

Service Manual

Color Television

CHSSIS	MODEL
CM-101S	DTH-21S7 DTH-21S8

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.

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SAFETY PRECAUTIONS

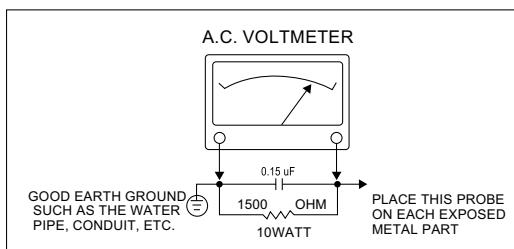
CAUTION : DO NOT ATTEMPT TO MODIFY THIS PRODUCT IN ANY WAY. NEVER PERFORM CUSTOMIZED INSTALLATIONS WITHOUT MANUFACTURER'S APPROVAL. UNAUTHORIZED MODIFICATIONS WILL NOT ONLY VOID THE WARRANTY, BUT MAY LEAD TO YOUR BEING LIABLE FOR ANY RESULTING PROPERTY DAMAGE OR USER INJURY. SERVICE WORK SHOULD BE PERFORMED 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. 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 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 (WATER 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 .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 MILLIAMPS A.C. ANY 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, 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 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 INTEGRAL 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.

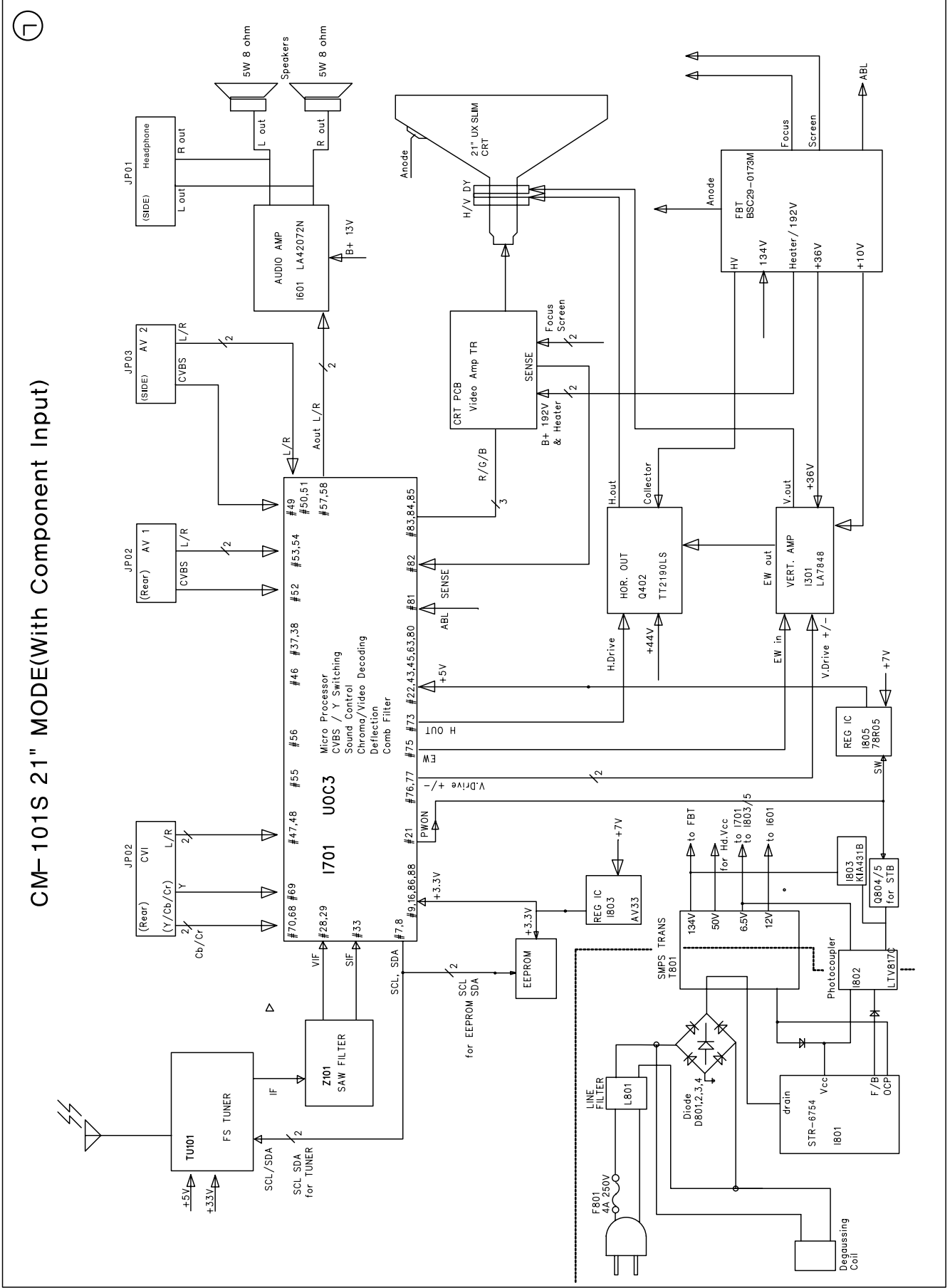
SUBJECT : TIPS ON PROPER INSTALLATION

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 GENERALLY 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.

SPECIFICATION

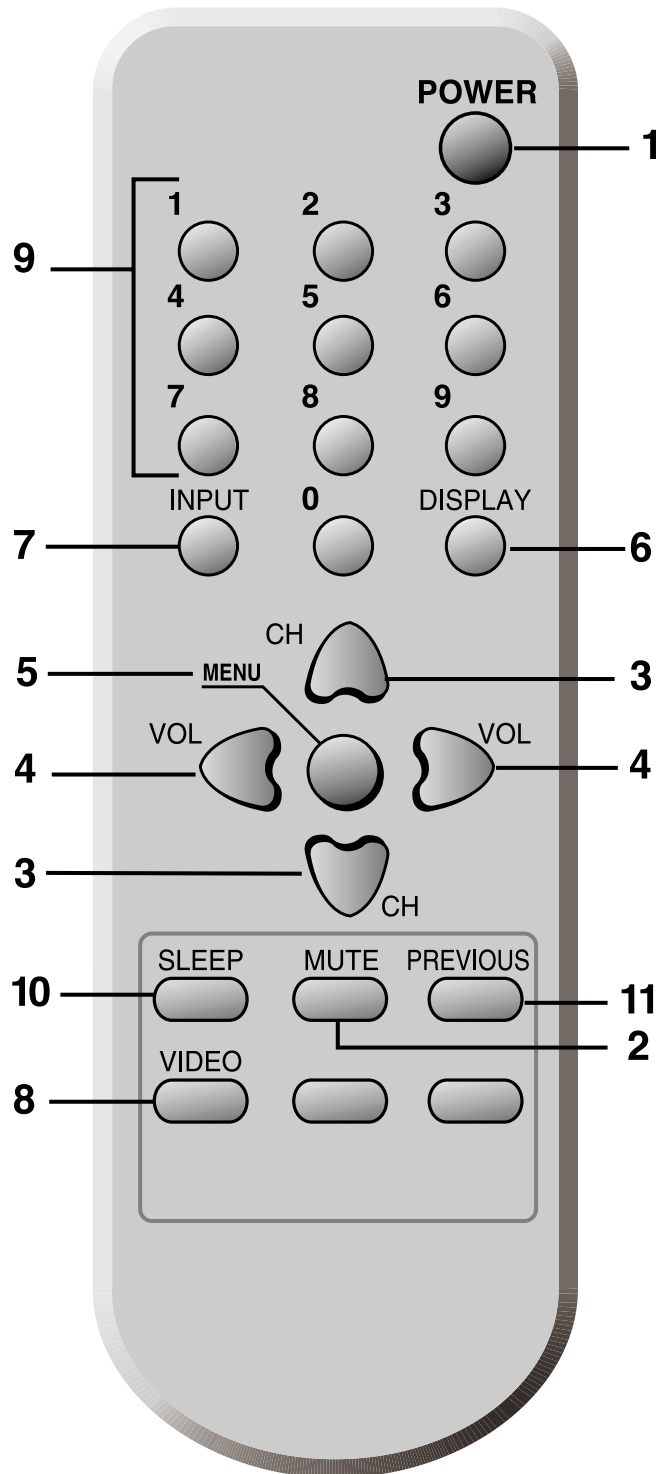
Item	Model	DTH-21S7 / 21S8
CHASSIS		CM-101S
TV Standard		NTSC-M, PAL-N, PAL-M
Power Input		AC 220V, 50/60Hz
Power Consumption		80W
Tuning System		Frequency Synthesizer(FS) Tuning System
Tuning Ranges		TV VHF(L) : CH2 - CH6 UHF(H) : CH7 - CH13 UHF : CH14 - CH69 CATV VHF(L) : 5A, A,B,A-5-A-1,CH2-CH6 VHF(H) : C-W+11,CH7 - CH13 UHF : W+12-W+84 "
Sound Output		5W + 5W
Speaker		8 ohm 5W x 2EA
Antenna Input Impedance		75 ohm Unbalanced
Auxiliary Input Terminal		Side : Video, Audio(L,R) - AV2, Headphone Rear : Video, Audio(L,R) - AV1 Y, Cb, Cr, Audio(L,R) - CVI
Intermediate Frequencies		Picture IF Carrier Frequency : 45.75MHz Sound IF Carrier Frequency : 41.25MHz Color Sub-Carrier Frequency : NTSC-M : 3.579545 Mhz PAL-N : 3.582056 Mhz PAL-M : 3.575611 Mhz
Remote Control		R-48C04(AAA)
Special Function		1) Closed Caption 2) Channel Label

CIRCUIT BLOCK DIAGRAM



ALIGNMENT INSTRUCTION

Your Remote Control(R-48C04)



1. POWER

Use this button to turn your TV on or off.

2. MUTE

Use to turn the TV's sound on and off.

3. ▼CH▲

Use these buttons to change channels on your TV, or select items in the menu system.

4. ◀VOL▶

Use these buttons to change your TV's volume, to activate selections in the menu system, or to change audio and video settings.

5. MENU

Use this button to turn the TV's menu system on and off.

6. DISPLAY

Use this button to display the present status.

7. INPUT

Use this button to select the TV's signal source.

8. VIDEO

Use this button to display video adjustment items.

9. 0-9

Use these buttons to change channels.

10. SLEEP

Use this button to program the TV to turn off after a certain time.

11. PREVIOUS

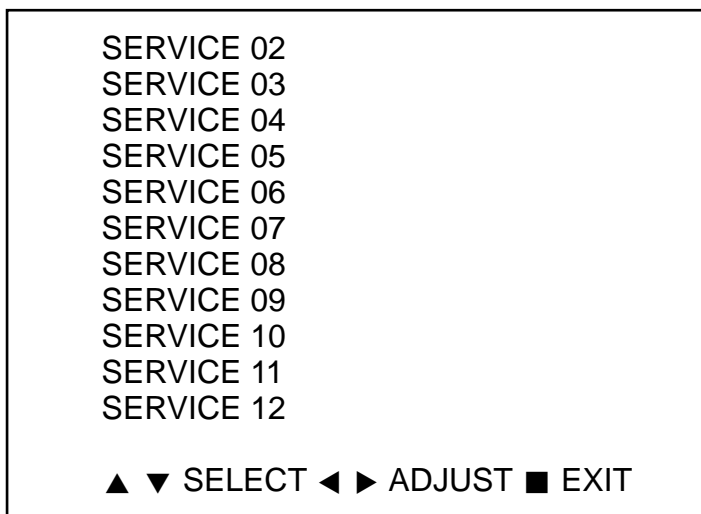
Use this button to return to the previous channel you were watching.

ALIGNMENT INSTRUCTION

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 blue.)
 - 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.
 - Don't have to press any 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.

PART REPLACED	ADJUSTMENT		NOTES
	NECESSARY	UNNECESSARY	
I701 (U-COM)		○	Data is stored in I702.
I702 (EEPROM)	○		Initial setting values are written from I701. ADJUSTING ITEMS S6 : Geometry adjustmnt S8 : White balance S9 : Subbrightness
CRT	○		Adjust items related to picture tube only. (White Balance adjustment) CRT OPTION (Screen Option adjustment)

ALIGNMENT INSTRUCTION

Table-B. CM-101S(DTH-21S7) EEPROM DATA

MODE	NAME	CM -101S	REMARK	MODE	NAME	CM -101S	REMARK																														
S1	HEAT RUN	ON → OFF		S7 -2	SOC	3																															
S2	SCREEN ADJUST	650V (6AE:DA)			PWLDAC	3																															
S5	AGC AUTO	off			CL	8																															
	AGC LEVEL	22			CLD	0																															
	IFOFF	37			GAM	0																															
	QSS	1			HCT	1																															
	BPB	1			ACL	0																															
	FMI	1			BPS	0																															
	AGN	0			CHSE	0																															
	BPBS	1			CBPS	1																															
	DSG	0		CB	0																																
Fine Tunning				S8	R -GAIN	32																															
V.SLOPE	27		G -GAIN		32																																
V.CENTER	40		B -GAIN		45																																
V.SIZE	35		R -BIAS		32																																
H.CENTER	44		G -BIAS		32																																
H.SIZE	55		SRC R -BIAS		0																																
V.LINEARITY	27		SRC G -BIAS		0																																
S_CORRECTION	22		CVI R -BIAS		-6																																
H.PARALLEL	30		CVI G -BIAS		8																																
S6	H -BOW	34		S9	DP -Brightness	17																															
	PARABOLA	30			DP -Contrast	16																															
	EW TRAPEZ	30			DP -Color	6																															
	CORNER TOP	45			DP -Sharpness	10																															
	CORNER BOTTOM	45		S10	OPTION 1	1111 0001																															
	50Hz.HC	+ 9			OPTION 2	0110 0011																															
	50Hz.HS	+ 1			OPTION 3	0000 0011																															
	50Hz.VC	+ 7		S12	FACTORY SET																																
	50Hz.VS	0																																			
	HBL	1																																			
WBF	5																																				
WBR	10																																				
S7 -1	CFCLF	1		<table border="1"> <thead> <tr> <th>MODE</th> <th>NAME</th> <th>DATA</th> </tr> </thead> <tbody> <tr> <td rowspan="7">INITIAL VALUE</td> <td>AIR/CABLE</td> <td>AIR</td> </tr> <tr> <td>VOLUME</td> <td>CENTER (32)</td> </tr> <tr> <td>MEMORY CH</td> <td>AIR : 3,4,5,7,8,10,11,13,32,48 CATV : 36,96</td> </tr> <tr> <td>Language</td> <td>English</td> </tr> <tr> <td>Power Restore</td> <td>ON</td> </tr> <tr> <td>Close Caption</td> <td>C1</td> </tr> <tr> <td>Blue Back</td> <td>OFF</td> </tr> </tbody> </table>				MODE	NAME	DATA	INITIAL VALUE	AIR/CABLE	AIR	VOLUME	CENTER (32)	MEMORY CH	AIR : 3,4,5,7,8,10,11,13,32,48 CATV : 36,96	Language	English	Power Restore	ON	Close Caption	C1	Blue Back	OFF												
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DTR	0																																				
BPYD	1																																				
TCI2X	0																																				
PF	0																																				
TFR	1																																				
NRR	0																																				
WS	3																																				
BLS	0																																				
DSK	1																																				
AAS	0																																				
BSD	1																																				
BKS	1																																				
DSA	1																																				
RPO	2																																				
RPA	0																																				
CFA0	0																																				

ALIGNMENT INSTRUCTION

2. ASSEMBLY ADJUSTMENTS

1) SCREEN ADJUSTMENT (S2)

- Enter the service mode and select service adjustment S2.
- You can 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 S2 button to exit in the screen adjustment mode.

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) AGC ADJUSTMENT

- Adjust the antenna signal level at 60 dBuV
- Tune a colour bar pattern.
- Find the "AGC" item in service mode.
(it's two way to entering the "AGC" item in service mode)
 - Enter the service mode and select service adjustment S5 and select AUTO-AGC.
 - Enter the service mode and select service adjustment S3.
- Wait until AGC level stabilise to the optimum value.

- Alternatively,
Enter the service mode and select service adjustment S5 and select AGC LEVEL.
Use "Vol Up/Dwn" keys to adjust manually to the desired Tuner Take Over Point.

4) GEOMETRIC ADJUSTMENTS (S6)

- Select service adjustment S6
- You can see the OSD as shown in below.

V.SLOPE	37	EW TR	40
V.CENTER	38	COR.TOP	51
V.SIZE	26	COR.BOT	48
H.CENTER	35	50Hz_HC	+5
H.SIZE	62	50Hz_HS	+1
V.LIN	24	50Hz_VC	0
S.CORR	27	50Hz_VS	0
H.PARA	29	HBL	01
H.BOW	35	WBF	05
PARA	34	WBR	10

▲ ▼ SELECT ◀ ▶ ADJUST ■ EXIT

ALIGNMENT INSTRUCTION

4-2) Vertical Position Adjustment.

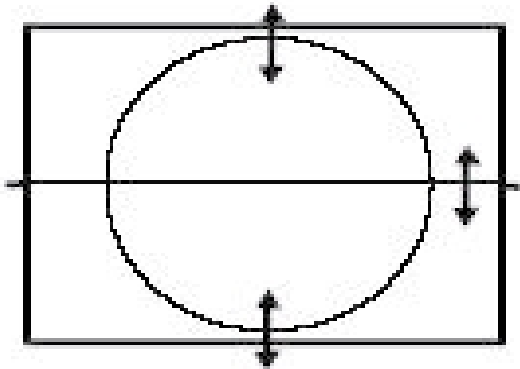
- Select V.SLOPE item, adjust V.SLOPE data value till the horizontal line in the centre of the video signal is just at the position where the blanking starts.
- Select V.CENTER item, adjust V.CENTER data value to center the raster properly on the screen.

4-3) Vertical Size Adjustment

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

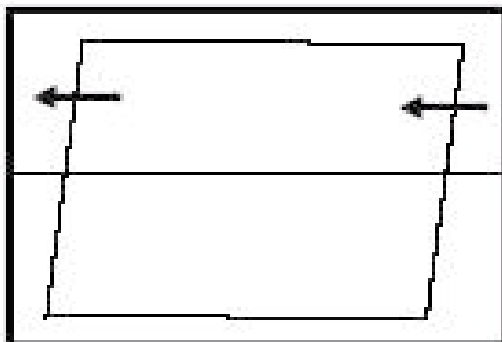
4-4) Horizontal Position Adjustment

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



4-5). H.BOW, PARABOLA Adjustment

- Adjust the H.BOW, PARABOLA to compensate for geometrical distortion.
- You can not adjust the H.PARALLEL, H.SIZE, EW TRAPEZ, CORNER TOP and CORNER BOTTOM.



H.PARALLEL

4-6) 50Hz_Horizontal & Vertical Size, Center Adjustsstment

- Adjust PAL M System's Picture Geometric with This Mode.
After Adjusting, you must turn off to save the setting values.

ALIGNMENT INSTRUCTION

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.

R-GAIN	32	SRC R-BIAS	32
G-GAIN	32	SRC G-BIAS	32
B-GAIN	40	CVI R-BIAS	-8
R-BIAS	32	CVI G-BIAS	10
G-BIAS	32		

▲ ▼ SELECT ◀ ▶ ADJUST ■ EXIT

- Using volume up or volume down, adjust service adjustment data of R-GAIN/G-GAIN/B-GAIN and R-BIAS/G-BIAS until a good gray scale with normal whites is obtained.

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 shown in below.

DP-Brightness:	05
DP-Contrast	17
DP-Color	5
DP-Sharpnes:	17

▲ ▼ SELECT ◀ ▶ ADJUST ■ EXIT

- Select DP-Brightness item, adjust DP-Brightness data value to obtain normal brightness level.

