Self Diagnosis
Supported model

SERVICE MANUAL

CX2 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-DZ29M30	RM-GA002	South Africa	SCC-V77A-A
KV-DZ29M61	RM-GA002	Malaysia	SCC-V78A-A
KV-DZ29M61	RM-GA002	GE	SCC-V72A-A
KV-DZ29M91	RM-GA002	Russia	SCC-V74A-A

MODEL	COMMANDER	DEST.	CHASSIS NO.

RM-GA002

TRINITRON® COLOR TV

SONY®

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SELF DIAGNOSTIC FUNCTION

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER lamp will automatically begin to flash.
The number of times the lamp flashes translates to a probable source of the problem. If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

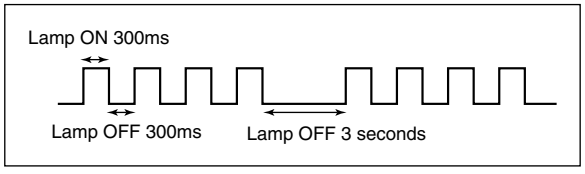
1. DIAGNOSTIC TEST INDICATORS

When an error occurs, the STANDBY/TIMER lamp will flash a number of times to indicate the possible cause of the problem. If there is more than one error, the lamp will identify the first of the problem areas.

Result for all of the following diagnostic items are displayed on screen. No error has occured if the screen displays a “0”.

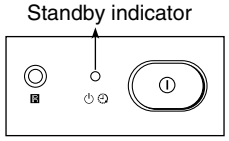
Diagnostic Item Description	No. of times STANDBY/TIMER lamp flashes	Self-diagnostic display/Diagnostic result	Probable Cause Location	Detected Symptoms
• Power does not turn on	Does not light	—	• Power cord is not plugged in. • Fuse is burned out F1601 (F1 Board)	• Power does not turn on. • No power is supplied to the TV. • AC power supply is faulty.
• +B overcurrent (OCP) • Horizontal deflection failure	2 times	2 OCP :000 or 2 OCP :001~255	• H.OUT Q6802 is shorted. • PS6606 open, PS6605 open. (D board)	• Power does not turn on. • Load on power line is shorted. • H pulse output is too high.
• +B overvoltage (OVP)	3 times	3 OVP :000 or 3 OVP :001~255	• PH6602 faulty. D6644 faulty, R6688 open. • 10.5V is not supplied. (D board)	• Power does not come on.
• Vertical deflection failure	4 times	4 VSTOP :000 or 4 VSTOP :001~255	• V.OUT IC6800 faulty D6827 faulty D6817 faulty R6850 open R6872 open (D board)	• Vertical deflection pulse is stopped. • Vertical size is too small. • Vertical deflection stopped.
• White balance failure (no PICTURE)	5 times	5 AKB :000 or 5 AKB :001~255	• G2 is improperly adjusted. • CRT problem. • Video OUT IC9001, 9002, 9003 are faulty. (C board) • IC4301 CXA2170Q (A1 board) are faulty.	• No raster is generated. • CRT cathode current detection reference pulse output is small.
• 5V/9V failure	8 times	8 SUP :0001 or 8 SUP :001~225	• 5V regulator (IC2601) faulty. • 9V regulator (IC2600) faulty.	• TV Blank • No Raster
• Micro reset	—	101 WDT :N/A	• CRT Discharge (C Board) • Static discharge • External noise	• Power is shut down shortly, after this return back to normal. • Detect Micro latch up.
• BT Power Failure	9 times	9 SUPBT:000 or 9 SUPBT :001~255	BT MCV Failure	• TV Blank • No Raster

2. STANDBY INDICATOR BLINKING PROCESS

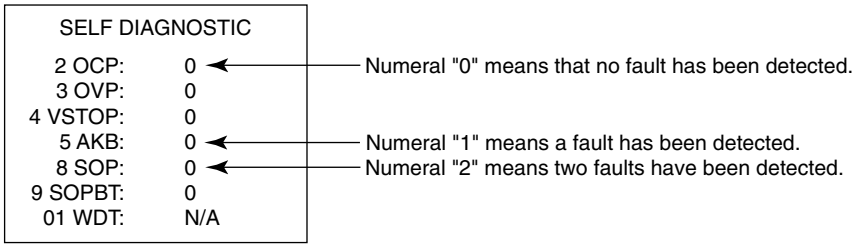


The example above represents for 4 times blink

3. STANDBY INDICATOR ON TV FRONT PANEL



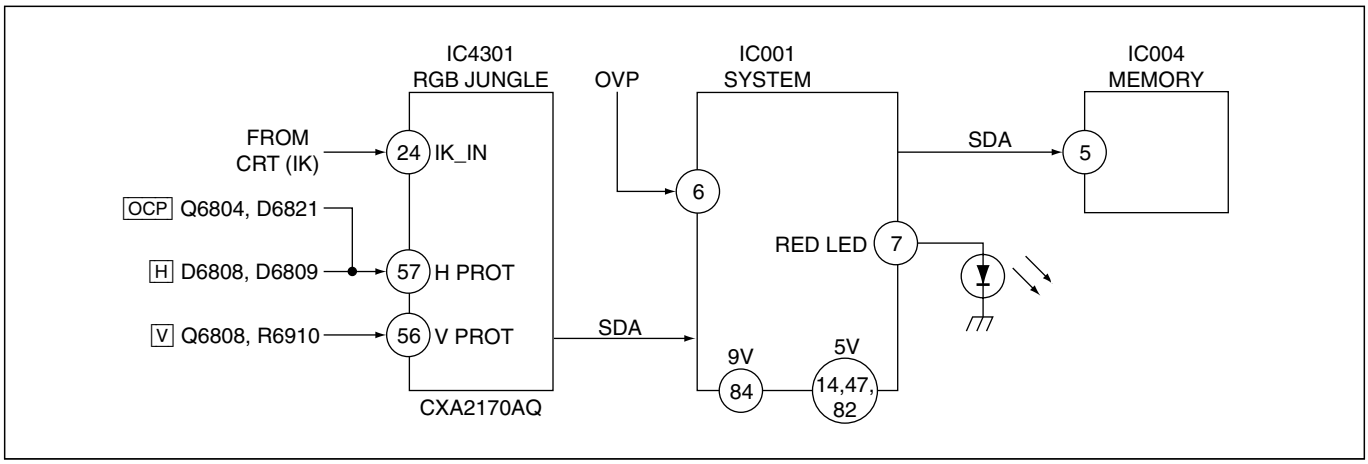
4. SELF DIAGNOSTIC SCREEN DISPLAY



5. HANDLING SELF DIAGNOSTIC SCREEN DISPLAY

No.	Description	Method
1.	Display self diagnostic screen	Display → Channel 5 → Volume − → Power / TV *Note: The above must be performed while TV is on standby mode.*
2.	Stop standby flash	i) Turn off power switch on main. ii) Unplug power cord from the outlet.
3.	Clear fault result	In self diagnostic screen, press Channel 8 → 0 *Note: Diagnostic results display on screen is not automatically cleared. Therefore, clear result after completion of repair.*
4.	Quit self diagnostic screen	Turn off power switch of remote commander or main unit.

6. SELF-DIAGNOSTIC CIRCUIT



+B overcurrent OCP

Occurs when an overcurrent on the +B(135) line is detected by Q6804. If Q6804 go to ON, the voltage to the pin57 of IC4301 go to "HIGH". The unit will automatically turn off.

High voltage protector of Horizontal Deflection

Occurs when an overvoltage of horizontal pulse is detected by D6809. If the voltage of anode D6809 and D6843 goes to High, the voltage to pin57 of IC4301 go to "HIGH". The unit will automatically turn off.

+B overvoltage OVP

Occurs when an overvoltage on the +B(135) line is detected by D6635 and Q6606. If Q6606 go to ON, the voltage to pin6 of IC001 go to "HIGH". The unit will automatically turn off.

Vertical deflection failure

Occurs when an absence of the vertical deflection pulse is detected by Q6808 and R6910. Shut down the power supply.

White balance failure

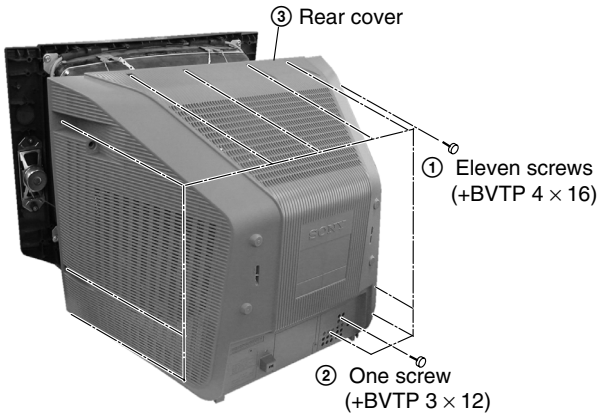
If the RGB levels do not balance or become low level within 5 seconds. This error will be detected by IC4301. TV will stay on, but there will be no picture.

5V/9V failure

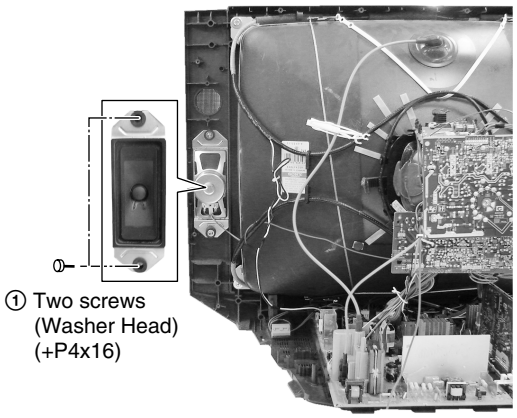
Occurs when 5V/9V is not supplied to Micon (IC001). No raster will be detected or no picture.

SECTION 1
DISASSEMBLY

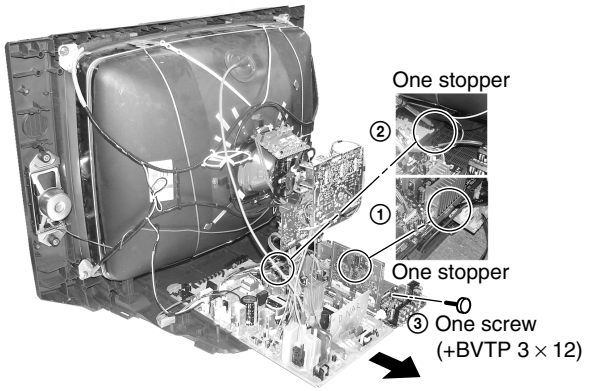
1-1. REAR COVER REMOVAL



1-2. SPEAKER REMOVAL

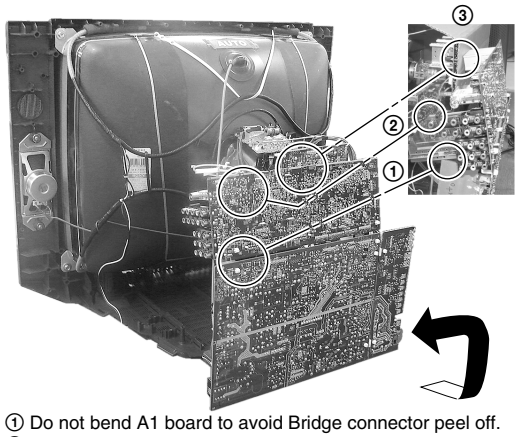


1-3. CHASSIS ASSY REMOVAL



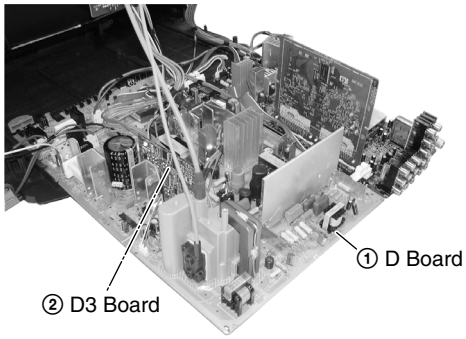
① & ② Make sure stopper is release & unscrew one screw before taking out boards.
• Make sure all connector/bridge are fully inserted during chassis installation.

