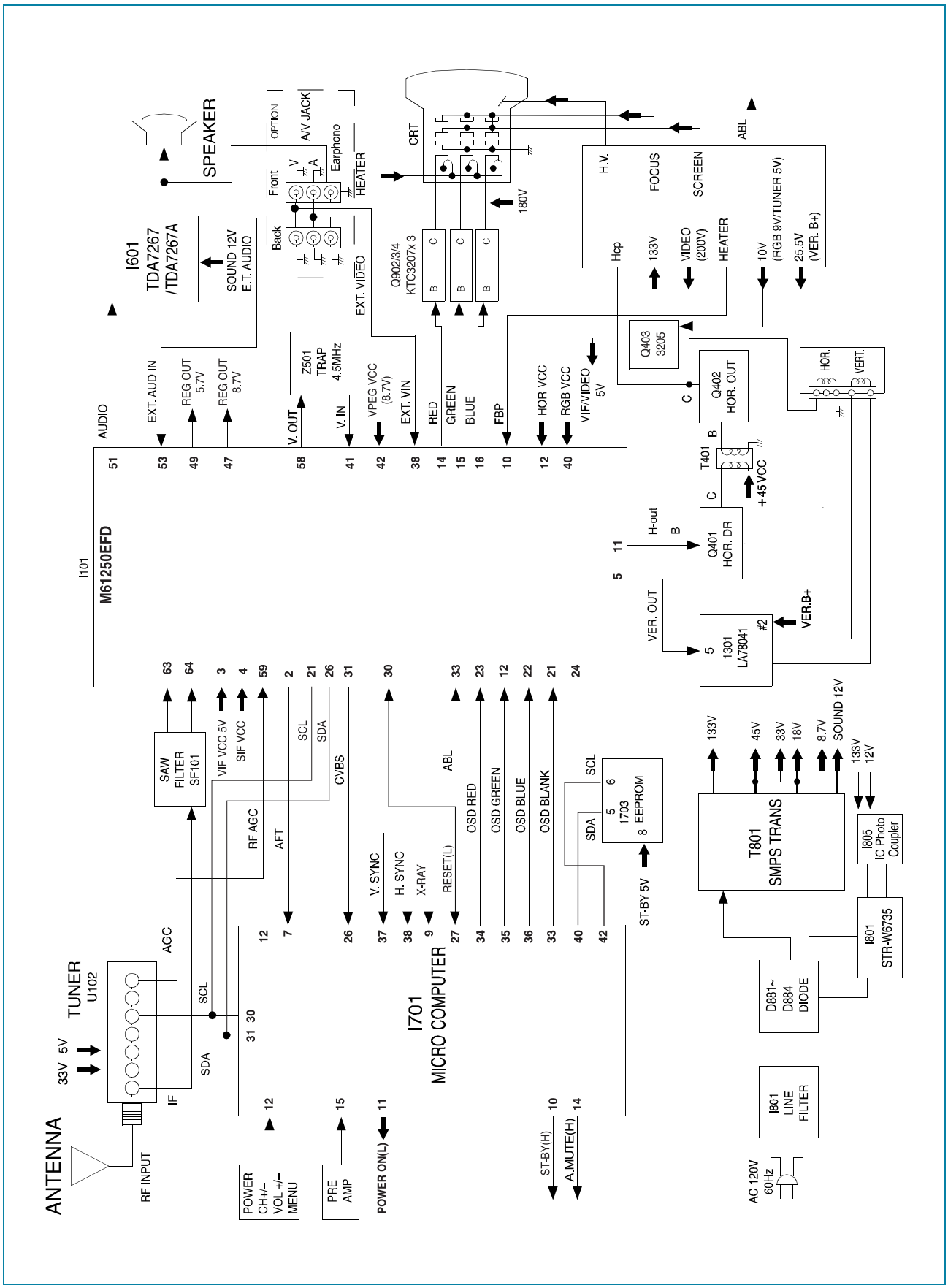
SUBJECT : TIPS ON PROPER INSTALLATION

1. Never install any receiver in closed-in recess, cubbyhole or closely fitting shelf space over, or close to heat duct, or in the path of heated air flow.
2. Avoid conditions of high humidity such as : Outdoor patio installations where dew is a factor. Near steam radiators where steam leakage is a factor, etc.
3. Avoid placement where draperies may obstruct rear venting. The customer should also avoid the use of decorative scarves or other coverings which might obstruct ventilation.
4. Wall and shelf mounted installations using a commercial mounting kit, must follow the factory approved mounting instructions. A receiver mounted to a shelf or platform must retain its original feet(or the equivalent thickness in spacers) to provide adequate are flow across the bottom, bolts or screws used for fasteners must not touch and parts or wiring. Perform leakage test on customized installations.
5. Caution customers against the mounting of a receiver on sloping shelf or a tilted position, unless the receiver is properly secured.
6. A receiver on a roll-about cart should be stable on its mounting to the cart. Caution the customer on the hazards of trying to roll a cart with small casters across thresholds or deep pile carpets.
7. Caution customers against the use of a cart or stand which has not been listed by underwriters laboratories, inc. For use with their specific model of television receiver or generically approved for use with T.V.'s of the same or larger screen size.

SPECIFICATIONS

ITEMS \ MODEL	DTQ-14P2/P3FCG DTQ-14P2/V1FCWG/P2SCG DTQ-14V1/V5FCG/V1/V4SCG DTQ-14V5FCNG/15U5SCG DTQ-14V6FCBG/FCPG/FBBG/FPPG DTQ-14J4FCGG/FCCG DTQ-20V1/V4/V5FCG DTQ-20V1/V4SCG DTQ-20P2/P3FCG/P2SCG DTQ-14V6NBG/NPG DTQ-14V1/V3/V5FSG DTQ-14V1/V3/V4/V5/V8/V9SSG DTQ-14U1FSG/SSG/20U1FSG/SSG DTQ-20P2SSG/15U5FSG/SSG/15U7SSG DTQ-20V1/V3/V4FSG DTQ-20V1/V3/V4/V5/V8/V9SSG	**DTQ-14V1/V4/V5FSPG** **DTQ-14V1/V4/V5/U1SSPG** **DTQ-14V6NBPG/NPPG**	**DTQ-20V1/V4FSPG** **DTQ-20V1/V3/V4/U1SSPG** **DTQ-15U5SSPG**	**DTQ-14V1/V4/V8/U1SSFG** **DTQ-20V1/V4/V8/U1SSFG** **DTQ-14V4/20V4FCFG**	**REMARKS**
TV STANDARD	NTSC-M				
POWER INPUT	AC 120V 60 Hz	AC 220V 50/60 Hz		AC90-250V(FCFM Series)	
POWER CONSUMPTION	14 = 55W 20 = 65W				
TUNING SYSTEM	Frequency Synthesizer (FS) Tuning System				
TUNING RANGES	VHF : 2 ~ 13 (12) UHF : 14 ~ 69 (56) CATV : 1 ~ 125 (125)				
SOUND OUTPUT	1.3 W (14/20U1 Series/20V8 Series 1.3W + 1.3W)				
SPEAKER	3 W 8 ohm				
ANTENNA INPUT IMPEDANCE	75 ohm Unbalanced				
AUXILIARY INPUT TERMINAL	Front : Video, Audio Rear : Video, Audio "P" Series Without Video, Audio				
INTERMEDIATE FREQUENCIES	Picture IF Carrier Frequency : 45.75 MHz Sound IF Carrier Frequency : 41.25 MHz Color Sub-Carrier Frequency : 3.579545 MHz				
REMOTE CONTROL	R-43A08				
SPECIAL FUNCTIONS	3-Language OSD With CAPTION Wake-up On/Off Time Sleep Timer Power Restore				

BLOCK DIAGRAM



ALIGNMENT INSTRUCTIONS

1. SERVICE MODE ADJUSTMENTS

Follow the steps below whenever service adjustment is required. See Table- A and Table- B to determine if service adjustments are required.

1) How to enter the service mode using the user remote control.

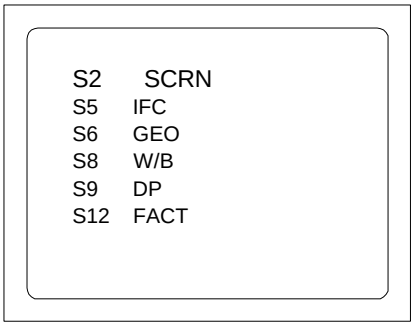
Turn the set on.

Direct the remote control to the reception window of TV.

Push buttons of remote control in sequence as follows.

1 ® MUTE ® DISPLAY ® MUTE

Then, the screen will appear as follows.



Using the channel up or channel down button, select the item you wish to adjust.

(The color of selected item turns into the red.)

Press the volume up or down button to enter in the service mode you wish to adjust.

2) How to memorize the adjusted values in the service mode.

Must press **DISPLAY** button the state which the screen is displaying each of service menus after all adjustments are completed each of all service menu.

Table-A : Adjust the values of service mode when a part is replaced.

<table>
<tr><th rowspan="2">PART REPLACED</th><th colspan="2">ADJUSTMENT</th><th rowspan="2">NOTES</th></tr>
<tr><th>NECESSARY</th><th>UNNECESSARY</th></tr>
<tr><td>I701
(U-COM)</td><td></td><td>O</td><td>Data is stored in I703.</td></tr>
<tr><td>I101
(MAIN)</td><td></td><td>O</td><td></td></tr>
<tr><td>I703
(EEPROM)</td><td>O</td><td></td><td>Initial setting values are written from I701.
Adjusting Items
<table><tr><td>S5</td><td>RFAGCD</td></tr><tr><td>S6</td><td>H.SHIFT/V.SHIFT/V.SIZE</td></tr><tr><td>S8</td><td>RD/BD/RB/GB/BB</td></tr><tr><td>S9</td><td>Brightness</td></tr></table></td></tr>
<tr><td>CRT</td><td>O</td><td></td><td>Adjust items related to picture tube only.(White Balance adjustment)</td></tr>
</table>

Table-B

MODE	ADJUSTMENT ITEMS		DATA				REMARKS
			INITIAL		RANGE		
S2	Screen Adjustment		-		-		
S5	Auto Vco		OK		OK, NG		
	VIF VCO Adj		33		0~63		
	Auto Hvco		OK		OK, NG		
	H Vco adj		04		0~7		
	Auto RFAGC		OK		OK, NG		
	RF-DELAY		90		0~125		Align RF AGC threshold
	AGC Point		3.75		3.25/3.5/3.75/4.0		Select AGC reference voltage
	VCO CH NO	AGC CH NO	22	10	-		
S6	H.Shift(Horizental Shift)		09		0~15		
	V.Shift(Vertical Shift)		02		0~7		
	V.Size(Vertical Size)		38		0~63		
	VBLK Shift		03		0~7		
	VBLK Shift On		NO		NO,YES		
	NO SD POWER OFF		NO		NO,YES		Automatically turn off in 15min for no received signal
S7(1)	Vif F	HTONE SW	0	0	0,1	0,1	
	C Clip Level	White Back	1	0	0,1	0,1	
	TRAP Off	V Free	0	0	0,1	0,1	
	EXT	Gamma Control	0	0	0,1	0~3	
	Y DL Fine	Trap Fine ad	0	0	0~3	0~3	
	Y DL Time	H Free	3	0	0~3	0,1	
	VOUT STOP	WINDOW	0	0	0,1	0,1	
	Fsc Free	Y SW LPF	0	1	0,1	0,1	
	V Mute	FM Level	ON	15	ON,OFF	0~30	
S7(2)	Service SW		0		0,1		
	AFC1 Gain		1		0,1		
	AFC2 Gain		0		0,1		
	Analog OSD		0		0,1		
	US/JA SW		4		0~7		
	SYNC DET		0		0,1		
	Auto Slice Down		0		0,1		
	FBL Vth L		1		0,1		
	BGpFbp OFF		0		0,1		
	VIF VIDEO OUT GAIN		4		0~7		
S8(1)	RD(Red Drive)		64		0~127		Align RED OUT AC level
	BD(Blue Drive)		64		0~127		Align BLUE OUT AC level
	RB(Red Bias)		128		0~255		Align RED OUT DC level
	GB(Green Bias)		128		0~255		Align Green OUT DC level
	BB(Blue Bias)		128		0~255		Align BLUE OUT DC level
S8(2)	SCR R-BIAS		00		0~255		
	SCR G-BIAS		127		0~255		
	SCR B-BIAS		00		0~255		
	SCR R-DRIVE		63		0~127		
	SCR B-DRIVE		63		0~127		
	SCR BRIGHT		140		0~255		
S9	Brightness		70		0~155		Align common RGB DC level
	Contrast		12		0~27		
	Tint		42		0~77		
	Color		15		0~27		
	Sharpness		38		0~43		
S11	Video Tsharp	SsliceDown2	1	0	0,1	0,1	
	ABCL	SsliceDown1	0	1	0,1	0,1	
	Blackstre.off	OSD level	0	1	0,1	0,1	
	Take off	Killer level	0	1	0,1	0,1	
	ABCL Gain		0		0,1		
	AFT defeat		0		0,1		
	HVBLK off		0		0,1		
	Black stretch discharge		2		0~3		
	Black stretch charge		0		0~3		
S12	Forwarding Mode						Factory Initialization

* indicates the items with different settings each of sets

2. ASSEMBLY ADJUSTMENTS

1) SCREEN ADJUSTMENT (S2)

- Enter the service mode and select service adjustment S2.
- You cna see the one horizontal line on the screen.
- Adjust the Screen Control Volume (located on FBT) so that the horizontal line onscreen may be disappeared.
- Press the volume up or down button to exit in the screen adjustment mode.

NOTE

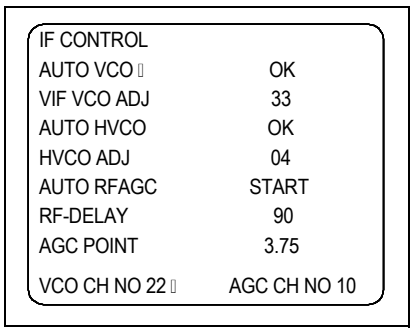
IN THE SCREEN ADJUSTMENT MODE, DONT PRESS OTHER BUTTONS EXCEPT VOLUME UP OR DOWN BUTTON.

2) FOCUS ADJUSTMENT

- Turn in a local station and adjust the Focus Control knob (located on FBT) for best picture details at high light condition.

3) RF AGC DELAY ADJUSTMENT (S5)

- Receive a good local channel.
- Enter the service mode and select service adjustment S5.
- You can see the OSD as shown in below.

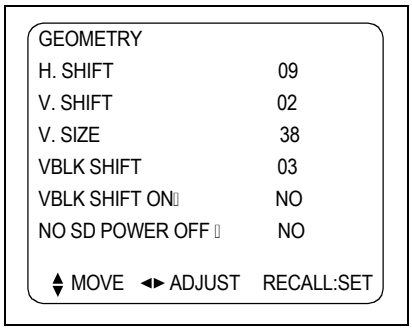


- Select RFAGCD item, press the volume up or down button until noise or beat in picture disappears.
- Press the DISPLAY button to memorize the data.

4) GEOMETRIC ADJUSTMENTS (S6)

- Enter the service mode and select service adjustment S6.

- You can see the OSD as shown in below.



4-1. Horizontal SHIFT Adjustment

- Select H.SHIFT item, adjust H.SHIFT data value to obtain proper horizontal centering of the internal cross pattern at the left and right of the screen.

4-2. Vertical SHIFT Adjustment

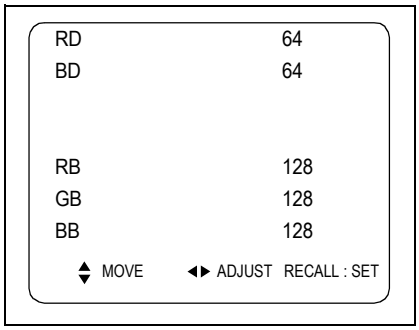
- Select V.SHIFT item, adjust V.SHIFT data value to center the raster properly on thescreen.

4-3. Vertical Size Adjustment

- Select “V.SIZE” item, adjust “V.SIZE” data value to proper vertical size as follows.

5) WHITE BALANCE ADJUSTMENT(S8)

- Receive a good local channel.
- Enter the service mode and select service adjustment S8.
- You can see the OSD as shown in below.

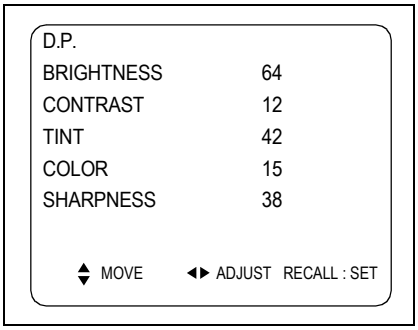


- Using volume up or volume down, adjust service adjustment data of RD/GD/BD and RB/GB/BB until a good gray scale with normal whites is obtained.ALIGNMENT INSTRUCTIONS
- Press the DISPLAY button to memorize the data.

6) DIGITAL PRESET(D.P) ADJUSTMENTS(S9)

SUBBRIGHTNESS ADJUSTMENT

- Receive a good local channel.
- Enter the service mode and select service adjustment S9.
- You can see the OSD as shoown in below.



- Select Subbrightness item, adjust Subbrightness data value to obtain normal brightness level.
- Press the DISPLAY button to memorize the data.

CONTRAST

- Fixed value = 12

TINT

- Fixed value = 42

COLOR

- Fixed value = 15

SHARPNESS

- Fixed value = 38

7) FACTORY OUTGOING MODE (S12 : FACT)

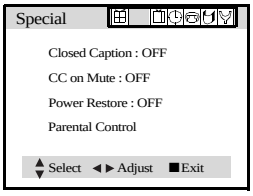
- If you select the S12, then the set becomes factory outgoing status.
- You can see the OSD “outgoing OK”

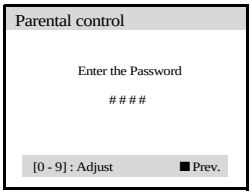
3. PARENTAL CONTROL PASSWORD SETTINGS

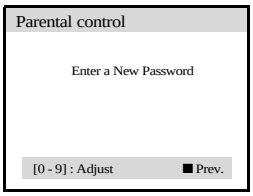
If user forget Parental Control Password as follows.

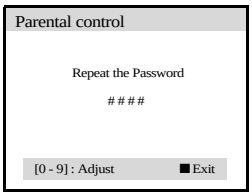
1) CHANGE THE PASSWORD.

- Turn the set on.
- Direct the remote control to the reception window of your TV/VCR
- Using the MENU buttons, select the Special menu.
- Using the the channel up (▲) or down (▼) duttons, select prental control.
- Using the volume up (►), set the password Menu.
- Push buttons of remote control in sequence as follows.
  2 → 2 → 1 → 1
- Parental control password is reset.
- Using the 0~9 buttons, enter the password.
- Using the 0~9 buttons, repeat the password.



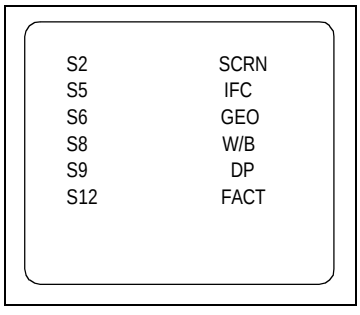






2) RESET THE PASSWORD

- Turn the set on.
- Direct the remote control to the reception window of your TV/VCR.
- Push buttons of remote control in sequence as follows.
  1 → MUTE → DISPLAY → MUTE
- Then, the screen will appear as follows.