DP-Contrast

- Fixed value = 17

DP-Color

- Fixed value = 5

DP-Sharpness

- Fixed value = 17

7) FACTORY OUTGOING MODE (S12 : FACT)

- If you select the S12, then the set becomes factory outgoing status.
- You can see the OSD "SHIPPING OFF"

IC DESCRIPTION

1. UOC III SERIES

1-1. UOC III BLOCK DIAGRAM

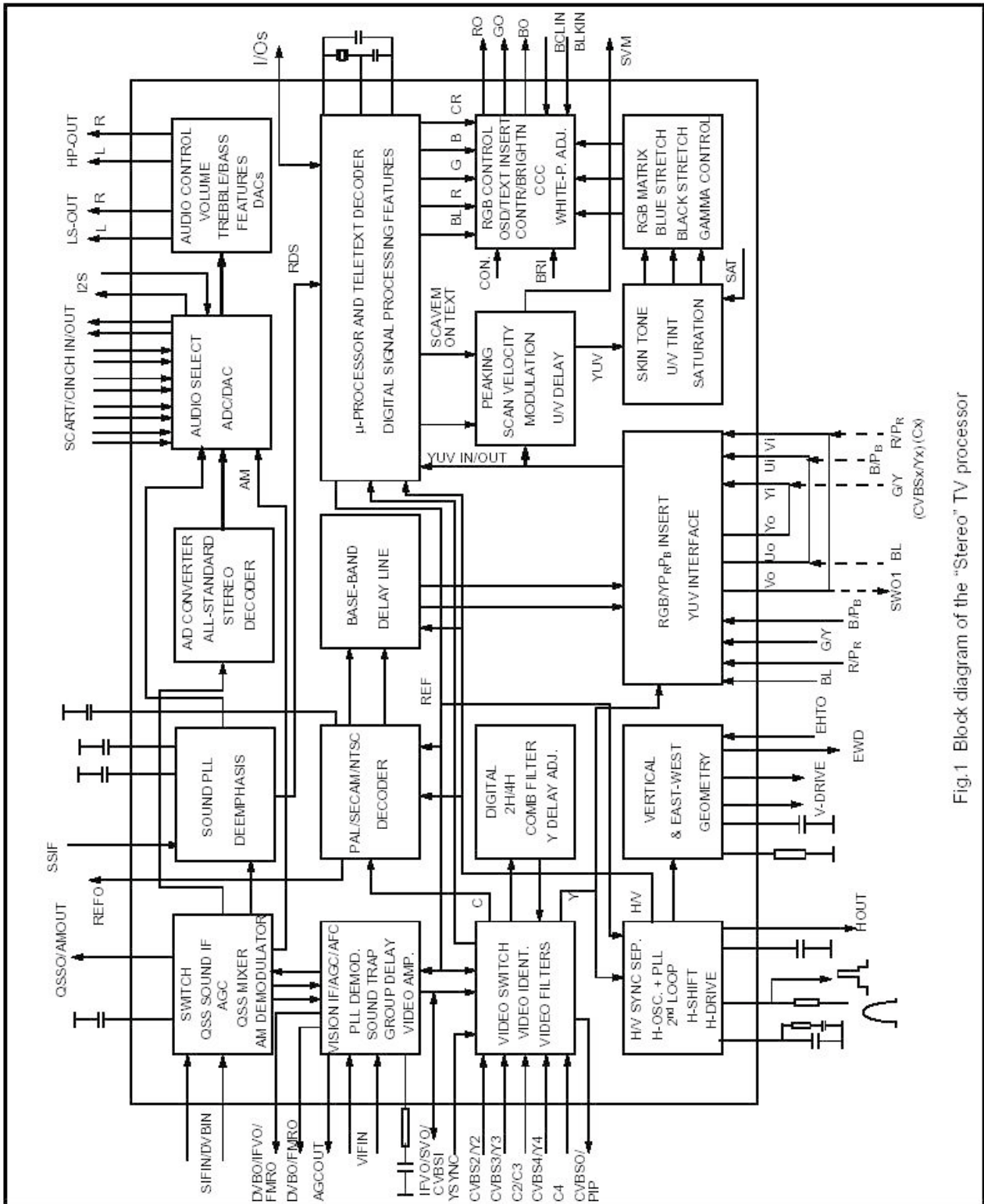


Fig. 1 Block diagram of the "Stereo" TV processor

IC DESCRIPTION

1-2. UOC III FEATURES

Analogue Video Processing (all versions)

- Multi-standard vision IF circuit with alignment-free PLL demodulator
 - Internal (switchable) time-constant for the IF-AGC circuit
 - Switchable group delay correction and sound trap (with switchable centre frequency) for the demodulated CVBS signal
 - DVB/VSB IF circuit for preprocessing of digital TV signals.
 - Video switch with 3 external CVBS inputs and a CVBS output. All CVBS inputs can be used as Y-input for Y/C signals. However, only 2 Y/C sources can be selected because the circuit has 2 chroma inputs. It is possible to add an additional CVBS(Y)/C input (CVBS/YX and CX) when the YUV interface and the RGB/YPRPB input are not needed.
 - Automatic Y/C signal detector
 - Adaptive digital (4H/2H) PAL/NTSC comb filter for optimum separation of the luminance and the chrominance signal.
 - Integrated luminance delay line with adjustable delay time
 - Picture improvement features with peaking (with switchable centre frequency, depeaking, variable positive/negative peak ratio, variable pre-/overshoot ratio and video dependent coring), dynamic skin tone control, gamma control and blue- and black stretching. All features are available for CVBS, Y/C and RGB/YPRPB signals.
 - Switchable DC transfer ratio for the luminance signal
 - Only one reference (24.576 MHz) crystal required for the TCG m-Controller, digital sound processor, Teletext and the colour decoder
 - Multi-standard colour decoder with automatic search system and various “forced mode” possibilities
 - Internal base-band delay line
 - Indication of the Signal-to-Noise ratio of the incoming CVBS signal
 - Linear RGB/YPRPB input with fast insertion.
 - YUV interface. When this feature is not required some pins can be used as additional RGB/YPRPB input. It is also possible to use these pins for additional CVBS (or Y/C) input (CVBS/YX and CX).
 - Tint control for external RGB/YPRPB signals
 - Scan Velocity Modulation output. The SVM circuit is active for all the incoming CVBS, Y/C and RGB/YPRPB signals. The SVM function can also be used during the display of teletext pages.
 - RGB control circuit with ‘Continuous Cathode Calibration’, white point and black level off -set adjustment so that the colour temperature of the dark and the light parts of the screen can be chosen independently.
 - Contrast reduction possibility during mixed-mode of OSD and Text signals
 - Adjustable ‘wide blanking’ of the RGB outputs
 - Horizontal synchronization with two control loops and alignment-free horizontal oscillator
 - Vertical count-down circuit
 - Vertical driver optimized for DC-coupled vertical output stages
 - Horizontal and vertical geometry processing with horizontal parallelogram and bow correction and horizontal and vertical zoom
 - Low-power start-up of the horizontal drive circuit
- Analogue video processing (stereo versions)
- The low-pass filtered ‘mixed down’ I signal is available via a single ended or balanced output stage.

Analogue video processing (mono versions)

- The low-pass filtered ‘mixed down’ I signal is available via a single ended output stage

Digital Video Processing (some versions)

- Double Window mode applications. It is possible to display a video and a text window or 2 text

IC DESCRIPTION

windows in parallel.

- Linear and non-linear horizontal scaling of the video signal to be displayed.
- Sound Demodulation (all versions)
- Separate SIF (Sound IF) input for single reference QSS (Quasi Split Sound) demodulation.
- AM demodulator without extra reference circuit
- The mono intercarrier sound circuit has a selective FM-PLL demodulator which can be switched to the different FM sound frequencies (4.5/5.5/6.0/6.5 MHz). The quality of this system is such that the external band-pass filters can be omitted. In the stereo versions of UOCIII the use of this demodulator is optional for special applications. Normally the FM demodulators of the stereo demodulator/decoder part are used (see below).
- The FM-PLL demodulator can be set to centre frequencies of 4.72/5.74 MHz so that a second sound channel can be demodulated. In such an application it is necessary that an external bandpass filter is inserted.
- The vision IF and mono intercarrier sound circuit can be used for the demodulation of FM radio signals. With an external FM tuner also signals with an IF frequency of 10.7 MHz can be demodulated.
- Switch to select between 2nd SIF from QSS demodulation or external FM (SSIF)
- Audio Interfaces and switching (stereo versions with Audio DSP)
- Audio switch circuit with 4 stereo inputs, a stereo output for SCART/CINCH, 1 stereo output for HEADPHONE. The headphone channel has an analogue volume control circuit for the L and R channel. Finally 1 stereo SPEAKER output with digital controls.
- AVL (Automatic Volume Levelling) circuit for the headphone channel.
- Digital input crossbar switch for all digital signal sources and destinations
- Digital output crossbar for exchange of channel processing functionality
- Digital audio input interface (stereo I2S input interface)
- Digital audio output interface (stereo I2S output interface)
- Audio interfaces and switching (AV stereo versions without Audio DSP)
- Audio switch circuit with 4 stereo inputs, a stereo output for SCART/CINCH and a stereo SPEAKER output with analogue volume control.
- Analogue mono AVL circuit at left audio channel
- Audio interfaces and switching (mono versions)
- Audio switch circuit with 4 external audio (mono) inputs and a volume controlled output
- AVL circuit
- Stereo Demodulator and Decoder (full stereo versions)
- Demodulator and Decoder Easy Programming (DDEP)
- Auto standard detection (ASD)
- Static Standard Selection (SSS)
- DQPSK demodulation for different standards, simultaneously with 1-channel FM demodulation
- NICAM decoding (B/G, I, D/K and L standard)
- Two-carrier multistandard FM demodulation (B/G, D/K and M standard)
- Decoding for three analog multi-channel systems (A2, A2+ and A2*) and satellite sound
- Adaptive de-emphasis for satellite FM
- Optional AM demodulation for system L, simultaneously with NICAM
- Identification A2 systems (B/G, D/K and M standard) with different identification time constants
- FM pilot carrier present detector
- Monitor selection for FM/AM DC values and signals, with peak and quasi peak detection option
- BTSC MPX decoder
- SAP decoder
- dbx® noise reduction (4)
- Japan (EIAJ) decoder
- FM radio decoder
- Soft-mute for DEMDEC outputs DEC, MONO and SAP

IC DESCRIPTION

- FM overmodulation adaptation option to avoid clipping and distortion
Audio Multi Channel Decoder (stereo versions with Audio DSP)
- Dolby® Pro Logic® (DPL) (1)
- Five channel processing for Main Left and Right, Subwoofer, Centre and Surround. To exploit this feature an external DAC is required.
Volume and tone control for loudspeakers (stereo versions with Audio DSP)
- Automatic Volume Level (AVL) control
- Smooth volume control
- Master volume control
- Soft-mute
- Loudness
- Bass, Treble
- Dynamic Bass Boost (DBB) (2)
- Dynamic Virtual Bass (DVB) (3)
- BBE® Sound processing (4)
- Graphic equalizer
- Processed or non processed subwoofer
- Programmable beeper
Reflection and delay for loudspeaker channels (stereo versions with Audio DSP)
- Dolby® Pro Logic® Delay (1)
- Pseudo hall/matrix function
Psycho acoustic spatial algorithms, downmix and split in loudspeaker channels (stereo versions with Audio DSP)
- Extended Pseudo Stereo (EPS) (5)
- Extended Spatial Stereo (ESS) (6)
- Virtual Dolby® Surround (VDS 422,423) (1)
- SRS 3D and SRS TruSurround® (4)
RDS/RBDS
- Demodulation of the European Radio Data system (RDS) or the USA Radio Broadcast Data System (RBDS) signal
- RDS and RBDS block detection
- Error detection and correction
- Fast block synchronisation
- Synchronisation control (flywheel)
- Mode control for RDS/RBDS processing
- Different RDS/RBDS block information output modes

m-Controller

- 80C51 m-controller core standard instruction set and timing
- 0.4883 ms machine cycle
- maximum of 256k x 8-bit flash programmable ROM
- maximum of 8k x 8-bit Auxiliary RAM
- 12-level Interrupt controller for individual enable/disable with two level priority
- Two 16-bit Timer/Counter registers
- One 24-bit Timer (16-bit timer with 8-bit Pre-scaler)
- WatchDog timer
- Auxiliary RAM page pointer
- 16-bit Data pointer
- Stand-by, Idle and Power Down modes
- 24 general I/O
- 14 bits PWM for Voltage Synthesis Tuning
- 8-bit A/D converter with 4 multiplexed inputs

IC DESCRIPTION

- 5 PWM (6-bits) outputs for analogue control functions
- Remote Control Pre-processor (RCP)
- Universal Asynchronous Receiver Transmitter (UART)

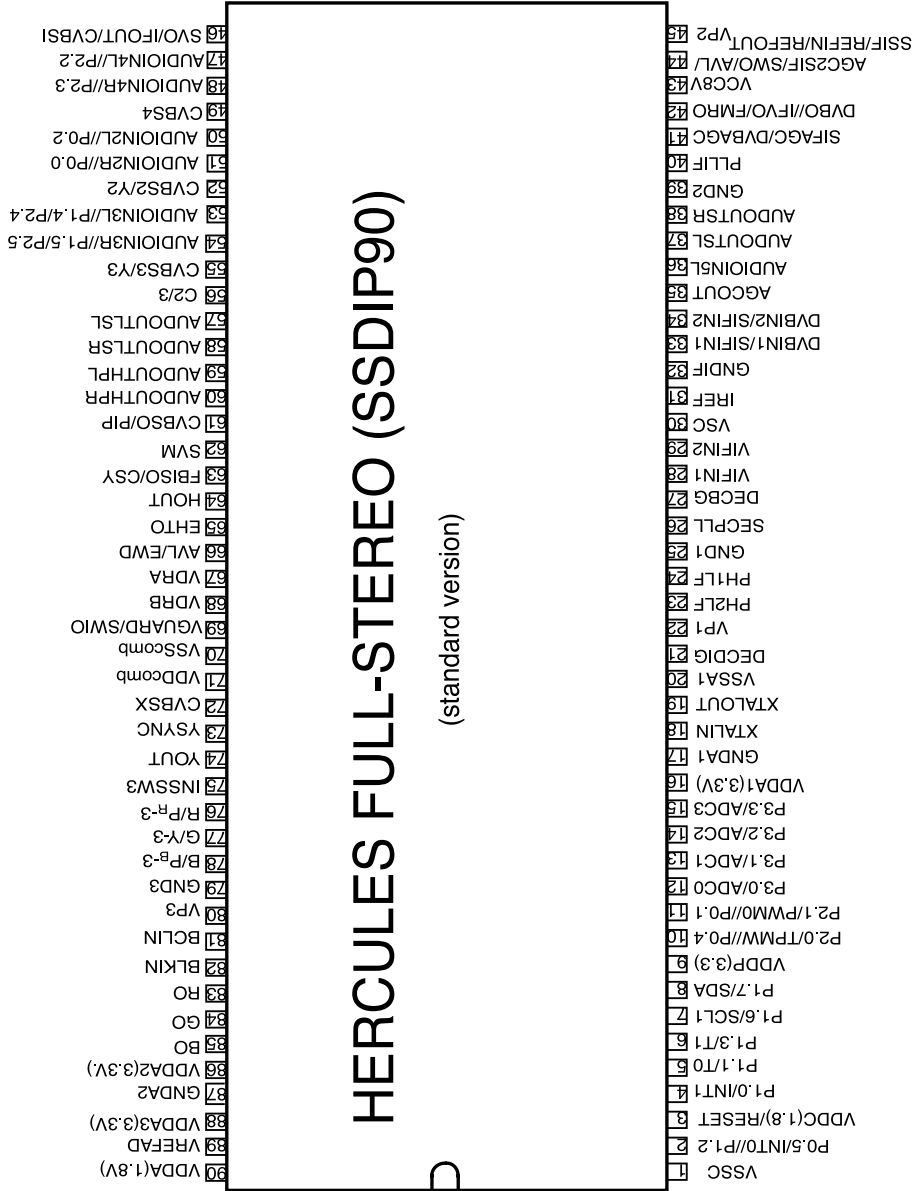
Data Capture

- Text memory up to 10 pages
- Inventory of transmitted Teletext pages stored in the Transmitted Page Table (TPT) and Subtitle Page Table (SPT)
- Data Capture for US Closed Caption
- Data Capture for 525/625 line WST, VPS (PDC system A) and Wide Screen Signalling (WSS) bit decoding
- Automatic selection between 525 WST/625 WST
- Automatic selection between 625 WST/VPS on line 16 of VBI
- Real-time capture and decoding for WST Teletext in Hardware, to enable optimized m-processor throughput
- Automatic detection of FASTEXT transmission
- Real-time packet 26 engine in Hardware for processing accented, G2 and G3 characters
- Signal quality detector for video and WST/VPS data types
- Comprehensive teletext language coverage
- Vertical Blanking Interval (VBI) data capture of WST data

Display

- Teletext and Enhanced OSD modes
- Features of level 1.5 WST and US Close Caption
- 50Hz/60Hz display timing modes
- Two page operation for 16:9 screens
- Serial and Parallel Display Attributes
- Single/Double/Quadruple Width and Height for characters
- Smoothing capability of both Double Size, Double Width & Double Height characters
- Scrolling of display region
- Variable flash rate controlled by software
- Soft colours using CLUT with 4096 colour palette
- Globally selectable scan lines per row (9/10/13/16/) and character matrix [12x9, 12x10, 12x13, 12x16, 16x18, (VxH)]
- Fringing (Shadow) selectable from N-S-E-W direction
- Fringe colour selectable
- Contrast reduction of defined area
- Cursor
- Special Graphics Characters with two planes, allowing four colours per character
- 64 software redefinable On-Screen display characters
- 4 WST Character sets (G0/G2) in single device (e.g. Latin, Cyrillic, Greek, Arabic)
- G1 Mosaic graphics, Limited G3 Line drawing characters
- WST Character sets and Closed Caption Character set in single device
- SVM for Text

IC DESCRIPTION



IC DESCRIPTION

SYMBOL	"STANDARD" VERSION			"FACE DOWN" VERSION			DESCRIPTION
	STEREO + AV STEREO QFP128	MONO+ AV STEREO SSDIP90	FULL-STEREO/ MONO	STEREO + AV STEREO QFP128	MONO+ AV STEREO SSDIP90	MONO	
VSSP2	1	1		128	90		ground
VSSC4	2	1		127	90		ground
VDDC4	3	3		126	88		digital supply to SDACs (1.8V)
VDDA3(3.3V)	4	16		125	75		supply (3.3 V)
VREF_POS_LSL	5	16		124	75		positive reference voltage SDAC (3.3 V)
VREF_NEG_LSL+HPL	6	17		123	74		negative reference voltage SDAC (0 V)
VREF_POS_LSR+HPR	7	16		122	75		positive reference voltage SDAC (3.3 V)
VREF_NEG_HPL+HPR	8	17		121	74		negative reference voltage SDAC (0 V)
VREF_POS_HPR	9	16		120	75		positive reference voltage SDAC (3.3 V)
XTALIN	10	18		119	73		crystal oscillator input
XTALOUT	11	19		118	72		crystal oscillator output
VSSA1	12	20		117	71		ground
VGUARD/SWIO	13	69		116	22		V-guard input / I/O switch (e.g. 4 mA current sinking capability for direct drive of LEDs)
DECDIG	14	21		115	70		decoupling digital supply
VP1	15	22		114	69		1 st supply voltage TV-processor (+5 V)
PH2LF	16	23		113	68		phase-2 filter
PH1LF	17	24		112	67		phase-1 filter
GND1	18	25		111	66		ground 1 for TV-processor
SECPLL	19	26		110	65		SECAM PLL decoupling
DECBG	20	27		109	64		bandgap decoupling
EWD/AVL ⁽¹⁾	21	66		108	25		East-West drive output or AVL capacitor
VDRB	22	68		107	23		vertical drive B output
VDRA	23	67		106	24		vertical drive A output
VIFIN1	24	28		105	63		IF input 1

IC DESCRIPTION

SYMBOL	"STANDARD" VERSION			"FACE DOWN" VERSION			DESCRIPTION
	STEREO + AV STEREO QFP128	FULL-STEREO/ MONO+ AV STEREO SSDIP90	MONO	STEREO + AV STEREO QFP128	FULL-STEREO/ MONO+ AV STEREO SSDIP90	MONO	
VIFIN2	25	29		104	62		IF input 2
VSC	26	30		103	61		vertical sawtooth capacitor
IREF	27	31		102	60		reference current input
GNDIF	28	32		101	59		ground connection for IF amplifier
SIFIN1/DVBIN1 ⁽²⁾	29	33		100	58		SIF input 1 / DVB input 1
SIFIN2/DVBIN2 ⁽²⁾	30	34		99	57		SIF input 2 / DVB input 2
AGCOUT	31	35		98	56		tuner AGC output
EHTO	32	65		97	26		EHT/overvoltage protection input
AVL/SWO/SSIF/ REFO/REFIN ⁽²⁾	33	44		96	47		Automatic Volume Levelling / switch output / sound IF input / subcarrier reference output / external reference signal input for I signal mixer for DVB operation
AUDIOIN5	-	-		-	-		audio 5 input
AUDIOIN5L	34	36/-		95	55/-		audio-5 input (left signal)
AUDIOIN5R	35	-		94	-		audio-5 input (right signal)
AUDOUTSL	36	37		93	54		audio output for SCART/CINCH (left signal)
AUDOUTSR	37	38		92	53		audio output for SCART/CINCH (right signal)
DECSDEM	38	-/72		91	-/19		decoupling sound demodulator
QSSO/AMOUT/AUDEEM ⁽²⁾	39	-/36		90	-/55		QSS intercarrier output / AM output / deemphasis (front-end audio out)
GND2	40	39		89	52		ground 2 for TV processor
PLLIF	41	40		88	51		IF-PLL loop filter
SIFAGC/DVBAGC ⁽²⁾	42	41		87	50		AGC sound IF / internal-external AGC for DVB applications
DVBO/IFVO/FMRO ⁽²⁾	43	42		86	49		Digital Video Broadcast output / IF video output / FM radio output
DVBO/FMRO ⁽²⁾	44	-		85	-		Digital Video Broadcast output / FM radio output
VCC8V	45	43		84	48		8 Volt supply for audio switches

IC DESCRIPTION

SYMBOL	"STANDARD" VERSION			"FACE DOWN" VERSION			DESCRIPTION
	STEREO + AV STEREO QFP128	FULL-STEREO/ MONO+ AV STEREO SSDIP90	MONO	STEREO + AV STEREO QFP128	FULL-STEREO/ MONO+ AV STEREO SSDIP90	MONO	
AGC2SIF	46	44/-		83	47/-		AGC capacitor second sound IF
VP2	47	45		82	46		2 nd supply voltage TV processor (+5 V)
IFVO/SVO/CVBSI ⁽²⁾	48	46		81	45		IF video output / selected CVBS output / CVBS input
AUDIOIN4	-	-		-	-		audio 4 input
AUDIOIN4L	49	47		80	44		audio-4 input (left signal)
AUDIOIN4R	50	48		79	43		audio-4 input (right signal)
CVBS4/Y4	51	49		78	42		CVBS4/Y4 input
C4	52	-		77	-		chroma-4 input
AUDIOIN2	-	-		-	-		audio 2 input
AUDIOIN2L	53	50		76	41		audio 2 input (left signal)
AUDIOIN2R	54	51		75	40		audio 2 input (right signal)
CVBS2/Y2	55	52		74	39		CVBS2/Y2 input
AUDIOIN3	-	-		-	-		audio 3 input
AUDIOIN3L	56	53		73	38		audio 3 input (left signal)
AUDIOIN3R	57	54		72	37		audio 3 input (right signal)
CVBS3/Y3	58	55		71	36		CVBS3/Y3 input
C2/C3	59	56		70	35		chroma-2/3 input
AUDOUTLSL	60	57		69	34		audio output for audio power amplifier (left signal)
AUDOUTLSR	61	58		68	33		audio output for audio power amplifier (right signal)
AUDOUT/AMOUT/FMOUT	-	-		-	-		audio output / AM output / FM output, volume controlled
AUDOUTHPL	62	59		67	32		audio output for headphone channel (left signal)
AUDOUTHPR	63	60		66	31		audio output for headphone channel (right signal)
CVBSO/PIP	64	61		65	30		CVBS / PIP output