1-4. SERVICE POSITION

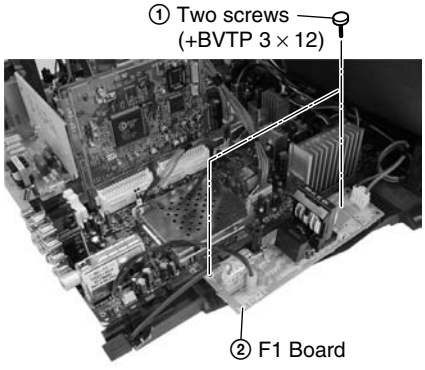


① Do not bend A1 board to avoid Bridge connector peel off.
② Locate paper between A and D board to avoid heat sink touching.
③ Locate paper between A and C board to avoid heat sink touching.
• No need to connect earthing connector (F1 Board) during servicing.

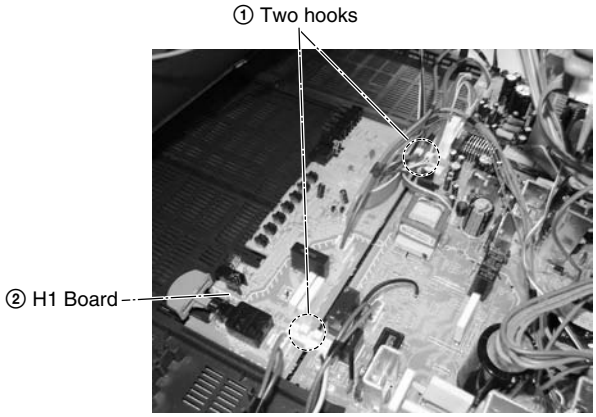
1-5. D AND D3 BOARDS REMOVAL



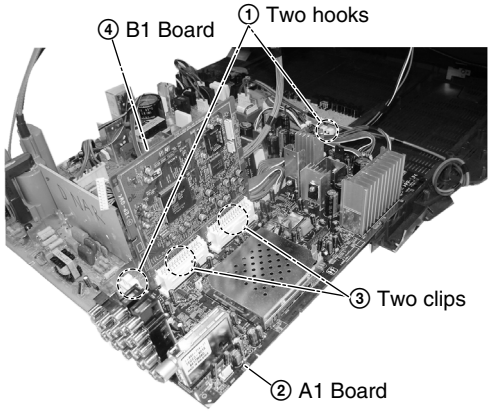
1-6. F1 BOARD REMOVAL



1-7. H1 BOARD REMOVAL



1-8. A1 AND B1 BOARDS REMOVAL

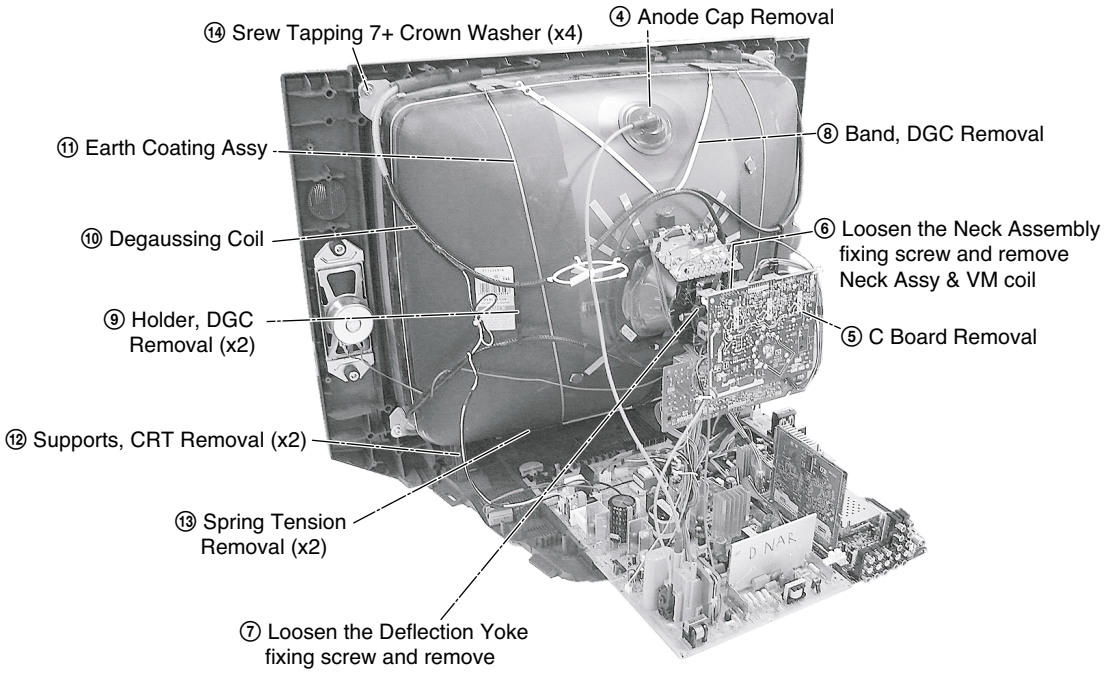


1-9. PICTURE TUBE REMOVAL

Note:

- For KV-DZ29M30 (South Africa), the picture tube is upside down and the position for the anode cap and tension springs are change accordingly.
- Please make sure the TV set is not in standing position before removing necessary CRT support located on bottom right and left.

1) Remove the Rear Cover.
2) Unplug all interconnecting leads from the Deflection Yoke, Neck Assy, Degaussing Coils and CRT grounding strap. Remove Chassis Assy.
3) Place the TV set with the CRT face down on a cushion (jig).

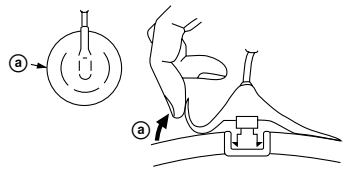


• REMOVAL OF ANODE-CAP

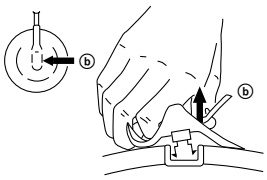
Note:

- After removing the anode, short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT.

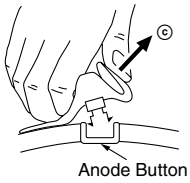
• REMOVING PROCEDURES



① **Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.**



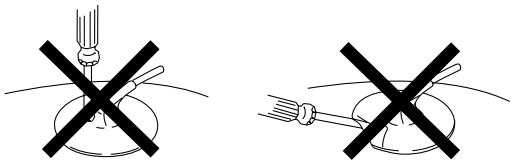
② **Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.**



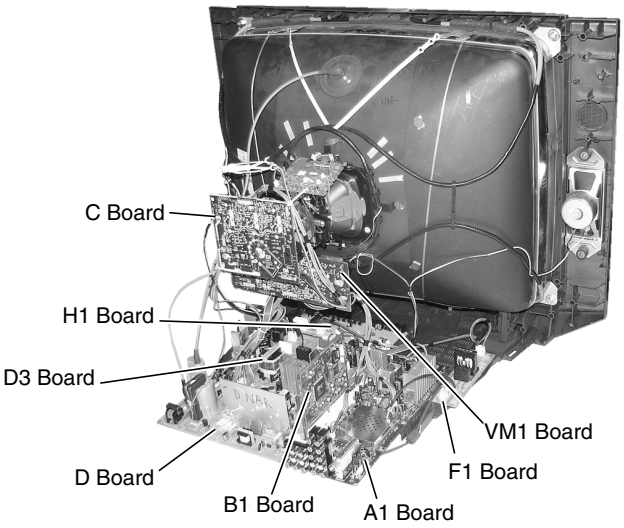
③ **When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ.**

• HOW TO HANDLE AN ANODE-CAP

① **Do not damage the surface of anode-caps with sharp shaped objects.**
② **Do not press the rubber too hard so as not to damage the inside of anode-cap.**
A metal fitting called the shatter-hook terminal is built into the rubber.
③ **Do not turn the foot of rubber over too hard.**
The shatter-hook terminal will stick out or damage the rubber.



SECTION 2
CIRCUIT BOARDS LOCATION



SECTION 3
ADVANCE OPERATION

3-1. "RESET" FUNCTION

1. Purpose

If a customer faces some setting problem that cannot be solved, using the "RESET" function some items will be reset to its original setting or factory setting (shipping condition)

2. How to Operate

The following is to show on how to access to the "RESET" Function:-

User selection = press 'WEGA GATE' ⟶ select⟶ 'SETTING' ⟶ go to 'SETUP' page ⟶ select 'FACTORY SETTINGS' ⟶ select 'YES'

3. Subsequent of Operation

Sequential to the resetting operation, TV set would shut down once and automatically turn on again. The power-off duration is expected to be about 500msec. Initial Setup Menu is displayed.
As a result, some items will be reset to their initial conditions (shipment condition) wheareas some others remain at the last user selection.

Items that remain at the last user selection

Program No., PICTURE POSITION (included PICTURE ROTATION and PICTURE V-POSITION), OSD Language, Fine tuning, TV System, Skip, Program label, Program sorting, Video label, Picture Adjustment (Picture, Brightness, Color Temperature, VM) Setting ⟶ Custom, Sound Adjustment (100Hz,300Hz, 1KHz, 3KHz, 8KHz) setting ⟶ Custom.

Reset Items

Category	Default	Category	Default
Video input	RF user last setting	* Color System	RF = Reset to Auto at the particular/displayed Video = MI Reset to Auto CH, others keep user setting
Main Volume	25		
Scan mode	100Hz	Eco mode	OFF
Picture mode	VIVID	Wide mode	Wide zoom
Intelligent Picture	ON		
Sound mode	DYNAMIC	4.3 Default	Wide zoom
Intelligent volume	OFF	V Center	00
Surround	OFF	V Size	00
Wide mode	4.3		
Auto wide	ON	Mute	OFF
*Program Block	Reset particular, displayed channel to unblock		
Game mode	OFF (Video) *Not available in RF mode	Initial setup menu Twin size	Reactivate/ON Center
D-NR	OFF		
Signal level indicator	ON		

*= Will reset only if watched/displayed during RESET operation
- For Multi model only

SECTION 4
SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

The controls and switch should be set as follows unless otherwise noted:
Picture Control....."NORMAL"
Brightness Control....."NORMAL"

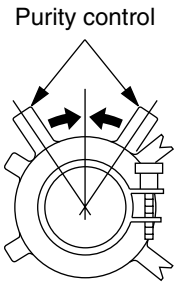
Perform the adjustments in order as follows :
1. Beam Landing
2. Convergence
3. Focus
4. G2(SCREEN)
5. White Balance

Note : Test Equipment Required.
1. Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital Multimeter
5. Oscilloscope
6. Landing Checker
7. XCV Adjuster

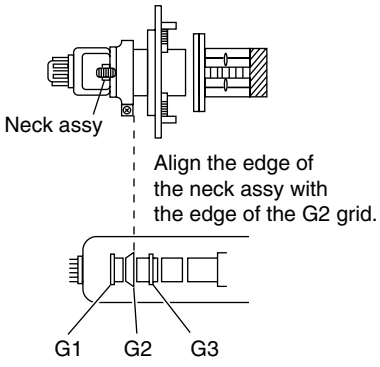
Preparation :
- Feed in the white pattern signal.
- Before starting, degauss the entire screen with the degausser.
- In order to reduce the geomagnetism on the set's picture tube, face it east or west.