- Using the channel up (▲) or down (▼) buttons, select S12 FACT.
  Press the volume up (►) button, the set becomes factory outgoing status.
- Parental control password is reset.
- Using the MENU buttons, select the parental control menu, set the new password.

VOLTAGE CHART

L/C	PIN	MODE		L/C	PIN	MODE	
		ON	OFF			ON	OFF
I101	1	4.9	0		49	5.73	0
	2	2.63	0		50	2.28	0
	3	5.04	0		51	2.44	0
	4	5.04	0		52	2.22	0.2
	5	3.74	0		53	3.23	0.36
	6	2.97	0		54	3.2	0
	7	3.4	0		55	3.27	0.1
	8	0	0		56	0	0
	9	0	0		57	0	0
	10	0.8	0		58	2.2	0
	11	2.14	0		59	1.75	0
	12	7.8	0		60	2.2	0
	13	0	0		61	2.62	0
	14	2.17	0		62	2.62	0.16
	15	2.17	0		63	1.52	0.16
	16	2.28	0		64	1.52	0
	17	3.77	0	L/C	PIN	MODE	
	18	2.8	0			ON	OFF
	19	4.26	0	I301	1	2.99	0
	20	4.87	0		2	24.97	0.47
	21	0	0		3	2.55	0
	22	0	0		4	0	0
	23	0	0		5	15.53	0
	24	0	0		6	25.63	3.57
	25	5.05	5.05		7	2.99	0
	26	3.71	5.05	L/C	PIN	MODE	
	27	3.71	5.05			ON	OFF
	28	5	0	I601	1	12.76	9.92
	29	2.49	2.36		2	6.65	0
	30	5	5.03		3	6.88	0
	31	2.74	0		4	0.824	0
	32	5.64	5.68		5	0	0
	33	2.09	0		6	0	0
	34	3.24	3.19		7	0	0
	35	0	0		8	0	0
	36	0	0		9	0	0
	37	2.89	0.3		10	0	0
	38	1.99	0.3		11	0	0
	39	5.08	0		12	0	0
	40	5.08	0		13	0	0
	41	2.55	0.3		14	0	0
	42	8.55	8.35		15	0	0
	43	3.24	0.24		16	0	0
	44	7.86	0.1	L/C	PIN	MODE	
	45	0	0			ON	OFF
	46	0	0	1803	1	2.47	2.05
	47	8.46	0		2	0	0
	48	1.96	0		3	11.98	8.28

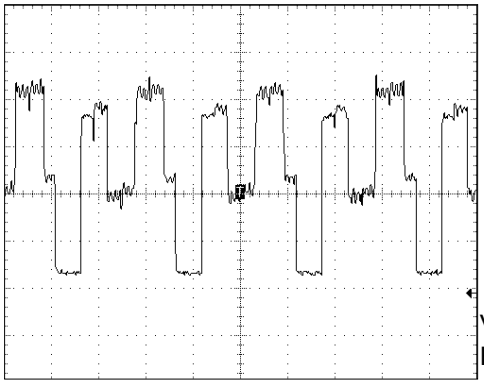
VOLTAGE CHART

L/C	PIN	MODE		L/C	PIN	MODE	
		ON	OFF			ON	OFF
I701	1	0			5	5.06	5.06
	2	0			6	5.06	5.06
	3	0			7	0	0
	4	0			8	5.06	5.06
	5	0		L/C	PIN	MODE	
	6	0				ON	OFF
	7	2.64		I801	1	1.58	164
	8	0			2	NC	NC
	9	5.04			3	0	0
	10	0			4	19.6	13.3
	11	0			5	0.18	0
	12	5.05			6	1.2	1.65
	13	5.05			7	2.76	0.6
	14	0					
	15	5.03					
	16	0.96					
	17	1.4					
	18	0					
	19	0					
	20	5.05					
	21	0					
	22	5.05					
	23	1.69					
	24	2.14					
	25	0.27					
	26	2.47					
	27	5					
	28	1.98					
	29	5.04					
	30	3.67					
	31	3.72					
	32	5.04					
	33	0					
	34	0					
	35	0					
	36	0					
	37	4.86					
	38	4.25					
	39	2.8					
	40	5.05					
	41	0					
	42	5.05					
L/C	PIN	MODE					
		ON	OFF				
I703	1	0	0				
	2	0	0				
	3	0	0				
	4	0	0				

L/C	PIN	MODE		L/C	PIN	MODE	
		ON	OFF			ON	OFF
Q401	C	29.7	33.6	Q801	C	15.4	10.47
	E	0	0		E	7.87	0
	B	0.3	0		B	8.46	0
Q404	C	9.9	0	Q403	C	6.82	0
	E	0	0		E	5.09	0
	B	0	0		B	5.72	0
Q501	C	0	0	Q807	C	17.12	11.6
	E	2.07	0		E	8.49	8.37
	B	1.76	0		B	9.08	8.95
Q575	C	0.3	0	Q873	C	6.49	0
	E	9.8	0.39		E	0	0
	B	9.9	0		B	0	0.65
Q653	C	6.86	0	Q707	C	5.05	5.05
	E	0	0		E	0	4.34
	B	0	0.69		B	0	0
Q701	C	13.99	8.4	Q703	C	5.04	5.05
	E	5.04	5.06		E	0	0
	B	5.04	5.68		B	0	0

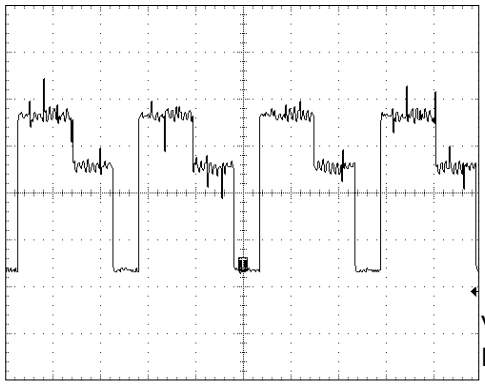
WAVEFORMS

(1) I101 PIN 14



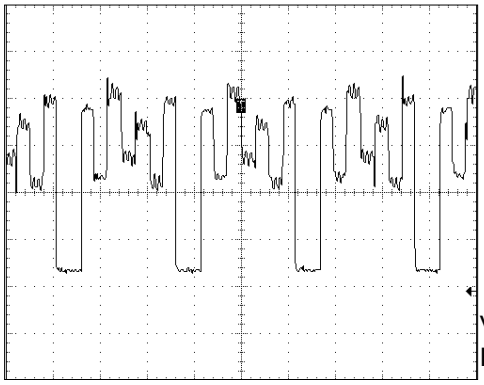
V:1V/div
H:25us/div

(2) I101 PIN 15



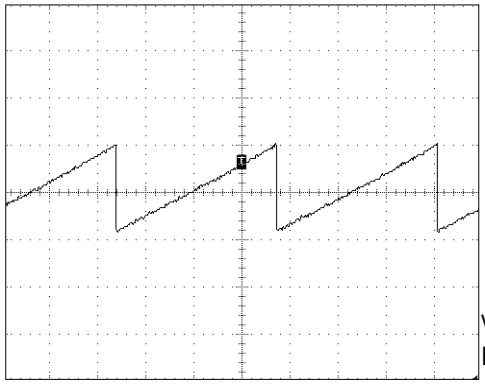
V:1V/div
H:25us/div

(3) I101 PIN 16



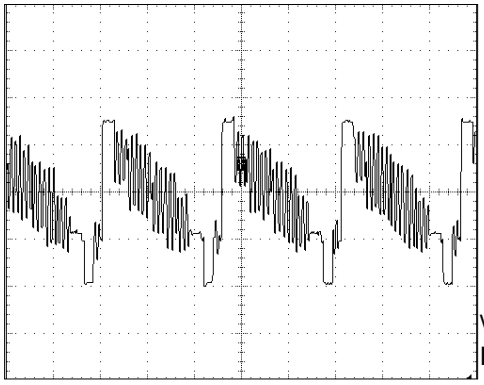
V:1V/div
H:25us/div

(4) I101 PIN 5



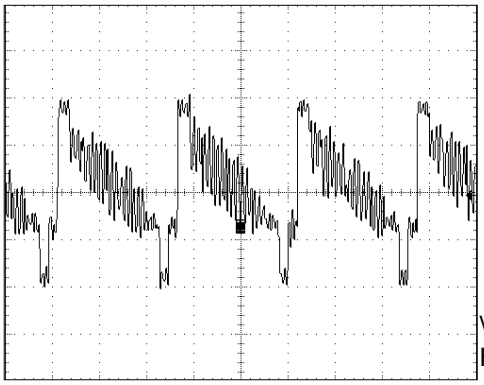
V:500mV/div
H:5ms/div

(5) I101 PIN 40



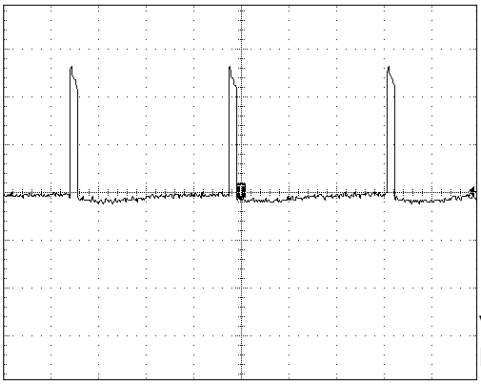
V:500mV/div
H:25us/div

(6) I101 PIN 58



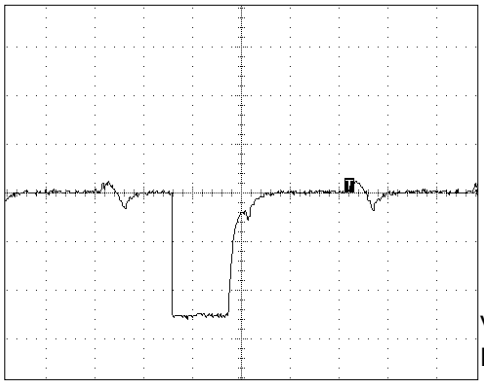
V:500mV/div
H:25us/div

(7) I101 PIN 63



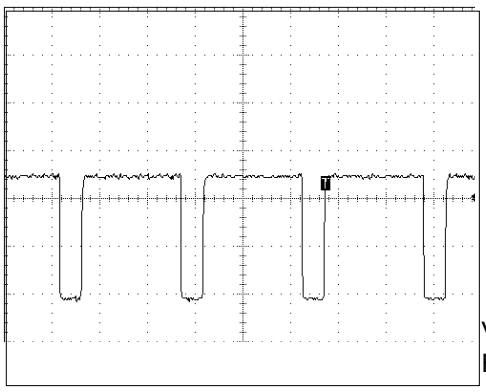
V:10V/div
H:5ms/div

(8) I101 PIN 37



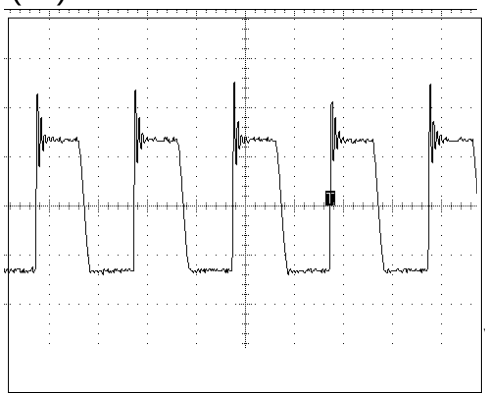
V:2V/div
H:25us/div

(9) I701 PIN 38



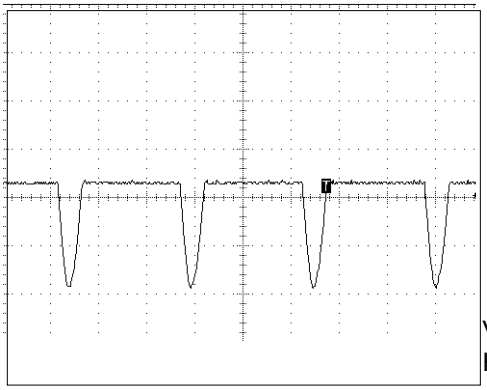
V:20V/div
H:25us/div

(10) I801 PIN 7



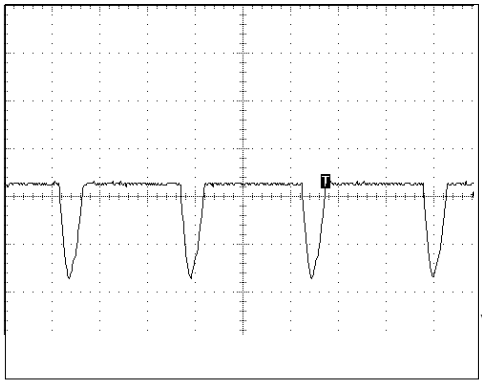
V:100V/div
H:10us/div

(11) T402 PIN 25.5V



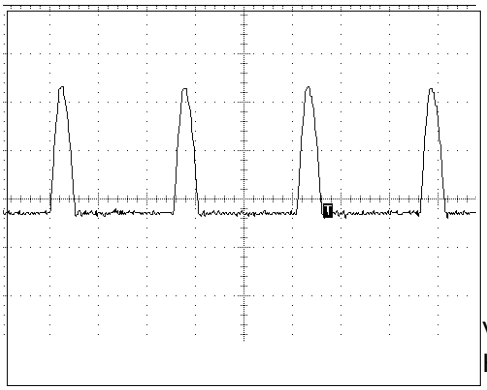
V:100V/div
H:25us/div

(12) T402 PIN 10.5V



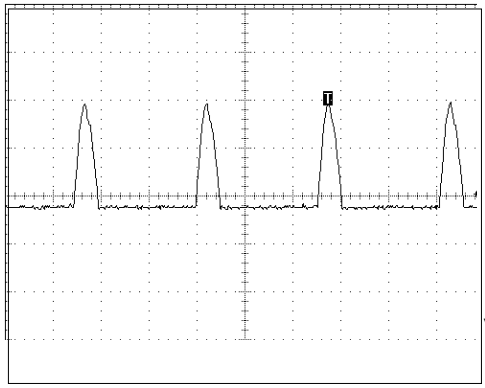
V:50V/div
H:25us/div

(13) T402 PIN HEATER



V:10V/div
H:25us/div

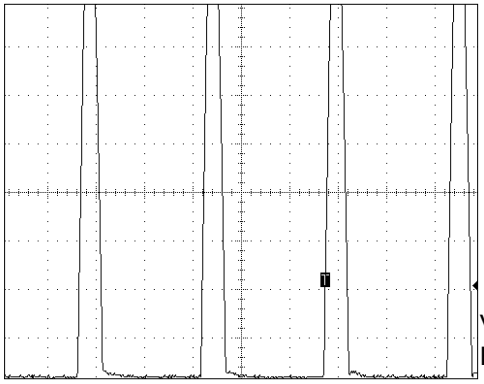
(14) T402 PIN 180V



V:100V/div
H:25us/div

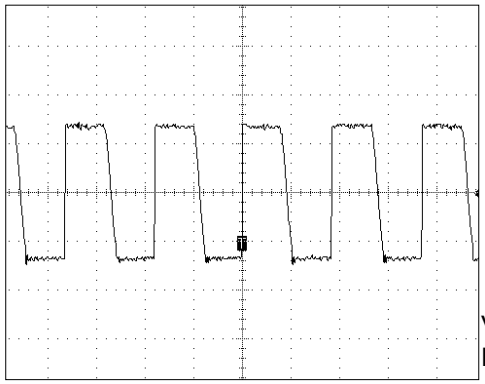
WAVEFORMS

(17) T401 PIN H.V



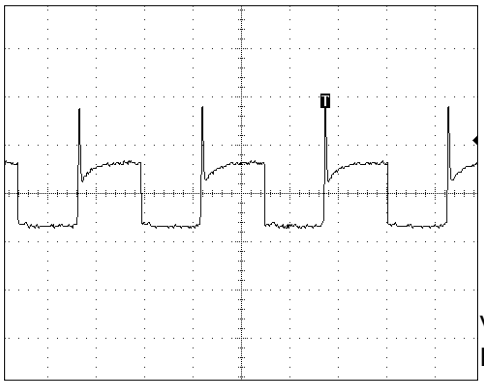
V:100V/div
H:25us/div

(18) T801 PIN 133V



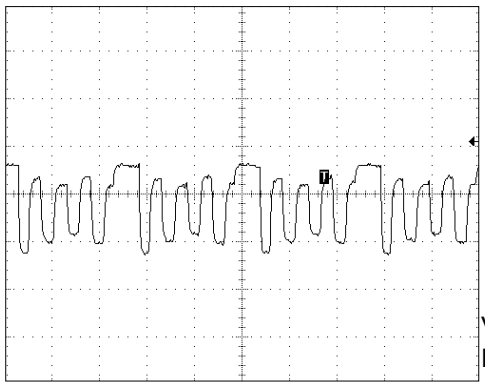
V:100V/div
H:10us/div

(19) Q401 COLLECTOR



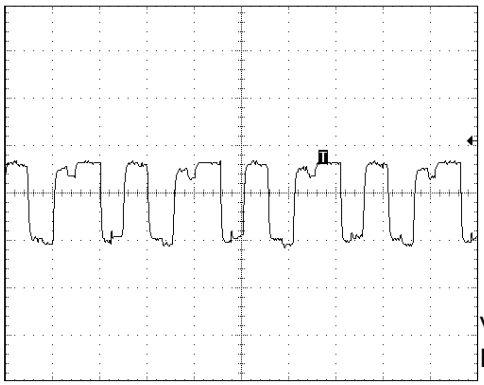
V:5V/div
H:25us/div

(20) CRT SOCKET PIN B



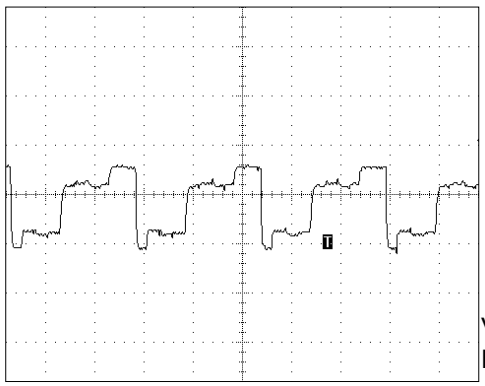
V:50V/div
H:25us/div

(21) CRT SOCKET PIN R

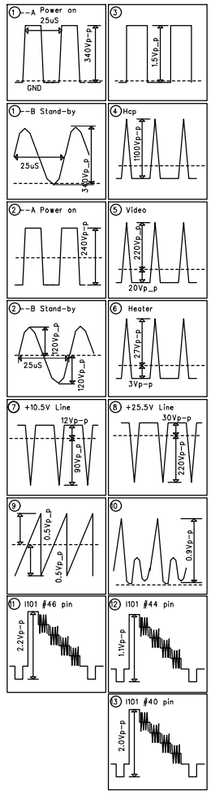


V:50V/div
H:25us/div

(22) CRT SOCKET PIN G



V:50V/div
H:25us/div



1. CAUTION

⚠ SYMBOL MARKED PARTS IN THE SCHEMATIC DIAGRAM DESIGNATE THE COMPONENTS WHICH HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY AND SHOULD BE REPLACED ONLY WITH TYPES INDENTICAL TO THOSE IN ORIGINAL CIRCUIT OR SPECIFIED IN THE PARTS LIST. DO NOT DEGRADE THE SAFETY OF THE RECEIVER THROUGH IMPROPER SERVICING.

WARING :

BEFORE SERVICING THIS CHASSIS,READ THE "X-RAY RADIATION PRECAUTION " "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" IN THE SERVICE MANUAL.