IC DESCRIPTION

SYMBOL	"STANDARD" VERSION		"FACE DOWN" VERSION			DESCRIPTION	
	STEREO + AV STEREO QFP128	MONO+ AV STEREO SSDIP90 FULL-STEREO/	MONO	AV STEREO QFP128	MONO+ AV STEREO SSDIP90 FULL-STEREO/		MONO
SVM	65	62		64	29		scan velocity modulation output
FBISO/CSY	66	63		63	28		flyback input/sandcastle output or composite H/V timing output
HOUT	67	64		62	27		horizontal output
VSScomb	68	70		61	21		ground connection for comb filter
VDDcomb	69	71		60	20		supply voltage for comb filter (5 V)
VIN (R/P _R IN2/C _X)	70	-		59	-		V-input for YUV interface (2 nd R input / P _R input or C _X input)
UIN (B/P _B IN2)	71	-		58	-		U-input for YUV interface (2 nd B input / P _B input)
YIN (G/YIN2/CVBS-Y _X)	72	72/-		57	19/-		Y-input for YUV interface (2 nd G input / Y input or CVBS/Y _X input))
YSYNC	73	73		56	18		Y-input for sync separator
YOUT	74	74		55	17		Y-output (for YUV interface)
UOUT (INSSW2)	75	-		54	-		U-output for YUV interface (2 nd RGB / YP _B P _R insertion input)
VOUT (SWO1)	76	-		53	-		V-output for YUV interface (general purpose switch output)
INSSW3	77	75		52	16		3 rd RGB / YP _B P _R insertion input
R/P _R IN3	78	76		51	15		3 rd R input / P _R input
G/YIN3	79	77		50	14		3 rd G input / Y input
B/P _B IN3	80	78		49	13		3 rd B input / P _B input
GND3	81	79		48	12		ground 3 for TV-processor
VP3	82	80		47	11		3 rd supply for TV processor
BCLIN	83	81		46	10		beam current limiter input
BLKIN	84	82		45	9		black current input
RO	85	83		44	8		Red output
GO	86	84		43	7		Green output
BO	87	85		42	6		Blue output

IC DESCRIPTION

SYMBOL	"STANDARD" VERSION			"FACE DOWN" VERSION			DESCRIPTION
	STEREO + AV STEREO QFP128	MONO+ AV STEREO SSDIP90 FULL-STEREO/	MONO	AV STEREO QFP128	MONO+ AV STEREO SSDIP90 FULL-STEREO/	MONO	
VDDA1	88	86		41	5		analog supply for TCG mController and digital supply for TV-processor (+3.3 V)
VREFAD_NEG	89	87		40	4		negative reference voltage (0 V)
VREFAD_POS	90	88		39	3		positive reference voltage (3.3 V)
VREFAD	91	89		38	2		reference voltage for audio ADCs (3.3/2 V)
GND A	92	87		37	4		ground
VDDA(1.8V)	93	90		36	1		analogue supply for audio ADCs (1.8 V)
VDDA2(3.3)	94	88		35	3		supply voltage SDAC (3.3 V)
VSSadc	95	1		34	90		ground for on-chip temperature sensor
VDDadc(1.8)	96	90		33	1		supply voltage video ADC
INT0/P0.5	97	2		32	89		external interrupt 0 or port 0.5 (4 mA current sinking capability for direct drive of LEDs)
P1.0/INT1	98	4		31	87		port 1.0 or external interrupt 1
P1.1/T0	99	5		30	86		port 1.1 or Counter/Timer 0 input
VDDC2	100	3		29	88		digital supply to core (1.8 V)
VSSC2	101	1		28	90		ground
P0.4/I2SWS	102	-		27	-		port 0.4 or I ² S word select
P0.4	-	-		-	-		port 0.4
P0.3/I2SCLK	103	-		26	-		port 0.3 or I ² S clock
P0.3	-	-		-	-		port 0.3
P0.2/I2SDO2	104	50		25	41		port 0.2 or I ² S digital output 2
P0.2	-	-		-	-		port 0.2
P0.1/I2SDO1	105	-		24	-		port 0.1 or I ² S digital output 1
P0.1	-	-		-	-		port 0.1
P0.0/I2SDI1/O	106	51		23	40		port 0.0 or I ² S digital input 1 or I ² S digital output
P0.0	-	-		-	-		port 0.0
P1.3/T1	107	6		22	85		port 1.3 or Counter/Timer 1 input

IC DESCRIPTION

SYMBOL	"STANDARD" VERSION			"FACE DOWN" VERSION			DESCRIPTION
	STEREO + AV STEREO QFP128	FULL-STEREO/ MONO+ AV STEREO SSDIP90	MONO	STEREO + AV STEREO QFP128	FULL-STEREO/ MONO+ AV STEREO SSDIP90	MONO	
P1.6/SCL	108	7		21	84		port 1.6 or I ² C-bus clock line
P1.7/SDA	109	8		20	83		port 1.7 or I ² C-bus data line
VDDP(3.3V)	110	9		19	82		supply to periphery and on-chip voltage regulator (3.3 V)
P2.0/TPWM	111	10		18	81		port 2.0 or Tuning PWM output
P2.1/PWM0	112	11		17	80		port 2.1 or PWM0 output
P2.2/PWM1	113	47		16	44		port 2.2 or PWM1 output
P2.3/PWM2	114	48		15	43		port 2.3 or PWM2 output
P3.0/ADC0	115	12		14	79		port 3.0 or ADC0 input
P3.1/ADC1	116	13		13	78		port 3.1 or ADC1 input
VDDC1	117	3		12	88		digital supply to core (+1.8 V)
DECV1V8	118	3		11	88		decoupling 1.8 V supply
P3.2/ADC2	119	14		10	77		port 3.2 or ADC2 input
P3.3/ADC3	120	15		9	76		port 3.3 or ADC3 input
VSSC/P	121	1		8	90		digital ground for m̄Controller core and periphery
P2.4/PWM3	122	53		7	38		port 2.4 or PWM3 output
P2.5/PWM4	123	54		6	37		port 2.5 or PWM4 output
VDDC3	124	3		5	88		digital supply to core (1.8V)
VSSC3	125	1		4	90		ground
P1.2/INT2	126	2		3	89		port 1.2 or external interrupt 2
P1.4/RX	127	53		2	38		port 1.4 or UART bus
P1.5/TX	128	54		1	37		port 1.5 or UART bus

IC DESCRIPTION

2. LA7848_TV Vertical Output+ EW Driver

The LA7848 is a vertical deflection plus EW driver IC for high image quality TV and CRT displays that supports the use of a bus control system signal-processing IC. The sawtooth waveform from the bus control system signal-processing IC can directly drive the deflection yoke (including the DC component). The LA7848 also provides a parabolic waveform output that can similarly be used to drive the diode modulator block.

Functions

- Built-in pump-up circuit for low power dissipation.
- Vertical output circuit.
- Excellent crossover characteristics.

Specifications

Maximum Ratings at Ta = 25 C

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	+B6 max		45	V
Output block supply voltage	+B3 max		92	V
Allowable power dissipation	Pd max	Mounted on an arbitrarily large heat sink.	9	W
Deflection output current	I2 max		-1.5 to +1.5	Ap-o
EW drive current *1	I10 max	V10 = 1.5V	+0.5	Ap-o
EW drive voltage *2	V10 max	I10 = 10μA	45	V
Thermal resistance	j-c		4	C/W
Operating temperature	Topr		-20 to +85	C
Storage temperature	Tstg		-40 to +150	C

Note: The EW driver is used within the range that connects the two points *1 and *2.

Operating Conditions at Ta = 25 C

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	+B6		30	V
Operating supply voltage range	+B6op		16 to 43	V
Deflection output current	I2p-p		To 2.2	Ap-p
EW drive current	I10		To 0.4	Ap-o

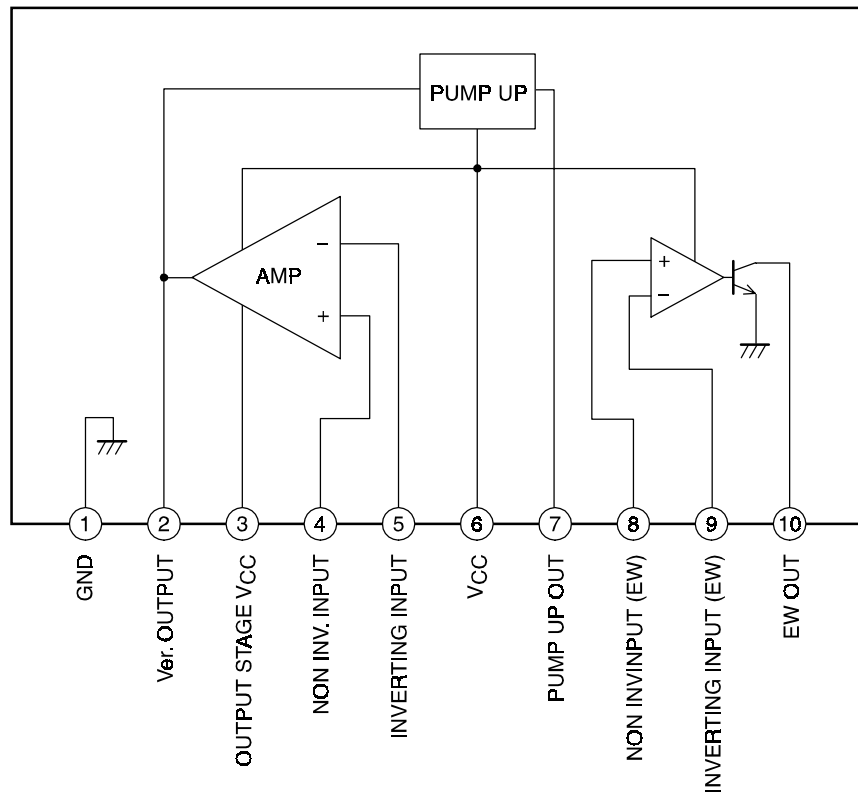
Operating Characteristics at Ta = 25 C, +B = 30V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Deflection output saturation voltage (lower)	Vsat2-1	I2 = 1.1A			1.5	V
Deflection output saturation voltage (upper)	Vsat3-2	I2 = -1.1A			3.2	V
Pump-up charge saturation voltage	Vsat7-1	I7 = 20mA			1.8	V
Pump-up discharge saturation voltage	Vsat6-7	I7 = -1.1A			3.2	V
Idling current	I _{dl}		15		50	mA
Midpoint voltage	V _{mid}		14.0	15.0	16.0	V
EW drive saturation voltage	Vsat10-1	I10 = 500mA			1.5	V

Note: Current flowing into the IC is positive (+) and current flowing out is negative (-).

IC DESCRIPTION

Block Diagram



ILA07080

IC DESCRIPTION

3. 24WC16 - 16 KB EEPROM

Features :

- 16 Kbit serial I2C bus EEPROM
- 400KHz I2C Bus Compatible
- supply voltage : 1.8 V to 6.0 V
- Low Power CMOS Technology
- 1 Million Erase/Write cycles (minimum)
- 100 year data retention (minimum)

Pin description

Pin No.	Name	Description
1, 2, 3	A0, A1, A2	Device address – not used
5	SDA	Serial Data/Address Input/Output
6	SCL	Serial clock
7	WP	Write control
8	Vcc	Supply voltage
4	Vss	Ground

The memory device is compatible with the I2C memory standard. This is a two wire serial interface that uses a bi-directional data bus and serial clock. The memory carries a built-in 4-bit unique device type identifier code (1010) in accordance with the I2C bus definition.

Serial Clock (SCL)

The SCL input is used to strobe all data in and out of the memory.

Serial Data (SDA)

The SDA pin is bi-directional, and is used to transfer data in or out of the memory.

IC DESCRIPTION

4. LA42072N

LA42072 is 7W 2-channel AF power amplifier intended for televisions.

Functions

- 7W × 2 channel ($V_{CC} = 12V$, $R_L = 8\Omega$).
- Standby function.
- Mute function.
- Thermal protection circuit.

LA42000 series is power IC which made Pin compatible altogether in 5 to 15W. They consist of four kinds of power ICs (mono, stereo, mono with volume function, stereo with volume function. They realized PCB layout communalization of a audio power block of TV).

Model name	P _O	Channel		Volume
		Monaural	Stereo	
LA42051	5W	○		
LA42052	5W		○	
LA42351	5W	○		○
LA42352	5W		○	○
LA42071	7W	○		
LA42072	7W		○	
LA42152	15W		○	

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V _{CC} max	No signal	24	V
Allowable power dissipation	P _d max	Infinite heat sink	15	W
Maximum junction temperature	T _j max		150	°C
Thermal resistance	θ _{jc}		3	°C/W
Operating temperature	T _{opr}		-25 to +75	°C
Storage temperature	T _{stg}		-40 to +150	°C

IC DESCRIPTION

Operating Conditions at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	unit
Recommended supply voltage	V_{CC}		12	V
Recommended load resistance	R_L		8	Ω
Allowable operating voltage range	$V_{CC\ op}$		5.5 to 20	V

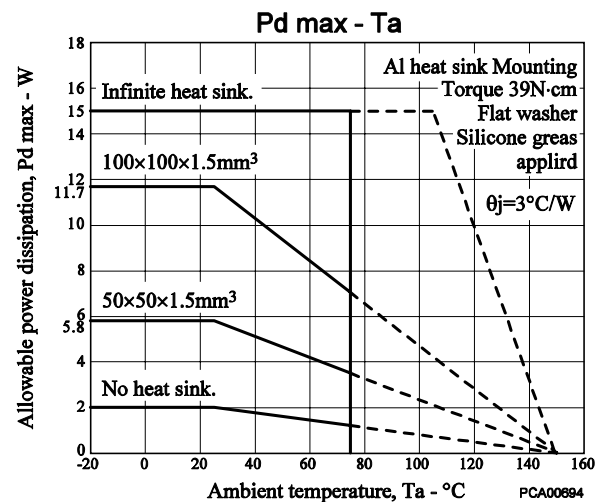
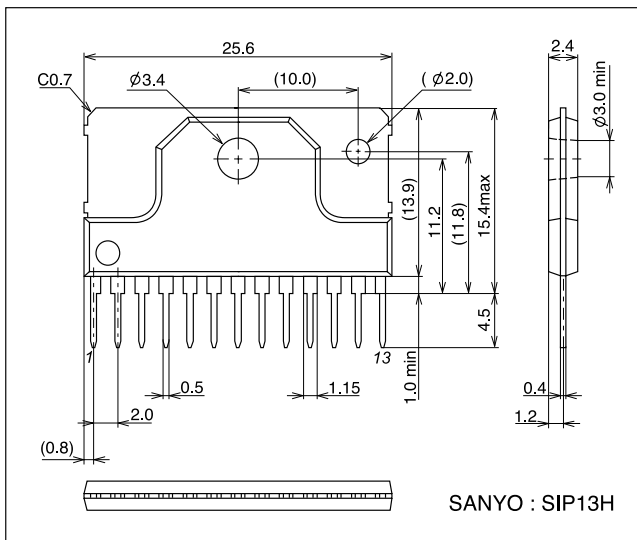
Electrical Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = 12\text{V}$, $R_L = 8\Omega$, $f = 1\text{kHz}$, $R_g = 600\ \Omega$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Standby current	I_{ST}	Amplifier off		0	10	μA
Quiescent current	I_{CCO}	$R_g = 0$	40	70	150	mA
Output power	P_O	THD = 10%	6	7		W
Total harmonic distortion	THD	$P_O = 1\text{W}$		0.06	0.2	%
Voltage gain	VG	$V_O = 0\text{dBm}$	33	35	37	dB
Output noise voltage	V_{NO}	$R_g = 0$, BPF = 20Hz to 20kHz		0.1	0.3	mVrms
Ripple rejection	SVRR	$R_g = 0$, $f_R = 100\text{Hz}$, $V_{CCR} = 0\text{dBm}$	50	60		dB
Channel separation	CH.Sep	$R_g = 10\text{k}\Omega$, $V_O = 0\text{dBm}$	50	60		dB
Mute Attenuation	ATT	$V_o = 1\text{Vrms}$, BPF=20Hz to 20kHz	80	90		dB
Mute control voltage (pin 6)	V_{mute}	Mute ON	1.7		3.0	V
		Mute OFF	0		0.5	V
Standby control voltage (The Pin 5 voltage)	V_{ST}	Amplifier on	2.5		20	V
		Amplifier off	0		0.5	V
Input resistance	R_i		14	20	26	$\text{k}\Omega$

Package Dimensions

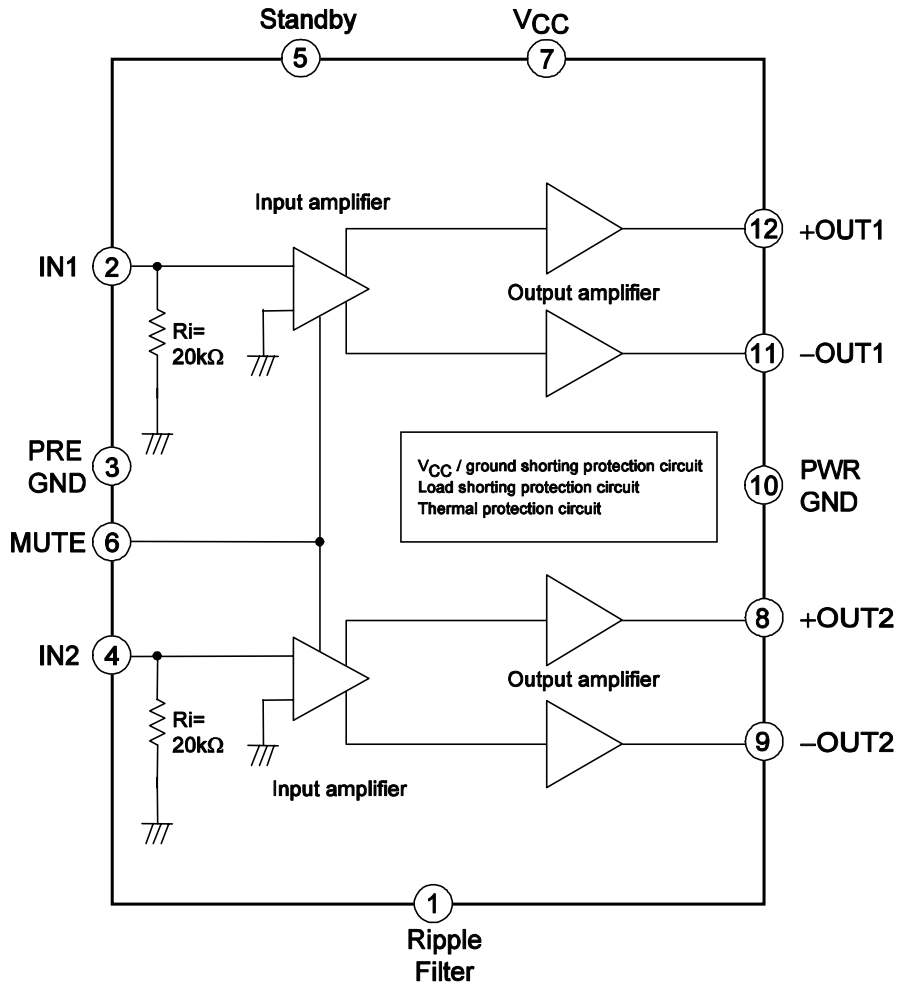
unit : mm

3107B



IC DESCRIPTION

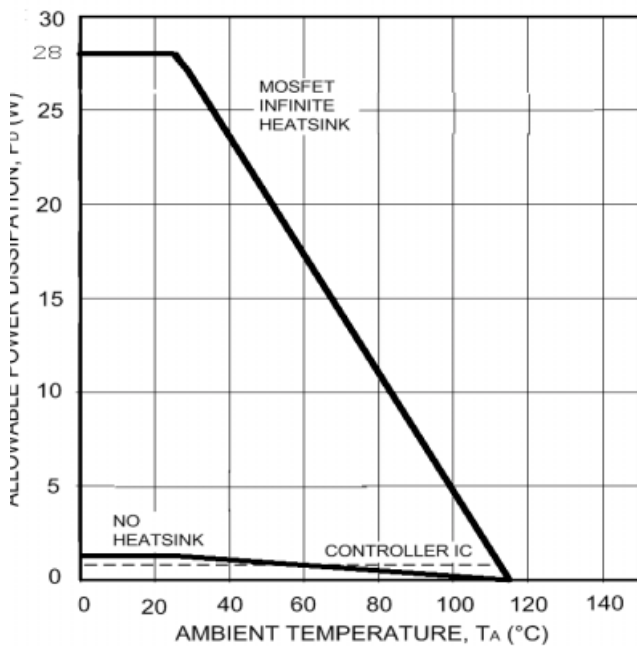
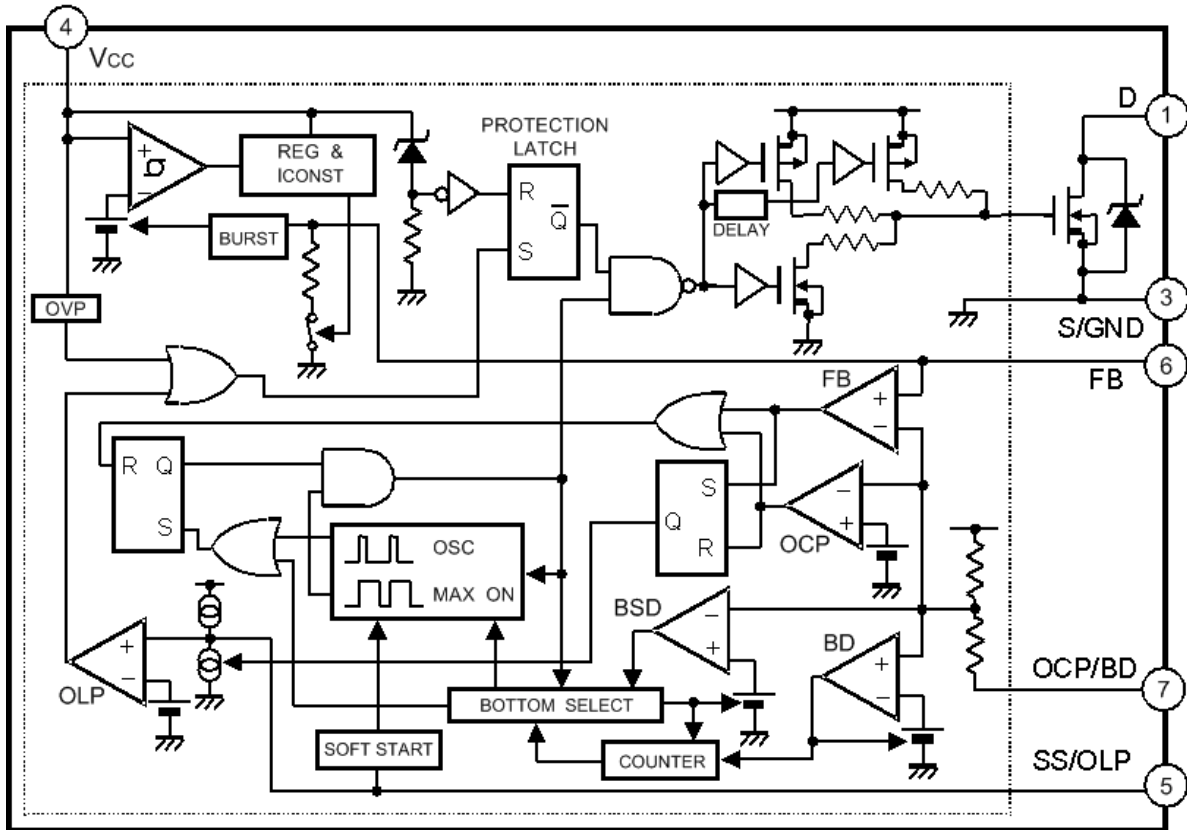
Block Diagram



IC DESCRIPTION

5. STR-6754

FUNCTIONAL BLOCK DIAGRAM



FEATURES AND BENEFITS (cont'd)

- ? Auto-Bias Function
- Stable Burst Operation Without Generating Interference
- ? Internal Off-Timer Circuit
- ? Built-In Constant-Voltage Drive
- ? Multiple Protections:
 - Pulse-by-Pulse Overcurrent Protection
 - Overload Protection with Auto Recovery
 - Latching Overvoltage Protection
 - Undervoltage Lockout with Hysteresis
- ? RoHS Compliant

IC DESCRIPTION

ELECTRICAL CHARACTERISTICS at $T_A = +25^\circ\text{C}$, $V_{CC} = 20\text{ V}$, voltage measurements are referenced to S/GND terminal (unless otherwise specified).