4-1. BEAM LANDING ADJUSTMENT

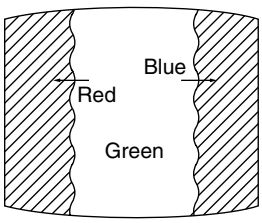
1. Input a raster signal with the pattern generator.
2. Loose the deflection yoke(DY) mounting screw, and set the purity control to the center as shown below:-



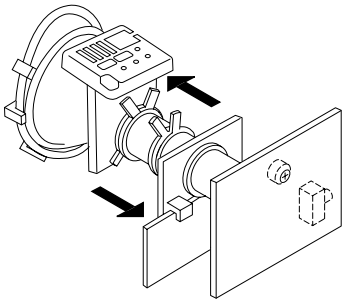
3. Position Neck Assy as shown below:-



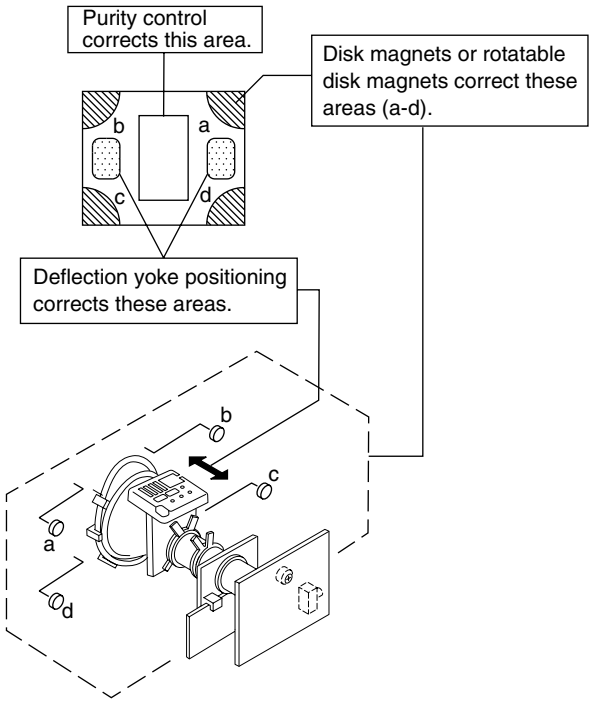
4. Set the raster signal of the pattern generator to green.
5. Move the DY backward and adjust the purity control so that green is in the center and blue and red are at the sides evenly.



6. Then move the DY forward and adjust so that the entire screen becomes green.



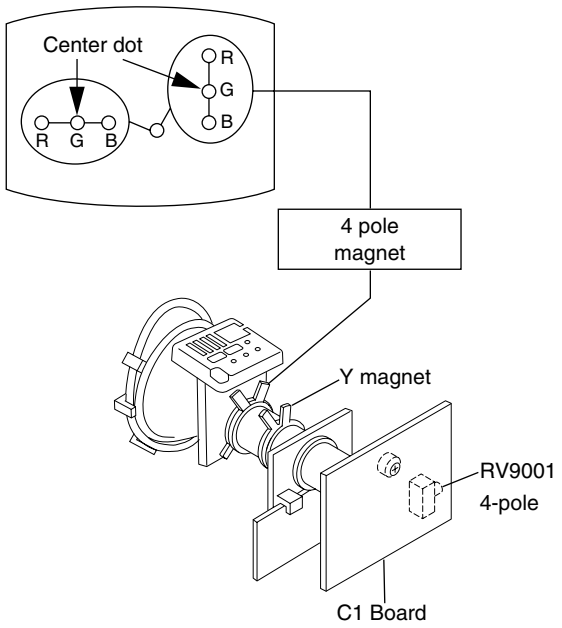
7. Now switch over raster signal to red then blue and confirm the condition.
8. When the position of the DY is determined, tighten it with the DY mounting screw.
9. If the beam does not land correctly in all the corners of the screen, use magnet disc to correct it.



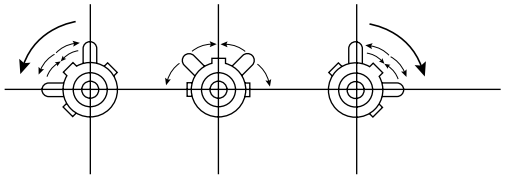
4-2. CONVERGENCE ADJUSTMENT

Preparation:
- Before starting, perform FOCUS adjustment.
- Receive dot/cross hatch pattern.
- Picture Mode "CUSTOM" (PIC 90%, BRT 50%, COL 50%, HUE 50%, SHP 50%).

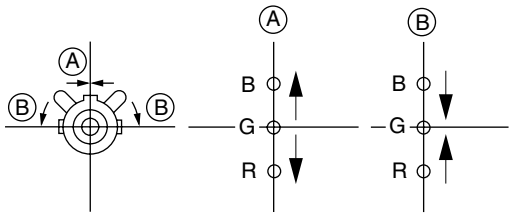
a) Vertical Static Convergence



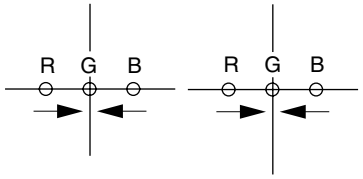
1. (Moving vertically), adjust the 4 pole magnet to converge red, green and blue dots in the center of the screen.
2. Tilt the 4 pole magnet and adjust static convergence to open or close the 4 pole magnet.



3. When the 4 pole magnet is moved in the direction of arrow Ⓐ and Ⓑ, the red, green and blue dots moves as shown below:-

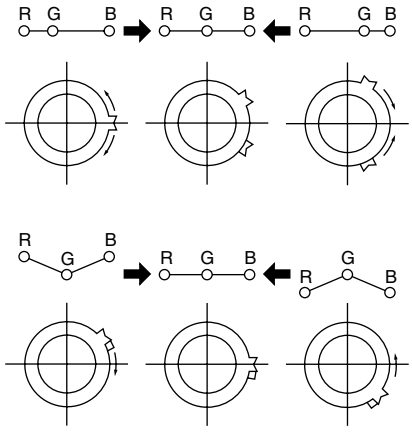


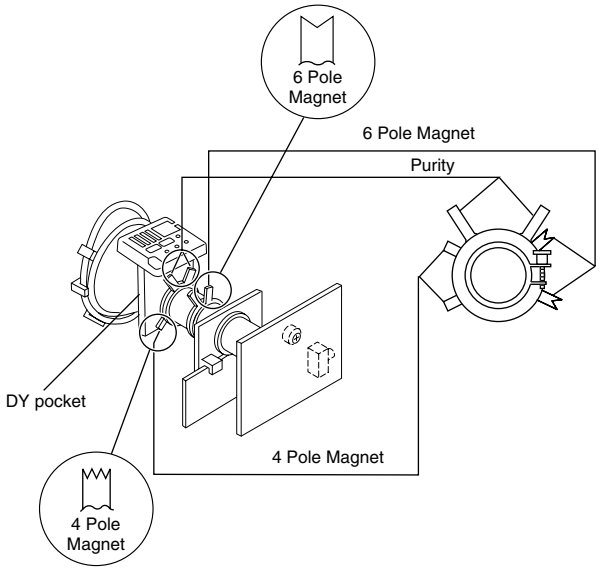
Moved RV9001 (H.STAT)



b) Horizontal Static Convergence

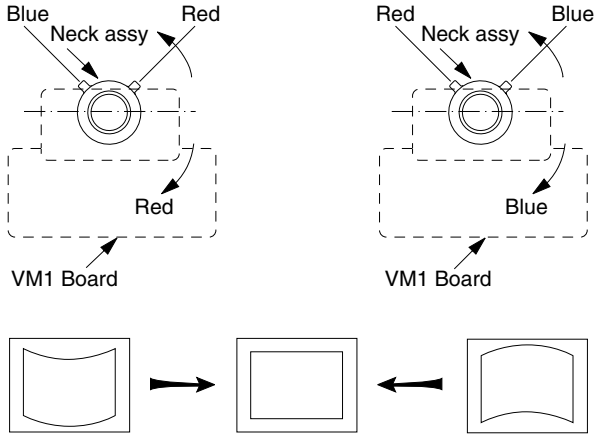
If the blue dots does not converge with the red and green dots, use the 6 pole magnet to adjust in the manner described below:-





c) Y Separation axis correction magnet adjustment.

1. Receive cross hatch signal.
2. Set Picture to "MINIMUM", Brightness to "STANDARD".
3. Adjust the Y separation axis correction magnet on the Neck Assembly so that the horizontal lines at the top and bottom of the screen are straight.



d) Convergence Rough Adjustment

Preparation:
- Before starting this adjustment, adjust the horizontal and vertical static convergence.

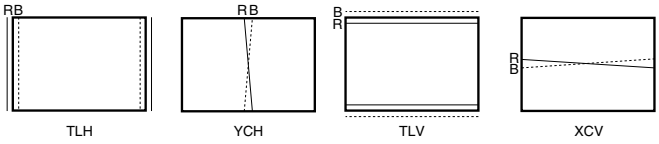
Input cross hatch pattern.

i) TLH
Adjust the horizontal convergence of red and blue dots by inserting TLH Correction Plate to the DY pocket (left or right).

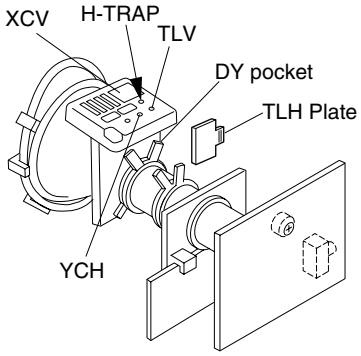
ii) YCH
Adjust YCH to balance Y axis.

iii) TLV
Adjust the vertical convergence of red and blue dots.

iv) XCV
Adjust XCV to balance X-axis

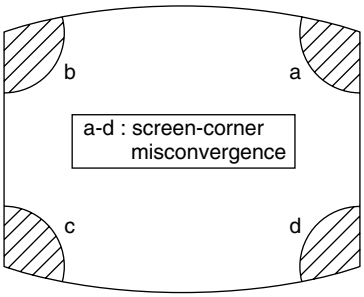


ON DY:

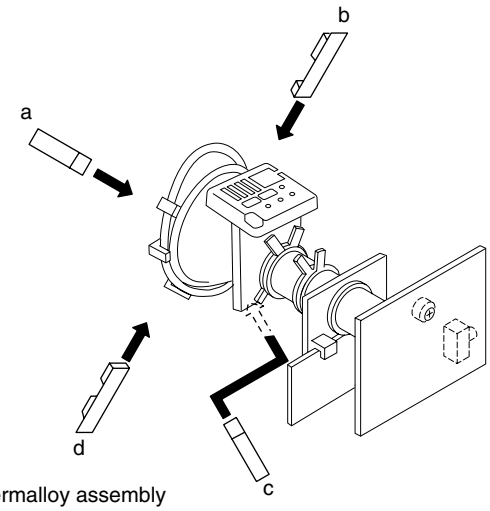


e) Screen Corner Convergence

Affix a Piece B(120), Convergence Correct/Permaloy Assy Correction to the misconverged areas.