CAUTION TO THE SERVICE TECHNICIANS :

BEFORE RETURNING THE RECEIVER TO THE CUSTOMER APPROPRIATE LEAKAGE CURRENT OR RESISTANCE MEASUREMENT SHOULD BE CONDUCTED TO DETERMINE THAT EXPOSED PARTS ARE PROPERLY INSULATED FROM THE SUPPLY CIRCUIT.

NOTE :

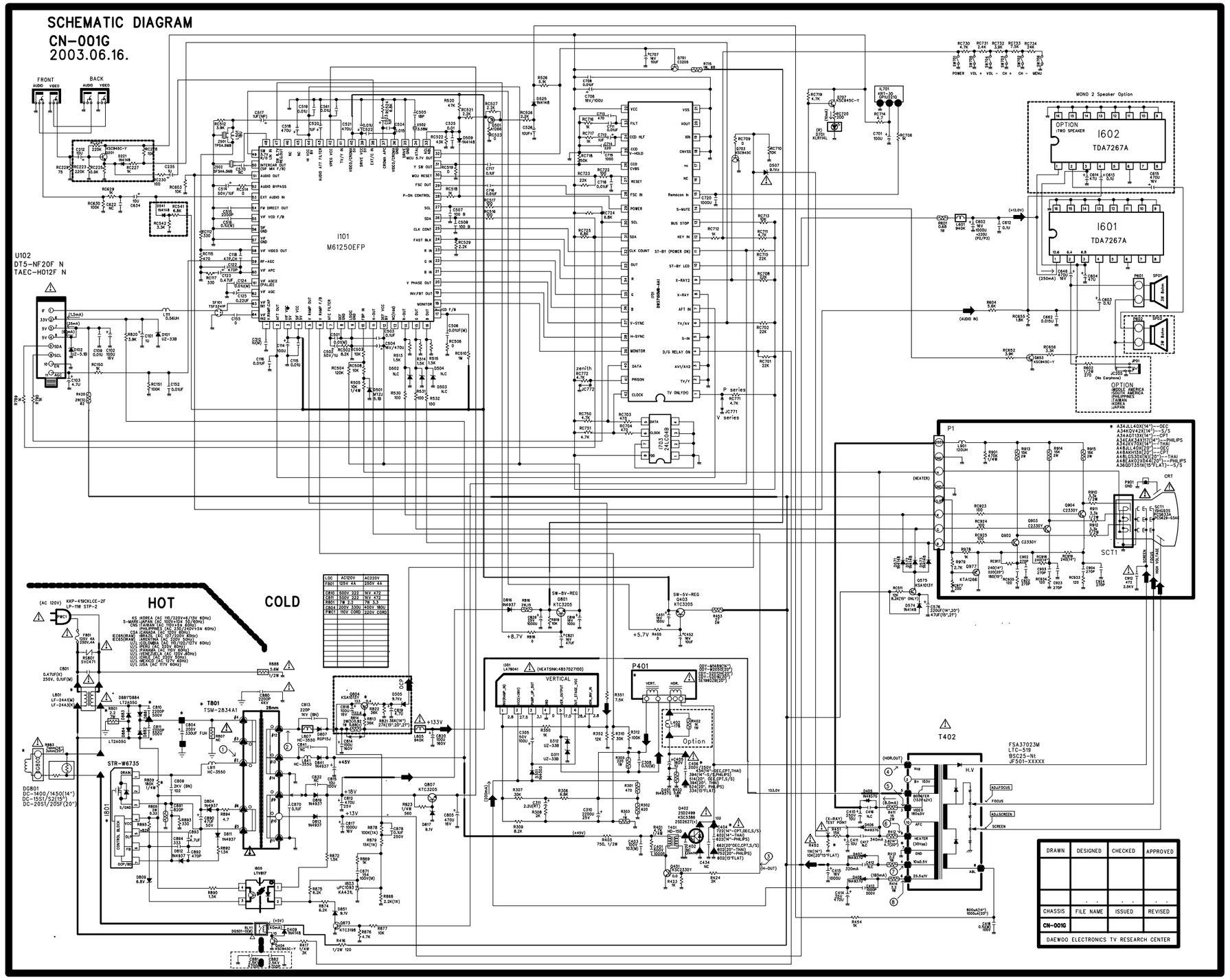
1. RESISTANCE IS SHOWN IN OHMS. K=1,000 M=1,000,000

2. UNLESS OTHERWISE NOTED IN SCHEMATIC ALL CAPACITOR VALUES LESS THAN 1 ARE EXPRESSED IN uF AND THE VALUES MORE THAN 1 IN pF.

3. VOLTAGES READ WITH "V.T.V.M" FROM POINT INDICATE TO CHASSIS GROUND USING A COLOR BAR SIGNAL WITH ALL CONTROLS AT NORMAL LINE VOLTAGE 120 VOLTS AC.
VOLTAGE READINGS SHOWN ARE NORMAL VALUES AND MAY VARY +20% EXCEPT H.V.

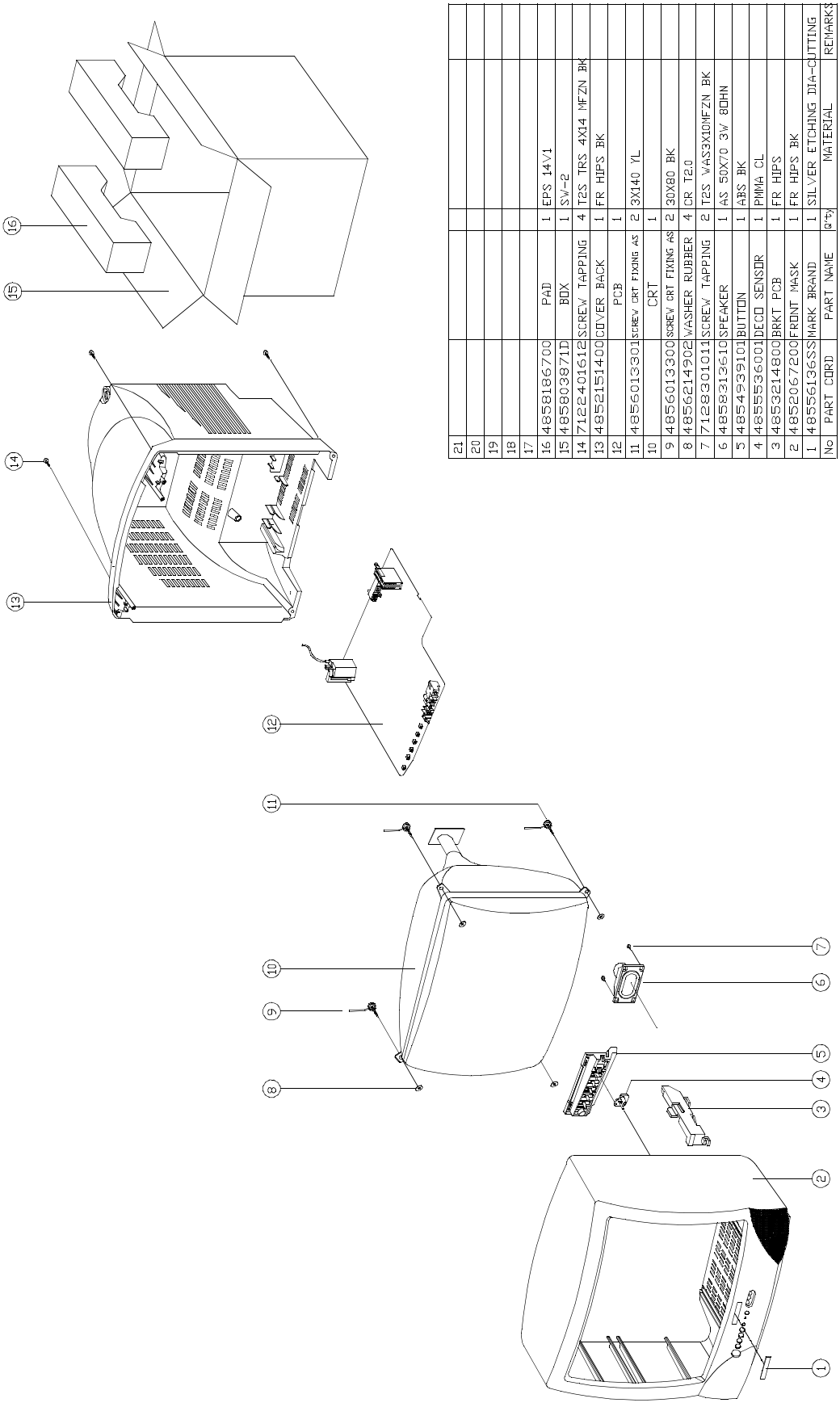
4. IN CASE OF 19" RECEIVER THE COMPONENT WITH THE MARK ▸ SHOULD BE USED ONLY.

5. THE CIRCUIT DIAGRAM IS A STANDARD ONE. CIRCUITS PRINTED MAY BE SUBJECT TO CHANGE FOR PRODUCT IMPROVEMENT WITHOUT PRIOR NOTICE.



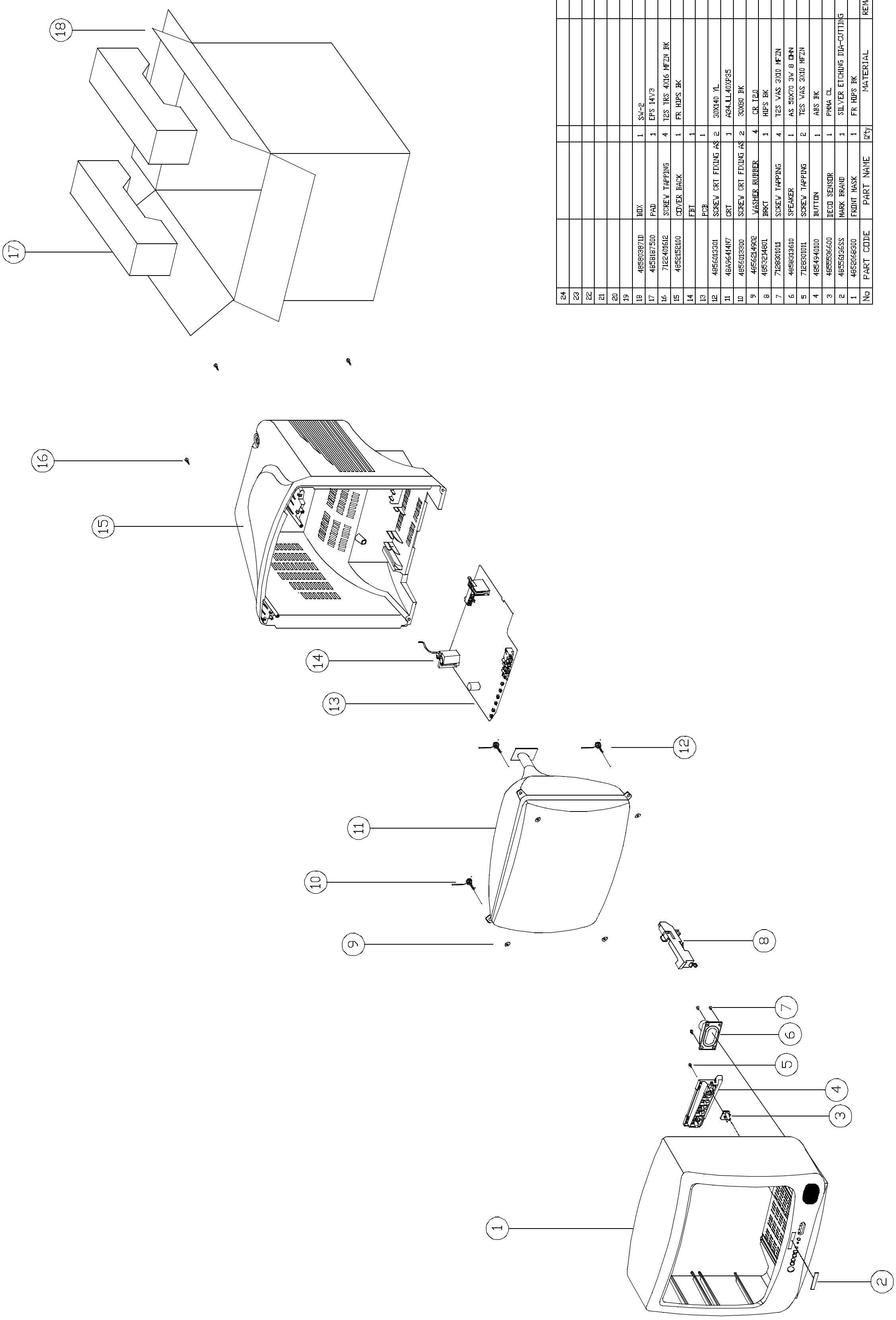
EXPLODED VIEW

1. DTQ-14V1FSG



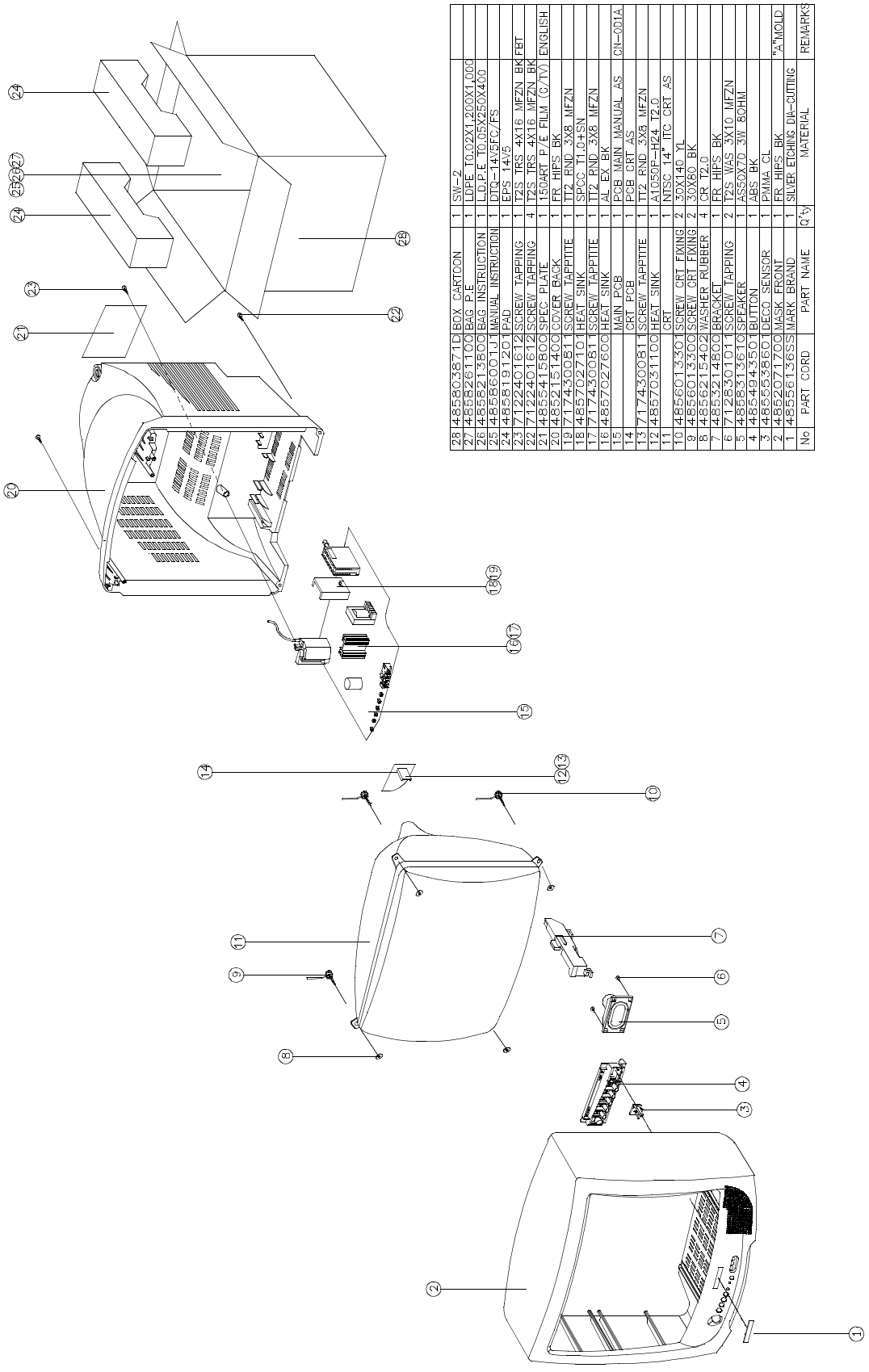
No	PART CORD	PART NAME	Q'ty	MATERIAL	REMARKS
21					
20					
19					
18					
17					
16	48581867000	PAD	1	EPS 14V1	
15	48580387100	BOX	1	SW-2	
14	71224016120	SCREW TAPPING	4	T2S TRS 4X14 MFZN BK	
13	48521514000	COVER BACK	1	FR HIPS BK	
12		PCB	1		
11	48560133010	SCREW CRT FIXING AS	2	3X140 YL	
10		CRT	1		
9	48560133000	SCREW CRT FIXING AS	2	30X80 BK	
8	48562149020	WASHER RUBBER	4	CR T2.0	
7	71283010110	SCREW TAPPING	2	T2S WAS3X10MFZN BK	
6	48583136100	SPEAKER	1	AS 50X70 3W 8OHN	
5	48549391010	BUTTON	1	ABS BK	
4	48555360010	DECO SENSOR	1	PMMA CL	
3	48532148000	BRKT PCB	1	FR HIPS	
2	48520672000	FRONT MASK	1	FR HIPS BK	
1	48556136550	MARK BRAND	1	SILVER ETCHING DIA-CUTTING	