Characteristic	Symbol	Test Conditions	Limits			
			Min.	Typ.	Max.	Units
Start-Up Operation						
Operation Start Voltage	$V_{CC(ON)}$	Turn-on, $V_{CC} = 0 \rightarrow 19.9\text{ V}$	16.3	18.2	19.9	V
Soft-Start Operation Stop Voltage	$V_{SS/OLP}$		1.1	1.2	1.4	V
Soft-Start Oper. Charging Current	$I_{SS/OLP}$		-390	-550	-710	μA
Operation Stop Voltage	$V_{CC(OFF)}$	Turn-off, $V_{CC} = 19.9 \rightarrow 8.8\text{ V}$	8.8	9.7	10.6	V
Circuit Current in Non-Operation	$I_{CC(OFF)}$	$V_{CC} = 15\text{ V}$	–	–	100	μA
Normal Operation						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 300\ \mu\text{A}$	650	–	–	V
Drain Leakage Current	I_{DSS}	$V_{DS} = 650\text{ V}$	–	–	300	μA
On-State Resistance	$r_{DS(on)}$	$I_D = 1.9\text{ A}$, $T_J = +25^\circ\text{C}$	–	–	0.96	Ω
Switching Time	t_f		–	–	400	ns
Circuit Current	$I_{CC(ON)}$		–	–	6.0	mA
Oscillation Frequency	f_{osc}		19	22	25	kHz
Bottom-Skip Oper. Threshold Volt.	$V_{OCPBD(BS1)}$		-605	-665	-720	mV
	$V_{OCPBD(BS2)}$		-385	-435	-485	mV
Quasi-Resonant Oper. Threshold	$V_{OCPBD(TH1)}$		280	400	520	mV
	$V_{OCPBD(TH2)}$		670	800	930	mV
Feedback-Pin Threshold Voltage	$V_{FB(OFF)}$		1.32	1.45	1.58	V
Feedback-Pin Current	$I_{FB(ON)}$		600	1000	1400	μA
Standby Operation						
Standby Operation Start Voltage	$V_{CC(S)}$	$V_{CC} = 0 \rightarrow 12.2\text{ V}$	10.3	11.1	12.1	V
Standby Oper. Start Volt. Interval	V_{CC}		1.10	1.35	1.65	V
Standby Non-Operation Current	$I_{CC(S)}$	$V_{CC} = 10.2\text{ V}$	–	20	56	μA
Feedback-Pin Current	$I_{FB(ON)}$	$V_{CC} = 10.2\text{ V}$	–	4.0	14	μA
Feedback-Pin Threshold Voltage	$V_{FB(S)}$	$V_{CC} = 12.2\text{ V}$	0.55	1.10	1.50	V
Minimum ON Time	$t_{on(min)}$		0.5	0.8	1.2	μs

IC DESCRIPTION

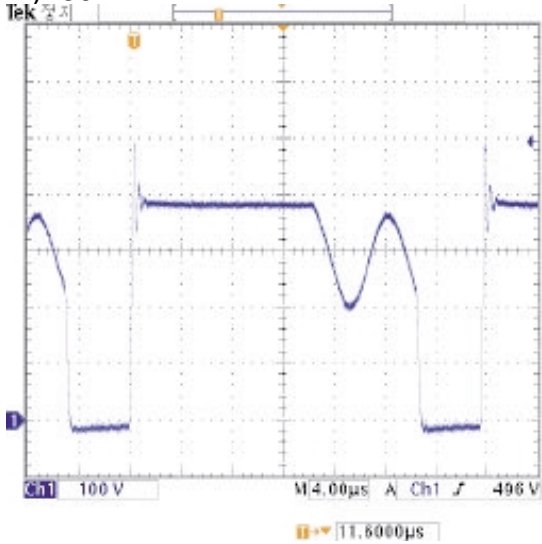
ELECTRICAL CHARACTERISTICS at $T_A = +25^\circ\text{C}$, $V_{CC} = 20\text{ V}$, voltage measurements are referenced to S/GND terminal (unless otherwise specified).

Characteristic	Symbol	Test Conditions	Limits			
			Min.	Typ.	Max.	Units
Protection Operation						
OVP Operation Voltage	$V_{CC(OVP)}$	Turn-off, $V_{CC} = 0 \rightarrow 29.9\text{ V}$	25.5	27.7	29.9	V
Maximum ON Time	$t_{on(max)}$		27.5	32.5	39.0	μs
OLP Operation Voltage	V_{SSOLP}		4.0	4.9	5.8	V
OLP Operation Current	I_{SSOLP}		-6.0	-11	-16	μA
Overcurrent Detect. Threshold Volt.	$V_{OCPBD(LIM)}$		-0.895	-0.940	-0.995	V
OCP/BD-Pin Current	I_{OCPBD}		-40	-100	-250	μA
Latch Holding Current	$I_{CC(H)}$	$V_{CC} = 29.9 \rightarrow V_{CC(OFF)} - 0.3\text{ V}$	–	45	140	mA
Latch Release Voltage	$V_{CC(L)}$	$V_{CC} = 29.9 \rightarrow 6\text{ V}$	6.0	7.2	8.5	V
Other						
Thermal Resistance	$R_{\theta JF}$	Output junction-to-frame	–	–	1.6	$^\circ\text{C/W}$

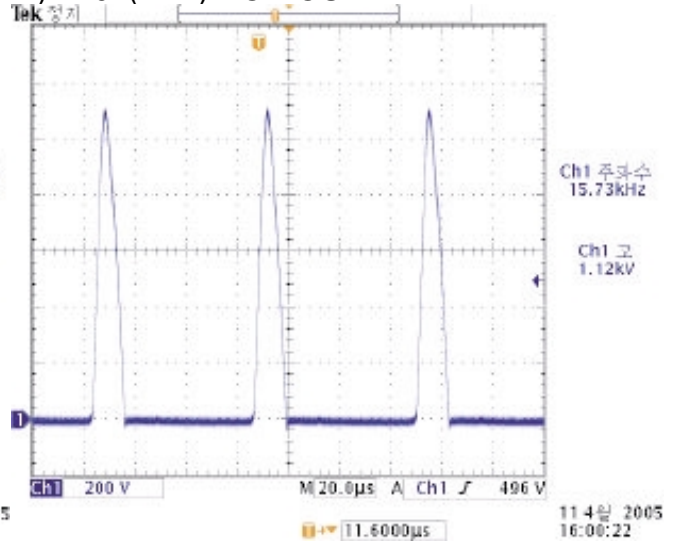
- NOTES: 1. Typical Data is for design information only.
 2. Negative current is defined as coming out of (sourcing) the specified device terminal.

WAVEFORMS

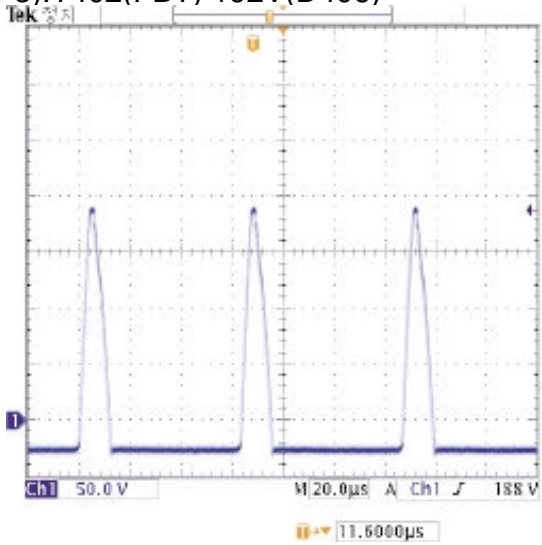
1).I801 PIN1



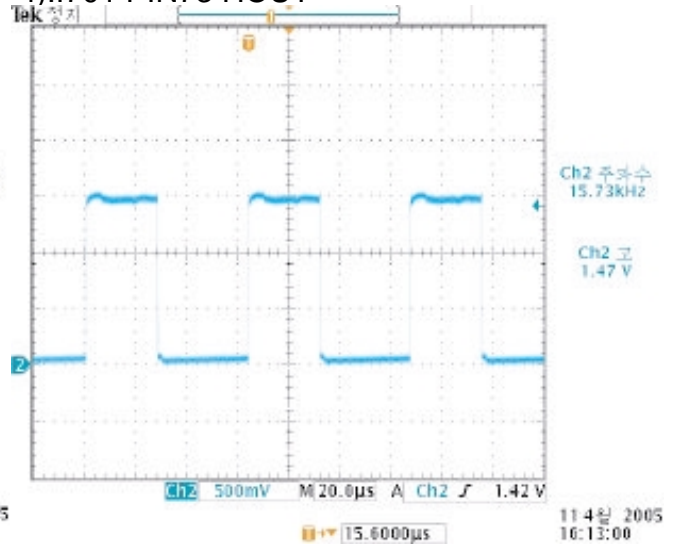
2).T402(FBT) HOR.OUT



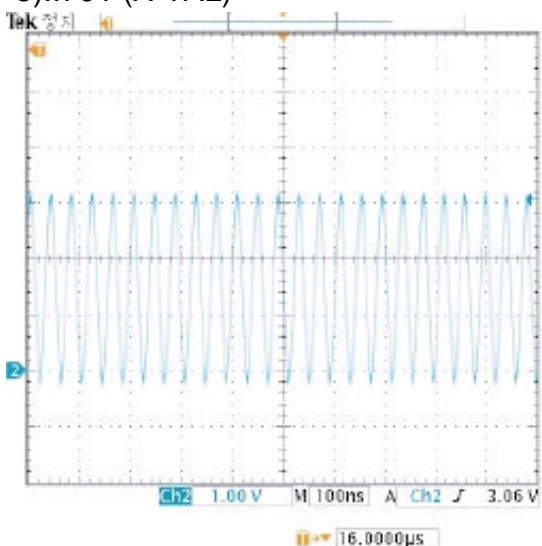
3).T402(FBT) 192V(D406)



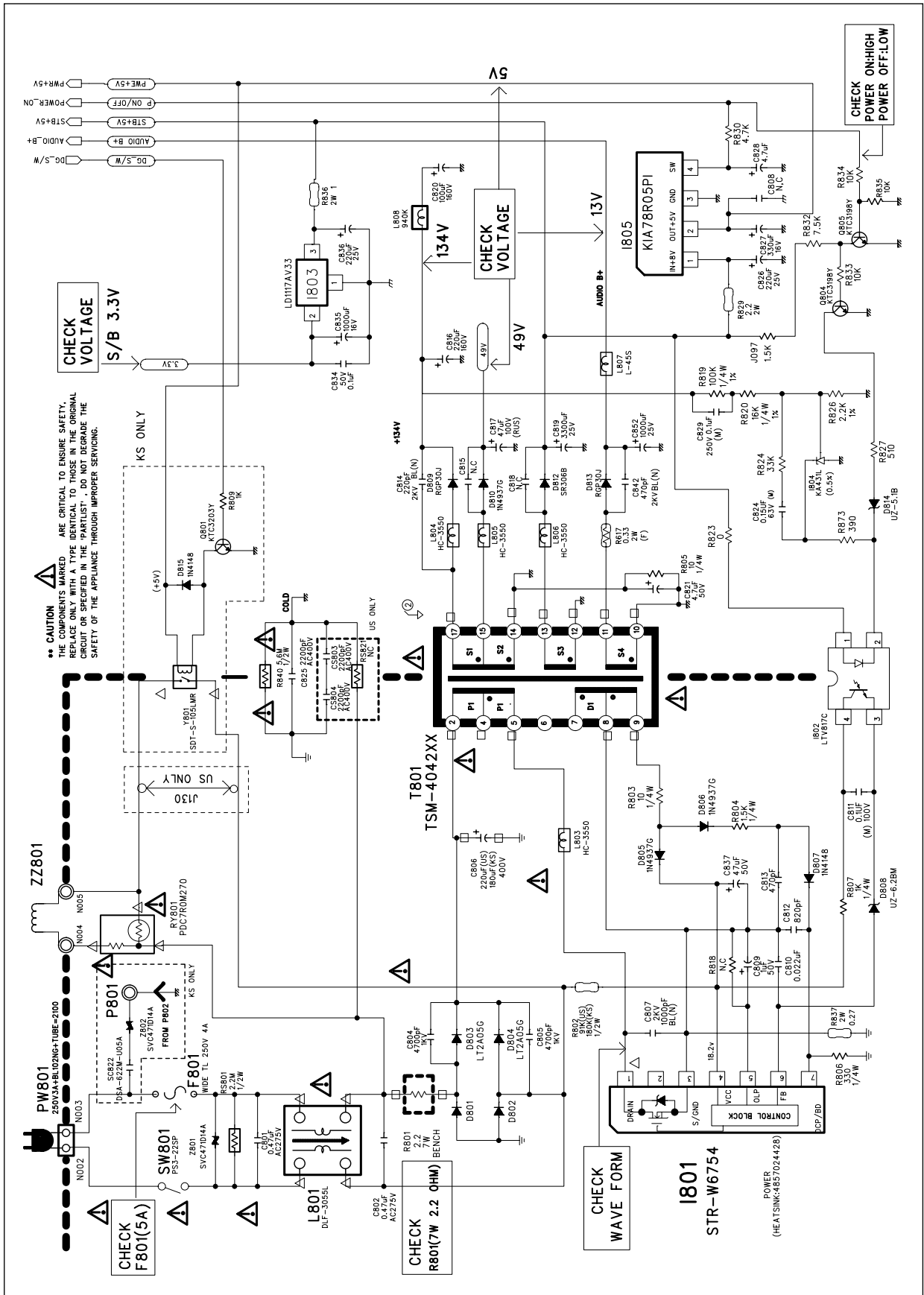
4).I701 PIN73 HOUT



5).I701 (X-TAL)

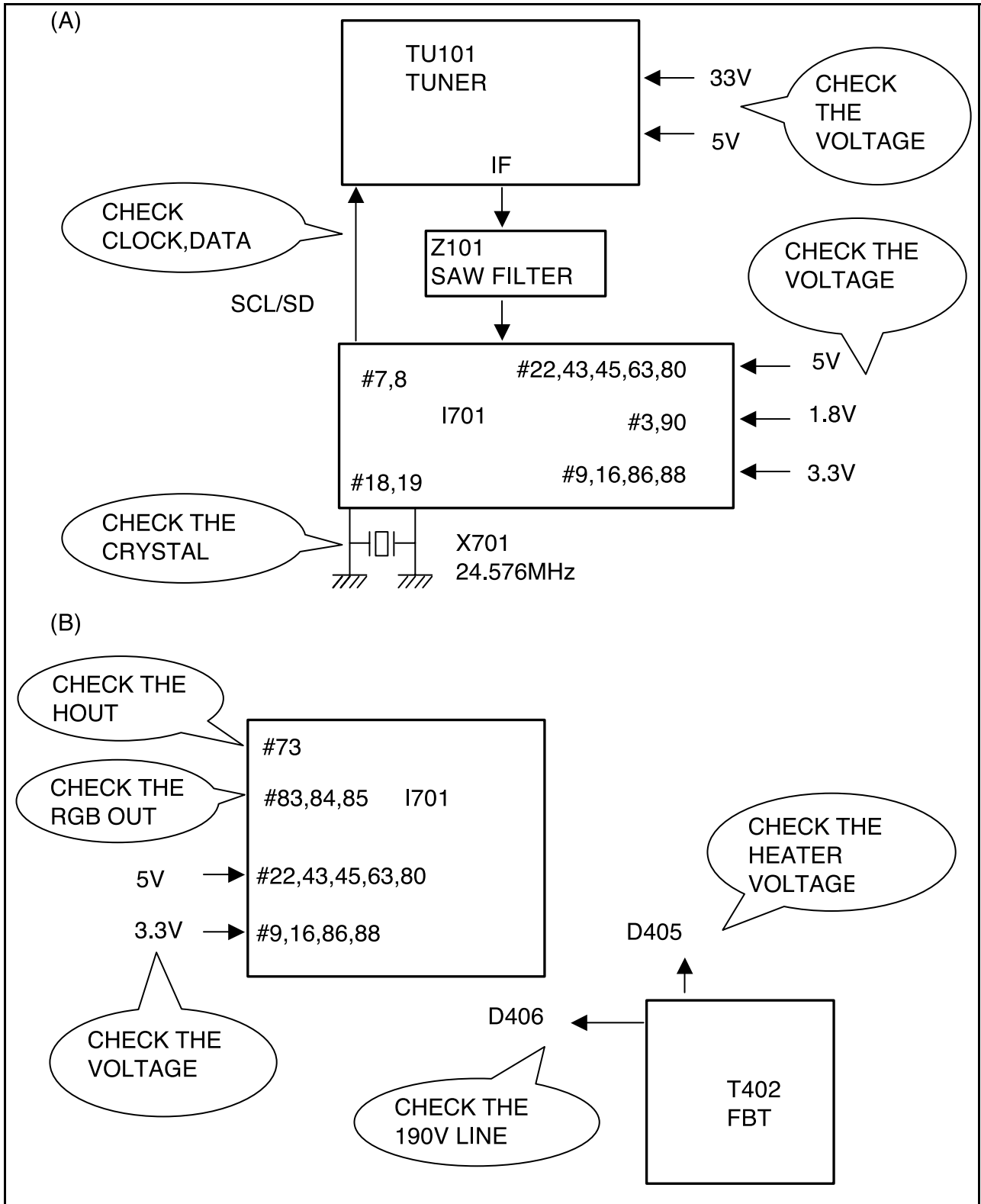


1. NO POWER



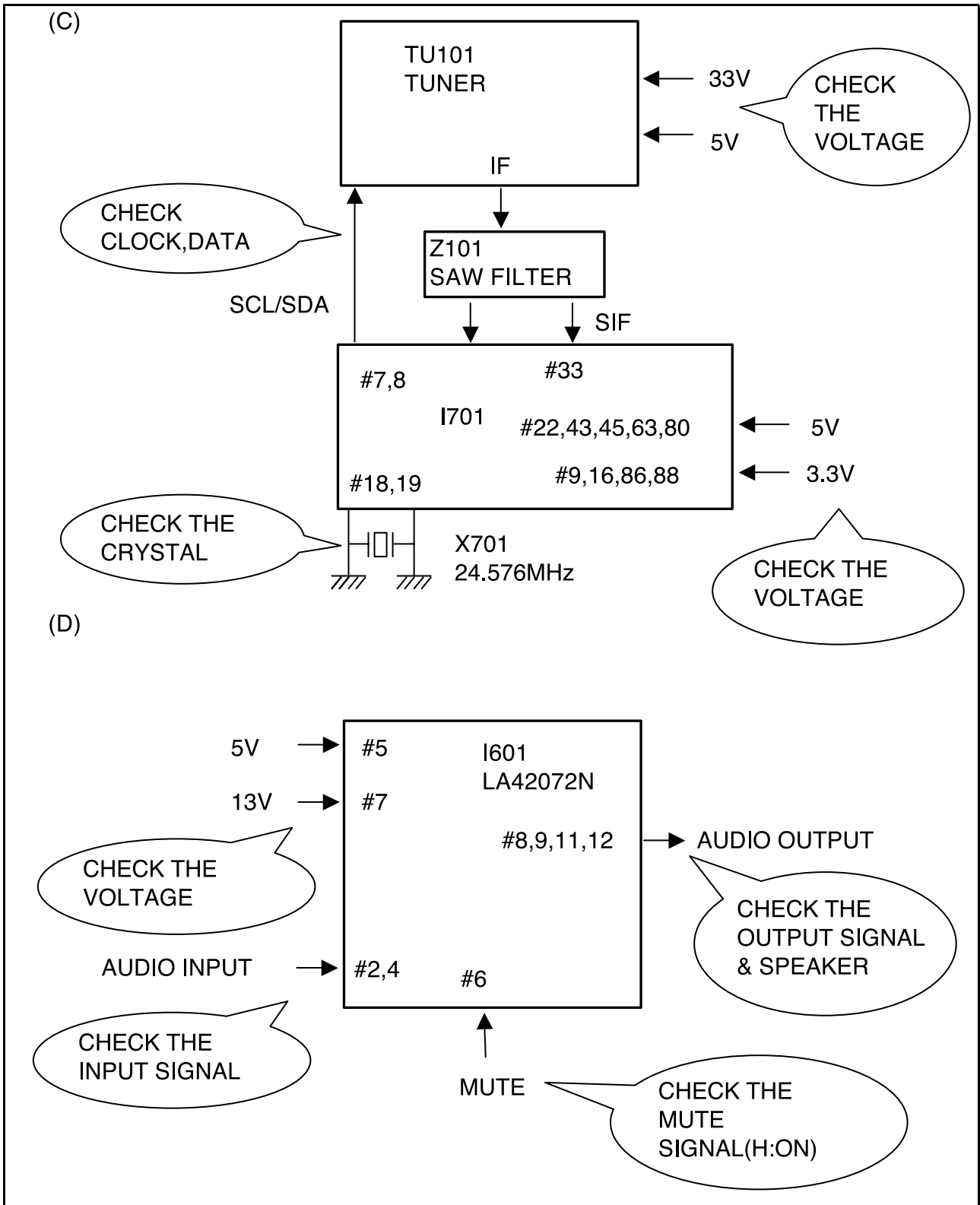
2. NO PICTURE

Check The Waveform of TU101 IF PIN	NG : Go To The Figure (A)
	OK : Go To The Figure (B)