Fix a Permaloy Assy Correction to the misconverged



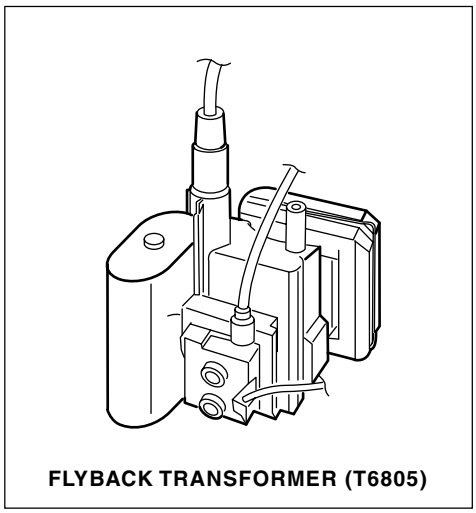
Permalloy assembly

a to d: Piece B(120), Convergence Correct
or
Permaloy Assy Correction

4-3. FOCUS ADJUSTMENT

FOCUS adjustment should be completed before White Balance adjustment.

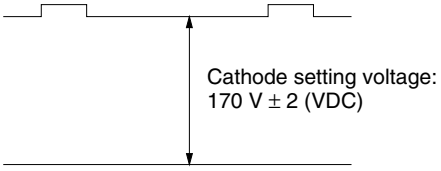
1. Receive digital monoscope pattern.
2. Set Picture Mode to "STANDARD".
3. Adjust focus VR so that the center of the screen becomes just focus.
4. Change the receiving signal to white pattern and blue back.
5. Confirm magenta ring is not noticeable. In case magenta ring is obvious, then adjust FOCUS VR to balance magenta ring and FOCUS.



FLYBACK TRANSFORMER (T6805)

4-4. G2 (SCREEN) ADJUSTMENTS

1. Set the following condition:
   - Picture and Brightness to "STANDARD".
   - TV to Video mode.
2. Connect R,G,B of the C board cathode to oscilloscope.
3. Adjust Brightness to obtain the cathode value to the value stated below.



4. Adjust SCREEN VR [RV9001] on the FBT until the scanning line disappears.

4-5. SUB BRIGHTNESS ADJUSTMENT

1. Set TV to RF Mode.
2. Input PAL monoscope to RF mode.
3. Set the following condition:
   i) Receive RF PAL monoscope signal
   ii) Set "PICTURE MODE" to "CUSTOM" and adjust PICTURE to 0% and BRIGHTNESS to 50%.
   iii) Adjust Sub BRT (service item COLR 006 SBRT) to make 10 IRE Slightly glimmer.
   iv) Apply the offset steps:

Sub Brightnes Offset

Inch	Offset
29"	Adjusted + 6 Steps

4-6. WHITE BALANCE ADJUSTMENT

1. Set to Service Mode.
2. Input white raster signal using signal generator to Video 1.
3. Set picture mode to "VIVID".
4) Adjust White Balance

COLR 000 RDRV
001 GDRV } High Light (100IRE)

003 RCUT
004 GCUT } Cut off (10nit)

CA100, 100 PLUS: Adjustment Value
X = 0.2444
Y = 0.2466

Color temperature:
45,000°K + 8 MPCD

SECTION 5
CIRCUIT ADJUSTMENTS

5-1. ADJUSTMENTS WITH COMMANDER

Service adjustments to this model can be performed using the supplied remote commander RM-GA002.

a. ENTERING SERVICE MODE

With the unit on standby

→ [DISPLAY] → [5] → [VOL (+)] → [POWER]

This operation sequence puts the unit into service mode.
This screen display is:

category	item no. in decimal	item name	service data in decimal	NVM NG	service command	field frequency	channel no./ video input name
WHBL	000	WBP	000	■	SERVICE	50	S VIDEO 1

release ID	software version	service data in binary	reserved for factory	color system	power on time (decimal)
CGA20	3.13M	0000 0000	FF FF	NTSC3	00100

S_ _	: for SONY
A_ _	: for AIWA
L_ _	: BX1L Full
B_ _	: BX1L Basic
D_ _	: DVD Combo
C_ _	: CX1/CX2
Z_ _	: Sound special
_ _ _01	: Serial no. of the M/P release for each destination
_ _ _10 ~	: use for FY04 BX1
_ _SB	: Sub Hercules

For BP1 Board Version; and BT Version;
Category and release ID will be different.
The rest are the same. (Not use for this model)

BP1 Board Version

category	item no. in decimal	item name	service data in decimal
SUBP	000	IDXH	000

release ID	software version
CBP00	0.00

BT Version

category	item no. in decimal	item name	service data in decimal
9090	000	UOF	000

release ID	software version
BT 0A14/M	

b. METHOD OF CANCELLATION FROM SERVICE MODE

Set the standby condition (Press [POWER] button on the commander), then press [POWER] button again, hereupon it becomes TV mode.

c. METHOD OF WRITE INTO MEMORY

1. Set to Service Mode.
2. Press [1] (UP) and [4] (DOWN), to select the adjustment item.
3. Change item by pressing [3], [6].
4. Press [MUTING] button to indicate WRITE on the screen.
5. Press [0] button to write into memory.

[1], [4]	Select the adjustment item.
↓	
[3], [6]	Raise/lower the data value.
↓	
[MUTING]	Writes.
↓	
[0]	Executes the writing.

d. MEMORY WRITE CONFIRMATION METHOD

1. After adjustment, pull out the plug from AC outlet, and then plug into AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again to confirm adjustments were made.

e. OTHER FUNCTION VIA REMOTE COMMANDER

7, 0	All the data becomes the values in memory.
8, 0	All user control goes to the standard state.
Display, 0	Service data initialization (Be sure not to use usually.)
2, 5	Select Device or Category

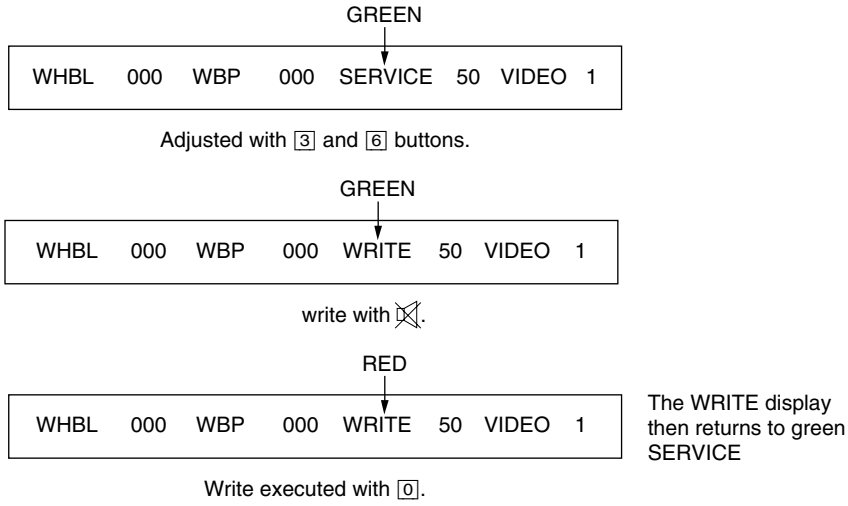
5-2. ADJUSTMENT METHOD

Item Number 000 HPOS

This explanation uses H POSITION as an example.

1. Select "000 HPOS" with the 1 and 4 buttons, or 2 and 5.
2. Raise/lower the data with the 3 and 6 buttons.
3. Select the optimum state. (The standard is IF for PAL reception.)
4. Write with the ⊠ button. (⊠ (mute icon))
5. Execute the writing with the 0 button. (The WRITE display will be changed to red color while executing, and back to SERVICE.)

Example on screen display :-



Use the same method for all Items. Use 1 and 4 to select the adjustment item, use 3 and 6 to adjust, write with ⊠ , then execute the write with 0.

Note : 1. In WRITE, the data for all items are written into memory together.
2. For adjustment items that have different standard data between 50Hz or 60Hz, be sure to use the respective input signal after adjustment.

Adjustment Item Table (Main Micon)

NOTE

a) In the initial value (detailed) colomn, the data after the slash mark ("/") refers to NTSC model data.
No ("/") means data is common for Multi and NTSC model.
b) Item remarked "*", please refer page 27 for the data.
c) shaded items are no data.
d) Standard data listed on the Adjustment Item Table are reference values, therefore it may be different for each model and for each mode.
e) Note for the Different Data those are the standard data values written on the microprocessor. Therefore, the data values of the models are stored respectively in the memory.
In the case of a device replacement, adjustment by rewriting the data value is necessary for some items.
f) Multi ver3.15.

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common	Initial Value (Detailed)											
Category	No.	Name	Dec	Dec					Col Temp (HIGH other)	Col Temp (LOW other)	Col Temp (NORM other)	Col Temp (HIGH YUV)	Col Temp (LOW YUV)	Col Temp (NORMAL YUV)	Col Temp (HIGH RGB)	Col Temp (LOW RGB)	Col Temp (NORM RGB)	Pic mode 0	Pic mode 1	Pic mode 2
WHBL	000	WBP	000	003	Color Temp Setting (0:High, 1:Normal, 2,3:Low)	Picture Mode	Cosmic											00	01	01

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common	Initial Value (Detailed)							
Category	No.	Name	Dec	Dec					Pic mode 0	Pic mode 1	Pic mode 2	TV	Video	Normal (4:3)	HD	Twin/Index /Pap	Other
SADJ	000	SHUE	007	015	Sub-Hue	TV / Video						06	06				
	001	PIOF	000	007	Picture Offset (Picture * (20-data)/20* Eco (75%)	MS/NORMAL/MULTI/OTHER	PF Engine							00	5	7	0
	002	PIC	031	127	Picture Control [0-100(MULTI), 0-63(NTSC)]	Picture Model(GA: Personal = User Reset Data)			100	70	50						
	003	COL	031	127	Color Control [0-100(MULTI), 0-63(NTSC)]	Picture Model(GA: Personal = User Reset Data)			62	60	50						
	004	BRT	031	127	Brightness Control [0-100(MULTI), 0-63(NTSC)]	Picture Model(GA: Personal = User Reset Data)			20	50	50						
	005	HUE	031	127	Hue Control [0-100(MULTI), 0-63(NTSC)]	Picture Model(GA: Personal = User Reset Data)			50	50	50						
	006	SHP	031	127	Sharpness Control [0-100(MULTI), 0-63(NTSC)]]	Picture Model(GA: Personal = User Reset Data)			50	50	50						

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common	Initial Value (Detailed)									
Category	No.	Name	Dec	Dec					Others	YUV	PAL(TV)	NTSC(TV)	SECAM(TV)	PAL(Video)	NTSC(Video)	SECAM(Video)	S-INPUT	SECAM	NTSC
YC	000	YDLY	012	015	Y-Delay	(PAL/NTSC/SECAM)*(TV/VIDEO)+YUV/S-INPUT	Cosmic			00	11	06	06	10	*	06	10		
	001	CMAT	000	003	PAL-SECAM or NTSC (Japan/USA) Matrix			00											
	002	ACL	001	001	Automatic Color Limiting			01											
	003	CB	000	001	Chroma Bandpass Center Frequency	valid only with TV (*Video:0 fix)		00											
	004	SBO	001	003	SECAM Black Offset			01											
	005	CHSE	001	003	PAL/NTSC Ident Sensitivity			03											
	006	CLO	000	001	Center Frequency of Cloche(Bell) Filter			00											
	007	CTRP	000	001	Chroma Trap Mode	SECAM/others			00									01	
	008	QDT	000	001	Second Chroma Trap	SECAM/others			00									00	
	009	BPS	000	001	Bypass of Chroma Base-band Delay Line	NTSC/others			00										00
	010	FCO	000	001	Forced Color On			00											