2. DTQ-14V3FSG



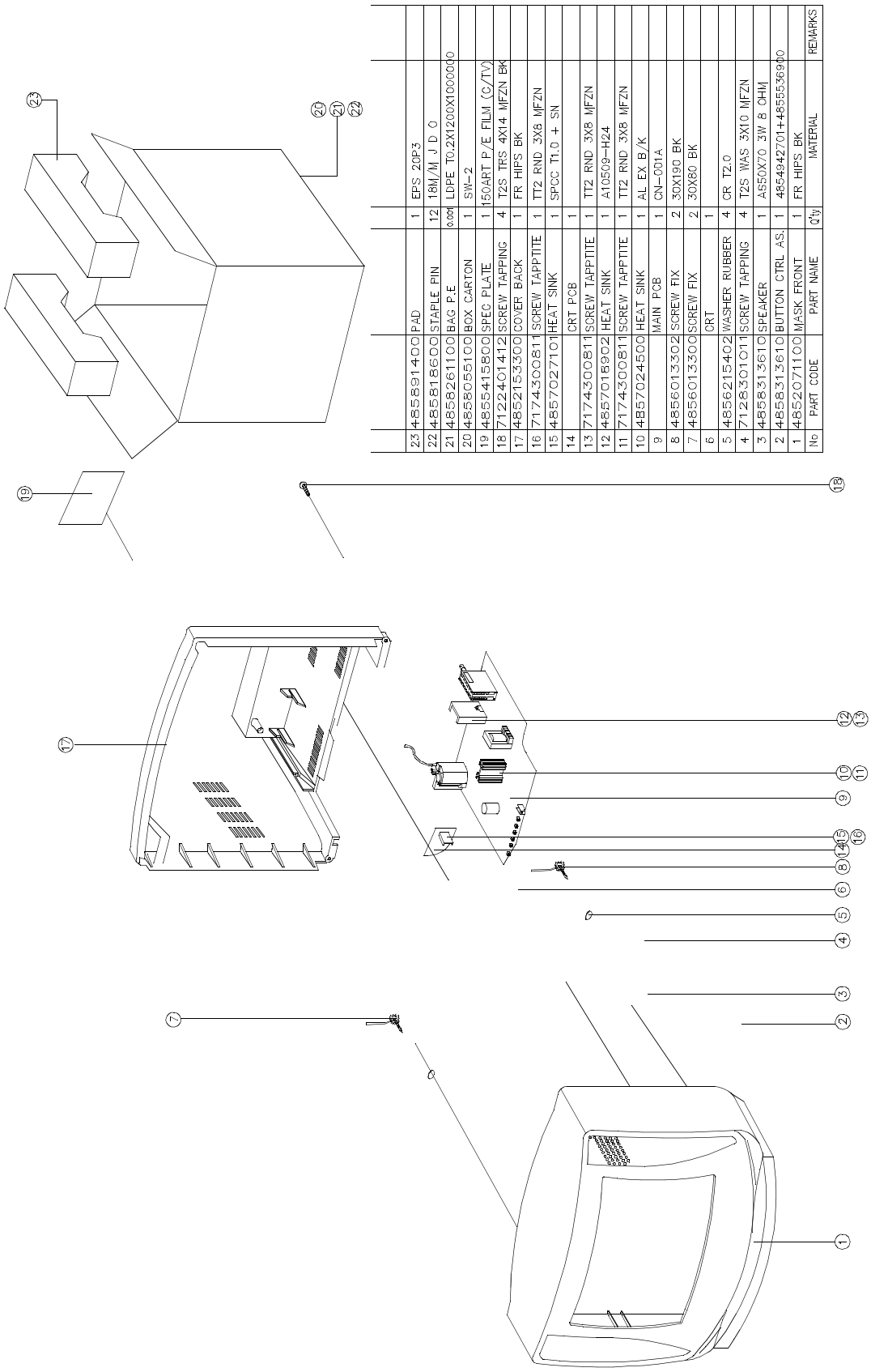
No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
24					
23					
22					
21					
20					
19					
18	485803871D	BOX	1	SW-2	
17	4858187500	PAD	1	EPS 14V3	
16	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN BK	
15	4852152100	COVER BACK	1	FR HIPS BK	
14		FBT	1		
13		PCB	1		
12	4856013301	SCREW CRT FIXING AS	2	30X140 YL	
11	48A96414N7	CRT	1	A34JLL40XP35	
10	4856013300	SCREW CRT FIXING AS	2	30X80 BK	
9	4856214902	WASHER RUBBER	4	CR T2.0	
8	4853214801	BRKT	1	HIPS BK	
7	7128301011	SCREW TAPPING	4	T2S WAS 3X10 MFZN	
6	4858313610	SPEAKER	1	AS 50X70 3W 8 OHN	
5	7128301011	SCREW TAPPING	2	T2S WAS 3X10 MFZN	
4	4854940100	BUTTON	1	ABS BK	
3	4855536600	DECO SENSOR	1	PMMA CL	
2	48556136SS	MARK BRAND	1	SILVER ETCHING DIA-CUTTING	
1	4852068300	FRONT MASK	1	FR HIPS BK	

3. DTQ-14V5FCG / FSG



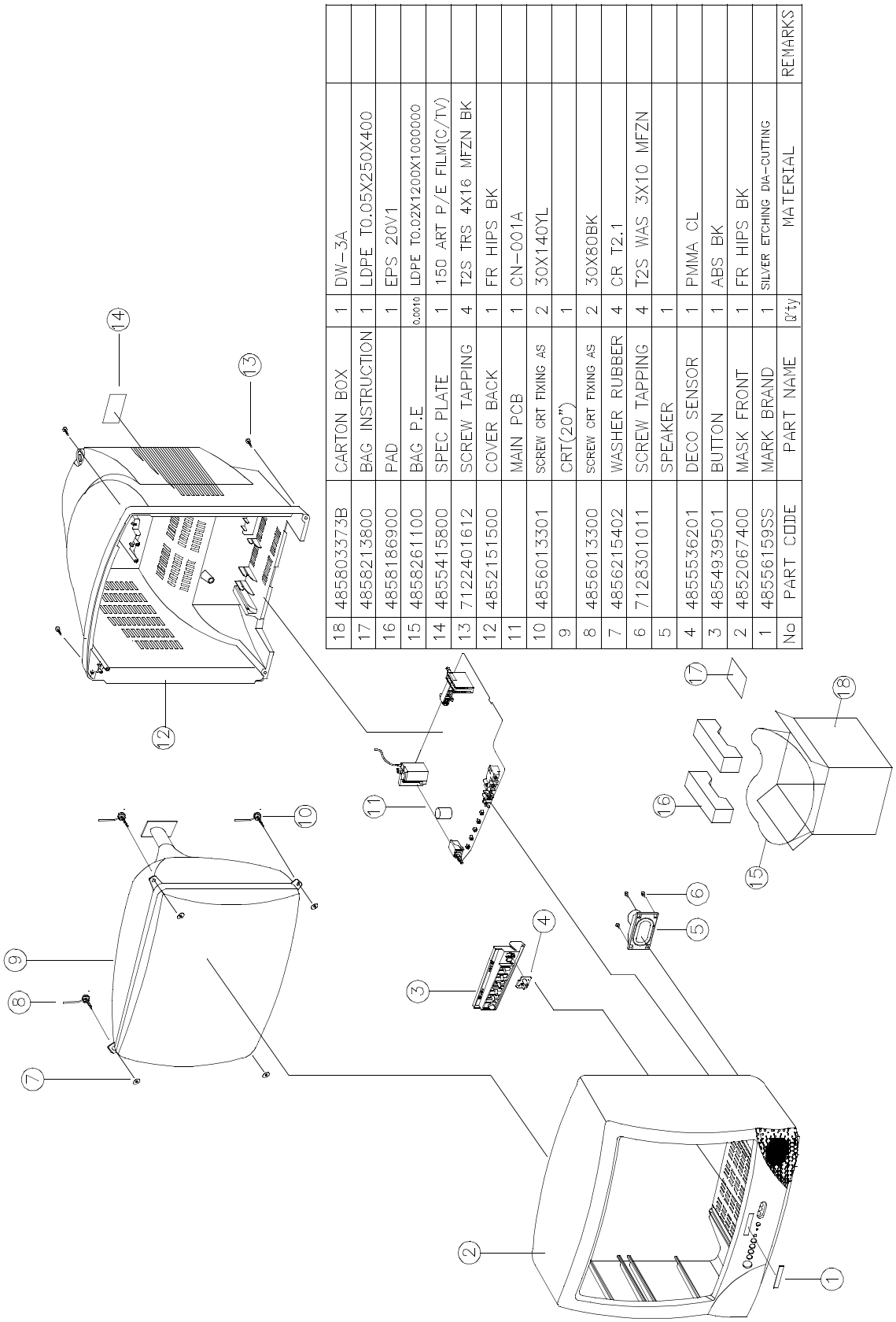
No	PART NAME	Q'ty	MATERIAL	REMARKS
28	485803871D	1	SW-2	
27	465826110D	1	LDPE T0.02X1,200X1,000	
26	465821380D	1	LDPE T0.05X250X400	
25	485860C1J1	1	DTQ-14V5FC/FS	
24	485819120D	1	EPS 14V5	
23	712240161Z	1	T2S TRS 4X16 MFZN BK FBT	
22	712240161Z	4	T2S TRS 4X16 MFZN BK	
21	485541580C	1	150ART P/E FILM (C/TV)	ENGLISH
20	485215140C	1	FR HIPS BK	
19	717430081I	1	TT2 RND 3X8 MFZN	
18	485702710I	1	SPCC T1.0+SN	
17	717430081I	1	TT2 RND 3X6 MFZN	
16	485702760C	1	AL EX BK	
15		1	PCB MAIN MANUAL AS	CN-001A
14		1	PCB CRT AS	
13	717430081I	1	TT2 RND 3X8 MFZN	
12	485703110C	1	A1050P-H24 T2.0	
11		1	NTSC 14" ITC CRT AS	
10	485601330I	2	30X140 YL	
9	485601330C	2	30X80 BK	
8	485621540Z	4	CR T2.0	
7	485321480C	1	FR HIPS BK	
6	712830101I	2	T2S WAS 3X10 MFZN	
5	485831361C	1	AS50X70 3W 8OHM	
4	485494350I	1	ABS BK	
3	485553560I	1	PMMA CL	"A"MOLD
2	485207170C	1	FR HIPS BK	
1	485613655S	1	SILVER ETCHING DIA-CUTTING	
	MARK BRAND			
	PART CORD			

4. DTQ-14U1FSG



No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
23	4858914000	PAD	1	EPS 20P3	
22	4858186000	STAPLE PIN	12	18M/M J D O	
21	4858261100	BAG P.E	0.03	LDPE T0.2X1200X1000000	
20	4858055100	BOX CARTON	1	SW-2	
19	4855415800	SPEC PLATE	1	150ART P/E FILM (C/TV)	
18	7122401412	SCREW TAPPING	4	T2S TRS 4X14 MFZN BK	
17	4852153300	COVER BACK	1	FR HIPS BK	
16	7174300811	SCREW TAPPTITE	1	TT2 RND 3X8 MFZN	
15	4857027101	HEAT SINK	1	SPCC T1.0 + SN	
14		CRT PCB	1		
13	7174300811	SCREW TAPPTITE	1	TT2 RND 3X8 MFZN	
12	4857018902	HEAT SINK	1	A10509-H24	
11	7174300811	SCREW TAPPTITE	1	TT2 RND 3X8 MFZN	
10	4857024500	HEAT SINK	1	AL EX B/K	
9		MAIN PCB	1	CN-001A	
8	4856013302	SCREW FIX	2	30X190 BK	
7	4856013300	SCREW FIX	2	30X80 BK	
6		CRT	1		
5	4856215402	WASHER RUBBER	4	CR T2.0	
4	7128301011	SCREW TAPPING	4	T2S WAS 3X10 MFZN	
3	4858313610	SPEAKER	1	A55QX70 3W 8 OHM	
2	4858313610	BUTTON CTRL AS.	1	485494270144855536900	
1	4852071100	MASK FRONT	1	FR HIPS BK	

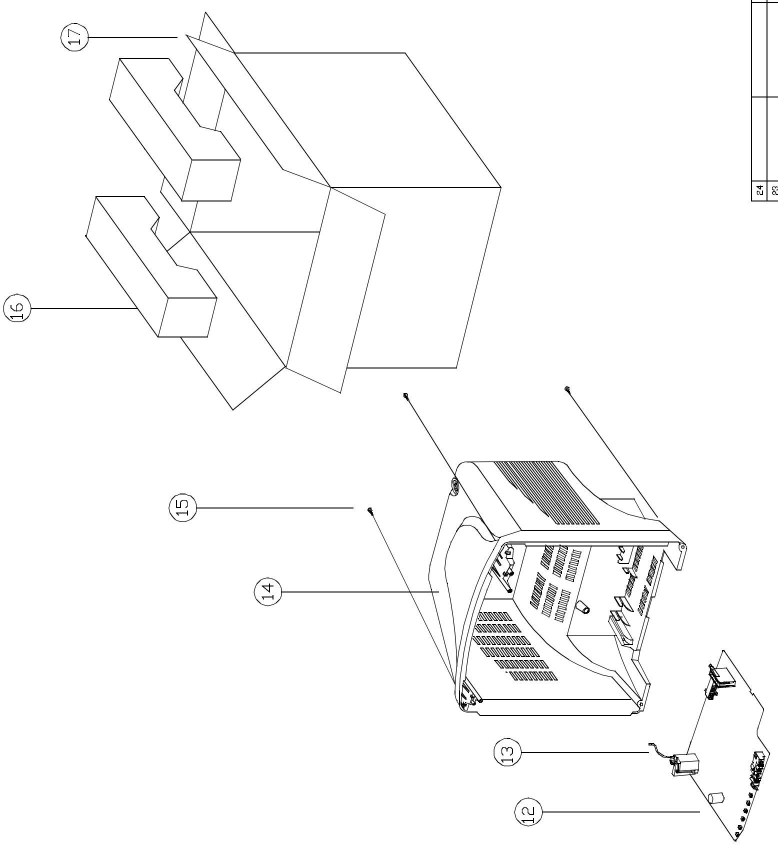
5. DTQ-20V1FSG

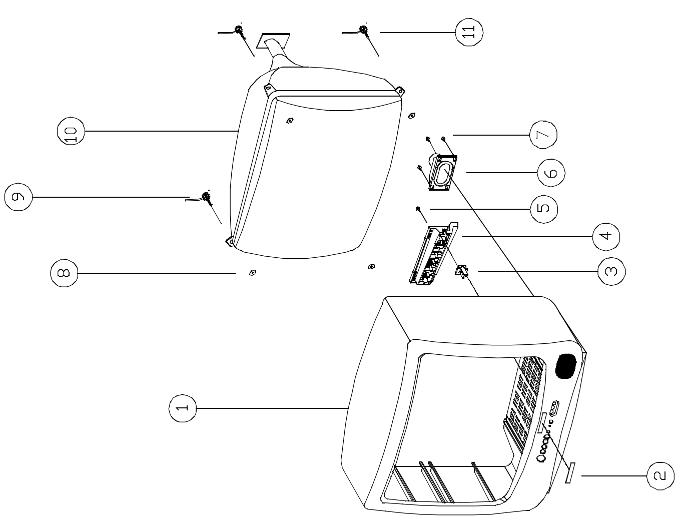


No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
18	485803373B	CARTON BOX	1	DW-3A	
17	4858213800	BAG INSTRUCTION	1	LDPE T0.05X250X400	
16	4858186900	PAD	1	EPS 20V1	
15	4858261100	BAG P.E	0.0010	LDPE T0.02X1200X1000000	
14	4855415800	SPEC PLATE	1	150 ART P/E FILM(C/TV)	
13	7122401612	SCREW TAPPING	4	T2S TRS 4X16 MFZN BK	
12	4852151500	COVER BACK	1	FR HIPS BK	
11		MAIN PCB	1	CN-001A	
10	4856013301	SCREW CRT FIXING AS	2	30X140YL	
9		CRT(20")	1		
8	4856013300	SCREW CRT FIXING AS	2	30X80BK	
7	4856215402	WASHER RUBBER	4	CR T2.1	
6	7128301011	SCREW TAPPING	4	T2S WAS 3X10 MFZN	
5		SPEAKER	1		
4	4855536201	DECO SENSOR	1	PMMA CL	
3	4854939501	BUTTON	1	ABS BK	
2	4852067400	MASK FRONT	1	FR HIPS BK	
1	4855615SS	MARK BRAND	1	SILVER ETCHING DIA-CUTTING	

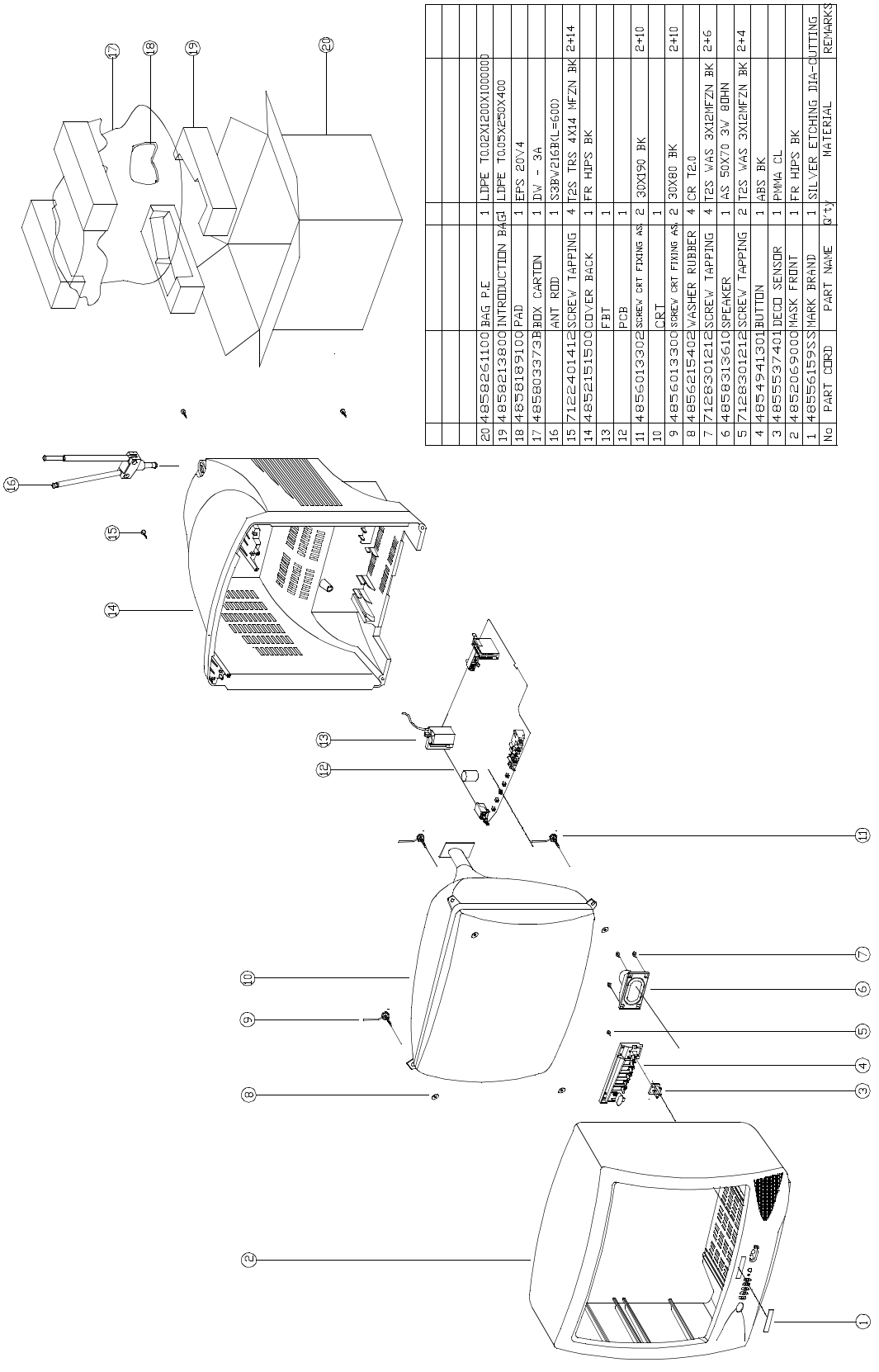
6. DTQ-20V3FSG

No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
24					
23					
22					
21					
20					
19					
18					
17	4858033700	BOX	1	DV-2	
16	4858187800	PAD	1	EPS 20V3	
15	7122401412	SCREW TAPPING	4	T2S TRS 4X14 MFZN BK	
14	4852152000	COVER BACK	1	FR HIPS BK	
13		FBT	1		
12		PCB	1		
11	4856013301	SCREW CRT FIXING AS	2	30X140 YL	
10	48A96420NL	CRT	1	A48JLL40XJAPAN	
9	4856013300	SCREW CRT FIXING AS	2	30X80 BK	
8	4856215402	WASHER RUBBER	4	CR T2.0	
7	7128301011	SCREW TAPPING	4	T2S WAS 3X10 MFZN	
6	4858313610	SPEAKER	1	AS 50X70 3W 8 OHN	
5	7128301011	SCREW TAPPING	2	T2S WAS 3X10 MFZN	
4	4854940001	BUTTON	1	ABS BK	
3	4855536900	DECO SENSOR	1	PMMA CL	
2	48556159SS	MARK BRAND	1	SILVER ETCHING DIA-CUTTING	
1	4852068400	FRONT MASK	1	FR HIPS BK	