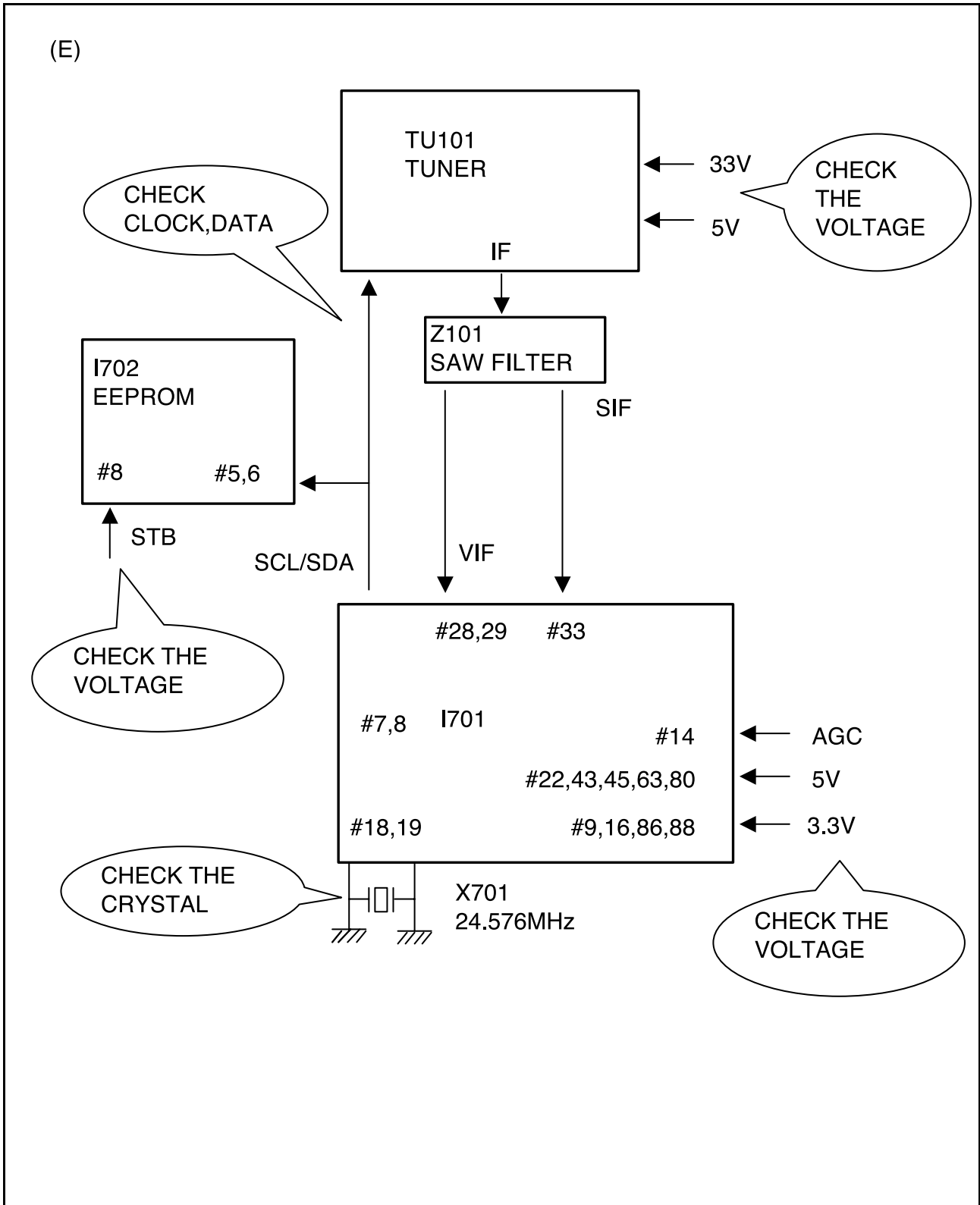
3. NO SOUND

Check The Output Signal of I701 #57,58	NG : Go To The Figure (C)
	OK : Go To The Figure (D)

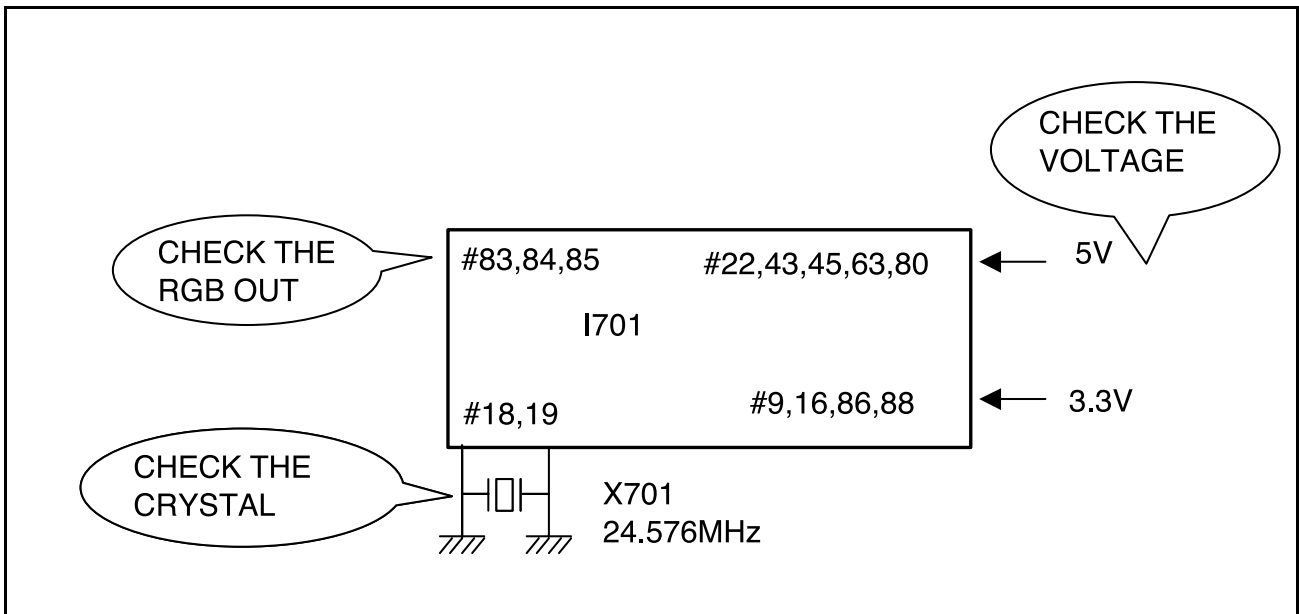


4. CH DON'T MEMORY or SKIP

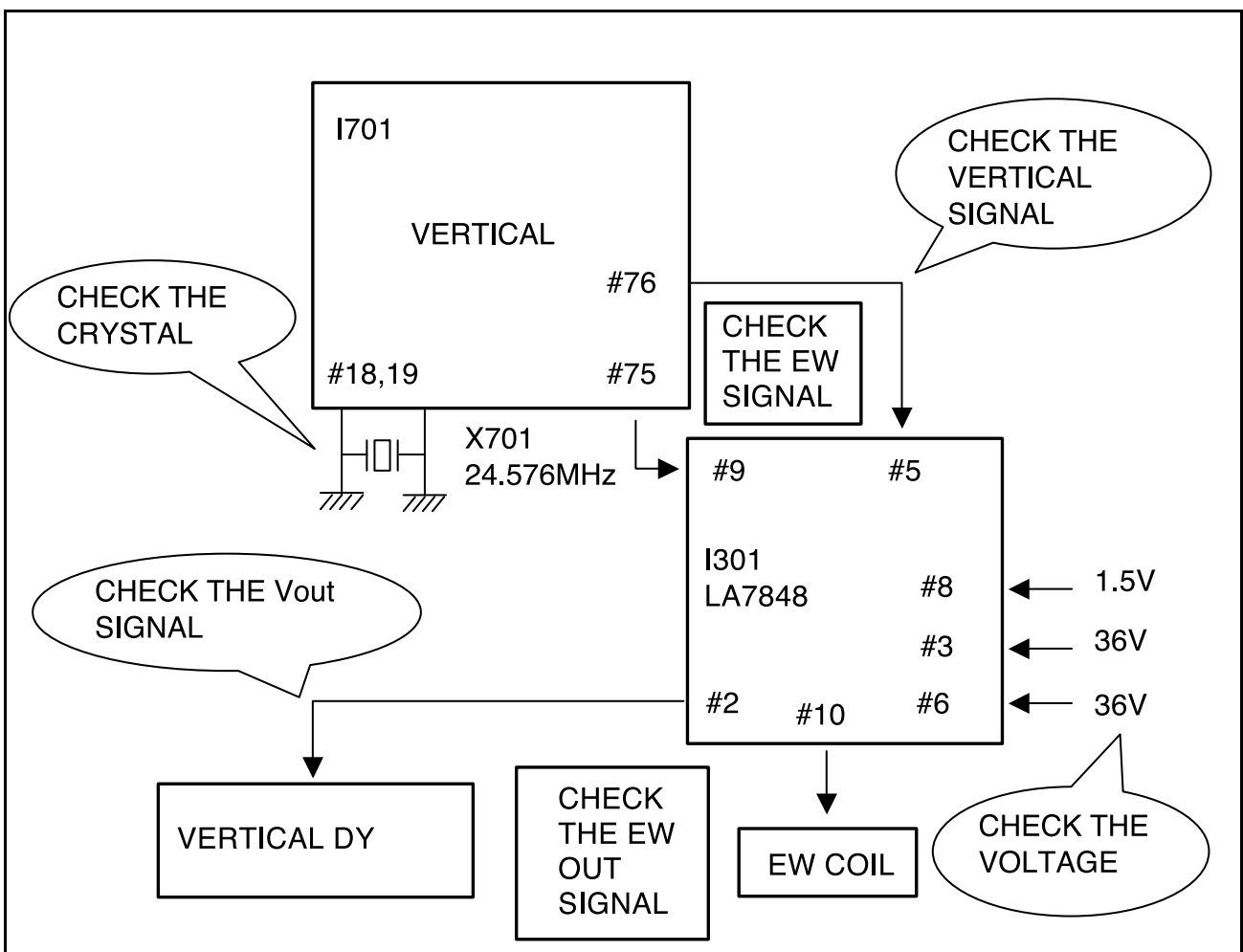
Check The Input Signal Conditions	NG : Loss of Signal or Weak Signal
	OK : Go To The Figure (E)



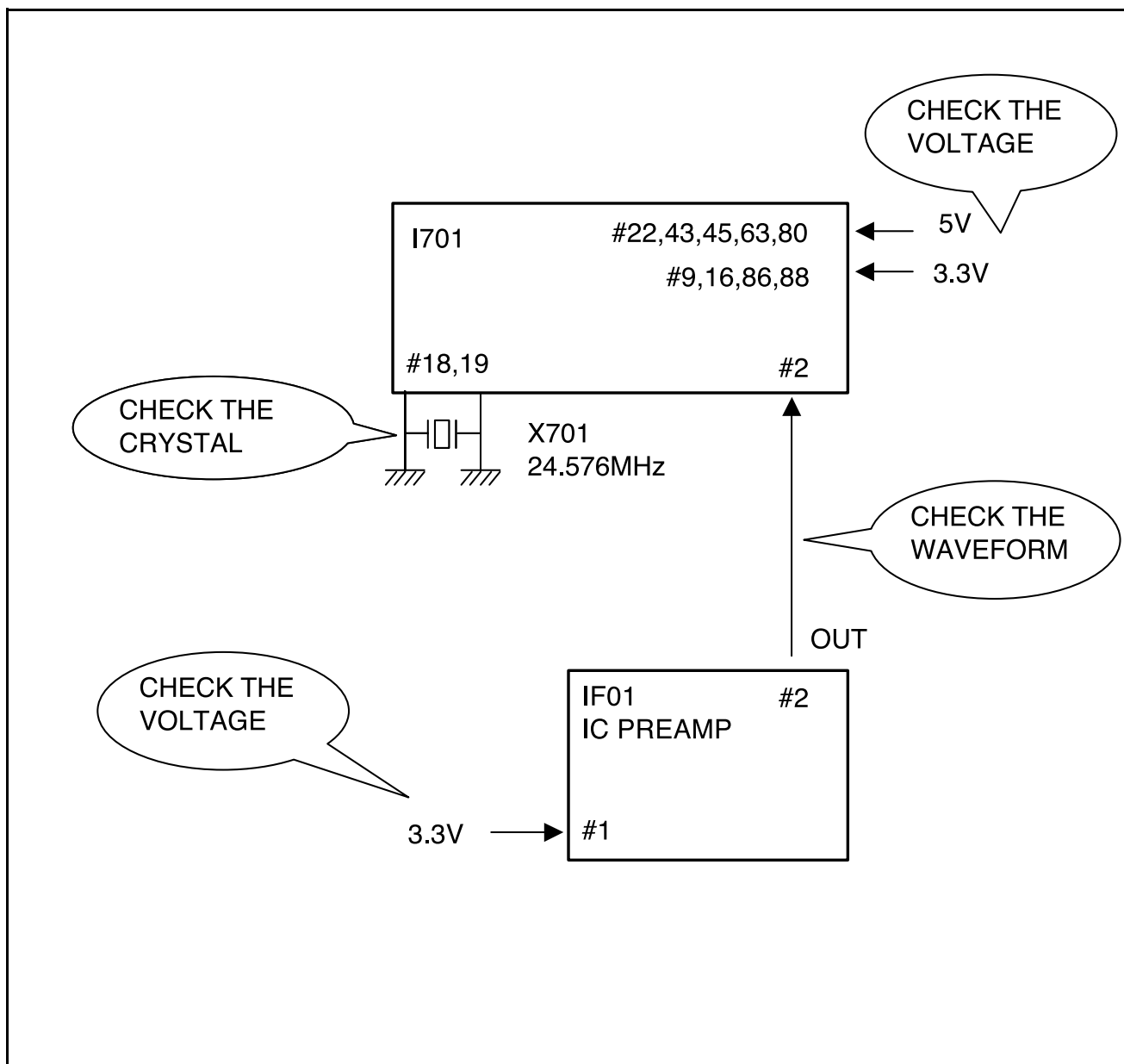
5. NO COLOR



6. NO VERTICAL DEFLECTION OR PINCUSHION BADNESS



7. REMOTE CONTROL DOES NOT OPERATE



ELECTRICAL PARTS LIST

★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>)

**This BOM is based on DTH-21S7SSF

NO	LOC	PARTS CODE	PARTS NAME	PARTS DESCRIPTION	REMARK
NO	LOC	PART CODE	PART NAME	PART DESCRIPTION	
1	ZZ100	48B5748C04	TRANSMITTER REMOCON	R-48C04 (AAA)	
2	ZZ110	PTACPWK210	ACCESSORY AS	DTH-21S7SSF	
3	00010	4850A04110	ANT ROD	SHA-004AR	
4	00030	4850Q00910	BATTERY	R03/NN	
5	00040	4850A00650	TRANS ANT MATCHING	YSC-T-07 BR	
6	10000	48586054K1	MANUAL INSTRUCTION	DTM-2082CW	
7	AD001	4859000240	ADAPTER	2P15A 300V(D=4.0)	
8	M821	4858213803	BAG INSTRUCTION	L.D.P.E TO.05X250X400(+20)	
9	ZZ120	PTBCSHK201	COVER BACK AS	DTQ-21S7	
10	M211	4852179501	COVER BACK	HIPS BK	
11	M781	4857817630	CLOTH BLACK	FELT 400X20X0.7	
12	M782	4857817611	CLOTH BLACK	FELT 200X20X0.7	
13	ZZ130	PTPKCPK201	PACKING AS	DTQ-21S7	
14	10	6520000365	STAPLE PIN	AUTO W65 ROHS(E ZN)	
15	M801	4858072900	BOX CARTON	DW-3 21S7	
16	M811	485819DG00	PAD	EPS	
17	M821	4858211801	BAG P.E	L.D.P.E TO.03X1300X1100	
18	ZZ131	48519A8610	CRT GROUND NET	2104S-1015-1P	
19	ZZ132	58G0000177	COIL DEGAUSSING	DC-21SF AL	
20	ZZ140	PTCACAK210	CABINET AS	DTH-21S7SSF	
21	40	2TF01612CL	TAPE FILAMENT	T0.15XW12MMXL50M CLEAR	
22	M201A	4856017703	SCREW CRT FIX	5X30 L80 BK 3CR	
23	M201B	4856017710	SCREW CRT FIX	5X30 L190 BK 3CR	
24	M201C	4856219502	WASHER RUBBER	CR T2.0 BLACK	
25	M211A	7172401452	SCREW TAPPTITE	TT2 TRS 4X14 MFZN BK 3CR	
26	M211B	7178301252	SCREW TAPPTITE	TT2 WAS 3X12 MFZN BK 3CR	
27	M541	4855419800	SPEC PLATE	ART 150	
28	M686	4856812001	TIE CABLE	NYLON66 DA100	
29	M831	7178301051	SCREW TAPPTITE	TT2 WAS 3X10 MFZN 3CR	
30	M902	4856814600	CLAMP WIRE	NYLON 66	
31	SP01A	7178301051	SCREW TAPPTITE	TT2 WAS 3X10 MFZN 3CR	
32	SP02A	7178301051	SCREW TAPPTITE	TT2 WAS 3X10 MFZN 3CR	
33	V901	4859654963	CRT	A51QGT420X11 M20	
34	ZZ200	PTFMSJK201	MASK FRONT AS	DTQ-21S7	
35	M191	4851957900	DECO SENSOR AS	3569111+5557500	
36	M191A	7178301051	SCREW TAPPTITE	TT2 WAS 3X10 MFZN 3CR	
37	M201	4852095611	MASK FRONT	HIPS GY	
38	M481	4854872511	BUTTON POWER	ABS GY	
39	M481A	4856716000	SPRING	SWPA PIE0.5	
40	M561	48556152SD	MARK BRAND	SILVER DIA-CUTTING	
41	ZZ210	PTSPPWK201	SPEAKER AS	DTQ-21S7	
42	P601A	4850704S31	CONNECTOR	YH025-04+YRT205+ULW800400	
43	SP01A	4858318910	SPEAKER	SP-50110F05C	
44	SP02A	4858318910	SPEAKER	SP-50110F05C	
45	ZZ290	PTMPMSK210	PCB MAIN MANUAL AS	DTH-21S7SSF	
46	100	2193110012	SOLDER WIRE	SAC3000 •3.0MM (LFA3C0-W3.0)	
47	200	2193110024	SOLDER WIRE	SAC3005 •1.6MM (LFA3-107-W1.6)	