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common	Initial Value (Detailed)								
Category	No.	Name	Dec	Dec					50	60	Others	YUV	TV	Video	Teletext	TV-ip	No Signal
SYNC	000	SYS	000	001	Synchronization on YSYNC Input		Cosmic	00									
	001	FO	000	003	Phase 1 Time Constant	TV IP ON/TV IP OFF/Video/Teletext/Auto Tuning or No signal(RF)							00	03	01	00	00
	002	VID	000	001	Video Ident Mode	50/60			00	00							
	003	FSL	000	001	Forced Slicing Level for Vertical Sync			00									
	004	SSL	000	001	Slicing Level Sync Separator	50/60			00	00							
	005	SVID	001	007	Source Selection for Video Identification	YUV/Others					00	00					
	006	FORF	002	003	Forced Field Frequency			02									
	007	MVK	000	001	Macro Vision Keying			01									

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common	Initial Value (Detailed)									
Category	No.	Name	Dec	Dec					Others	RGB	Live	TV (Dyn)	TV (Others)	Video (Dyn)	Video (Others)	ColorTemp (HIGH)	ColorTemp (Others)	Color Temp(LOW)	Color Temp (NORMAL)
PICT	000	CFA	000	003	Comb Filter Mode		Cosmic	00											

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common	Initial Value (Detailed)		
Category	No.	Name	Dec	Dec					YUV	TV	Video
SW	000	CV2	000	001	CVBS2 Input Signal Selection		Cosmic	00			
	001	SVO	001	003	Function of IFVO/SVO/CVBSI Pin @ 48	TV/Video/YUV			02	01	01
	002	DFL	000	001	Flash Protection			00			
	003	INTF	000	001	Amplitude/Polarity of YUV interface signal			00			

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common
Category	No.	Name	Dec	Dec				
VIF	000	OIFD	036	063	Offset IF Demodulator		Cosmic	36
	001	AGCT	031	063	AGC Take-over			27
	002	STM	000	001	Search Tuning Mode			01
	003	GD	000	001	Group Delay on CVBS1 Signal			00
	004	AGCS	001	003	IF AGC Speed			01
	005	FFI	000	001	Fast Filter IF PLL			00
	006	LNAI	001	001	RF Amp LNA bit initial value			00
	007	LNAT	195	255	RF Amp Threshold Level			195
	008	LNSN	004	007	RF Amp SN Level Threshold			04
	009	LNSD	002	007	RF Amp SN Level Drop Threshold			01
	010	LNEX	016	063	RF Amp check SN Drop Timing			30
	011	CHTR	048	127	Channel Threshold after Auto Prg to set RF Amp User Mode			25
	012	TNER	000	001	Alps tuner-0, LG tuner-1			01

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common
Category	No.	Name	Dec	Dec				
SDEM	000	FMWS	000	003	Window Selection for FM Demodulator		Cosmic	02
	001	QSS	001	001	Quasi Split Sound (QSS) Amplifier Mode (N/A for GA multi M system)			01
	002	BPB	000	001	Bypass of Sound Bandpass Filter			00
	003	AMLO	000	001	Audio Output Signal for AM Sound			00
	004	HPVC	000	001	Head Phone Volume Control			00

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common
Category	No.	Name	Dec	Dec				
TXT	000	TXV	039	063	Teletext Vertical Position for Philips		Picasso	39
	001	THD	010	127	Teletext H-sync Active Edge Shift			11
	002	TBR	028	031	Teletext RGB Brightness (for full mode)			16
	003	TBRM	013	031	Teletext RGB Brightness (for MIX mode)			18
	004	NSTD	000	001	C/M of Non Standard Signal (0: cancel TXT, 1: go to MIX mode)			00
	005	ACQ	000	001	Teletext Acquisition (Auto-0, PAL-1)			00

(only for model with teletext function)

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common	Initial Value (Detailed)								
Category	No.	Name	Dec	Dec					TV	TV	Video	Off	SRS/WOW	Trusurround	Istereo	Imono	Others
SDSP	000	BBL	000	015	BBE Contour		Sound DSP									04	02
	001	BBH	000	015	BBE Process											14	10
	002	BBLW	000	015	BBE Contour Offset											04	04
	003	SVOF	000	015	Surround /Effect Mode Volume Offset	Off(SRS/WOW)/Trusurround/Istereo/Imono						04	09	04	06	04	
	004	LAD	000	031	Decoder Level Adjust			04									
	005	LAM	000	031	Mono Level Adjust			04									
	006	LAN	000	031	Nicam Level Adjust			22									
	007	LAS	000	031	SAP Level Adjust			08									
	008	LAA	000	031	ADC Level Adjust	Tv/Video(Non Euro)I TV-L/TV-non L/Video				17	00						
	009	SEF	003	007	Incredible Mono/Stereo Effect	Istereo/Imono									05	03	
	010	BAS	000	015	Main Bass Offset											20	20
	011	TRE	000	015	Main Treble Offset											25	27
	012	EQ1	000	015	Equalizer Main Channel Band (100 Hz) Offset											00	00
	013	EQ2	000	015	Equalizer Main Channel Band (300 Hz) Offset											18	18
	014	EQ3	000	015	Equalizer Main Channel Band (1000 Hz) Offset											00	01
	015	EQ4	000	015	Equalizer Main Channel Band (3000 Hz) Offset											05	06
	016	EQ5	000	015	Equalizer Main Channel Band (8000 Hz) Offset											01	02
	017	BFCT	005	007	DBE, DUB and BBE Control			05									
	018	SCEN	001	015	SRS3D Center Control			04									
	019	SSPA	000	015	SRS3D Space Control			01									
	020	BBHW	000	015	BBE process offset in WOW mode											00	00
	021	STRE	002	007	Treble Offset for surround mode			01									
	022	BBHT	000	015	BBE Offset in TV mode			00									
	023	TTRE	002	007	Treble Offset in TV Mode			03									
	024	CEQ1	008	015	Center-In Equalizer Band Data (100Hz)			06									
	025	CEQ2	008	015	Center-In Equalizer Band Data (300Hz)			09									
	026	CEQ3	008	015	Center-In Equalizer Band Data (1000Hz)			10									
	027	CEQ4	008	015	Center-In Equalizer Band Data (3000Hz)			10									
	028	CEQ5	008	015	Center-In Equalizer Band Data (8000Hz)			07									

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common
Category	No.	Name	Dec	Dec				
SDEC	000	SPTU	003	015	Upper Threshold for SAP carrier detection		Sound DSP	08
	001	SPTL	006	015	Lower Threshold for SAP carrier detection			15
	002	SPTH	000	031	Noise Threshold for automute of SAP			00
	003	SPHY	004	015	Hysteresis size for automute of SAP			03
	004	FMTH	000	031	Noise Threshold for automute of SC2 in FM A2 standard			18
	005	FMHY	004	015	Hysteresis size for automute of SC2 in FM A2 standard			07
	006	NILE	100	255	NICAM lower error limit (DDEP)			50
	007	NIUE	200	255	NICAM upper error limit (DDEP)			200
	008	EPMD	001	003	DEMDEC Easy Programming (DDEP)	If EPMD = 0 and STDS = 0 and OP3 Bit 1 = 1 SDEC category is Disable and SDKC category will take over		*
	009	STDS	019	031	Bits multiplexed for ASD and SSS modes			*
	010	OVMA	001	001	FM overmodulation adaption			00
	011	FLBW	000	003	FM/AM demodulator filter bandwidth			03
	012	IDMD	000	003	FM ident speed in SSS mode			00
	013	OVMT	001	002	Overmodulation level threshold relative to nominal			03
	014	DCXI	000	001	NICAM DCXO Scaling Control Inverter			*
	015	DCXG	000	007	NICAM DCXO Scaling Control Gain			*
	016	DCLL	011	015	NICAM DCXO Scaling Control Limit (L)			00
	017	DCLH	000	031	NICAM DCXO Scaling Control Limit (H)			*
	018	IDKR	001	003	IDMOD setting for Korean M STD			00

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common
Category	No.	Name	Dec	Dec				
SDKC	000	KNLL	000	255	Korean Noise Det Lower Threshold Lower Byte	If EPMD = 0 and STDS = 0 and OP3 Bit 1 = 1 SDEC category is Disable and SDKC category will take over		
	001	KNLH	012	255	Korean Noise Det Lower Threshold Higher Byte			
	002	KNHL	000	255	Korean Noise Det Upper Threshold Lower Byte			
	003	KNHH	020	255	Korean Noise Det Upper Threshold Higher Byte			
	004	KLIC	060	255	Korean Lost Pilot ID maintaining count			
	005	KLIM	001	127	Korean Lost Pilot ID maintaining count multiplier			
	006	KSDC	006	255	Korean Stereo Detect Count			

(only applicable for Korea model)

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common	Initial Value (Detailed)												
Category	No.	Name	Dec	Dec					NR0 (Table 0)	NR1 (Table 1)	NR2 (Table 2)	NR3 (Table 3)	NR4 (Table 4)	NTSC0 (Table 5)	NTSC1 (Table 6)	RF-NR1 (Table 1)	RF-NTSC1 (Table 6)	TV-PAL	TV-NTSC	VIDEO-PAL	VIDEO-NTSC
3NR	000	3DET	000	007	3D DET	NR0/NR1/NR2/NR3/NT0/Nt1/RF-NR1/RF-NTSC1	3D Comb		07	07	07	07	07	07	07	07	07				
	001	3COR	000	001	3DNR CORR	NR0/NR1/NR2/NR3/NT0/Nt1/RF-NR1/RF-NTSC1			01	00	00	00	00	01	00	00	01				
	002	AFC	000	003	AFC GAIN	NR0/NR1/NR2/NR3/NT0/Nt1/RF-NR1/RF-NTSC1			03	03	03	03	03	03	03	03	03				
	003	HEG	000	003	H ENHA GAIN			00													
	004	2CNR	000	015	2D-CNR K & 2D CNR LIM	NR0/NR1/NR2/NR3/NT0/Nt1/RF-NR1/RF-NTSC1			00	03	05	05	09	02	00	03	00				
	005	YNC	000	007	Y NOISE CANCELLER ; Y-NC LIM	NR0/NR1/NR2/NR3/NT0/Nt1/RF-NR1/RF-NTSC1			00	03	03	05	07	02	01	03	03				
	006	2YNR	000	015	2D YNRK ; 2D YNR GAIN	NR0/NR1/NR2/NR3/NT0/Nt1/RF-NR1/RF-NTSC1			00	00	02	00	08	01	01	02	00				
	007	2YNL	000	003	2D YNR LIM	NR0/NR1/NR2/NR3/NT0/Nt1/RF-NR1/RF-NTSC1			00	02	03	00	03	02	02	03	03				
	008	BLK	000	003	BLK EXP			01													
	009	3CNR	000	007	3D CNR LIM	NR0/NR1/NR2/NR3/NT0/Nt1/RF-NR1/RF-NTSC1			00	00	03	03	07	00	00	00	00				
	010	3CNK	000	003	3D CNR K	NR0/NR1/NR2/NR3/NT0/Nt1/RF-NR1/RF-NTSC1			00	00	00	00	00	00	00	00	00				
	011	3CNG	000	007	3D CNR GAIN	NR0/NR1/NR2/NR3/NT0/Nt1/RF-NR1/RF-NTSC1			00	02	02	02	07	00	00	04	00				
	012	3YNR	000	007	3D YNR LIM	NR0/NR1/NR2/NR3/NT0/Nt1/RF-NR1/RF-NTSC1			00	03	03	06	06	00	00	01	00				
	013	3YNK	000	003	3D YNR K	NR0/NR1/NR2/NR3/NT0/Nt1/RF-NR1/RF-NTSC1			00	01	02	00	00	00	00	01	03				
	014	3YNG	000	007	3D YNR GAIN	NR0/NR1/NR2/NR3/NT0/Nt1/RF-NR1/RF-NTSC1			00	02	05	06	06	00	00	01	00				
	015	YDLY	000	128	Y OUTPUT DELAY	TV-PAL/TV-NTSC/VID-PAL/VID-NTSC/S-PAL/S-NTSC												03	07	06	04
	016	ICA	000	001	INT CLAMP AUTO			01													
	017	ICM	000	001	INT CLAMP MANUAL			00													
	018	CENH	000	001	C ENHA			01													
	019	ICK	000	001	INPUT CLAMP KEY			01													
	020	BGK	000	001	BURST GATE KEY			01													
	021	SSL	000	001	SYNC SEP LPF			00													