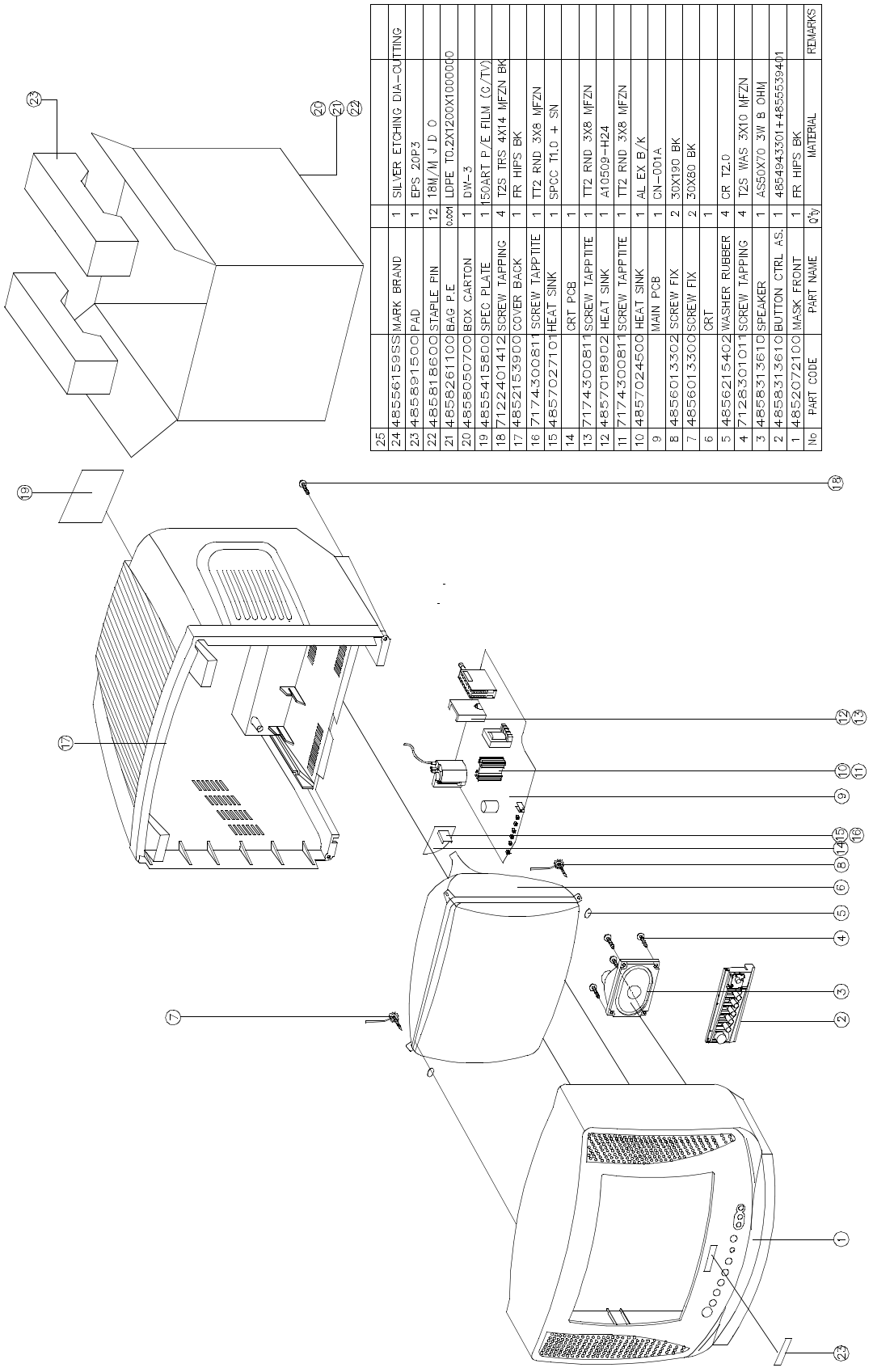


7. DTQ-20V4FSG



No	PART NAME	Q'ty	MATERIAL	REMARKS
20	485826110	1	LDPE T0.02X1200X1000000	
19	485821380	1	LDPE T0.05X250X400	
18	485818910	1	EPS 20V4	
17	485803373	1	DW - 3A	
16		1	S3BW216BKL=600	
15	712240141	4	T2S TRS 4X14 MFZN BK	2+14
14	485215150	1	FR HIPS BK	
13		1	FBT	
12		1	PCB	
11	485601330	2	SCREW CRT FIXING ASS	2+10
10		1	CRT	
9	485601330	2	SCREW CRT FIXING ASS	2+10
8	485621540	4	WASHER RUBBER	
7	712830121	4	SCREW TAPPING	2+6
6	485831361	1	SPEAKER	
5	712830121	2	SCREW TAPPING	2+4
4	485494130	1	BUTTON	
3	485553740	1	DECO SENSOR	
2	485206900	1	MASK FRONT	
1	485615955	1	MARK BRAND	

8. DTQ-20U1FSG



No	PART CODE	PART NAME	Q'ty	MATERIAL	REMARKS
1	4852072100	MASK FRONT	1	FR HIPS BK	
2	4858313610	BUTTON CTRL ASS'Y	1	4854943301+4855539401	
3	4858313610	SPEAKER	1	AS50X70 3W 8 OHM	
4	7128301011	SCREW TAPPING	4	T2S WAS 3X10 MFZN	
5	4856215402	WASHER RUBBER	4	CR T2.0	
6		CRT	1		
7	4856013300	SCREW FIX	2	30X80 BK	
8	4856013302	SCREW FIX	2	30X130 BK	
9		MAIN PCB	1	CN-001A	
10	4857024500	HEAT SINK	1	AL EX B/K	
11	7174300811	SCREW TAPPTITE	1	TT2 RND 3X8 MFZN	
12	4857018902	HEAT SINK	1	A10509-H24	
13	7174300811	SCREW TAPPTITE	1	TT2 RND 3X8 MFZN	
14		CRT PCB	1		
15	4857027101	HEAT SINK	1	SPCC T1.0 + SN	
16	7174300811	SCREW TAPPTITE	1	TT2 RND 3X8 MFZN	
17	4852153900	COVER BACK	1	FR HIPS BK	
18	7122401412	SCREW TAPPING	4	T2S TRS 4X14 MFZN BK	
19	4855415800	SPEC PLATE	1	150ART P/E FILM (C/TV)	
20	4858050700	BOX CARTON	1	DW-3	
21	4855826100	BAG P.E	0.001	LDPE T0.2X1200X1000CD	
22	4858186000	STAPLE PIN	12	18M/M J D O	
23	4858915000	PAD	1	EPS 20P3	
24	4855615955	MARK BRAND	1	SILVER ETCHING DIA-CUTTING	
25					

ELECTRICAL PARTS LIST

CAUTION

"⚠" is a safety patt, so it must be used the same part.
"Ⓡ" is a recommendable part for essential stock.

z_loc	z_parts_code	parts_name	parts_descr	remark
ZZ100	48B4343A08	TRANSMITTER REMOCON	R-43A08 (AA)	
ZZ110	PTACPWH394	ACCESSORY AS	DTQ-14P2FC	
00010	4850A02510	ANT ROD	S3BW216B (L=600 MM)	
00030	4850Q00810	BATTERY	R6P/LN	
00040	4850A00650	TRANS ANT MATCHING	YSC-T-07 BR	
10000	48586001E2	MANUAL INSTRUCTION	DTQ-20V1FS	
M821	4858213801	BAG INSTRUCTION	L.D.P.E T0.05X250X400	
ZZ120	PTBCSHH567	COVER BACK AS	DTQ-14V1FCM	
M211	4852151400	COVER BACK	FR HIPS BK	
M211B	4857817640	CLOTH BLACK	FELT 100X20X0.7	
ZZ130	PTPKCPH567	PACKING AS	DTQ-14V1FCM	
10	6520010100	STAPLE PIN	AUTO W65	
M801	485803871D	BOX CARTON	SW-2	
M811	4858186700	PAD	EPS 14V1	
M821	4858210601	BAG P.E	L.D.P.E T0.03X1000X900	
ZZ131	58G0000078	COIL DEGAUSSING	DC-1400	
ZZ132	48519A4710	CRT GROUND NET	1401S-1015-1P	
ZZ140	PTCACAH631	CABINET AS	DTQ-14V1FCG	
CRT1	PTRTPWH394	CRT AS	"NTSC 14"" ITC CRT AS"	⚠ Ⓡ
V01	58D0000082	COIL DY	ODY-M1489	⚠
V04	2224050029	BOND SILICON	LDC7091 CARTRIDGE	
V05	4850PM001-	PCM	NY-225 (MINI NECK)	
V06	48A96R004-	RUBBER WEDGE	HMR 28 SR (/0X54)	
V901	48A96314C2	CRT BARE	A34AGT13X	
M201A	4856013350	SCREW CRT FIXING	25X80 BK	
M211A	7172401412	SCREW TAPPTITE	TT2 TRS 4X14 MFZN BK	
M541	4855415800	SPEC PLATE	150ART P/E FILM (C/TV)	
M601	4856013351	SCREW CRT FIXING	25X140 YL	
M681	4856812001	TIE CABLE	NYLON66 DA100	
SP01A	7178301011	SCREW TAPPTITE	TT2 WAS 3X10 MFZN	
ZZ200	PTFMSJH567	MASK FRONT AS	DTQ-14V1FCM	
M191	4851931800	BUTTON CTRL	4939100+5536001	
M191A	7178301011	SCREW TAPPTITE	TT2 WAS 3X10 MFZN	
M201	4852067200	MASK FRONT	FR HIPS BK	
M321	4853214800	BRKT	FR HIPS BK	
M561	4855613600	MARK BRAND	COPPER T0.4	
ZZ202	PTSPPWH407	SPEAKER AS	DTQ-14J4FC	
PA601	4850703S50	CONNECTOR	YH025-03+35098+ULW=200	
SP01	4858314010	SPEAKER	SP-5070F01 3W 8 OHM	Ⓡ
ZZ290	PTMPMSH631	PCB MAIN MANUAL AS	DTQ-14V1FCG	Ⓡ
10	2193102005	SOLDER BAR	SN:PB=63:47 S63S-1320	
30	2291050616	FLUX SOLDER	JS-64T3	
40	2291050301	FLUX SOLVENT	IM-1000	
C404	CMYH3C722H	C MYLAR	1.6KV BUP 7200PF H	⚠
C801	CL1UC3104M	C LINE ACROSS	WORLD AC250V 0.1UF M R.47	

z_loc	z_parts_code	parts_name	parts_descr	remark
C804	CEYN2D331P	C ELECTRO	200V LHS 330MF	
D703	DLH2PR----	LED BLOCK	LH-2P-R	
I301	PTD2SW7100	HEAT SINK ASS`Y	1LA78041-- + 7174300811	
00001	1LA78041--	IC VERTICAL	LA78041	Ⓡ
0000A	4857027100	HEAT SINK	SPCC T1.0+SN	
0000B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN	
I601	1TDA7267--	IC AUDIO AMP	TDA7267	Ⓡ
I703	124LC04B--	IC MEMORY	24LC04B	Ⓡ
I801	1STRW6735-	IC POWER	STR-W6735	⚠ Ⓡ
IL701	1356VF6---	IC PREAMP	356VF6	
JP02	4859109950	JACK PIN BOARD	PH-JB-9710A	
JP03	4859109150	JACK PIN BOARD	PH-JB-9615C	
L801	5PLF24A1--	FILTER LINE	LF-24A1	⚠
M681	4856812001	TIE CABLE	NYLON66 DA100	
P401	4859240020	CONN WAFER	YFW500-05	
P501	4850708N11	CONNECTOR	BIC-08T-25T+C-20T+ULW=300	
PWC1	4859907910	CORD POWER AS	ME301P+TER=1830	⚠ Ⓡ
Q402	PTA2SW7201	HEAT SINK ASS`Y	T2SD2627YB + 7174300811	
00001	T2SD2627YB	TR HORI	2SD2627LS-YB	Ⓡ
0000A	4857027201	HEAT SINK	AL T1.0	
0000B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN	
R801	RX07B229JP	R CEMENT	7W 2.2 OHM J BEN 15MM 4P	
RLY1	5SC0101335	SW RELAY	DY2-5	⚠
RS801	DSVC471D14	VARISTOR	SVC471D14A (BULK)	⚠
SCT1	4859303930	SOCKET CRT	ISMG03S INCHANG	⚠ Ⓡ
SF101	5PTSF5241P	FILTER SAW	TSF5241P	
T401	50D10A3---	TRANS DRIVE	TD-10A3	
T402	50H0000241	FBT	FSA37023M	⚠ Ⓡ
T801	50M2834A1-	TRANS SMPS	TSM-2834A1	⚠
U102	4859721730	TUNER VARACTOR	DT5-NF20F N	⚠ Ⓡ
ZZ200	PTMPJ2H631	PCB CHIP MOUNT B AS	DTQ-14V1FCG	
I101	1M61250FP-	IC CHIP CHROMA	M61250BFP	
I701	1DW150MAA1	IC CHIP MICOM	DW37150M8-AA1	
I805	1LTV817C-Q	IC CHIP PHOTO COUPLER	LTV-817C TRAY	
JC04	HRFT000-BA	R CHIP	1/10 0 OHM 1608	
JC100	HRFT000-BA	R CHIP	1/10 0 OHM 1608	⚠ Ⓡ
JC102	HRFT000-BA	R CHIP	1/10 0 OHM 1608	⚠
JC103	HRFT000-BA	R CHIP	1/10 0 OHM 1608	⚠ Ⓡ
JC104	HRFT000-BA	R CHIP	1/10 0 OHM 1608	
JC771	HRFT000-BA	R CHIP	1/10 0 OHM 1608	
JC772	HRFT000-BA	R CHIP	1/10 0 OHM 1608	
RC117	HRFT331JBA	R CHIP	1/10 330 OHM J 1608	
RC150	HRFT102JBA	R CHIP	1/10 1K OHM J 1608	
RC151	HRFT104JBA	R CHIP	1/10 100K OHM J 1608	
RC229	HRFT750JBA	R CHIP	1/10 75 OHM J 1608	

ELECTRICAL PARTS LIST

z_loc	z_parts_code	parts_name	parts_descr	remark
RC230	HRFT101JBA	R CHIP	1/10 100 OHM J 1608	
RC502	HRFT822JBA	R CHIP	1/10 8.2K OHM J 1608	
RC504	HRFT124JBA	R CHIP	1/10 120K OHM J 1608	
RC506	HRFT000-BA	R CHIP	1/10 0 OHM 1608	
RC507	HRFT103JBA	R CHIP	1/10 10K OHM J 1608	
RC508	HRFT103JBA	R CHIP	1/10 10K OHM J 1608	
RC510	HRFT105JBA	R CHIP	1/10 1M OHM J 1608	
RC511	HRFT123JBA	R CHIP	1/10 12K OHM J 1608	
RC512	HRFT392JBA	R CHIP	1/10 3.9K OHM J 1608	
RC514	HRFT000-BA	R CHIP	1/10 0 OHM 1608	
RC516	HRFT101JBA	R CHIP	1/10 100 OHM J 1608	
RC517	HRFT101JBA	R CHIP	1/10 100 OHM J 1608	
RC518	HRFT102JBA	R CHIP	1/10 1K OHM J 1608	
RC521	HRFT222JBA	R CHIP	1/10 2.2K OHM J 1608	
RC522	HRFT433JBA	R CHIP	1/10 43K OHM J 1608	
RC523	HRFT473JBA	R CHIP	1/10 47K OHM J 1608	
RC524	HRFT682JBA	R CHIP	1/10 6.8K OHM J 1608	
RC526	HRFT223JBA	R CHIP	1/10 22K OHM J 1608	
RC527	HRFT223JBA	R CHIP	1/10 22K OHM J 1608	
RC529	HRFT222JBA	R CHIP	1/10 2.2K OHM J 1608	
RC629	HRFT102JBA	R CHIP	1/10 1K OHM J 1608	
RC630	HRFT104JBA	R CHIP	1/10 100K OHM J 1608	
RC652	HRFT392JBA	R CHIP	1/10 3.9K OHM J 1608	
RC655	HRFT182JBA	R CHIP	1/10 1.8K OHM J 1608	
RC656	HRFT332JBA	R CHIP	1/10 3.3K OHM J 1608	
RC701	HRFT223JBA	R CHIP	1/10 22K OHM J 1608	
RC702	HRFT223JBA	R CHIP	1/10 22K OHM J 1608	
RC703	HRFT471JBA	R CHIP	1/10 470 OHM J 1608	
RC704	HRFT471JBA	R CHIP	1/10 470 OHM J 1608	
RC706	HRFT102JBA	R CHIP	1/10 1K OHM J 1608	
RC708	HRFT223JBA	R CHIP	1/10 22K OHM J 1608	
RC709	HRFT000-BA	R CHIP	1/10 0 OHM 1608	
RC710	HRFT103JBA	R CHIP	1/10 10K OHM J 1608	
RC711	HRFT472JBA	R CHIP	1/10 4.7K OHM J 1608	
RC712	HRFT102JBA	R CHIP	1/10 1K OHM J 1608	
RC713	HRFT103JBA	R CHIP	1/10 10K OHM J 1608	
RC714	HRFT479JBA	R CHIP	1/10 4.7 OHM J 1608	
RC715	HRFT223JBA	R CHIP	1/10 22K OHM J 1608	
RC716	HRFT102JBA	R CHIP	1/10 1K OHM J 1608	
RC717	HRFT102JBA	R CHIP	1/10 1K OHM J 1608	
RC718	HRFT154JBA	R CHIP	1/10 150K OHM J 1608	
RC719	HRFT472JBA	R CHIP	1/10 4.7K OHM J 1608	
RC720	HRFT201JBA	R CHIP	1/10 200 OHM J 1608	
RC722	HRFT101JBA	R CHIP	1/10 100 OHM J 1608	
RC723	HRFT223JBA	R CHIP	1/10 22K OHM J 1608	
RC730	HRFT472JBA	R CHIP	1/10 4.7K OHM J 1608	
RC731	HRFT242JBA	R CHIP	1/10 2.4K OHM J 1608	
RC732	HRFT392JBA	R CHIP	1/10 3.9K OHM J 1608	
RC733	HRFT752JBA	R CHIP	1/10 7.5K OHM J 1608	
RC734	HRFT243JBA	R CHIP	1/10 24K OHM J 1608	
RC750	HRFT472JBA	R CHIP	1/10 4.7K OHM J 1608	
RC751	HRFT472JBA	R CHIP	1/10 4.7K OHM J 1608	
RC917	HRFT241JBA	R CHIP	1/10 240 OHM J 1608	