ELECTRICAL PARTS LIST

NO	LOC	PARTS CODE	PARTS NAME	PARTS DESCRIPTION	REMARK
48	300	2291050623	FLUX SOLDER LF	SV-PBF-304P(0.823)	
49	400	2291050312	FLUX SOLVENT	S-3000	
50	C118	CMXL1J154J	C MYLAR	63V MEU 0.15MF J	
51	C401	CEYD1H689W	C ELECTRO	50V RHD 6.8MF (16X35.5)	
52	C406	CMYF2G224J	C MYLAR	400V MPP 0.22MF J	
53	C407	CMYH3C822J	C MYLAR	1.6KV BUP 8200PF J	
54	C408	CMYH3C562J	C MYLAR	1.6KV BUP 5600PF J	
55	C409	CMXE2G333J	C MYLAR	400V PU 0.033MF J (TP)	
56	C424	CMYE2G104J	C MYLAR	400V PU 0.1MF J	
57	C425	CMYE2G473J	C MYLAR	400V PU 0.047MF J	
58	C801	CL1UC3474M	C LINE ACROSS	0.47MF 1J(UCVSNDF/SV)+Q/O	
59	C802	CL1UC3474M	C LINE ACROSS	0.47MF 1J(UCVSNDF/SV)+Q/O	
60	C806	CEYD2G221D	C ELECTRO	400V FHS 220MF (25X40)	
61	C807	CBYB3D102K	C CERA SEMI	2KV BL(N) 1000PF K	
62	C816	CEYF2C221V	C ELECTRO	160V RSS 220MF (18X35.5)	
63	C819	CEYF1E332V	C ELECTRO	25V RSS 3300MF (16X31.5)	
64	CS803	CH1BFE222M	C CERA AC	U/C/V AC400V 2200PF	
65	CS804	CH1BFE222M	C CERA AC	U/C/V AC400V 2200PF	
66	D402	DDGP30L---	DIODE	DGP30L	
67	D403	DRGP30JP---	DIODE	RGP-30JP	
68	D809	DRGP30JP---	DIODE	RGP-30JP	
69	D812	DSR306E20-	DIODE	SR306E20	
70	D813	DRGP30JP---	DIODE	RGP-30JP	
71	DL701	DLH2PR04---	LED BLOCK	LH-2P-R-04	
72	I301	PTA3SW3301	HEAT SINK ASS`Y	1LA7848--- + 7174301051	
73	00001	1LA7848---	IC VERTICAL	LA7848	
74	0000A	4857033301	HEAT SINK	AL EX ANODIZING	
75	0000B	7174301051	SCREW TAPPTITE	TT2 RND 3X10 MFZN 3CR	
76	I601	PTP2SW8210	HEAT SINK ASS`Y	1LA42072N- + 7174300851	
77	00001	1LA42072N-	IC AUDIO AMP	LA42072N-E	
78	0000A	4857028210	HEAT SINK	AL EX	
79	0000B	7174300851	SCREW TAPPTITE	TT2 RND 3X8 MFZN 3CR	
80	I701	12041PQN1F	IC MICOM FLASH	TDA12041PQ/N1F40	
81	I702	124LC16B1B	IC MEMORY	24LC16B1B	
82	I801	PTA2SW4428	HEAT SINK ASS`Y	1STRW6754- + 7174300851	
83	00001	1STRW6754-	IC POWER	STR-W6754	
84	0000A	4857024428	HEAT SINK	AL EX NON-ANODIZING	
85	0000B	7174300851	SCREW TAPPTITE	TT2 RND 3X8 MFZN 3CR	
86	I802	1EL817C---	IC PHOTO COUPLER	EL817C	
87	I803	PTSBSW6900	HEAT SINK ASS`Y	1A1117P133 + 7174300851	
88	00001	1A1117P133	IC REGULATOR	KIA1117PI33 3.3V TO-220IS	
89	0000A	4857026900	HEAT SINK	AL EX	
90	0000B	7174300851	SCREW TAPPTITE	TT2 RND 3X8 MFZN 3CR	
91	I805	1K78R05---	IC REGULATOR	KIA78R05API	
92	IF01	1346VF6---	IC PREAMP	346VF6	
93	JP01	4859105240	JACK PHONE	LGT1516-0100	
94	JP02	4859111650	JACK PIN BOARD	PH-JB-9514	
95	JP03	4859112850	JACK PIN	DPSS-0173(3P ST)	
96	L401	58C7070085	COIL CHOKE	TLN-3062A	
97	L402	58H0000108	COIL H-LINEARITY	TRL-440D	
98	L403	58C0000172	COIL CHOKE	CH-232B	
99	L404	58C0000173	COIL CHOKE	CH-481GA	
100	L801	5PDLF3055L	FILTER LINE	DLF-3055L	
101	L807	58C0000090	COIL CHOKE	L-45S	
102	M231	4852332511	PANEL CTRL	ABS GY	

ELECTRICAL PARTS LIST

NO	LOC	PARTS CODE	PARTS NAME	PARTS DESCRIPTION	REMARK
103	M231A	7178301051	SCREW TAPPTITE	TT2 WAS 3X10 MFZN 3CR	
104	M491	4854963311	BUTTON CH	ABS GY + AL COATING	
105	P901B	4850705N18	CONNECTOR	YBNH250-05+YBNH250+ULW400	
106	P902B	4850704S90	CONNECTOR	YBNH250-04+YBNH250-04+ULW=300	
107	PA10A	4859235320	CONN WAFER	YW025-10	
108	PA10B	4850710S19	CONNECTOR	YH025-10+YBNH250-10+ULW=400	
109	PK01A	4850703S08	CONNECTOR	YH025-03+YBH250-03+ULW=300	
110	PWC1	48599NL001	CORD POWER AS	EU LP-21+YH396-43V=2.0M	
111	Q401	TKTC3229—	TR	KTC3229	
112	Q402	PTK2SW7201	HEAT SINK ASS`Y	TTT2190YB + 7174300851	
113	00001	TTT2190YB-	TR HORI	TT2190LS-YB11	
114	0000A	4857027201	HEAT SINK	AL T1.0	
115	0000B	7174300851	SCREW TAPPTITE	TT2 RND 3X8 MFZN 3CR	
116	Q901	TKTC3229—	TR	KTC3229	
117	Q902	TKTC3229—	TR	KTC3229	
118	Q903	TKTC3229—	TR	KTC3229	
119	R309	RX07V111J-	R CEMENT	7W 110 OHM VERTICAL	
120	R311	RX07V151J-	R CEMENT	7W 150 OHM VERTICAL	
121	R617	RF02Y338K-	R FUSIBLE	2W 0.33 OHM K	
122	R801	RX07B229JP	R CEMENT	7W 2.2 OHM J BEN 15MM 4P	
123	RY801	DTC7R0M270	POSISTOR	PDC7R0MP6B7Z81C	
124	SCT01	4859304130	SOCKET CRT	ISHG93S	
125	SW801	5S40101143	SW POWER PUSH	PS3-22SP (P.C.B)	
126	T401	5TD0000018	TRANS DRIVE	THD-120	
127	T402	50H0000322	FBT	BSC29-0173M	
128	T801	50M4042B6-	TRANS SMPS	TSM-4042B6	
129	TU101	4859726730	TUNER VARACTOR	TAEC-H012F(A)	
130	X701	5XJ24R576E	CRYSTAL QUARTZ	HC-49/S 24.576MHZ 30PPM	
131	Z101	5PTS6221C	FILTER SAW	TSB6221C	
132	Z801	DSVC471D14	VARISTOR	SVC471D14A (BULK)	
133	ZZ200	PTMPJ0K210	PCB MAIN (RHU) AS	DTH-21S7SSF	
134	C306	CEXF1E102C	C ELECTRO	25V RUS 1000MF (13X20) TP	
135	C402	CEXF2A101C	C ELECTRO	100V RUS 100MF 13*20 TP	
136	C404	CEXA2D229E	C ELECTRO	200V RUL 2.2MF (10X16) TP	
137	C411	CEXF2E100V	C ELECTRO	250V RSS 10MF (10X20) TP	
138	C417	CEXF1E471V	C ELECTRO	25V 470MF 10X12.5	
139	C419	CEXF2A470V	C ELECTRO	100V RSS 47MF (10X16) TP	
140	C613	CEXF1E102C	C ELECTRO	25V RUS 1000MF (13X20) TP	
141	C814	CCXB3D221K	C CERA	2KV B 220PF K (TAPPING)	
142	C817	CEXF2A470C	C ELECTRO	100V RUS 47MF (10X16) TP	
143	C820	CEXF2C101V	C ELECTRO	160V RSS 100MF (16X25) TP	
144	C835	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP	
145	C842	CBXB3D471K	C CERA SEMI	2KV BL(N) 470PF K (T)	
146	C852	CEXF1E102V	C ELECTRO	25V RSS 1000MF (13X20) TP	
147	ZZ200	PTMPJ0K210	PCB MAIN M-10 AS	DTH-21S7SSF	
148	500	2TM18006BE	TAPE MASKING	6.2X500	
149	E001	4856310300	EYE LET	BSR T0.2 (R1.6)	
150	E002	4856310300	EYE LET	BSR T0.2 (R1.6)	
151	E003	4856310300	EYE LET	BSR T0.2 (R1.6)	
152	E004	4856310300	EYE LET	BSR T0.2 (R1.6)	
153	E006	4856310300	EYE LET	BSR T0.2 (R1.6)	
154	E007	4856310300	EYE LET	BSR T0.2 (R1.6)	
155	E008	4856310300	EYE LET	BSR T0.2 (R1.6)	
156	E009	4856310300	EYE LET	BSR T0.2 (R1.6)	
157	E010	4856310600	EYE LET	BSR T0.2 (R2.3)	

ELECTRICAL PARTS LIST

NO	LOC	PARTS CODE	PARTS NAME	PARTS DESCRIPTION	REMARK
158	E011	4856310600	EYE LET	BSR T0.2 (R2.3)	
159	E012	4856310600	EYE LET	BSR T0.2 (R2.3)	
160	E013	4856310300	EYE LET	BSR T0.2 (R1.6)	
161	E014	4856310300	EYE LET	BSR T0.2 (R1.6)	
162	E015	4856310300	EYE LET	BSR T0.2 (R1.6)	
163	E016	4856310600	EYE LET	BSR T0.2 (R2.3)	
164	E017	4856310300	EYE LET	BSR T0.2 (R1.6)	
165	E018	4856310300	EYE LET	BSR T0.2 (R1.6)	
166	E019	4856310300	EYE LET	BSR T0.2 (R1.6)	
167	E020	4856310600	EYE LET	BSR T0.2 (R2.3)	
168	E021	4856310600	EYE LET	BSR T0.2 (R2.3)	
169	E022	4856310300	EYE LET	BSR T0.2 (R1.6)	
170	E023	4856310300	EYE LET	BSR T0.2 (R1.6)	
171	E024	4856310600	EYE LET	BSR T0.2 (R2.3)	
172	E025	4856310600	EYE LET	BSR T0.2 (R2.3)	
173	E026	4856310600	EYE LET	BSR T0.2 (R2.3)	
174	E027	4856310600	EYE LET	BSR T0.2 (R2.3)	
175	E028	4856310600	EYE LET	BSR T0.2 (R2.3)	
176	E029	4856310600	EYE LET	BSR T0.2 (R2.3)	
177	E030	4856310300	EYE LET	BSR T0.2 (R1.6)	
178	E031	4856310300	EYE LET	BSR T0.2 (R1.6)	
179	E032	4856310300	EYE LET	BSR T0.2 (R1.6)	
180	E033	4856310300	EYE LET	BSR T0.2 (R1.6)	
181	E034	4856310300	EYE LET	BSR T0.2 (R1.6)	
182	E036	4856310600	EYE LET	BSR T0.2 (R2.3)	
183	E037	4856310600	EYE LET	BSR T0.2 (R2.3)	
184	E040	4856310300	EYE LET	BSR T0.2 (R1.6)	
185	E041	4856310300	EYE LET	BSR T0.2 (R1.6)	
186	E042	4856310300	EYE LET	BSR T0.2 (R1.6)	
187	E043	4856310600	EYE LET	BSR T0.2 (R2.3)	
188	E044	4856310600	EYE LET	BSR T0.2 (R2.3)	
189	E045	4856310300	EYE LET	BSR T0.2 (R1.6)	
190	E046	4856310300	EYE LET	BSR T0.2 (R1.6)	
191	E047	4856310300	EYE LET	BSR T0.2 (R1.6)	
192	E048	4856310300	EYE LET	BSR T0.2 (R1.6)	
193	E049	4856310600	EYE LET	BSR T0.2 (R2.3)	
194	E050	4856310600	EYE LET	BSR T0.2 (R2.3)	
195	E051	4856310600	EYE LET	BSR T0.2 (R2.3)	
196	E052	4856310600	EYE LET	BSR T0.2 (R2.3)	
197	E053	4856310600	EYE LET	BSR T0.2 (R2.3)	
198	E056	4856310300	EYE LET	BSR T0.2 (R1.6)	
199	E057	4856310300	EYE LET	BSR T0.2 (R1.6)	
200	E058	4856310300	EYE LET	BSR T0.2 (R1.6)	
201	E059	4856310300	EYE LET	BSR T0.2 (R1.6)	
202	E060	4856310300	EYE LET	BSR T0.2 (R1.6)	
203	E061	4856310300	EYE LET	BSR T0.2 (R1.6)	
204	E062	4856310300	EYE LET	BSR T0.2 (R1.6)	
205	E063	4856310600	EYE LET	BSR T0.2 (R2.3)	
206	E064	4856310600	EYE LET	BSR T0.2 (R2.3)	
207	E065	4856310300	EYE LET	BSR T0.2 (R1.6)	
208	E066	4856310300	EYE LET	BSR T0.2 (R1.6)	
209	E067	4856310300	EYE LET	BSR T0.2 (R1.6)	
210	E068	4856310300	EYE LET	BSR T0.2 (R1.6)	
211	E069	4856310300	EYE LET	BSR T0.2 (R1.6)	
212	E070	4856310300	EYE LET	BSR T0.2 (R1.6)	

ELECTRICAL PARTS LIST

NO	LOC	PARTS CODE	PARTS NAME	PARTS DESCRIPTION	REMARK
213	E071	4856310300	EYE LET	BSR T0.2 (R1.6)	
214	E072	4856310300	EYE LET	BSR T0.2 (R1.6)	
215	E073	4856310300	EYE LET	BSR T0.2 (R1.6)	
216	N004	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
217	N005	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
218	N006	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
219	N007	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
220	N008	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
221	N009	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)	
222	P601	485923172S	CONN WAFER	YW025-04 (STICK)	
223	P705	485923172S	CONN WAFER	YW025-04 (STICK)	
224	PK01B	485923162S	CONN WAFER	YW025-03 (STICK)	
225	R106	RS02Z472JS	R M-OXIDE FILM	2W 4.7K OHM J SMALL	
226	R401	RS02Z100JS	R M-OXIDE FILM	2W 10 OHM J SMALL	
227	R407	RS02Z163JS	R M-OXIDE FILM	2W 16K OHM J SMALL	
228	R414	RS02Z249JS	R M-OXIDE FILM	2W 2.4 OHM J SMALL	
229	R416	RF01Z338K-	R FUSIBLE	1W 0.33 OHM K (TAPPING)	
230	R431	RS02Z100JS	R M-OXIDE FILM	2W 10 OHM J SMALL	
231	R802	RS02Z913JS	R M-OXIDE FILM	2W 91K OHM J SMALL	
232	R829	RS02Z229JS	R M-OXIDE FILM	2W 2.2 OHM J SMALL	
233	R836	RS02Z109JS	R M-OXIDE FILM	2W 1 OHM J SMALL	
234	R837	RS02Z228JS	R M-OXIDE FILM	2W 0.22 OHM J SMALL	
235	R920	RS02Z189JS	R M-OXIDE FILM	2W 1.8 OHM J SMALL	
236	ZZ200	PTMPJRK210	PCB MAIN RADIAL AS	DTH-21S7SSF	
237	C101	CCXF1H103Z	C CERA	50V F 0.01MF Z (TAPPING)	
238	C102	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
239	C104	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP	
240	C105	CCXF1H103Z	C CERA	50V F 0.01MF Z (TAPPING)	
241	C106	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP	
242	C112	CMXM2A682J	C MYLAR	100V 6800PF J (TP)	
243	C114	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
244	C115	CMXL1J224J	C MYLAR	63V MEU 0.22MF J (TP)	
245	C116	CCXF1H223Z	C CERA	50V F 0.022MF Z (TAPPING)	
246	C117	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
247	C119	CCXF1H103Z	C CERA	50V F 0.01MF Z (TAPPING)	
248	C124	CMXM2A473J	C MYLAR	100V 0.047MF J (TP)	
249	C125	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP	
250	C127	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
251	C128	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP	
252	C130	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
253	C201	CMXL1J103J	C MYLAR	63V MEU 0.01MF J	
254	C202	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
255	C204	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
256	C301	CMXL1J473J	C MYLAR	63V MEU 0.047MF J	
257	C302	CEXF1C470V	C ELECTRO	16V RSS 47MF (5X11) TP	
258	C303	CEXF1H100C	C ELECTRO	50V RUS 10MF (5X11) TP	
259	C305	CXSL2H100D	C CERA	500V SL 10PF D (TAPPING)	
260	C307	CCXB1H152K	C CERA	50V B 1500PF K (TAPPING)	
261	C308	CCXF1H103Z	C CERA	50V F 0.01MF Z (TAPPING)	
262	C309	CEXF1H479C	C ELECTRO	50V RUS 4.7MF (5X11) TP	
263	C310	CEXF1H101V	C ELECTRO	50V RSS 100MF (8X11.5) TP	
264	C311	CEXF1H101C	C ELECTRO	50V RUS 100MF (8X11.5) TP	
265	C312	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
266	C403	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	
267	C405	CCXB2H561K	C CERA	500V B 560PF K (TAPPING)	

ELECTRICAL PARTS LIST

NO	LOC	PARTS CODE	PARTS NAME	PARTS DESCRIPTION	REMARK
268	C410	CXSL2H470J	C CERA	500V SL 47PF J (TAPPING)	
269	C413	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	
270	C416	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	
271	C418	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	
272	C422	CMXM2A473J	C MYLAR	100V 0.047MF J (TP)	
273	C423	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
274	C601	CEXF1E470C	C ELECTRO	25V RUS 47MF (5X11) TP	
275	C602	CMXL1J224J	C MYLAR	63V MEU 0.22MF J (TP)	
276	C603	CMXL1J224J	C MYLAR	63V MEU 0.22MF J (TP)	
277	C604	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
278	C605	CMXM2A682J	C MYLAR	100V 6800PF J (TP)	
279	C606	CMXM2A682J	C MYLAR	100V 6800PF J (TP)	
280	C607	CCXF1H104Z	C CERA	50V F 0.1MF Z	
281	C608	CCXF1H104Z	C CERA	50V F 0.1MF Z	
282	C609	CCXF1H104Z	C CERA	50V F 0.1MF Z	
283	C610	CCXF1H104Z	C CERA	50V F 0.1MF Z	
284	C612	CCXF1H104Z	C CERA	50V F 0.1MF Z	
285	C614	CEXF1C470V	C ELECTRO	16V RSS 47MF (5X11) TP	
286	C622	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	
287	C623	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	
288	C624	CMXL1J104J	C MYLAR	63V MEU 0.1MF J	
289	C625	CMXL1J104J	C MYLAR	63V MEU 0.1MF J	
290	C626	CMXL1J104J	C MYLAR	63V MEU 0.1MF J	
291	C627	CMXL1J104J	C MYLAR	63V MEU 0.1MF J	
292	C628	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	
293	C629	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	
294	C701	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
295	C704	CEXF1E470V	C ELECTRO	RSS 25V 47MF 5X11 P5.0 TA	
296	C707	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
297	C713	CEXF1C470V	C ELECTRO	16V RSS 47MF (5X11) TP	
298	C716	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
299	C717	CCXB1H102K	C CERA	50V B 1000PF K (TAPPING)	
300	C721	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
301	C722	CMXL1J224J	C MYLAR	63V MEU 0.22MF J (TP)	
302	C723	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP	
303	C724	CXCH1H809D	C CERA	50V CH 8PF D (TAPPING)	
304	C725	CXCH1H809D	C CERA	50V CH 8PF D (TAPPING)	
305	C727	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
306	C729	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
307	C730	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
308	C731	CEXF1E470V	C ELECTRO	RSS 25V 47MF 5X11 P5.0 TA	
309	C734	CMXL1J224J	C MYLAR	63V MEU 0.22MF J (TP)	
310	C735	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
311	C740	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
312	C804	CCXF3A472Z	C CERA	1KV F 4700PF Z (T)	
313	C805	CCXF3A472Z	C CERA	1KV F 4700PF Z (T)	
314	C809	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
315	C810	CCXF1H223Z	C CERA	50V F 0.022MF Z (TAPPING)	
316	C811	CMXM2A104J	C MYLAR	100V 0.1MF J (TP)	
317	C812	CCXB1H821K	C CERA	50V B 820PF K (TAPPING)	
318	C813	CCXB1H471K	C CERA	50V B 470PF K (TAPPING)	
319	C821	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
320	C824	CMXL1J154J	C MYLAR	63V MEU 0.15MF J	
321	C826	CEXF1E221V	C ELECTRO	25V RSS 220MF (8X11.5) TP	
322	C827	CEXF1C331V	C ELECTRO	16V RSS 330MF (8X11.5) TP	