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common	Initial Value (Detailed)																			
Category	No.	Name	Dec	Dec					NR0 (Table 0)	NR1 (Table 1)	NR2 (Table 2)	NR3 (Table 3)	NR4 (Table 4)	NTSC0 (Table 5)	NTSC1 (Table 6)	RF-NR1 (Table 1)	RF-NTSC1 (Table 6)	TV-PAL	TV-NTSC	VIDEO-PAL	VIDEO-NTSC	S-PAL	S-NTSC	Normal (4:3)	HD	Twin/Index /Pap	Other
3NR	022	VECR	000	003	V ENHA CORE	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1	3D Comb		00	01	01	03	00	00	01	01	01										
	023	VEG	000	003	V ENHA GAIN	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			00	00	01	01	00	00	01	00	01										
	024	VEN	000	003	V ENHA NL	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			00	00	01	01	00	00	01	00	01										
	025	AMP1	000	007	HD AMP1	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			06	06	06	06	06	06	06	06	06										
	026	HDGV	000	031	HD GAIN V	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			18	18	18	18	18	18	18	18	18										
	027	AMP2	000	007	HD AMP2	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			06	06	06	06	06	06	06	06	06										
	028	HDG1	000	031	HD GAIN 1	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			13	13	13	13	13	13	13	13	13										
	029	AMP3	000	007	HD AMP3	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			05	05	05	05	05	05	01	05	05										
	030	HDG2	000	031	HD GAIN 2	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			04	04	04	04	04	04	01	04	04										
	031	CSLP	000	015	ACMSLP & ACSSLP	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			15	14	10	10	15	10	10	10	10										
	032	YSLP	000	015	AYMSLP & AYSSLP	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			15	15	10	04	10	14	14	14	14										
	033	ACMS	000	015	ACMESET & ACMFSET	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			15	10	10	10	15	15	15	10	15										
	034	ACSS	000	015	ACSESET & ACSFSET	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			15	10	10	10	15	15	10	10	10										
	035	AYMS	000	015	AYMESET & AYMFSET	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			15	11	10	10	15	15	15	11	15										
	036	AYSS	000	015	AYSESET & AYSFSET	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			15	11	14	10	15	11	10	14	10										
	037	BCSL	000	015	BCMSLP & BCSSLP	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			15	10	10	10	15	14	15	10	15										
	038	BYSL	000	015	BYMSLP BYSSLP	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			15	10	10	10	15	14	13	10	12										
	039	BCMS	000	015	BCMESET & BCMFSET	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			15	10	10	10	15	15	10	10	10										
	040	BCSS	000	015	BCSESET & BCSFSET	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			15	10	10	10	15	15	10	10	10										
	041	BYMS	000	015	BYMESET BYMFSET	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			15	15	10	10	15	15	15	15	15										
	042	BYSS	000	015	BYSESET BYSFSET	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			15	15	10	10	15	15	10	15	10										
	043	CECM	000	007	CECMP	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			07	04	07	07	04	04	04	07	04										
	044	CSCM	000	015	CSCMP	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			15	10	15	15	00	00	00	15	00										
	045	F1HV	000	015	F1HER & F1 VER	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			05	08	05	05	05	05	05	08	05										
	046	MREF	000	015	MREF	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			02	07	04	04	04	01	06	07	06										
	047	CDEY	000	003	CDEYE	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			02	03	02	02	02	02	00	03	00										
	048	YDEY	000	003	YDEYE	NR0/NR1/NR2/NR3/NT0/Nt1/ RF-NR1/RF-NTSC1			02	03	02	02	02	02	00	03	00										
	049	HMAS	000	007	H-MASK OUT			00																				
	050	VMAS	000	031	V-MASK OUT			00																				

TVG	Functionality		Initial	Range	Function	Table & Note	Device Name	Common	Initial Value (Detailed)					
Category	No	Name	Dec	Dec					Pic mode 0	Pic mode 1	Pic mode 2	Except RF Pic mode 0	Except RF Pic mode 1	Except RF Pic mode 2
LTI	000	CFS	001	001	Contour Filter Selection			01						
	001	VDC	001	001	Video Dependent Coring	Picture Mode			01	01	01			
	002	DEM	000	001	Demonstration Mode			00						
	003	CDP	004	007	Luminance Delay			04						
	004	DSK	000	001	Skin Tone Switch	Picture Mode			00	00	00			
	005	ASK	000	001	Skin Tone Angle Selection			00						
	006	WSK	000	001	Skin Tone Width Selection			00						
	007	SSK	000	001	Skin Tone Size Selection			00						
	008	DGR	001	001	Green Enhancement Switch	Picture Mode			01	01	00			
	009	DGT	007	007	Threshold of Green Enhancement Switch			07						
	010	GGR	000	001	Green Enhancement Gain			00						
	011	WGR	000	001	Green Enhancement Width			00						
	012	SGR	000	001	Green Enhancement Size			00						
	013	CDS	001	001	Color Dependent Sharpness	Picture Mode			01	01	00			
	014	CST	007	007	Threshold of Color Dependent Sharpness			07						
	015	CTI	001	001	Color Transient Improvement	Picture Mode			01	01	00			
	016	BON	000	001	Black Offset Compensation	Picture Mode			00	00	00			
	017	BTD	000	063	Adaptive Black Strecth	Picture Mode			00	00	00			
	018	NLD	021	063	Non-Linearity Amplifier	Picture Mode			21	21	00			
	019	NLW	007	007	Step Width of Non-Linearity Amplifier			07						
	020	VGD	031	063	Variable Gamma	Picture Mode			31	27	27			
	021	VGW	000	007	Step Width of Variable Gamma			00						
	022	PKD	040	063	Peaking Amplitude	Picture Mode* (TV/Others)			40	30	14	55	40	20
	023	PKW	008	015	Step Width of Peaking Amplitude			08						
	023	SPD	000	063	Steepness Correction	Picture Mode			00	00	00			
	025	CRD	050	063	Coring Level	Picture Mode* (TV/Others)			50	30	00	30	18	00
	026	CRW	009	015	Step Width of Coring Level			09						
	027	CRO	006	015	Coring Level Offset for Video Mode			06						
	028	LWD	031	063	Line Width Correction			31						
	029	ELTI	001	001	Enable/Disable LTI control[Post-CX1 option]			01						

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common	Initial Value (Detailed)	
Category	No.	Name	Dec	Dec					50	60
SUBP	000	IDXH	005	015	Index OSD horizontal position	Sub Picasso Transmit Data	Sub Picasso	05		
	001	IDXV	047	063	Index OSD vertical position	Sub Picasso Transmit Data (50/60)			47	47
	002	IDXB	031	031	Index OSD brightness	Sub Picasso Transmit Data		31		

(only applicable for 2 tuners models)

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common	Initial Value (Detailed)					
Category	No.	Name	Dec	Dec					50	60	YUV	TV	Video	No Signal
SCOS	000	SYS	001	001	Syncronization on YSYNC Input		Sub Cosmic	00						
	001	FO	000	003	Phase 1 Time Constant	TV/Auto Tuning or No signal (RF)						00	03	00
	002	VID	001	001	Video Ident Mode	50/60			00	00				
	003	FSL	000	001	Forced Slicing Level for Vertical Sync			00						
	004	SSL	000	001	Slicing Level Sync Separator	50/60			00	00				
	005	SVID	000	007	Source Selection for Video Identification	TV / Video / YUV					00	00	00	
	006	FORF	003	003	Forced Field Frequency			02						
	007	SVO	000	003	Function of IFVO/SVO/CVBSI Pin @ 48	TV / Video / YUV					00	00	00	
	008	VDXE	000	001	Control of coupling between vision IF amplifier and synchronisation circuit			00						
	009	VDX	000	001	Coupling between vision IF amplifier and synchronisation circuit			00						
	010	YDLY	012	015	Y-delay adjustment			00						
	011	OIFD	036	063	Offset IF Demodulator			36						
	012	AGCT	031	063	AGC Take-over			31						
	013	STM	001	001	Search Tuning Mode			00						
	014	GD	000	001	Group Delay on CVBS1 Signal			00						
	015	AGCS	001	003	IF AGC Speed			00						
	016	FFI	000	001	Fast Filter IF PLL			00						
	017	CMSS	000	001	Selection of sync input signal for the video ident circuit			00						
	018	OAMP	003	003	Video Output Signal Amplitude			03						
	019	VAI	000	001	System I Output Signal Amplitude Correction			00						
	020	FMWS	002	003	Window Selection for FM Demodulator			02						
	021	QSS	000	001	Quasi Split Sound (QSS) Amplifier Mode (except GA Model)			00						
	022	BPB	000	001	Bypass of Sound Bandpass Filter			00						
	023	BPB2	000	001	Bypass of Sound Bandpass Filter 2			00						
	024	SPT	000	001	Sync performance trick mode			00						
	025	E2D	000	001	Selection of audio output signal on AUDEEM pin			00						
	026	HPVC	000	001	Head Phone Volume Control			00						
	027	DSG	000	001	Gain from audio inputs to audio outputs			00						
	028	VSD	001	001	Vertical scan disable			00						
	029	CHSE	001	003	PAL/NTSC Ident Sensitivity			02						

(only applicable for 2 tuners models)

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common
Category	No.	Name	Dec	Dec				
HTV	000	VMAX	000	063	Maximum Volume Level (MAX = 35 + VMAX)	Volume Level		00
	001	VINI	025	031	Initial Volume Level at power on	Volume Level		25
	002	STBY	000	001	Last Power Status (0 = follow the last power status, 1 = always STBY)	Last Power		00
	003	IPRG	001	127	Initial Program Number at power on (only for Multi models)	Program Number (Legal:0 to 99, if >100, will reset to 1)		01