z_loc	z_parts_code	parts_name	parts_descr	
RC918	HRFT241JBA	R CHIP	1/10 240 OHM J 1608	
RC919	HRFT241JBA	R CHIP	1/10 240 OHM J 1608	
RC923	HRFT101JBA	R CHIP	1/10 100 OHM J 1608	
RC924	HRFT101JBA	R CHIP	1/10 100 OHM J 1608	
RC925	HRFT101JBA	R CHIP	1/10 100 OHM J 1608	
RC933	HRFT121JBA	R CHIP	1/10 120 OHM J 1608	
RC934	HRFT121JBA	R CHIP	1/10 120 OHM J 1608	
RC935	HRFT121JBA	R CHIP	1/10 120 OHM J 1608	
RC977	HRFT201JBA	R CHIP	1/10 200 OHM J 1608	
ZZ200	PTMPJ0H631	PCB MAIN (RHU) AS	DTQ-14V1FCG	
C310	CEXF1E222V	C ELECTRO	25V RSS 2200MF (16X25) TP	
C406	CMXF2E434J	C MYLAR	250V MPP 0.43MF J (TP)	⚠ Ⓡ
C410	CEXF2E100V	C ELECTRO	250V RSS 10MF (10X20) TP	
C414	CEXF1V471V	C ELECTRO	35V RSS 470MF (10X20) TP	
C415	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	
C504	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP	
C518	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP	
C521	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP	
C602	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	
C646	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP	
C805	CEXF1C471V	C ELECTRO	16V RSS 470MF (8X12)TP	
C809	CBXB3D102K	C CERA SEMI	2KV BL(N) 1000PF K (T)	
C812	CEXF1E471V	C ELECTRO	25V RSS 470MF (10X16) TP	
C814	CEXF2C101V	C ELECTRO	160V RSS 100MF (16X25) TP	
C817	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	
C820	CEXF2C101V	C ELECTRO	160V RSS 100MF (16X25) TP	
C829	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	
C881	CH1BEE472M	C CERA AC	U/C/V 2.5KV 4700PF TP	⚠
C882	CH1BEE472M	C CERA AC	U/C/V 2.5KV 4700PF TP	⚠
C912	CH1BEE472M	C CERA AC	U/C/V 2.5KV 4700PF TP	⚠
F802	5FWML4022L	FUSE	WIDE TL 250V 4A CASE	⚠ Ⓡ
R881	DDT7R0M140	POSISTOR	ECPAC7R0M140	
ZZ200	PTMPJBH631	PCB MAIN M-10 AS	DTQ-14V1FCG	
10	2TM18006BE	TAPE MASKING	6.2X500	
D807	DRGP15J---	DIODE	RGP15J	
D881	DLT2A05G--	DIODE	LT2A05G (TP)	
D882	DLT2A05G--	DIODE	LT2A05G (TP)	
D883	DLT2A05G--	DIODE	LT2A05G (TP)	
D884	DLT2A05G--	DIODE	LT2A05G (TP)	
E001	4856310600	EYE LET	BSR T0.2 (R2.3)	
E002	4856310300	EYE LET	BSR T0.2 (R1.6)	
E003	4856310300	EYE LET	BSR T0.2 (R1.6)	
E004	4856310600	EYE LET	BSR T0.2 (R2.3)	
E005	4856310600	EYE LET	BSR T0.2 (R2.3)	
E008	4856310600	EYE LET	BSR T0.2 (R2.3)	
E011	4856310300	EYE LET	BSR T0.2 (R1.6)	
E012	4856310300	EYE LET	BSR T0.2 (R1.6)	
E013	4856310300	EYE LET	BSR T0.2 (R1.6)	
E014	4856310300	EYE LET	BSR T0.2 (R1.6)	
E018	4856310300	EYE LET	BSR T0.2 (R1.6)	⚠
E020	4856310300	EYE LET	BSR T0.2 (R1.6)	⚠
E023	4856310300	EYE LET	BSR T0.2 (R1.6)	
E025	4856310300	EYE LET	BSR T0.2 (R1.6)	⚠ Ⓡ

z_loc	z_parts_code	parts_name	parts_descr	remark
E030	4856310600	EYE LET	BSR T0.2 (R2.3)	
E031	4856310600	EYE LET	BSR T0.2 (R2.3)	
E034	4856310600	EYE LET	BSR T0.2 (R2.3)	
E036	4856310600	EYE LET	BSR T0.2 (R2.3)	
E038	4856310600	EYE LET	BSR T0.2 (R2.3)	
E039	4856310300	EYE LET	BSR T0.2 (R1.6)	
E040	4856310300	EYE LET	BSR T0.2 (R1.6)	
E041	4856310300	EYE LET	BSR T0.2 (R1.6)	
E043	4856310300	EYE LET	BSR T0.2 (R1.6)	
E044	4856310300	EYE LET	BSR T0.2 (R1.6)	
E045	4856310300	EYE LET	BSR T0.2 (R1.6)	
E046	4856310300	EYE LET	BSR T0.2 (R1.6)	
P601	485923162S	CONN WAFER	YW025-03 (STICK)	
P801A	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
P801B	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
R601	RF01Z688K-	R FUSIBLE	1W 0.68 OHM K (TAPPING)	
R715	RS02Z680JS	R M-OXIDE FILM	2W 68 OHM J SMALL	
R805	RS02Z338JS	R M-OXIDE FILM	2W 0.33 OHM J SMALL	
R816	RS02Z150JS	R M-OXIDE FILM	2W 15 OHM J SMALL	
ZZ200	PTMPJRH631	PCB MAIN RADIAL AS	DTQ-14V1FCG	
C101	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C102	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C103	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C114	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C123	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	
C124	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)	
C125	CEXF1H228V	C ELECTRO	50V RSS 0.22MF (5X11) TP	
C235	CEXD1H229F	C ELECTRO	50V RND 2.2MF (5X11) TP	
C305	CEXF1H101V	C ELECTRO	50V RSS 100MF (8X11.5) TP	
C308	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
C311	CEXD1H229Q	C ELECTRO	50V RT 2.2MF (6.3X11) TP	
C312	CMXL1J105J	C MYLAR	63V MEU 1MF J	
C401	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	
C403	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)	
C405	CEXF2C109V	C ELECTRO	160V RSS 1MF (6.3X11) TP	
C411	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C413	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	
C418	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
C451	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C452	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C501	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)	
C502	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C506	CMXM2A103J	C MYLAR	100V 0.01MF J (TP)	
C514	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C516	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
C517	CEXD1H229F	C ELECTRO	50V RND 2.2MF (5X11) TP	
C520	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C523	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C524	CCXF1H153Z	C CERA	50V F 0.015MF Z	
C526	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C576	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP	
C603	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C604	CEXF1C470V	C ELECTRO	16V RSS 47MF (5X11) TP	

z_loc	z_parts_code	parts_name	parts_descr	remark
C634	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C662	CCXF1H153Z	C CERA	50V F 0.015MF Z	
C701	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C706	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C707	CEXF1C100V	C ELECTRO	RSS 16V 10MF 4*7	
C712	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C810	CCXB2H222K	C CERA	500V B 2200PF K (TAPPING)	⚠
C811	CCXB2H222K	C CERA	500V B 2200PF K (TAPPING)	⚠
C813	CCXB3A221K	C CERA	1KV B 220PF K (TAPPING)	
C815	CEXF2A100V	C ELECTRO	100V RSS 10MF (6.3X11) TP	
C816	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C821	CEXF1C470V	C ELECTRO	16V RSS 47MF (5X11) TP	
C871	CMXL1J154J	C MYLAR	63V MEU 0.15MF J	
C878	CMXL2E104K	C MYLAR	250V MEU 0.1MF K	
C890	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	
C893	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
I803	1KA431L---	IC	KA431L	
L601	58CX430599	COIL CHOKE	AZ-9004Y 940K TP	
L805	58CX430599	COIL CHOKE	AZ-9004Y 940K TP	⚠
L901	5CPX121J--	COIL PEAKING	120UH J (RADIAL)	
Q401	TKTC3207--	TR	KTC3207 (TP)	
Q403	TKTC3205Y-	TR	KTC3205Y (TP)	
Q404	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	
Q501	TKTA1266Y-	TR	KTA1266Y (TP)	
Q575	TKTA1275Y-	TR	KTA1275Y (TP)	
Q653	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	
Q701	TKTC3205Y-	TR	KTC3205Y (TP)	
Q703	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	
Q707	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	
Q801	TKTC3205Y-	TR	KTC3205Y (TP)	
Q807	TKTC3205Y-	TR	KTC3205Y (TP)	
Q873	TKSC945CY-	TR	KSC 945C-Y (TAPPING)	
Q902	TKTC3207--	TR	KTC3207 (TP)	
Q903	TKTC3207--	TR	KTC3207 (TP)	
Q904	TKTC3207--	TR	KTC3207 (TP)	
Q977	TKTA1266Y-	TR	KTA1266Y (TP)	
R301	RN01B471JS	R METAL FILM	1W 470 OHM J SMALL	
R302	RN02B621JS	R METAL FILM	2W 620 OHM J SMALL	
R303	RN01B109JS	R METAL FILM	1W 1 OHM J SMALL	
R305	RN01B221JS	R METAL FILM	1W 220 OHM J SMALL	
R403	RN01B562JS	R METAL FILM	1W 5.6K OHM J SMALL	
R411	RN02B150JS	R METAL FILM	2W 15 OHM J SMALL	
R412	RN01B369JS	R METAL FILM	1W 3.6 OHM J SMALL	
R413	RN01B229JS	R METAL FILM	1W 2.2 OHM J SMALL	⚠
R414	RN01B229JS	R METAL FILM	1W 2.2 OHM J SMALL	⚠
R420	RN02B620JS	R METAL FILM	2W 62 OHM J SMALL	
R453	RN02B270JS	R METAL FILM	2W 27 OHM J SMALL	
R913	RN02B153JS	R METAL FILM	2W 15K OHM J SMALL	
R914	RN02B153JS	R METAL FILM	2W 15K OHM J SMALL	
R915	RN02B153JS	R METAL FILM	2W 15K OHM J SMALL	
SW701	5S50101090	SW TACT	THVH472GCA	
SW702	5S50101090	SW TACT	THVH472GCA	
SW703	5S50101090	SW TACT	THVH472GCA	

ELECTRICAL PARTS LIST

z_loc	z_parts_code	parts_name	parts_descr	remark
SW704	5S50101090	SW TACT	THVH472GCA	
SW705	5S50101090	SW TACT	THVH472GCA	
SW706	5S50101090	SW TACT	THVH472GCA	
X502	5XEX3R579C	CRYSTAL QUARTZ	HC-49/U 3.579545M (TP)	
Z501	5PXXT4R5MB	FILTER CERA	XT 4.5MB-TP	
Z502	5PXLT4R5MT	FILTER CERA	LT 4.5MH-TP	
ZZ200	PTMPJAH631	PCB MAIN AXIAL AS	DTQ-14V1FCG	
10	2TM14006LB	TAPE MASKING	3M #232 6.0X2000M	
20	2TM10006LB	TAPE MASKING	3M #232-MAP-C 6.2X2000M	
A001	4859817291	PCB MAIN	246X246 FR-1 1.6T	
C109	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C115	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C116	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C118	CZSL1H470J	C CERA	50V SL 47PF J (AXIAL)	
C122	CCZB1H471K	C CERA	50V B 470PF K (AXIAL)	
C152	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C503	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C505	CZCH1H180J	C CERA	50V CH 18PF J (AXIAL)	
C507	CCZB1H101K	C CERA	50V B 100PF K (AXIAL)	
C508	CCZB1H101K	C CERA	50V B 100PF K (AXIAL)	
C515	CCZB1H222K	C CERA	50V B 2200PF K AXIAL	
C519	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C522	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C525	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C561	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C612	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C708	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C711	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C713	CCZB1H471K	C CERA	50V B 470PF K (AXIAL)	
C714	CCZB1H221K	C CERA	50V B 220PF K (AXIAL)	
C715	CCZB1H102K	C CERA	50V B 1000PF K (AXIAL)	
C716	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C717	CBZF1H104Z	C CERA SEMI	50V F 0.1MF Z	
C718	CCZF1H103Z	C CERA	50V F 0.01MF Z	
C870	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
C891	CCZB1H821K	C CERA	50V B 820PF K AXIAL	
C892	CCZB1H471K	C CERA	50V B 470PF K (AXIAL)	
C894	CCZB1H333K	C CERA	50V B 0.033MF K AXL	
C902	CCZB1H271K	C CERA	50V B 270PF K	
C903	CCZB1H271K	C CERA	50V B 270PF K	
C904	CCZB1H271K	C CERA	50V B 270PF K	
C922	CCZB1H271K	C CERA	50V B 270PF K	
C923	CCZB1H271K	C CERA	50V B 270PF K	
C924	CCZB1H271K	C CERA	50V B 270PF K	
D101	DUZ33B----	DIODE ZENER	UZ-33B	
D102	DUZ5R1B---	DIODE ZENER	UZ-5.1B	
D301	D1N4004S--	DIODE	1N4004S	
D311	DBZX55C62-	DIODE ZENER	BZX55C-62	
D312	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
D401	D1N4937G--	DIODE	1N4937G (TAPPING)	
D405	D1N4937G--	DIODE	1N4937G (TAPPING)	
D406	D1N4937G--	DIODE	1N4937G (TAPPING)	
D407	D1N4937G--	DIODE	1N4937G (TAPPING)	

z_loc	z_parts_code	parts_name	parts_descr	
D408	D1N4937G--	DIODE	1N4937G (TAPPING)	
D409	D1N4148---	DIODE	1N4148 (TAPPING)	
D501	DUZ5R1B---	DIODE ZENER	UZ-5.1B	
D507	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM	⚠
D509	D1N4148---	DIODE	1N4148 (TAPPING)	
D525	D1N4148---	DIODE	1N4148 (TAPPING)	
D571	D1N4148---	DIODE	1N4148 (TAPPING)	
D572	D1N4148---	DIODE	1N4148 (TAPPING)	
D573	D1N4148---	DIODE	1N4148 (TAPPING)	
D574	D1N4148---	DIODE	1N4148 (TAPPING)	
D804	D1N4937G--	DIODE	1N4937G (TAPPING)	
D809	DUZ6R8BM--	DIODE ZENER	UZ-6.8BM	
D811	D1N4937G--	DIODE	1N4937G (TAPPING)	
D812	D1N4937G--	DIODE	1N4937G (TAPPING)	
D813	D1N4937G--	DIODE	1N4937G (TAPPING)	
D816	D1N4937G--	DIODE	1N4937G (TAPPING)	
D817	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM	
D819	D1N4937G--	DIODE	1N4937G (TAPPING)	
D841	D1N4937G--	DIODE	1N4937G (TAPPING)	
D851	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM	
J1	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J10	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J101	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J102	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J103	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J11	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J110	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J12	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J13	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J14	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J15	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J16	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J17	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J18	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J19	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J2	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J20	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J21	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J22	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J23	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J24	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J25	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J26	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J27	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J28	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J29	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J31	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J32	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J33	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J35	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J36	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J37	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J38	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	

z_loc	z_parts_code	parts_name	parts_descr	remark
J4	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J40	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J41	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J42	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J43	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J44	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J45	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J46	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J47	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J48	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J49	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J5	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J50	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J51	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J52	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J53	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J54	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J55	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J56	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J57	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J58	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J59	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J6	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J60	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J61	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J62	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J63	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J64	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J65	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J66	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J67	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J68	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J69	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J7	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J70	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J71	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J72	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J73	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J74	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J75	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J76	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J77	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J78	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J8	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J80	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J82	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J83	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J84	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J85	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J88	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J89	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J9	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J90	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	

z_loc	z_parts_code	parts_name	parts_descr	remark
J92	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J93	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J94	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J97	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J98	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
J99	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
L111	5CPZ568M02	COIL PEAKING	0.56UH M (AXIAL 3.5MM)	
L501	5CPZ180K02	COIL PEAKING	18UH K (AXIAL 3.5MM)	
L807	5MC0000100	COIL BEAD	HC-3550	
L811	5MC0000100	COIL BEAD	HC-3550	
L841	5MC0000100	COIL BEAD	HC-3550	
R112	RD-AZ331J-	R CARBON FILM	1/6 330 OHM J	
R115	RD-AZ471J-	R CARBON FILM	1/6 470 OHM J	
R306	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J	
R307	RD-AZ303J-	R CARBON FILM	1/6 30K OHM J	
R308	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J	
R309	RD-AZ822J-	R CARBON FILM	1/6 8.2K OHM J	
R310	RD-AZ303J-	R CARBON FILM	1/6 30K OHM J	
R312	RD-AZ104J-	R CARBON FILM	1/6 100K OHM J	
R350	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R351	RD-AZ752J-	R CARBON FILM	1/6 7.5K OHM J	
R352	RD-AZ123J-	R CARBON FILM	1/6 12K OHM J	
R401	RD-4Z472J-	R CARBON FILM	1/4 4.7K OHM J	
R405	RD-2Z751J-	R CARBON FILM	1/2 750 OHM J	
R416	RD-2Z121J-	R CARBON FILM	1/2 120 OHM J	
R417	RD-4Z302J-	R CARBON FILM	1/4 3K OHM J	
R423	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R424	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J	
R451	RD-4Z153J-	R CARBON FILM	1/4 15K OHM J	⚠
R452	RD-4Z113J-	R CARBON FILM	1/4 11K OHM J	⚠
R454	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R455	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
R505	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R513	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J	
R514	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J	
R515	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J	
R520	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
R526	RD-AZ512J-	R CARBON FILM	1/6 5.1K OHM J	
R530	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R531	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R532	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
R602	RD-2Z271J-	R CARBON FILM	1/2 270 OHM J	
R603	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R604	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J	
R724	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J	
R725	RD-AZ682J-	R CARBON FILM	1/6 6.8K OHM J	
R789	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R790	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R809	RD-4Z184J-	R CARBON FILM	1/4 180K OHM J	
R814	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
R818	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING	
R819	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R820	RD-AZ392J-	R CARBON FILM	1/6 3.9K OHM J	

z_loc	z_parts_code	parts_name	parts_descr	remark
R823	RD-4Z561J-	R CARBON FILM	1/4 560 OHM J	
R868	RN-4Z2201F	R METAL FILM	1/4 2.20K OHM F	
R869	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J	
R872	RD-4Z152J-	R CARBON FILM	1/4 1.5K OHM J	
R874	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R875	RD-AZ622J-	R CARBON FILM	1/6 6.2K OHM J	
R876	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
R877	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
R878	RN-4Z1003F	R METAL FILM	1/4 100K OHM F	
R879	RN-4Z1502F	R METAL FILM	1/4 15K OHM F	
R888	RC-2Z565KP	R CARBON COMP	1/2 5.6M OHM K	
R890	RD-4Z152J-	R CARBON FILM	1/4 1.5K OHM J	⚠
R892	RD-4Z152J-	R CARBON FILM	1/4 1.5K OHM J	
R893	RD-4Z331J-	R CARBON FILM	1/4 330 OHM J	
R894	RD-4Z479J-	R CARBON FILM	1/4 4.7 OHM J	
R901	RD-4Z474J-	R CARBON FILM	1/4 470K OHM J	
R910	RD-2Z332J-	R CARBON FILM	1/2 3.3K OHM J	
R911	RD-2Z332J-	R CARBON FILM	1/2 3.3K OHM J	
R912	RD-2Z332J-	R CARBON FILM	1/2 3.3K OHM J	
R978	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
R979	RD-AZ272J-	R CARBON FILM	1/6 2.7K OHM J	

DAEWOO

DAEWOO ELECTRONICS Corp.
686, AHYEON0DONG MAPO-GU
SEOUL, KOREA
C.P.O. BOX 8003 SEOUL, KOREA

I. MICOM Outline.

1. Abstract.

This specification is 1-Tunner Mono Model for North America, CCD 1-Chip MICOM M37150.
It is developing software specification for tuning only NTSC system TV F/S.