ELECTRICAL PARTS LIST

NO	LOC	PARTS CODE	PARTS NAME	PARTS DESCRIPTION	REMARK
323	C828	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
324	C829	CMXL2E104K	C MYLAR	250V MEU 0.1MF K	
325	C836	CEXF1E221V	C ELECTRO	25V RSS 220MF (8X11.5) TP	
326	C837	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	
327	C904	CCXB3A271K	C CERA	1KV B 270PF K (TAPPING)	
328	CS03	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	
329	CS05	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	
330	F801	5FWPS4022L	FUSE	WIDE TL 250V 4A CASE	
331	I804	1K1A431B—	IC REGULATOR(SHUNT)	KIA431B 2.495V 0.5% TO-92	
332	L808	58CX430599	COIL CHOKE	AZ-9004Y 940K TP	
333	L901	5CPX181J—	COIL PEAKING	180UH J (RADIAL)	
334	Q101	TKTC3198Y-	TR	KTC3198Y	
335	Q201	TKTA1266Y-	TR	KTA1266Y (TP)	
336	Q602	TKTA1266Y-	TR	KTA1266Y (TP)	
337	Q704	TKTC3198Y-	TR	KTC3198Y	
338	Q705	TKTA1270Y-	TR	KTA1270Y (TP)	
339	Q706	TKTC3198Y-	TR	KTC3198Y	
340	Q707	TKTA1270Y-	TR	KTA1270Y (TP)	
341	Q708	TKTC3198Y-	TR	KTC3198Y	
342	Q804	TKTC3198Y-	TR	KTC3198Y	
343	Q805	TKTC3198Y-	TR	KTC3198Y	
344	Q904	TBF420—	TR	BF420	
345	Q905	TBF420—	TR	BF420	
346	Q906	TBF420—	TR	BF420	
347	Q907	TBF421—	TR	BF421	
348	Q908	TBF421—	TR	BF421	
349	Q909	TBF421—	TR	BF421	
350	R302	RN02B271JS	R METAL FILM	2W 270 OHM J SMALL	
351	R402	RN02B201JS	R METAL FILM	2W 200 OHM J SMALL	
352	R403	RN01B472JS	R METAL FILM	1W 4.7K OHM J SMALL	
353	R408	RN02B102JS	R METAL FILM	2W 1K OHM J SMALL	
354	R411	RN02B620JS	R METAL FILM	2W 62 OHM J SMALL	
355	R904	RN02B153JS	R METAL FILM	2W 15K OHM J SMALL	
356	R905	RN02B153JS	R METAL FILM	2W 15K OHM J SMALL	
357	R906	RN02B153JS	R METAL FILM	2W 15K OHM J SMALL	
358	RS04	RN01B221JS	R METAL FILM	1W 220 OHM J SMALL	
359	RS05	RN01B221JS	R METAL FILM	1W 220 OHM J SMALL	
360	SW01	5S50101Z90	SW TACT	THVV502GDA	
361	SW02	5S50101Z90	SW TACT	THVV502GDA	
362	SW03	5S50101Z90	SW TACT	THVV502GDA	
363	SW04	5S50101Z90	SW TACT	THVV502GDA	
364	SW05	5S50101Z90	SW TACT	THVV502GDA	
365	SW06	5S50101Z90	SW TACT	THVV502GDA	
366	ZS01	5PXF1B471M	FILTER EMI	CFI 06 B 1H 470PF	
367	ZS02	5PXF1B471M	FILTER EMI	CFI 06 B 1H 470PF	
368	ZS03	5PXF1B471M	FILTER EMI	CFI 06 B 1H 470PF	
369	ZS04	5PXF1B471M	FILTER EMI	CFI 06 B 1H 470PF	
370	ZZ200	PTMPJAK210	PCB MAIN AXIAL AS	DTH-21S7SSF	
371	510	2TM14006LB	TAPE MASKING	3M #232 6.0X2000M	
372	520	2TM10006LB	TAPE MASKING	3M #232-MAP-C 6.2X2000M	
373	A001	4859820691	PCB MAIN	330X246 D1B	
374	C103	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
375	C109	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
376	C110	CCZL1H222K	C CERA	50V B 2200PF K AXL(1608)	
377	C111	CCZL1H222K	C CERA	50V B 2200PF K AXL(1608)	

ELECTRICAL PARTS LIST

NO	LOC	PARTS CODE	PARTS NAME	PARTS DESCRIPTION	REMARK
378	C126	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
379	C129	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
380	C131	CCZB1H102K	C CERA	50V B 1000PF K (AXIAL)	
381	C203	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
382	C205	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
383	C206	CCZL1H472K	C CERA	50V B 4700PF K AXL(1608)	
384	C304	CZCH1H200J	C CERA	50V CH 20PF J (AXIAL)	
385	C702	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
386	C703	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
387	C705	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
388	C706	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
389	C712	CCXB1H561K	C CERA	50V B 560PF K (TAPPING)	
390	C714	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
391	C715	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
392	C719	CCZB1H102K	C CERA	50V B 1000PF K (AXIAL)	
393	C720	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
394	C726	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
395	C728	CCZJ1H103Z	C CERA	50V F 0.01MF Z AXL(1608)	
396	C732	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
397	C733	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
398	C736	CCZB1H102K	C CERA	50V B 1000PF K (AXIAL)	
399	C737	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
400	C738	CCZB1H102K	C CERA	50V B 1000PF K (AXIAL)	
401	C834	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
402	C901	CCZB1H331K	C CERA	50V B 330PF K (AXIAL)	
403	C902	CCZB1H331K	C CERA	50V B 330PF K (AXIAL)	
404	C903	CCZB1H331K	C CERA	50V B 330PF K (AXIAL)	
405	CA03	CCZB1H102K	C CERA	50V B 1000PF K (AXIAL)	
406	CA04	CCZB1H102K	C CERA	50V B 1000PF K (AXIAL)	
407	CA05	CCZB1H102K	C CERA	50V B 1000PF K (AXIAL)	
408	CA06	CCZB1H102K	C CERA	50V B 1000PF K (AXIAL)	
409	CS01	CCZL1H222K	C CERA	50V B 2200PF K AXL(1608)	
410	CS02	CCZL1H222K	C CERA	50V B 2200PF K AXL(1608)	
411	CS04	CCZL1H222K	C CERA	50V B 2200PF K AXL(1608)	
412	CS06	CCZL1H222K	C CERA	50V B 2200PF K AXL(1608)	
413	CV13	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
414	CV14	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
415	CV15	CCZJ1H104Z	C CERA	50V F 0.1MF Z AXL(1608)	
416	D101	DUZ33B—	DIODE ZENER	UZ-33B	
417	D301	DRGP15JP—	DIODE	RGP-15JP	
418	D401	D1N4937G—	DIODE	1N4937G (TAPPING)	
419	D404	DUZ9R1BM—	DIODE ZENER	UZ-9.1BM	
420	D405	D1N4937G—	DIODE	1N4937G (TAPPING)	
421	D406	D1N4937G—	DIODE	1N4937G (TAPPING)	
422	D407	DRGP15JP—	DIODE	RGP-15JP	
423	D408	DRGP15JP—	DIODE	RGP-15JP	
424	D409	D1N4004S—	DIODE	1N4004S	
425	D602	D1N4148—	DIODE	1N4148 (TAPPING)	
426	D701	DUZ3R9B—	DIODE ZENER	UZ-3.9B	
427	D702	D1N4148—	DIODE	1N4148 (TAPPING)	
428	D703	D1N4148—	DIODE	1N4148 (TAPPING)	
429	D706	DUZ3R3B—	DIODE ZENER	UZ-3.3B	
430	D707	DMTZJ6R2C-	DIODE ZENER	MTZJ 6.2C	
431	D708	DMTZJ6R2C-	DIODE ZENER	MTZJ 6.2C	
432	D709	DMTZJ6R2C-	DIODE ZENER	MTZJ 6.2C	

ELECTRICAL PARTS LIST

NO	LOC	PARTS CODE	PARTS NAME	PARTS DESCRIPTION	REMARK
433	D801	DLT2A05G—	DIODE	LT2A05G (TP)	
434	D802	DLT2A05G—	DIODE	LT2A05G (TP)	
435	D803	DLT2A05G—	DIODE	LT2A05G (TP)	
436	D804	DLT2A05G—	DIODE	LT2A05G (TP)	
437	D805	D1N4937G—	DIODE	1N4937G (TAPPING)	
438	D806	D1N4937G—	DIODE	1N4937G (TAPPING)	
439	D807	D1N4148—	DIODE	1N4148 (TAPPING)	
440	D808	DMTZJ6R2C-	DIODE ZENER	MTZJ 6.2C	
441	D810	D1N4937G—	DIODE	1N4937G (TAPPING)	
442	D814	DUZ5R1B—	DIODE ZENER	UZ-5.1B	
443	D902	D1N4148—	DIODE	1N4148 (TAPPING)	
444	DS01	DMTZJ5R6B-	DIODE ZENER	MTZJ 5.6B	
445	J001	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
446	J002	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
447	J003	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
448	J004	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
449	J006	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
450	J007	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
451	J008	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
452	J011	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
453	J012	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
454	J013	5MC0000100	COIL BEAD	HC-3550	
455	J014	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
456	J017	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
457	J021	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
458	J024	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
459	J025	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
460	J026	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
461	J027	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
462	J028	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
463	J029	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
464	J032	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
465	J033	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
466	J037	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
467	J040	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
468	J042	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
469	J043	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
470	J044	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
471	J045	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
472	J046	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
473	J047	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
474	J048	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
475	J049	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
476	J051	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
477	J052	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
478	J053	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
479	J054	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
480	J055	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
481	J056	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
482	J061	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
483	J062	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
484	J063	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
485	J064	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
486	J065	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
487	J067	85801060GY	WIRE COPPER	1/0.6 TIN COATING	

ELECTRICAL PARTS LIST

NO	LOC	PARTS CODE	PARTS NAME	PARTS DESCRIPTION	REMARK
488	J068	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
489	J069	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
490	J070	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
491	J071	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
492	J072	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
493	J073	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
494	J074	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
495	J075	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
496	J076	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
497	J077	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
498	J082	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
499	J083	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
500	J084	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
501	J087	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
502	J089	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
503	J091	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
504	J092	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
505	J097	RD-AZ152J-	R CARBON FILM	1/6 1.5K OHM J	
506	J098	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
507	J124	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
508	J125	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
509	J128	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
510	J129	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
511	J130	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
512	J131	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
513	J132	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
514	J133	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
515	J134	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
516	J140	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
517	J141	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
518	J142	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
519	J143	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
520	J145	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
521	J901	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
522	J903	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
523	J904	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
524	JS01	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
525	JS02	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
526	JS03	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
527	JS04	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
528	L101	5CPZ470K04	COIL PEAKING	47UH 10.5MM K (LAL04TB)	
529	L103	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
530	L104	5CPZ479K04	COIL PEAKING	4.7UH K (AXIAL 10.5MM)	
531	L201	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
532	L301	5MC0000100	COIL BEAD	HC-3550	
533	L302	5MC0000100	COIL BEAD	HC-3550	
534	L701	5CPZ479K04	COIL PEAKING	4.7UH K (AXIAL 10.5MM)	
535	L702	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
536	L703	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
537	L704	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
538	L705	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
539	L706	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
540	L707	5CPZ479K04	COIL PEAKING	4.7UH K (AXIAL 10.5MM)	
541	L709	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	
542	L714	5CPZ479K02	COIL PEAKING	4.7UH K (AXIAL 3.5MM)	

ELECTRICAL PARTS LIST

NO	LOC	PARTS CODE	PARTS NAME	PARTS DESCRIPTION	REMARK
543	L803	5MC0000100	COIL BEAD	HC-3550	
544	L804	5MC0000100	COIL BEAD	HC-3550	
545	L805	5MC0000100	COIL BEAD	HC-3550	
546	R101	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
547	R102	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
548	R103	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
549	R104	RD-AZ100J-	R CARBON FILM	1/6 10 OHM J	
550	R105	RD-AZ473J-	R CARBON FILM	1/6 47K OHM J	
551	R107	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
552	R108	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
553	R111	RD-AZ181J-	R CARBON FILM	1/6 180 OHM J	
554	R114	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
555	R119	RN-AZ3902F	R METAL FILM	1/6 39K OHM F	
556	R121	RD-AZ183J-	R CARBON FILM	1/6 18K OHM J	
557	R201	RD-AZ224J-	R CARBON FILM	1/6 220K OHM J	
558	R203	RN-AZ1801F	R METAL FILM	1/6 1.8K OHM F	
559	R204	RD-4Z332J-	R CARBON FILM	1/4 3.3K OHM J	
560	R213	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J	
561	R301	RD-4Z150J-	R CARBON FILM	1/4 15 OHM J	
562	R303	RN-4Z6201F	R METAL FILM	1/4 6.20K OHM F	
563	R304	RD-AZ753J-	R CARBON FILM	1/6 75K OHM J	
564	R305	RN-4Z1203F	R METAL FILM	1/4 120K OHM F	
565	R306	RD-4Z103J-	R CARBON FILM	1/4 10K OHM J	
566	R307	RD-4Z562J-	R CARBON FILM	1/4 5.6K OHM J	
567	R308	RD-4Z363J-	R CARBON FILM	1/4 36K OHM J	
568	R310	RD-AZ334J-	R CARBON FILM	1/6 330K OHM J	
569	R312	RN-4Z3901F	R METAL FILM	1/4 3.90K OHM F	
570	R313	RD-4Z563J-	R CARBON FILM	1/4 56K OHM J	
571	R314	RN-4Z1002F	R METAL FILM	1/4 10K OHM F	
572	R315	RN-4Z1002F	R METAL FILM	1/4 10K OHM F	
573	R316	RD-4Z272J-	R CARBON FILM	1/4 2.7K OHM J	
574	R317	RD-2Z129J-	R CARBON FILM	1/2 1.2 OHM J	
575	R404	RD-AZ122J-	R CARBON FILM	1/6 1.2K OHM J	
576	R405	RD-AZ471J-	R CARBON FILM	1/6 470 OHM J	
577	R406	RD-4Z220J-	R CARBON FILM	1/4 22 OHM J	
578	R410	RN-AZ9101F	R METAL FILM	1/6 9.1K OHM F	
579	R412	RN-AZ1302F	R METAL FILM	1/6 13K OHM F	
580	R413	RD-4Z470J-	R CARBON FILM	1/4 47 OHM J	
581	R417	RU01Z078K-	R PICO FUSIBLE	1W 0.07 OHM K (TAPING)	
582	R418	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J	
583	R419	RD-4Z333J-	R CARBON FILM	1/4 33K OHM J	
584	R420	RD-4Z123J-	R CARBON FILM	1/4 12K OHM J	
585	R601	RD-AZ622J-	R CARBON FILM	1/6 6.2K OHM J	
586	R602	RD-AZ821J-	R CARBON FILM	1/6 820 OHM J	
587	R604	RD-AZ622J-	R CARBON FILM	1/6 6.2K OHM J	
588	R605	RD-AZ821J-	R CARBON FILM	1/6 820 OHM J	
589	R606	RD-AZ622J-	R CARBON FILM	1/6 6.2K OHM J	
590	R607	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
591	R609	RD-AZ202J-	R CARBON FILM	1/6 2K OHM J	
592	R610	RD-AZ223J-	R CARBON FILM	1/6 22K OHM J	
593	R612	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
594	R613	RD-4Z229J-	R CARBON FILM	1/4 2.2 OHM J	
595	R614	RD-4Z229J-	R CARBON FILM	1/4 2.2 OHM J	
596	R615	RD-4Z229J-	R CARBON FILM	1/4 2.2 OHM J	
597	R616	RD-4Z229J-	R CARBON FILM	1/4 2.2 OHM J	

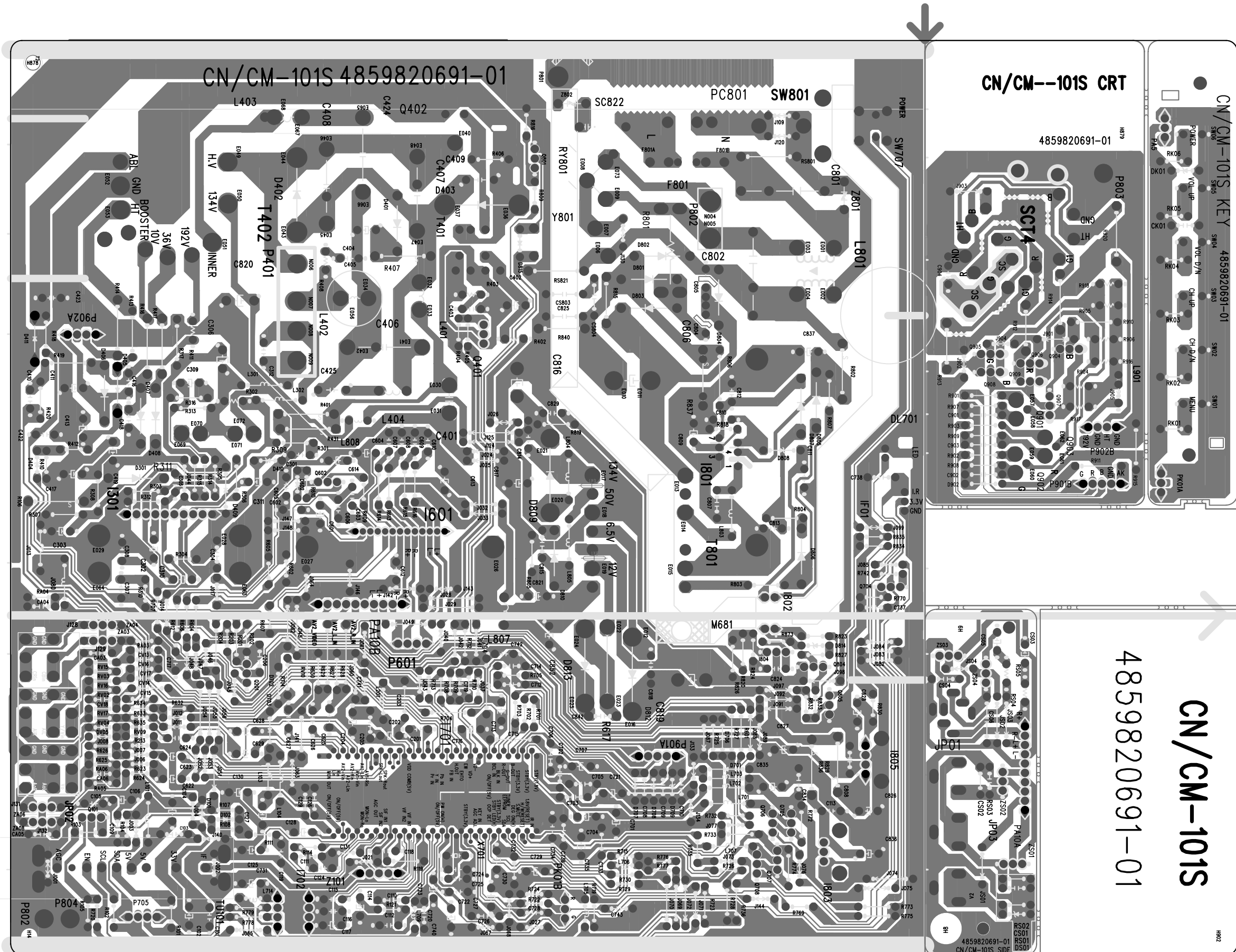
ELECTRICAL PARTS LIST

NO	LOC	PARTS CODE	PARTS NAME	PARTS DESCRIPTION	REMARK
598	R623	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
599	R624	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
600	R625	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
601	R626	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
602	R627	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
603	R628	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
604	R629	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
605	R630	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
606	R632	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
607	R633	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
608	R634	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
609	R635	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
610	R701	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
611	R702	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
612	R703	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
613	R704	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
614	R705	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
615	R707	RN-AZ5600F	R METAL FILM	1/6 560 OHM F	
616	R708	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
617	R709	RD-AZ823J-	R CARBON FILM	1/6 82K OHM J	
618	R710	RD-AZ563J-	R CARBON FILM	1/6 56K OHM J	
619	R712	RD-4Z222J-	R CARBON FILM	1/4 2.2K OHM J	
620	R713	RD-AZ470J-	R CARBON FILM	1/6 47 OHM J	
621	R714	RD-AZ123J-	R CARBON FILM	1/6 12K OHM J	
622	R719	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
623	R720	RD-AZ562J-	R CARBON FILM	1/6 5.6K OHM J	
624	R722	RD-AZ100J-	R CARBON FILM	1/6 10 OHM J	
625	R723	RD-AZ122J-	R CARBON FILM	1/6 1.2K OHM J	
626	R724	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
627	R725	RD-AZ513J-	R CARBON FILM	1/6 51K OHM J	
628	R726	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
629	R727	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
630	R729	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
631	R730	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
632	R733	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
633	R735	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
634	R736	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
635	R742	RD-AZ181J-	R CARBON FILM	1/6 180 OHM J	
636	R769	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
637	R772	RD-4Z473J-	R CARBON FILM	1/4 47K OHM J	
638	R773	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
639	R774	RD-4Z473J-	R CARBON FILM	1/4 47K OHM J	
640	R775	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
641	R776	RD-AZ332J-	R CARBON FILM	1/6 3.3K OHM J	
642	R777	RD-AZ332J-	R CARBON FILM	1/6 3.3K OHM J	
643	R778	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
644	R779	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
645	R803	RD-4Z100J-	R CARBON FILM	1/4 10 OHM J	
646	R804	RD-4Z152J-	R CARBON FILM	1/4 1.5K OHM J	
647	R805	RD-4Z100J-	R CARBON FILM	1/4 10 OHM J	
648	R806	RD-4Z331J-	R CARBON FILM	1/4 330 OHM J	
649	R807	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J	
650	R819	RN-4Z1003F	R METAL FILM	1/4 100K OHM F	
651	R820	RN-4Z1602F	R METAL FILM	1/4 16.0K OHM F	
652	R823	85801060GY	WIRE COPPER	1/0.6 TIN COATING	