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common
Category	No.	Name	Dec	Dec				
OPTM	000	ASHT	006	007	Auto shut off timer (data * 5 min)			00
	001	MUTE	000	001	No Signal Mute Switch (1=enabled)			00
	002	RFUL	015	015	RF Signal Change Counter after Unlocked (Disable when 0fh)			04
	003	RFLK	015	015	RF Signal Change Counter after Locked (Disable when 0fh)			00
	004	LANG	000	003	OSD language shipping condition			00
	005	HTXT	000	001	Sync separator sw		Cosmic	00
	006	CMSS	000	001	Sync sw		Cosmic	01
	007	DCXO	060	295	DCXO Value		Picasso	*
	008	DISC	128	255	Target DISCO data for DCXO adjust by color dec			134
	009	EXBL	000	015	Extended Blanking Timer to Eliminate White Noise			10
	010	TSYS	000	003	Memorize TV Sys in NVM at Test Reset [0:B/G, 1:I, 2:D/K, 3:M] (GA Model)			00
	011	LBL	001	001	Brightness Reduction At No Signal condition			00
	012	23P	001	001	2/3 Pull Down Mode 0: Force OFF, 1: Auto		PF Engine	01
	013	LNSW	001	001	Signal Booster Shipping/Test Reset condition (1:Auto, 0:Off)			01
	014	DSTM	000	001	Disable stop mode in Standby (0: enable, 1: disable)			01
	015	CSPM	000	001	Enable Center Speaker Last Memory (0: enable, 1: disable)			00
	016	NRSW	001	002	NR Setting after Shipping Condition (0-OFF, 1-Low, 2-HIGH)			01

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common	Initial Value (Detailed)	
Category	No.	Name	Dec	Dec					Others	YUV
OPUS	000	SOFF	000	001	Stay off(0:follow last memory with AC on, 1:standby with AC on)					
	001	CCBR	015	031	CC OSD Brightness					
	002	SPCH	001	127	Channel Number after Shipping Condition					
	003	SPCA	001	001	Cable Selection after Shipping Condition (1 = Cable On)					
	004	OUV	000	001	Offset Control on UV Input Signals (only for US)	Others/YUV	Cosmic			
	005	CFA2	000	001	Forced Comb Filter On (only for US)	none	Cosmic			

(only applicable for NTSC models)

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common	Others	SECAM	NTSC
Category	No.	Name	Dec	Dec							
OPVP	000	BPBS	000	001	Bypass of sound bandpass filter at stereo mode (BPBS)		Cosmic	01			
	001	BWYC	000	001	Bandwidth at YC mode for 3.58 MHz color system (BMYC)			00			
	002	OSB	000	001	Width of internal burstkey pulse of chroma demodulator (OSB)			00			
	003	TYUV	000	001	TXT/CC output selection (TXTYUV)			01			
	004	LCD	000	001	LCD Mode (LCD)			01			
	005	BKC	000	001	Burst Key Position	NTSC/SECAM/OTHERS (PAL)			00	01	00

TVJ	Functionality		Init.	Range	Function	Table & Note	Device Name	Common
Category	No.	Name	Dec	Dec				
OPTB	000	IALL	000	001	Standard Write Switch (not memorized in NVM)			X
	001	OPB1	000	255	Option 1 (Video Signal related)			(For option bit data refer to pages 29 ~ 30)
	002	OPB2	000	255	Option 2 (Stereo Decoding related)			
	003	OPB3	000	255	Option 3 (Miscellaneous)			
	004	OPB4	000	255	Option 4 (Miscellaneous)			
	005	OPB5	000	255	Option 5 (OSD Languange related)			refer page 31

Data Variant depend on models

Category	No	Name	Stereo	AV Stereo
SDEC	008	EPMD	02	01
	009	STDS	31	13
	014	DCXI	00	00
	015	DCXG	03	00
	017	DCLH	06	00

Category	No	Name	Stereo	AV Stereo
OPTM	007	DCXO	53	48

ITEM INFORMATION

No. OPB1

Item	WSS RF	HD Front	Component	NR	Composite	SECAM	Color Decoding		DEC
KV-DZ29M30	0	0	1	1	0	1	0	0	52
KV-DZ29M61 (Malaysia)	0	0	1	1	0	1	0	0	52
KV-DZ29M61(GE)	0	0	1	1	0	1	0	0	52
KV-DZ29M91	0	0	1	1	0	1	0	0	52

WSS RF	(Wide Screen Signaling in RF mode)	0 = disabled, 1 = enabled
HD Front	(HD at front input)	0 = disabled, 1 = enabled
Component	(Component [YCbCr] Terminals)	0 = 1 Component terminal 1 = 2 Component terminals
Composite	(No. of Composite Terminals)	0 = 3 Composite terminals 1 = 4 Composite terminals
NR	(Noise Reduction)	0 = NR disabled, 1 = enabled (Note: 3D Comb must be off when NR is set to ON
SECAM	(SECAM Color System)	0 = disabled, 1 = enabled (valid only if Color Decording = 00 or 10)
Color decording	(Color Crystal Selection)	00 = PAL/NTSC/SECAM (Multi) 01 = NTSC (3.58MHz)/SECAM 10 = PAL/NTSC/SECAM (4.43MHz) 11 = Reserved (Tri-Norma)

No. OPB2

Item	REV	NICAM	REV	A2	Thai Bilingual/ Force SAP	US ST	Korean ST	REV	DEC
KV-DZ29M30	0	1	0	1	0	0	0	0	80
KV-DZ29M61 (Malaysia)	0	1	0	1	0	0	0	0	80
KV-DZ29M61(GE)	0	1	0	1	0	0	0	0	80
KV-DZ29M91	0	1	0	1	0	0	0	0	80

NICAM	(NICAM Stereo)	0 = disabled,	1 = enabled
A2	(A2 [West German] Stereo/Bilingual)	0 = disabled,	1 = enabled
Thai Bilingual	(A2 [Thai] Bilingual)	0 = disabled,	1 = enabled
Forced SAP	(Force SAP mode only if US ST is active)	0 = disabled,	1 = enabled
US ST	(US Stereo)	0 = disabled,	1 = enabled
Korean ST	(Korean Stereo)	0 = disabled,	1 = enabled

No. OPB3

Item	SPEED SEARCH		VM	Band Edge	3D Comb	PAP	TOP	TEXT	DEC
KV-DZ29M30	0	1	1	0	0	0	0	0	96
KV-DZ29M61 (Malaysia)	0	1	1	0	0	0	0	1	97
KV-DZ29M61(GE)	0	1	1	0	0	0	0	1	97
KV-DZ29M91	0	1	1	0	0	0	0	1	97

SPEED SEARCH	(Cycle of speed search)	00 = disabled (original cycle speed) 01 = 4 time speed from the original 10 = 6 time speed from the original 11 = 8 time speed from the original
VM	(Velocity Modulation)	0 = disabled, 1 = enabled
Band Edge	(VHF-H Band Limit Position)	0 = 427.25MHz 1 = 429.25MHz
3D Comb	(3D Comb functions)	0 = No 3D Comb, 1 = 3D Comb available
PAP	(PAP/2 tuner functions)	0 = No PAP, 1 = PAP available
TOP	(Forced Top)	0 = Auto Mode(TOP/FLOF), 1 = Forced Top
TEXT	(Teletext Model)	0 = Non-Teletext Model 1 = Teletext Model

No. OPB4

Item	Simple Surround	MSYS ASD	COSMIC ASD	ASD	Signal Booster	WEGA Theatre		Wide	DEC
KV-DZ29M30	1	0	0	1	1	0	0	0	152
KV-DZ29M61 (Malaysia)	1	0	0	1	1	0	0	0	152
KV-DZ29M61(GE)	1	0	0	1	1	0	0	0	152
KV-DZ29M91	1	0	0	1	1	0	0	0	152

Simple Surround	(Surround selection)	0 = Tru Surround/WOW/Simulated/Off 1 = (Movie/Sports/Off)
MSYS ASD	ASD Improvement for Msystem channels *(only applicable when ASD = 1)	0 = disabled, 1 = enabled
COSMIC ASD	Automatic Standard Detection using COSMIC *for AV Stereo or Mono models	0 = disabled, 1 = enabled
ASD	(Automatic Standard Detection)	0 = disabled, 1 = enabled
Signal Booster	*only for Multi models	0 = disabled, 1 = enabled
WEGA Theatre	(Wega Theatre with/without Center Speaker option)	0x = No WEGA Theatre function & No Center SP 10 = WEGA Theatre function available with no Center SP 11 = WEGA Theatre function available with Center SP (original)
Wide	(16:9 model)	0 = 4:3, 1= 16:9

No. OPB5

Item	REV	China	REV	Russia	OSD Languange Selection				DEC
KV-DZ29M30	0	0	0	0	1	1	1	0	14
KV-DZ29M61 (Malaysia)	0	0	0	0	1	1	1	0	14
KV-DZ29M61(GE)	0	0	0	0	1	1	1	0	14
KV-DZ29M91	0	0	1	1	0	0	0	0	48

China	(China model option) *only for Multi models	0 = Non China Model 1 = China (SSV) models
Russian	(Russian OSD option) *only for Multi models	0 = Non Russian Models, 1 = Russian Model
OSD Language Selection	US (GA NTSC)	x1x1x = Complicated Chinese x1xx1 = Korean
	GA	x1xxx = Simplified Chinese xx1xx = Arabic xxx1x = Thai xxxx1 = Vietnamese (only Vietnam Model)
	Russian	1xxxx = Russian (Only Russian Model)

Adjustment Item Table (BT Engine)
a) Version BT V0.015

Device Name	Functionality		Bit Info	Table & Note	Common							
device name	No.	name	bitmap									
DEF1	0	VPOS	11111100	V POSITION	31							
	1	VSIZ	11111100	V SIZE	18							
	2	VLIN	00001111	V LINEARITY	8							
	3	VSCO	11110000	V SCORRECTION	8							
	4	NSCO	11111100	ROTATION	31				V-COMP			
	5	HTPZ	11111000	H TRAPEZOID	15				50Hz SD	50Hz HD	576	
	6	ASPT	11111100	V ASPECT					43	54	43	
	7	SCRL	11111100	V SCROLL					31	29	31	
	8	UVLN	11110000	UP V LINEARITY	0							
	9	LVLN	00001111	LOW LINEARITY	0	100Hz	60Hz	120Hz				
	10	VPSO	11110000	VPOS OFFSET		1	-1	0				

Device Name	Functionality		Bit Info	Table & Note	NVM Address/ Initial Value (Detailed)										
device name	No.	name	bitmap		Range										
DEF1	0	VPOS	11111100	V POSITION	0/63										
	1	VSIZ	11111100	V SIZE	0/63										
	2	VLIN	00001111	V LINEARITY	0/15										
	3	VSCO	11110000	V SCORRECTION	0/15										
	4	NSCO	11111100	ROTATION	0/63	Others									
	5	HTPZ	11111000	H TRAPEZOID	0/31	60HZ SD	60HZ HD	480	100HZ	120HZ	50Hz SD	50Hz HD/ 576P	60Hz SD	60Hz HD/ 480P	100Hz
	6	ASPT	11111100	V ASPECT	0/63	44	32	42	44	44	47	45	48	45	47
	7	SCRL	11111100	V SCROLL	0/63	30	28	27	34	36	31	32	31	27	35
	8	UVLN	11110000	UP V LINEARITY	0/15										120Hz
	9	LVLN	00001111	LOW LINEARITY	0/15										46
	10	VPSO	11110000	VPOS OFFSET	-8/+7										37