2. H/W Outline.

1) ROM : 32K x 8bits.tsc
2) RAM : 1152 x 8bits.
3) OSD Function.
. Screen Display.
32 characters x 2 lines.
- Characters.
254 patterns programmable.
- Character display area
CC mode : 16 x 26 dots
- Chatacter color : 8 colors
- Attribute
CC mode : smooth italic, underline, flash, automatic solid space"
OSD mode : border
- Display position
Horizontal : 128 levels
Vertical : 512 levels

3. System Feature.

- The system for TV tuning is Frequency Synthesis type.
- Closed Caption's function is built in IC.
- On Screen Display's function is built in IC.
- Package. : 42 PIN SSOP.
- Tuner (Pre-scaler.) : I2C Bus. --- DT5-NF20F N
- Remote. : R-43A Series
- E2PROM. : 24C04(I2C Bus) ? Apply one byte Read/Write mode.

- 6-Local Key. : A/D Input Control.(Power, Ch Up/Down, Vol Up/Down, Menu)

- Option S/W : Port Input Option Check.
- IF/V/C/D IC :M61250(America, The only NTSC)"

4. Function.

1) C. C. D. function.
- A section of C. C. D. operates FCC based specification.

2) C. C. D. controlled function.

- Closed Caption Mode. (Off<-->C1<-->C2<-->T1<-->T2<-->Off)
- CC On Mute.(Off / On)
- When CC On Mute is On, Output is selected a item of Closed Caption Modes.

3) Tuning Function.
- I2C Bus.
- PLL IC Interface.
- FS 181 Channel (AIR 2-69CH, CABLE 1-125CH)"

- AFT Operation(Fine Tuning) -2.5 ~ Fn ~ +2.5MHz
- AIR/CABLE (STD, HRC, IRC). Only Cable 5,6CH is that AFT range is cover over broad-band. -2.5MHz ~ Fn ~ +3.5MHz.
- Auto Program.(If a channel is broadcasting, the channel is memorized.)"
- Direct Tuning(0 ~ 9KEY)
- Channel Up/Down.(Memorized Channels) -> The Ch Up/Down buttons on the Remote and on the front panel are same function.
- Search Channel Up/Down.(If No-Memory or only 1CH is Memory)
- Channel Memory.(ADD/DELETE)
- Channel Review Function.
- Last Channel Memory Function.

4) OSD Function.
- In Video Mode, Things(Items) that is concerned with Air and Cable disappear in the Menu."
- Channel, AV display.
- Small & Graphic ICON Menu.
- Volume, Picture Control --> I2C Bus Control

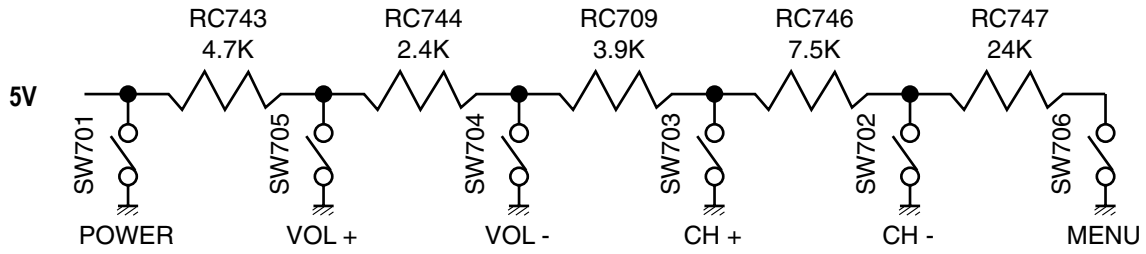
5) The Others Function.
- Video/Audio Mute Function.
- If a Channel is no signal, it is Auto-Power Off Function after 15 minutes."
- Heat Run Function. --- OSD White Background.
- Sleep Timer, Wake-Up Time, Off Time Function. "
- Audio Mode :Mono
- TV/Line Controlled function- ---------- (Option)
- Prison Controlled function- ---------- (Option)
- 3-Language.(North America : ENG/SPA/FRA).
- E2PROM Interface (I2C Bus Control)
- CH 6 TRAP Function.(IS-31 對應)
- PLL IC Band Data.(Control Byte 2-->P3~P0)

  VHF L : 1 / VHF H : 2 / CH6 TRAP : 5 (IS-31) AIR(Cable) CH 6 Only UHF : 8

5. The Table of Option and Schedule

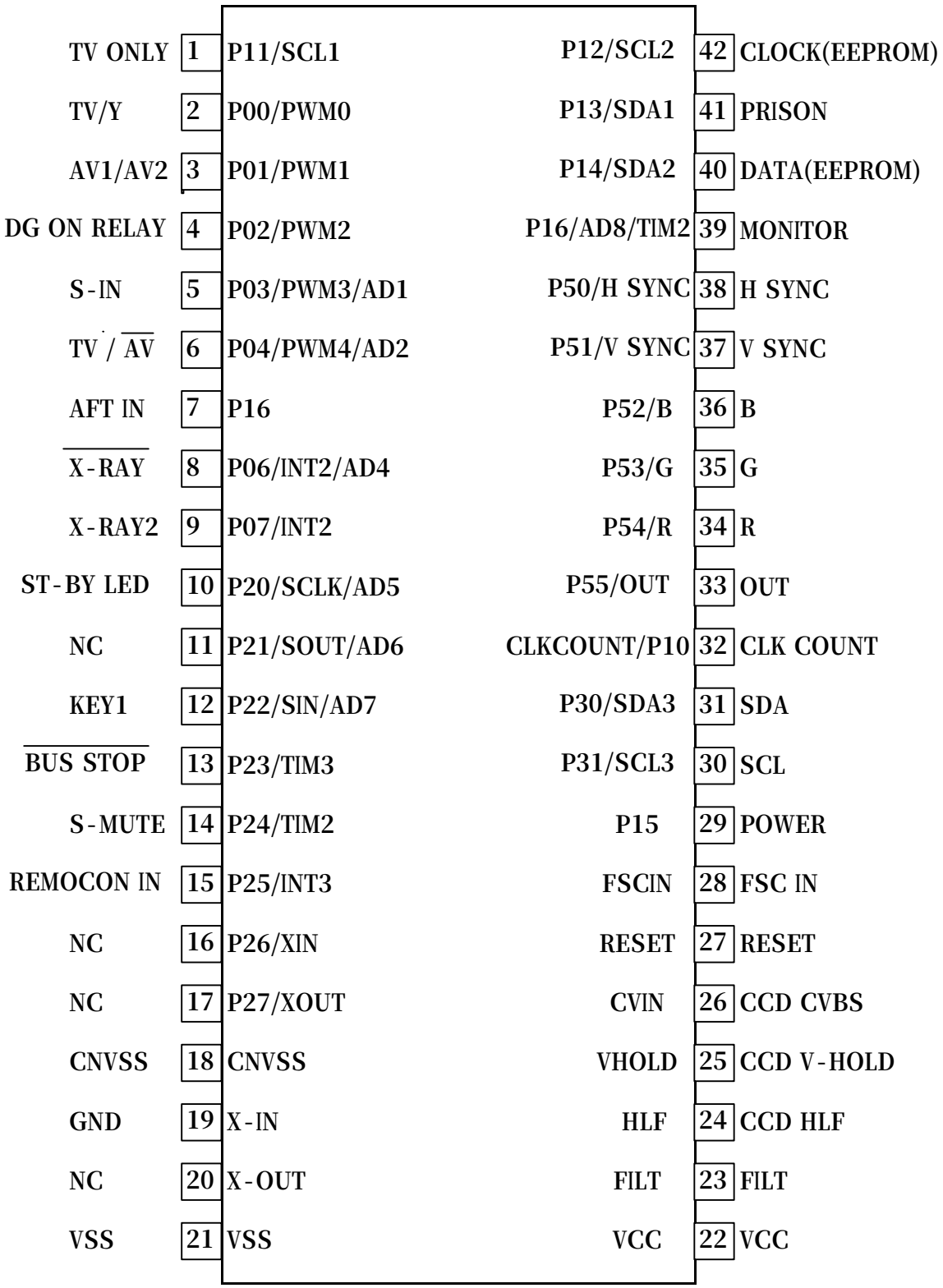
PIN	OPTION	REFERENCE	REMARKS
#1	TV ONLY (H)	LOW (DC 0V): VIDEO	(L) : Video Model (“V” Series)
		HIGH (DC 5V) : TV	(H) : No Video Model (“P” Series)
#41	PRISON	LOW (DC 0V): NORMAL	(L) : Normal Video
		HIGH (DC 5V) : PRISON	(H) : Clock Menu (TIME) delete

6. KEY Matrix



KEY	FUNCTION	VALUE(V)
SW701	POWER	0 ~ 0.55
SW705	VOL +	2.25 ~ 2.75
SW704	VOL -	2.76 ~ 3.25
SW703	CH +	3.26 ~ 3.75
SW702	CH -	3.76 ~ 4.25
SW701	MENU	4.26 ~ 4.75

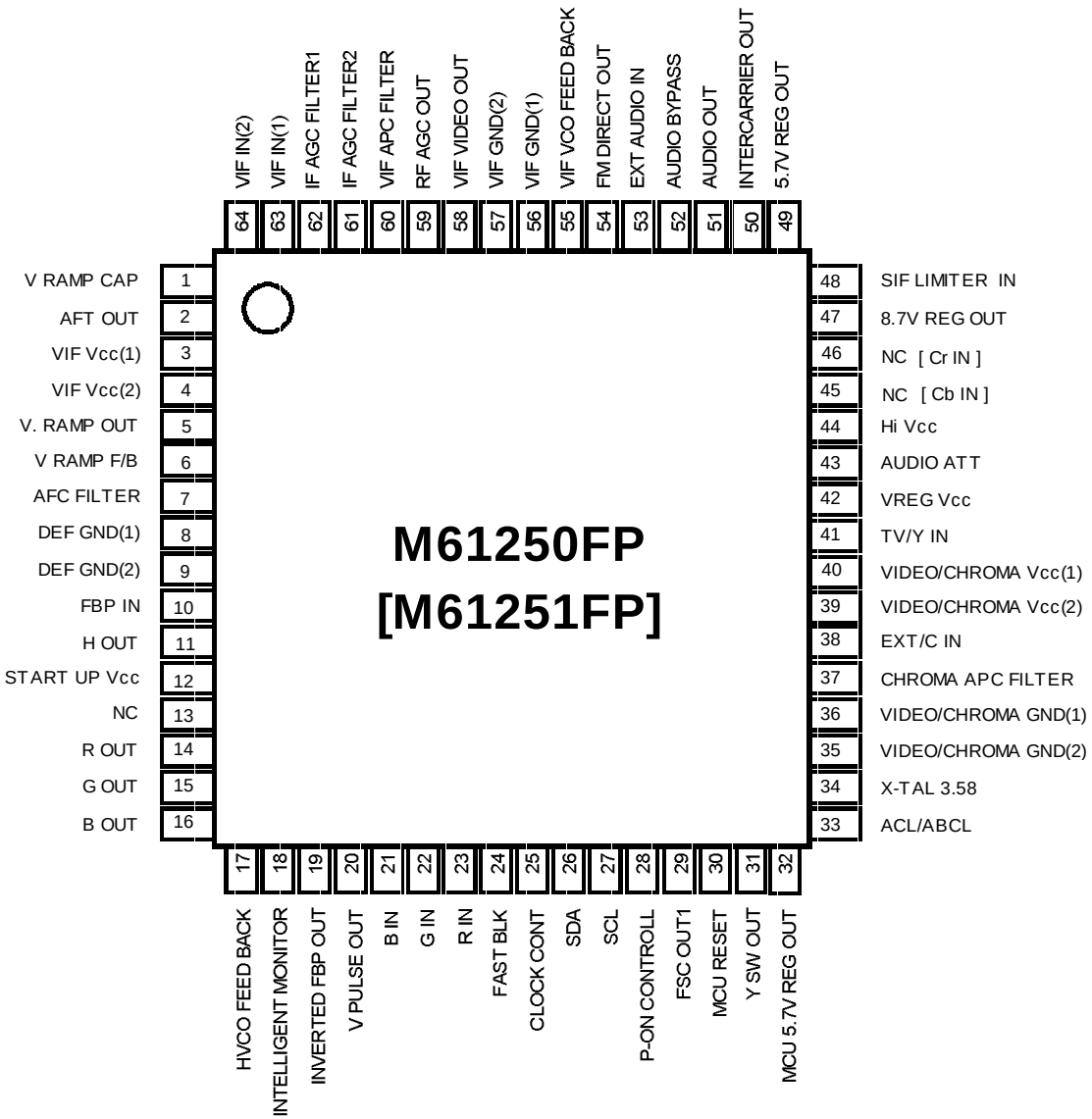
II. PIN ASSIGN



Ⅲ.PIN DESCRIPTION

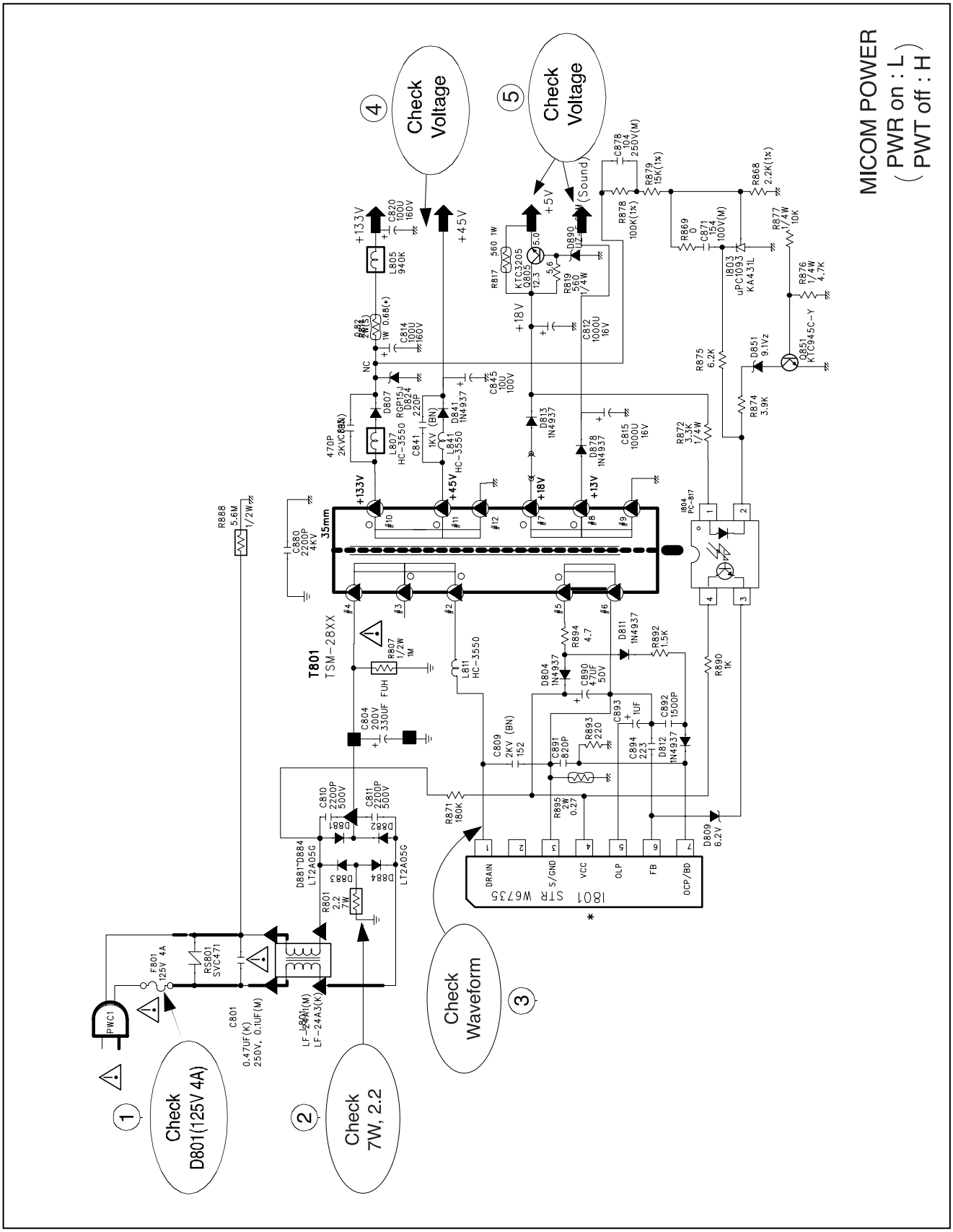
PIN	기호	명칭	I/O	동작 설명	비 고
1	P11/SCL1	TV ONLY	O	TV ONLY(H), VIDEO(L)	OPTION
2	P00/PWM0	TV/Y	I	CVIN IN	
3	P01/PWM1	AV1/AV2	I	AV1/AV2 SW	
4	P02/PWM2	D/G ON	O	D/G RELAY ON(H)	
5	P03/PWM03/AD1	S-IN	I	S-VHS Jack Signal Input	
6	P04/PWM4/AD2	TV/AV	I	TV /VIDEO SW,TV(H),VIDEO(L)	
7	P05/AD3	AFT IN	I	Default Voltage:3.75V	
8	P06/INT2/AD4	X-RAY	I	B+ PROTECT(L)	
9	P07/INT1	X-RAY2	I	고압 PROTECT,OCP	
10	P20/SCLK/AD5	ST-BY LED	O	POWER OFF->ST-BY(H)	
11	P21/SOUT/AD6	NC		NC	
12	P22/SIN/AD7	KEY1	I	MENU,VOL+,VOL-,CH+,CH-,POWER	
13	P23/TIM3	BUS STOP	I	FACTORY MODE	
14	P24/TIM2	S -MUTE	O	AUDIO MUTE(H)	
15	P25/INT3	REMOCON IN	I	Remocon Signal Input	
16	P26/XCIN	NC		NC	
17	P27/XCOUT	NC		NC	
18	CNVSS	CNVSS		GND	
19	X-IN	GND		GND	
20	X-OUT	NC		NC	
21	VSS	VSS		GND(Negative Power Supply)	
22	VCC	VCC	I	+5V(Positive Power Supply)	
23	FILT	FILT	I	Clock Oscillation Filter	
24	HLF	CCD HLF	I/O	I/O for Data Slicer	
25	VHOLD	CCD V-HOLD	I/O	I/O for Data Slicer	
26	CVIN	CCD CVBS	I	Composite Video Signal Input	
27	RESET	RESET	I	MCU RESET:Active(H)	
28	FSC IN	FSCIN	I	Clock Input	
29	P15	POWER	I	Chroma On/Off	
30	P31/SCL3	SCL	I/O	I2C Data IN/OUT	
31	P30/SDA3	SDA	I/O	I2C Data IN/OUT	
32	CLKCONT/P10	CLK CONT	I	CLK CONTROL	
33	P55/OUT	OUT	O	Fast Blanking Control Signal	
34	P54R	R	O	OSD Red Output	
35	P53G	G	O	OSD Green Output	
36	P52B	B	O	OSD Blue Output	
37	P51/V Sync	V Sync	I	Vertical Syn Signal Input	
38	P50/H Sync	H Sync	I	Horizental Syn Signal Input	
39	P16/AD8/TIM2	MONITOR	I	Intelligent Monitor	
40	P14/SDA2	SDA2	I	EEPROM Data<->Micom Data	
41	P13/SDA1	PRISON	I	Prison(H), Normal(L)	OPTION
42	P12/SCL2	SCL2	I	EEPROM Clock<->Micom Clock	