ELECTRICAL PARTS LIST

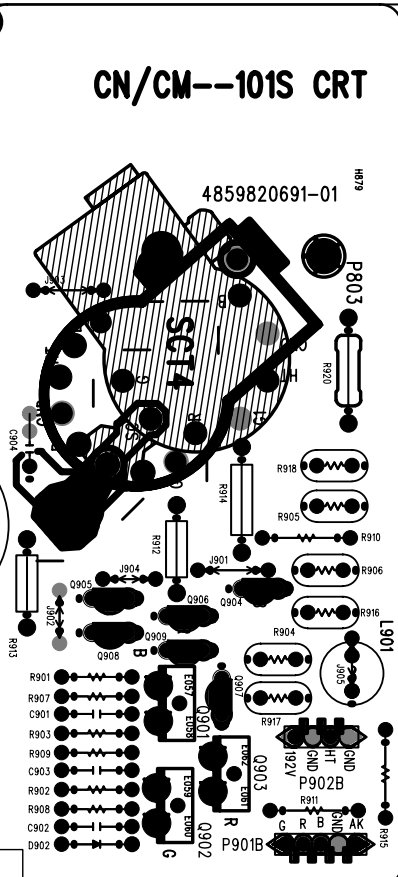
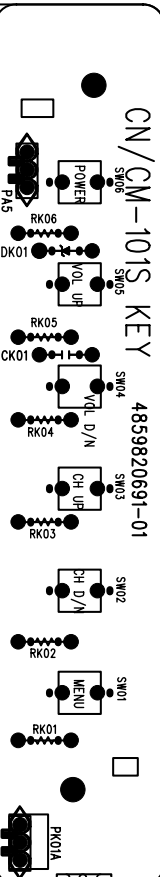
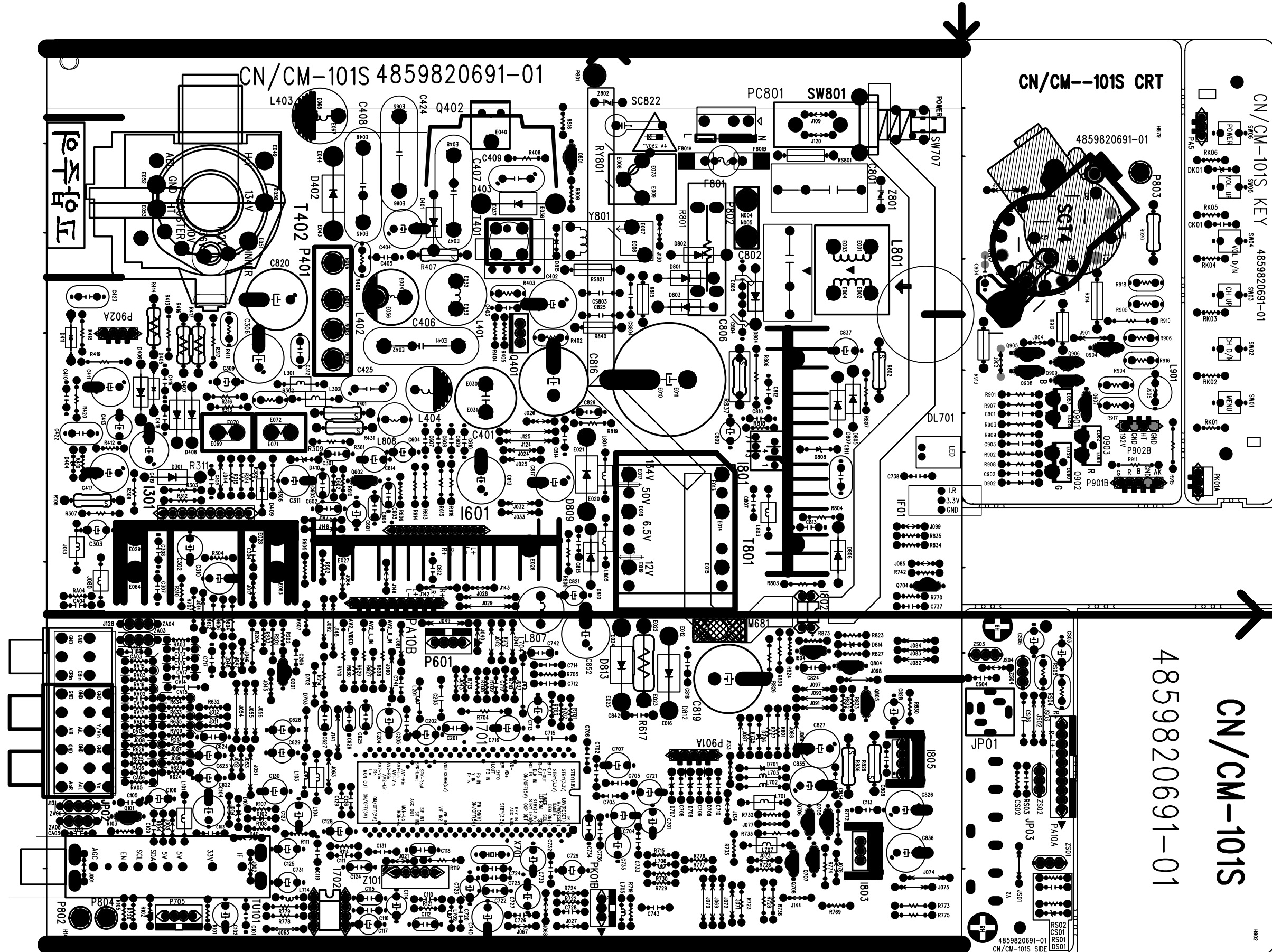
NO	LOC	PARTS CODE	PARTS NAME	PARTS DESCRIPTION	REMARK
653	R824	RD-AZ333J-	R CARBON FILM	1/6 33K OHM J	
654	R826	RN-AZ2201F	R METAL FILM	1/6 2.2K OHM F	
655	R827	RD-AZ511J-	R CARBON FILM	1/6 510 OHM J	
656	R830	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J	
657	R832	RD-AZ752J-	R CARBON FILM	1/6 7.5K OHM J	
658	R833	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
659	R834	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
660	R835	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
661	R840	RC-2Z565KP	R CARBON COMP	1/2 5.6M OHM K	
662	R873	RD-AZ391J-	R CARBON FILM	1/6 390 OHM J	
663	R901	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
664	R902	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
665	R903	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
666	R907	RD-AZ301J-	R CARBON FILM	1/6 300 OHM J	
667	R908	RD-AZ301J-	R CARBON FILM	1/6 300 OHM J	
668	R909	RD-AZ301J-	R CARBON FILM	1/6 300 OHM J	
669	R910	RD-2Z680J-	R CARBON FILM	1/2 68 OHM J	
670	R911	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J	
671	R912	RD-2Z202J-	R CARBON FILM	1/2 2K OHM J	
672	R913	RD-2Z202J-	R CARBON FILM	1/2 2K OHM J	
673	R914	RD-2Z202J-	R CARBON FILM	1/2 2K OHM J	
674	R915	RD-2Z100J-	R CARBON FILM	1/2 10 OHM J	
675	RA03	RD-AZ224J-	R CARBON FILM	1/6 220K OHM J	
676	RA04	RD-AZ224J-	R CARBON FILM	1/6 220K OHM J	
677	RA05	RD-AZ224J-	R CARBON FILM	1/6 220K OHM J	
678	RA06	RD-AZ224J-	R CARBON FILM	1/6 220K OHM J	
679	RK01	RD-AZ132J-	R CARBON FILM	1/6 1.3K OHM J	
680	RK02	RD-AZ331J-	R CARBON FILM	1/6 330 OHM J	
681	RK03	RD-AZ151J-	R CARBON FILM	1/6 150 OHM J	
682	RK04	RD-AZ911J-	R CARBON FILM	1/6 910 OHM J	
683	RK05	RD-AZ561J-	R CARBON FILM	1/6 560 OHM J	
684	RK06	85801060GY	WIRE COPPER	1/0.6 TIN COATING	
685	RS01	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J	
686	RS02	RD-AZ224J-	R CARBON FILM	1/6 220K OHM J	
687	RS03	RD-AZ224J-	R CARBON FILM	1/6 220K OHM J	
688	RS801	RC-2Z225KP	R CARBON COMP	1/2 2.2M OHM K	
689	RV02	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J	
690	RV03	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J	
691	RV04	RD-AZ750J-	R CARBON FILM	1/6 75 OHM J	
692	RV09	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
693	RV10	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
694	RV15	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
695	RV16	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	
696	RV17	RD-AZ101J-	R CARBON FILM	1/6 100 OHM J	

PRINTED CIRCUIT BOARD

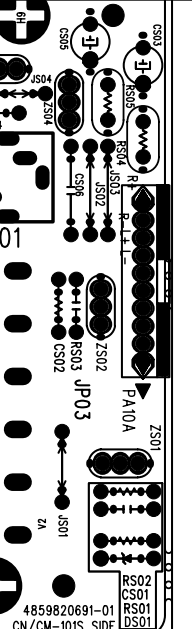


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PRINTED CIRCUIT BOARD

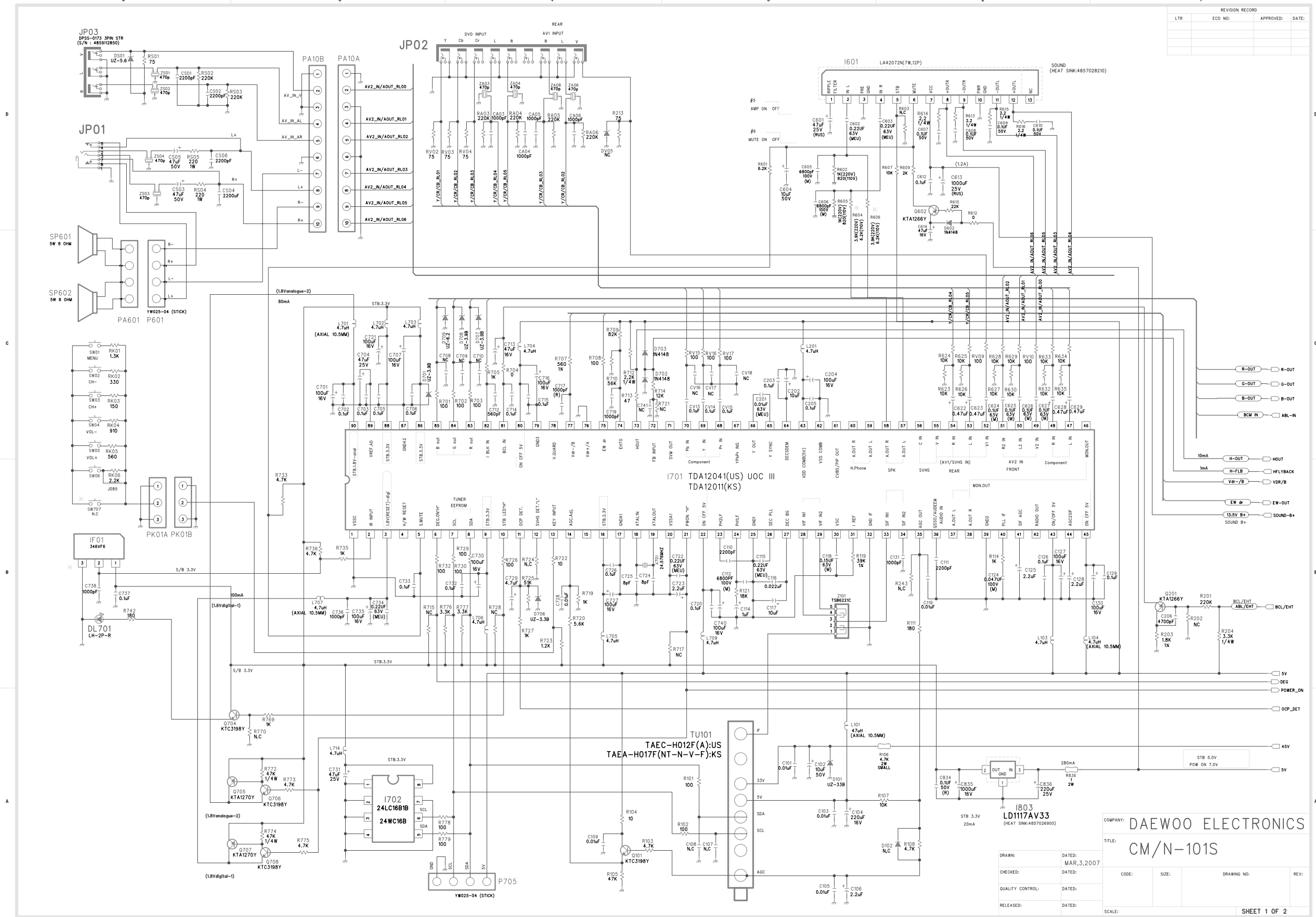


CN/CM-101S
4859820691-01



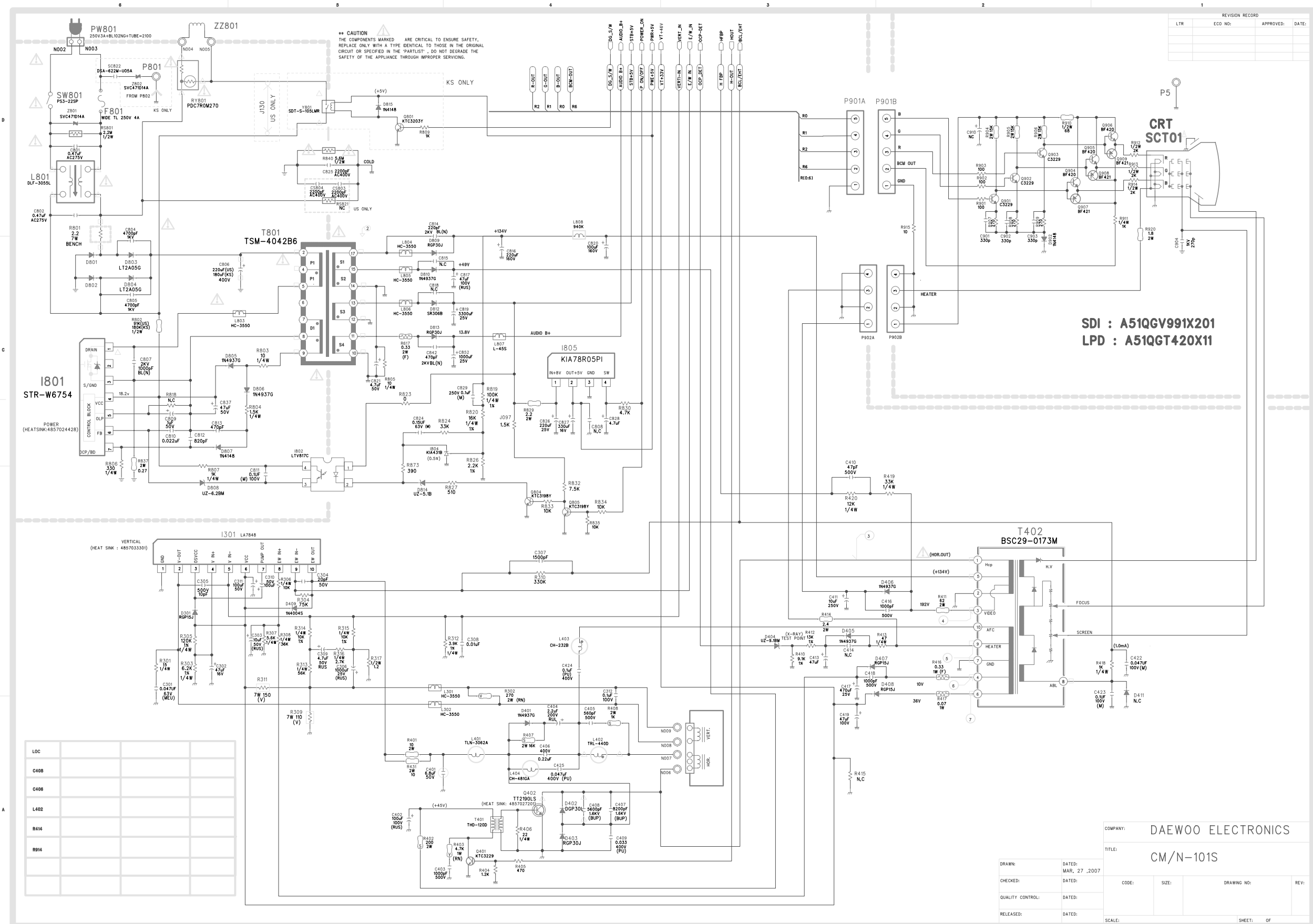
SCHEMATIC DIAGRAM

1. MAIN

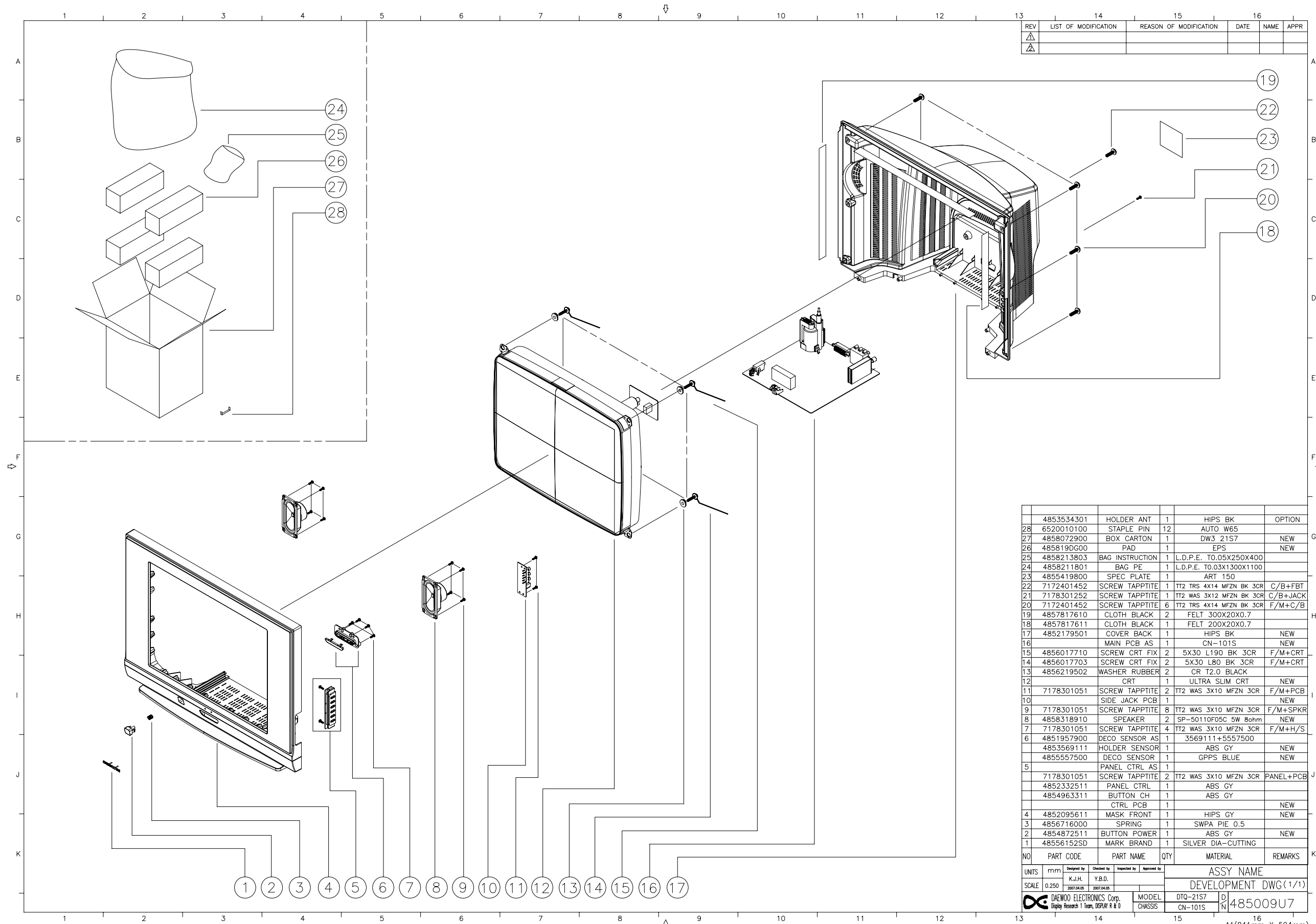


SCHEMATIC DIAGRAM

2. POWER



EXPLODE VIEW



REV	LIST OF MODIFICATION	REASON OF MODIFICATION	DATE	NAME	APPR
△					
△					

NO	PART CODE	PART NAME	QTY	MATERIAL	REMARKS
	4853534301	HOLDER ANT	1	HIPS BK	OPTION
28	6520010100	STAPLE PIN	12	AUTO W65	
27	4858072900	BOX CARTON	1	DW3 21S7	NEW
26	485819DG00	PAD	1	EPS	NEW
25	4858213803	BAG INSTRUCTION	1	L.D.P.E. T0.05X250X400	
24	4858211801	BAG PE	1	L.D.P.E. T0.03X1300X1100	
23	4855419800	SPEC PLATE	1	ART 150	
22	7172401452	SCREW TAPPTITE	1	TT2 TRS 4X14 MFZN BK 3CR	C/B+FBT
21	7178301252	SCREW TAPPTITE	1	TT2 WAS 3X12 MFZN BK 3CR	C/B+JACK
20	7172401452	SCREW TAPPTITE	6	TT2 TRS 4X14 MFZN BK 3CR	F/M+C/B
19	4857817610	CLOTH BLACK	2	FELT 300X20X0.7	
18	4857817611	CLOTH BLACK	1	FELT 200X20X0.7	
17	4852179501	COVER BACK	1	HIPS BK	NEW
16		MAIN PCB AS	1	CN-101S	NEW
15	4856017710	SCREW CRT FIX	2	5X30 L190 BK 3CR	F/M+CRT
14	4856017703	SCREW CRT FIX	2	5X30 L80 BK 3CR	F/M+CRT
13	4856219502	WASHER RUBBER	2	CR T2.0 BLACK	
12		CRT	1	ULTRA SLIM CRT	NEW
11	7178301051	SCREW TAPPTITE	2	TT2 WAS 3X10 MFZN 3CR	F/M+PCB
10		SIDE JACK PCB	1		NEW
9	7178301051	SCREW TAPPTITE	8	TT2 WAS 3X10 MFZN 3CR	F/M+SPKR
8	4858318910	SPEAKER	2	SP-50110F05C 5W 8ohm	NEW
7	7178301051	SCREW TAPPTITE	4	TT2 WAS 3X10 MFZN 3CR	F/M+H/S
6	4851957900	DECO SENSOR AS	1	3569111+5557500	
	4853569111	HOLDER SENSOR	1	ABS GY	NEW
	4855557500	DECO SENSOR	1	GPPS BLUE	NEW
5		PANEL CTRL AS	1		
	7178301051	SCREW TAPPTITE	2	TT2 WAS 3X10 MFZN 3CR	PANEL+PCB
	4852332511	PANEL CTRL	1	ABS GY	
	4854963311	BUTTON CH	1	ABS GY	
		CTRL PCB	1		NEW
4	4852095611	MASK FRONT	1	HIPS GY	NEW
3	4856716000	SPRING	1	SWPA PIE 0.5	
2	4854872511	BUTTON POWER	1	ABS GY	NEW
1	48556152SD	MARK BRAND	1	SILVER DIA-CUTTING	

UNITS	mm	Designed by	K.J.H.	Checked by	Y.B.D.	Inspected by		Approved by		ASSY NAME	DEVELOPMENT DWG(1/1)
SCALE	0.250	2007.04.05		2007.04.05						MODEL	DTQ-21S7
										CHASSIS	CN-101S
											D485009U7

16
A1(841mm X 594mm)



DAEWOO ELECTRONICS CORP.

686, AHYEON-DONG, MAPO-GU,
SEOUL, KOREA.
C.P.O. BOX 8003 SEOUL KOREA

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