IV. M61250(CROMA) Pin Configuration



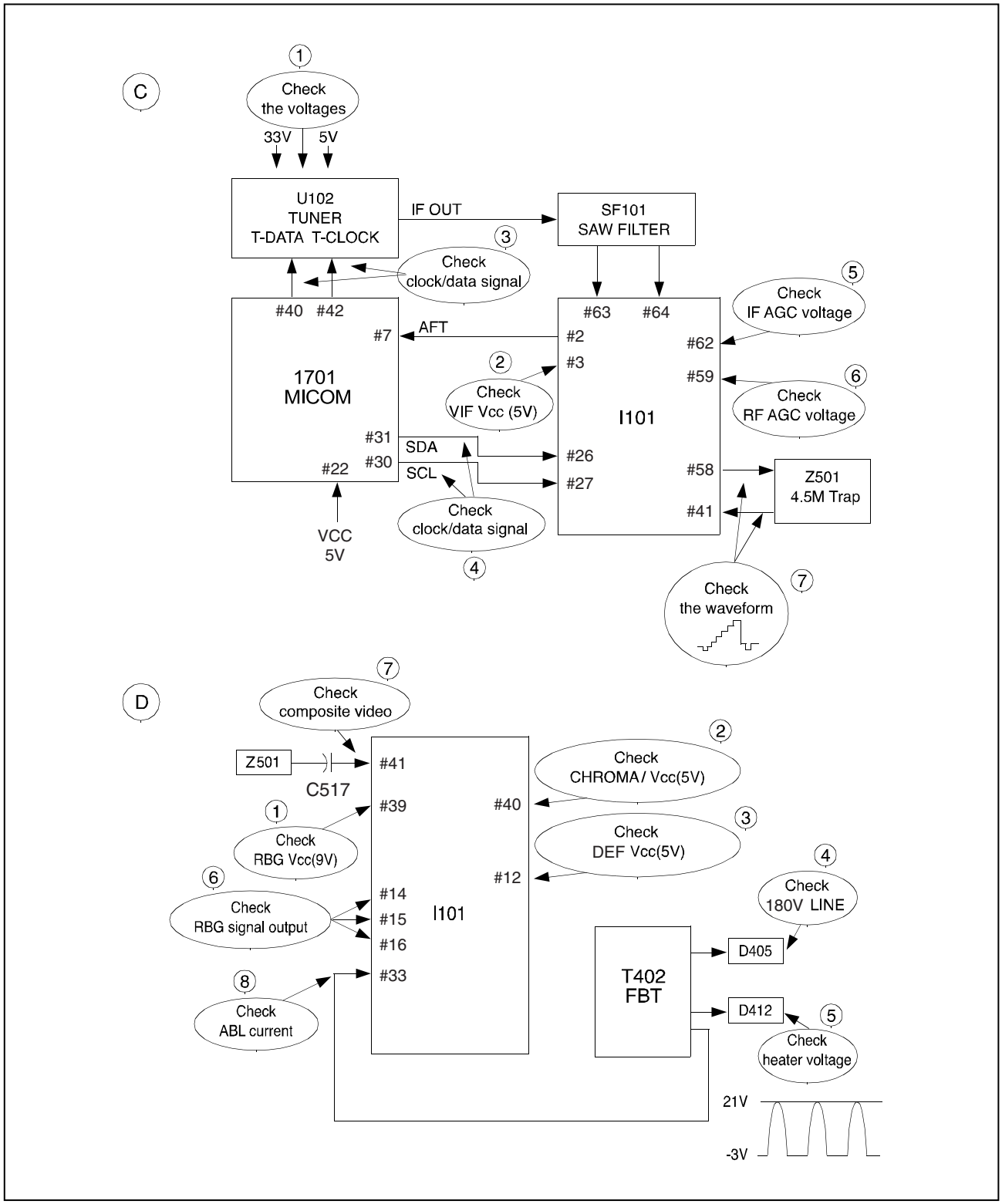
TROUBLESHOOTING GUIDE

1. NO POWER



2. NO PICTURE

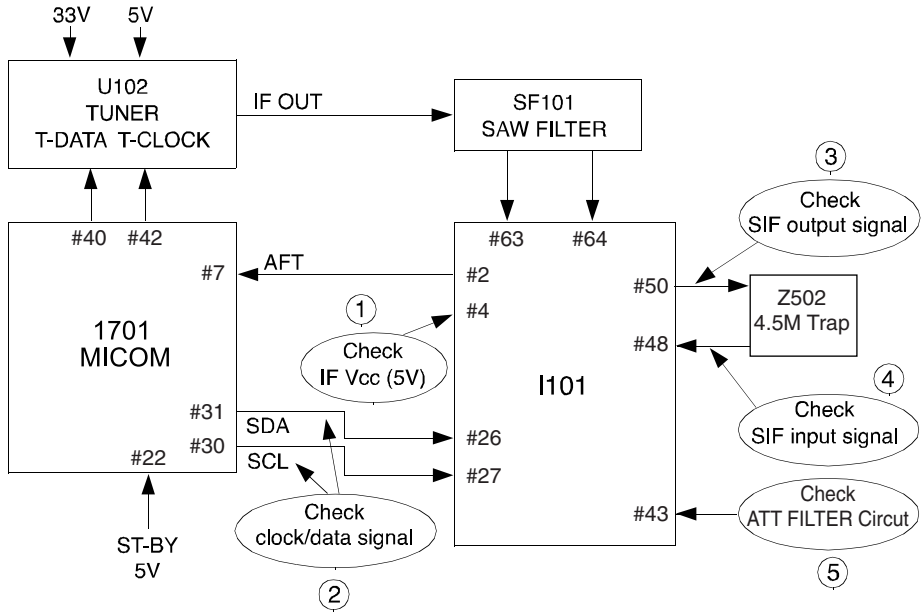
Check the waveform of I101 #58	NG : GO to the figure ⓒ
	OK : Go to the figure ⓓ



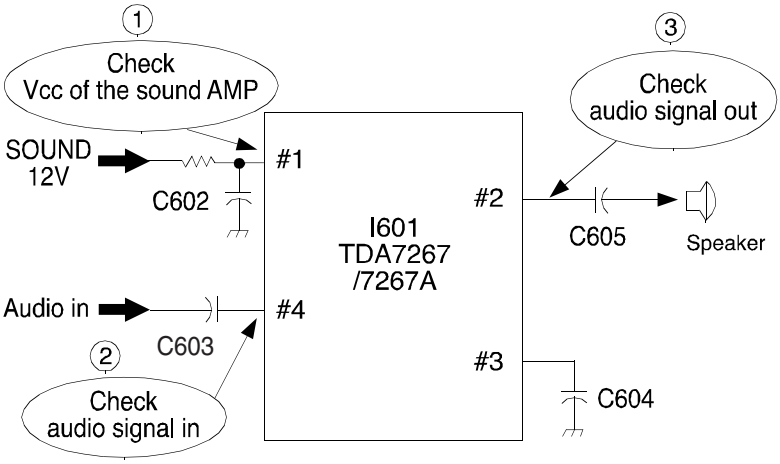
3. NO SOUND

Check audio output signal of I101 #51	NG : Go to the figure ⓔ
	OK : Go to the figure ⓕ

E

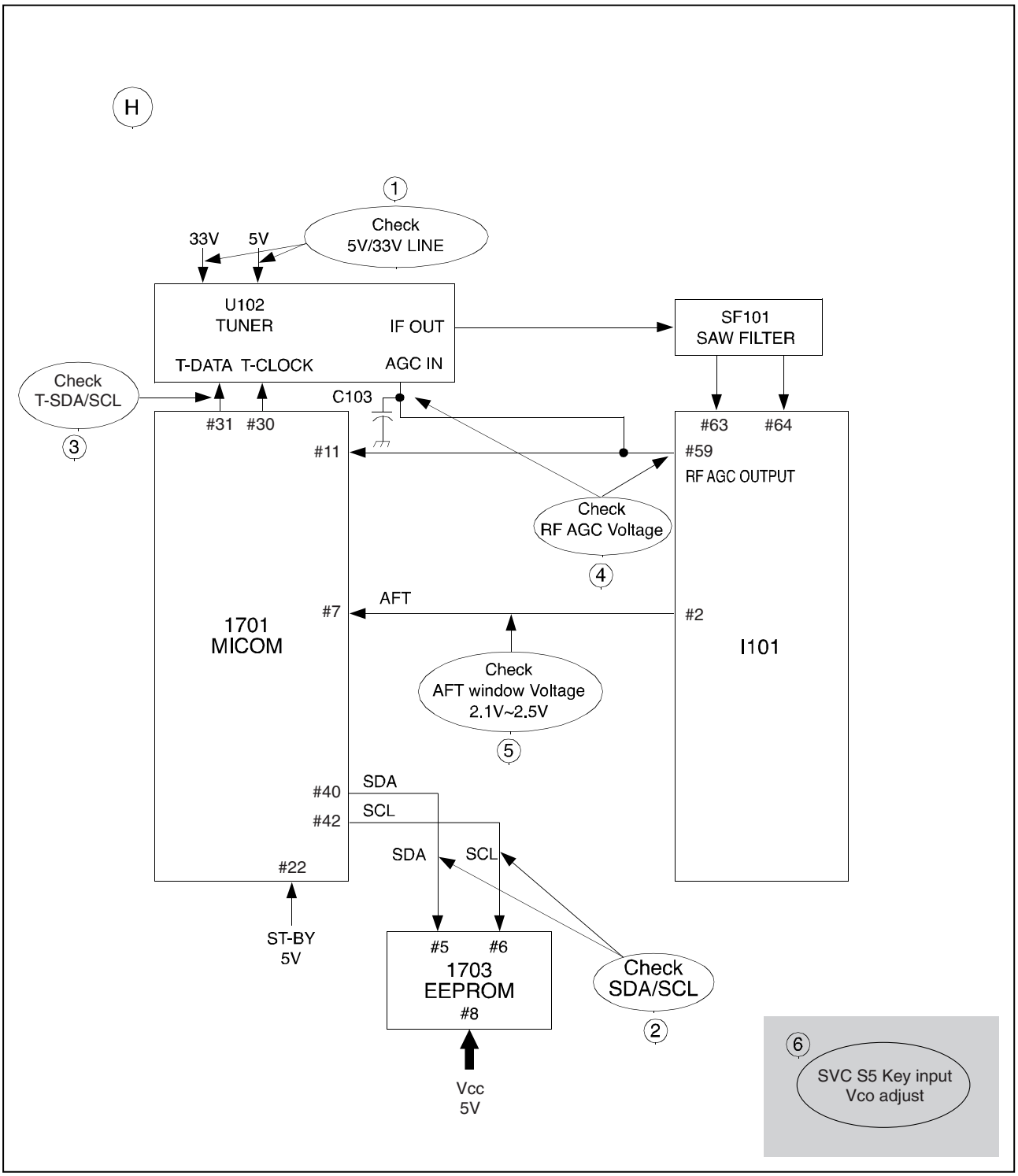


F

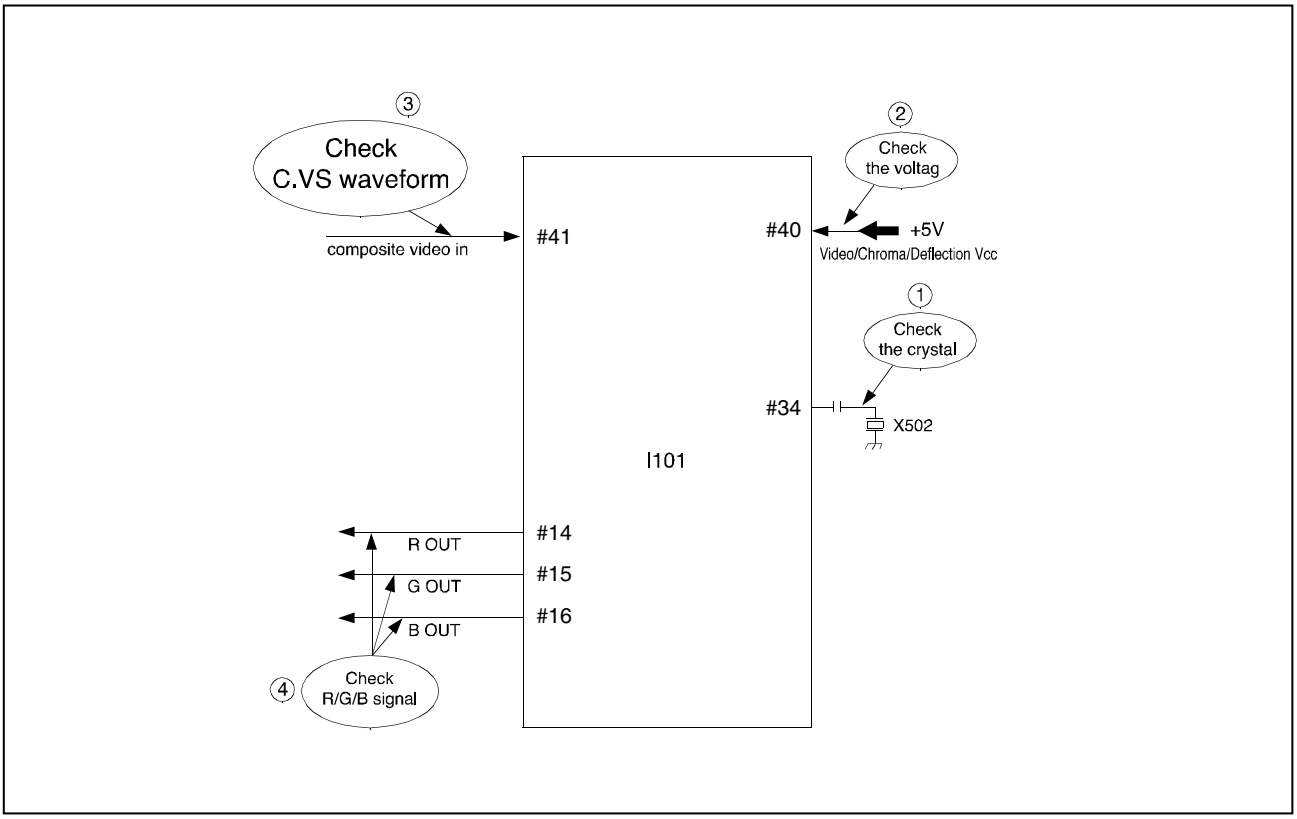


4. CH DON'T STOP

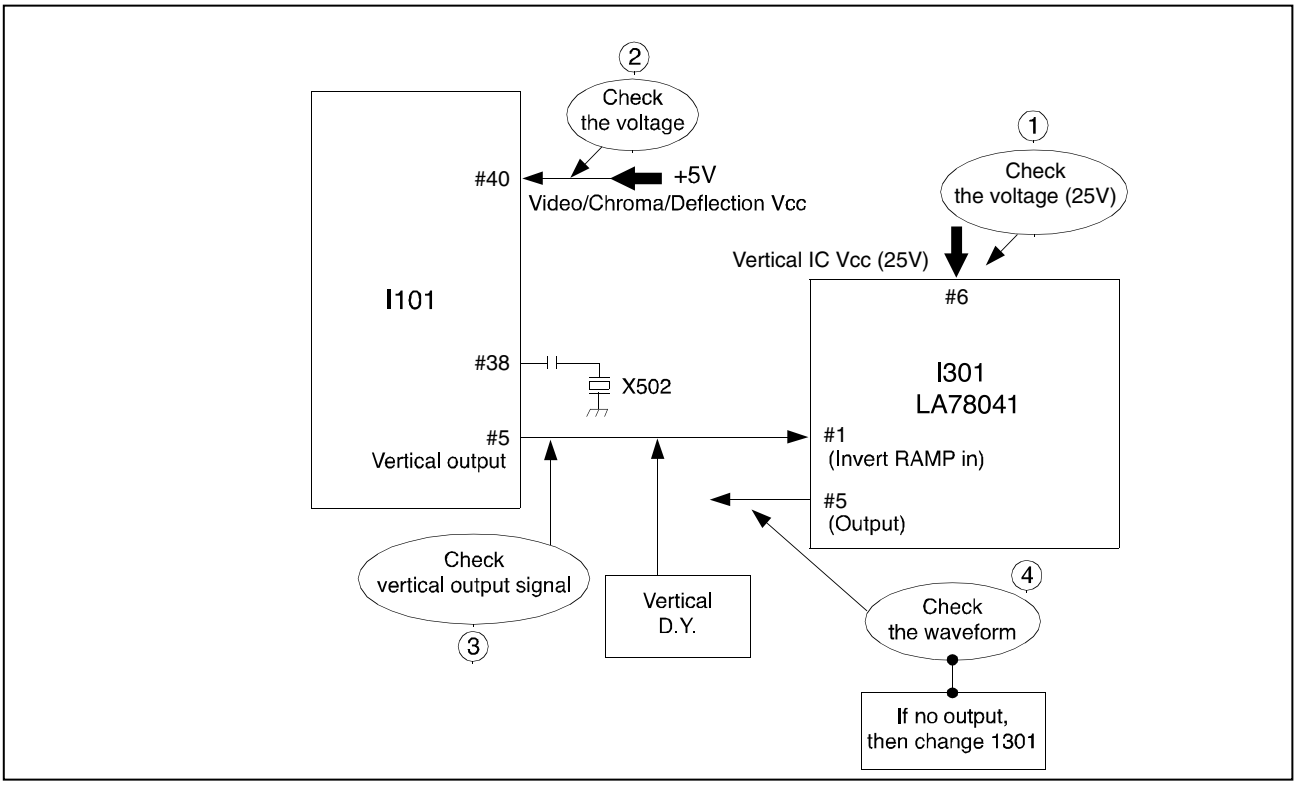
Check the input signal conditions	NG : Loss of signal or weak signal
	OK : Go to the figure ⓗ



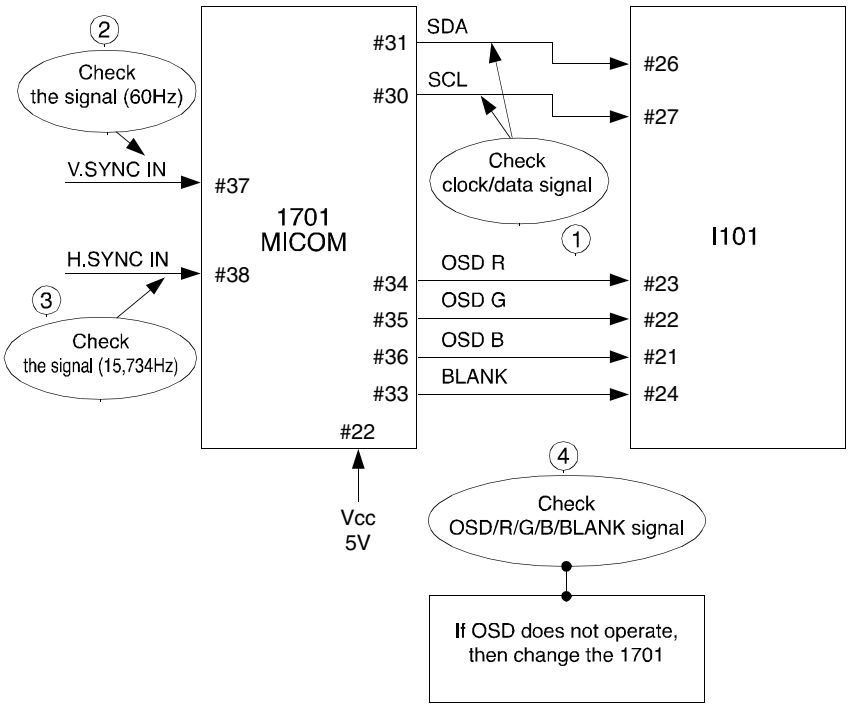
5. NO COLOR



6. NO VERTICAL DEFLECTION



7. NO ON-SCREEN DISPLAY



8. REMOTE CONTROL DOES NOT OPERATE