Device Name	Functionality		Bit Info	Table & Note	Common																								
device name	No.	name	bitmap																										
DEF2	0	HPOS	11111100	H POSITION	24																								
	1	HSIZ	11111100	H SIZE	42																								
	2	PIN	11111100	PIN	28																								
	3	UCP	11111100	UP CORNER PIN	38																								
	4	LCP	11111100	LOW CORNER PIN	38																								
	5	PPHA	11111100	PIN PHASE	23																								
	6	VANG	11111100	V ANGLE	31						V COMP				OTHERS				HD										
	7	VBOW	11111100	V BOW	31						50HZ	60HZ	100HZ	120HZ	50HZ	60HZ	100HZ	120HZ	50HZ	60HZ									
	8	UXCG	00001100	EXTREME UP CORNER PIN GAIN							1	1	1	1	0	0	1	1	0	0									
	9	LXCG	00000011	EXTREME LOW CORNER PIN GAIN							1	1	1	3	1	1	1	0	0	0									
	10	UXCP	11000000	EXTREME UP CORNER PIN POSITION							1	2	1	1	3	0	3	2	1	1									
	11	LXCP	00110000	EXTREME LOW CORNER PIN POSITION							3	2	2	3	2	2	2	0	0	0									
	12	XCPP	00000001	EXTREME CORNER PIN POLARITY		100HZ	60HZ	120HZ	50HZ HD	60HZ DH	0	1	0	0	0	0	0	0	0	0									
	13	PPHO	11110000	PIN PHASE OFFSET		-1	-2	-3	0	0											V COMP				OYHERS			HD	
	14	HSZO	11111100	H SIZE OFFSET		2	0	-2	0	0											50HZ	60HZ	100HZ	120HZ	60HZ	100HZ	120HZ	50HZ	60HZ
	15	PINO	11111000	PIN OFFSET																	0	0	0	1	0	0	0	1	-2
	16	UCPO	00000111	UP CORNER PIN OFFSET																	0	1	0	2	0	0	1	-2	-2
	17	LCPO	11100000	LOW CORNER PIN OFFSET																	0	0	0	1	0	-1	-2	2	-1
	18	VAOC	00000111	V VANGLE GAIN AT ROTATION	1																								

Device Name	Functionality		Bit Info	Table & Note	COMMON															
device name	No.	name	bitmap																	
DEF3	0	HBLK	00000010	H BLANKING	1	50/100HZ	60/120HZ													
	1	LBLK	11111100	LEFT BLANKING		43	43	V COMP						OTHERS						
	2	RBLK	11111100	RIGHT BLANKING		28	24	50HZ SD	50HZ HD	60HZ SD	60HZ HD	100HZ	120HZ	50HZ SD	50HZ HD/ 576P	60HZ SD	60HZ HD	100HZ	120HZ	
	3	TBLK	11110000	TOP BLANKING				15	4	15	0	15	14	7	4	1	0	15	10	
	4	BBLK	00001111	BOTTOM BLANKING				15	6	11	0	15	12	8	6	6	7	9	5	
									576/50p		480/60p									
		TBLK							15		8									
		BBLK							15		15									
	5	AFCM	00000011	AFC MODE	3	HD	OTHERS													
	6	VDJP	00000001	VDRIVE JUMP		0	0													
	7	AKBT	11111000	AKB TIMING				30	30	15	15	30	24	28	16	20	16	20	20	

Device Name	Functionality		Bit Info	Table & Note	COMMON	V COMP	OTHERS
device name	No.	name	bitmap				
DEF4	0	QPDC	11111100	DQP DC		28	28
	1	QPDV	11111100	DQP DC PARABOLA		47	47
	2	QPDP	00001111	DQP PARABOLA PHASE		5	5
	3	QPAM	11111100	DQP AMP		31	31
	4	QPAV	11111100	DQP PARABOLA AMP		25	25
	5	QPAP	11110000	DQP PARABOLA PHASE		7	7
	6	QPPH	11111100	DQP PHASE	21		
	7	COPY	00000010	COPY DQP DATA	0		

Device Name	Functionality		Bit Info	Table & Note	Common											
device name	No.	name	bitmap													
DEF5	0	VON	00000010	V DEF ON	-	1	V COMP				OTHERS				HD	
	1	AGCS	00000010	AGC MODE	00C1	1	50HZ	60HZ	100HZ	120HZ	50HZ	60HZ	100HZ	120HZ	50HZ	60HZ
	2	ACMP	00011100	HIGH VOLTAGE FLUCTUATION COMPENSATION FOR AFC			0	0	0	0	0	0	0	0	0	0
	3	HCMP	00001111	HIGH VOLTAGE FLUCTUATION COMPENSATION FOR H SIZE			10	10	10	10	10	10	10	10	10	10
	4	VCMP	11110000	HIGH VOLTAGE FLUCTUATION COMPENSATION FOR V SIZE			8	8	8	8	8	8	8	8	7	8
	5	PCMP	11100000	HIGH VOLTAGE FLUCTUATION COMPENSATION FOR PIN			7	7	7	7	7	7	7	7	6	7

Device Name	Functionality		Bit Info	Table & Note															
device name	No.	name	bitmap																
LUMA	0	GAMM	00011100	Table for GAMS,RGAM,GGAM,BGAM	GAMM0	GAMM1	GAMM2	GAMM3	GAMM4	GAMM5	GAMM6	GAMM7							
	1	GAMS	11110000	Gamma Shape Correction	13	13	13	13	13	13	13	13							
	2	RGAM	00001111	Gamma Red	0	2	3	4	5	6	8	9							
	3	GGAM	11110000	Gamma Green	0	2	3	4	5	6	8	9							
	4	BGAM	00001111	Gamma Blue	0	2	3	4	5	6	8	9							
	5	BLK	11100000	Table for APED,DCTR,ABLM									BLK0	BLK1	BLK2	BLK3	BLK4	BLK5	BLK6	BLK7
	6	APED	11000000	Auto Pedestal Level Control									0	3	3	1	2	1	1	3
	7	DCTR	00001111	DC Transmission Control									0	5	12	10	10	5	10	15
	8	ABLM	00110000	ABL Mode Control									0	1	1	0	0	0	1	1

Device Name	Functionality		Bit Info	Table & Note	VIVID															
					RF			CV/YC			YUV									
device name	No.	name	bitmap		NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	480I	576I	480P	576P	720_60P	720_50P	1080_60I		1080_50I	
LUMA	0	GAMM	00011100	Table for GAMS,RGAM,GGAM,BGAM	5	5	5	5	5	6	5	5	6	6	6	6	0639	6	063B	6
	1	GAMS	11110000	Gamma Shape Correction																
	2	RGAM	00001111	Gamma Red	VIVD															
	3	GGAM	11110000	Gamma Green	RF			CV/YC			YUV									
	4	BGAM	00001111	Gamma Blue	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	480I	576I	480P	576P	720_60P	720_50P	1080_60I		1080_50I	
	5	BLK	11100000	Table for APED,DCTR,ABLM	2	7	1	2	7	2	2	7	2	2	2	2	0639	2	063B	2
	6	APED	11000000	Auto Pedestal Level Control																
	7	DCTR	00001111	DC Transmission Control																
	8	ABLM	00110000	ABL Mode Control																

Device Name	Functionality		Bit Info	Table & Note	STANDARD															
					RF			CV/YC			YUV								RF	
device name	No.	name	bitmap		NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	480I	576I	480P	576P	720_60P	720_50P	1080_60I	1080_50I	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM
LUMA	0	GAMM	00011100	Table for GAMS,RGAM,GGAM,BGAM	0	0	0	0	0	0	0	0	0	0	1	0	3	1	6	5	6
	1	GAMS	11110000	Gamma Shape Correction																	
	2	RGAM	00001111	Gamma Red	STANDARD															
	3	GGAM	11110000	Gamma Green	RF			CV/YC			YUV								RF	
	4	BGAM	00001111	Gamma Blue	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	480I	576I	480P	576P	720_60P	720_50P	1080_60I	1080_50I	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM
	5	BLK	11100000	Table for APED,DCTR,ABLM	1	1	1	1	1	1	1	1	1	1	1	1	5	1	3	3	3
	6	APED	11000000	Auto Pedestal Level Control																	
	7	DCTR	00001111	DC Transmission Control																	
	8	ABLM	00110000	ABL Mode Control																	

Device Name	Functionality		Bit Info	Table & Note	VIVID													
					RF			CV/YC			YUV							
device name	No.	name	bitmap		NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	480I	576I	480P	576P	720_60P	720_50P	1080_60I	1080_50I
LUMA	0	GAMM	00011100	Table for GAMS,RGAM,GGAM,BGAM	5	5	5	5	5	6	5	5	6	6	6	6	6	6
	1	GAMS	11110000	Gamma Shape Correction														
	2	RGAM	00001111	Gamma Red	VIVID													
	3	GGAM	11110000	Gamma Green	RF			CV/YC			YUV							
	4	BGAM	00001111	Gamma Blue	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	480I	576I	480P	576P	720_60P	720_50P	1080_60I	1080_50I
	5	BLK	11100000	Table for APED,DCTR,ABLM	2	7	7	2	7	2	2	7	2	2	2	2	2	2
	6	APED	11000000	Auto Pedestal Level Control														
	7	DCTR	00001111	DC Transmission Control														
	8	ABLM	00110000	ABL Mode Control														

Device Name	Functionality		Bit Info	Table & Note	STANDARD																
					RF			CV/YC			YUV								RF		
device name	No.	name	bitmap		NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	480I	576I	480P	576P	720_60P	720_50P	1080_60I	1080_50I	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM
LUMA	0	GAMM	00011100	Table for GAMS,RGAM,GGAM,BGAM	0	0	0	0	0	0	0	0	0	0	1	0	3	1	6	6	6
	1	GAMS	11110000	Gamma Shape Correction																	
	2	RGAM	00001111	Gamma Red	STANDARD																
	3	GGAM	11110000	Gamma Green	RF			CV/YC			YUV								RF		
	4	BGAM	00001111	Gamma Blue	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	480I	576I	480P	576P	720_60P	720_50P	1080_60I	1080_50I	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM
	5	BLK	11100000	Table for APED,DCTR,ABLM	1	1	1	1	1	1	1	1	1	1	1	1	5	1	3	3	3
	6	APED	11000000	Auto Pedestal Level Control																	
	7	DCTR	00001111	DC Transmission Control																	
	8	ABLM	00110000	ABL Mode Control																	

Device Name	Functionality		Bit Info	Table & Note	CUSTOM													
					RF			CV/YC			YUV							
device name	No.	name	bitmap		NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	480I	576I	480P	576P	720_60P	720_50P	1080_60I	1080_50I
LUMA	0	GAMM	00011100	Table for GAMS,RGAM,GGAM,BGAM	6	6	6	1	6	6	5	6	6	6	1	1	5	5
	1	GAMS	11110000	Gamma Shape Correction														
	2	RGAM	00001111	Gamma Red	STANDARD													
	3	GGAM	11110000	Gamma Green	RF			CV/YC			YUV							
	4	BGAM	00001111	Gamma Blue	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	480I	576I	480P	576P	720_60P	720_50P	1080_60I	1080_50I
	5	BLK	11100000	Table for APED,DCTR,ABLM	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	6	APED	11000000	Auto Pedestal Level Control														
	7	DCTR	00001111	DC Transmission Control														
	8	ABLM	00110000	ABL Mode Control														

Device Name	Functionality		Bit Info	Table & Note	COMMON																			
device name	No.	name	bitmap																					
COLR	0	RDRV	00111111	R_DRIVE = RDRV + RDOF - 3	46																			
	1	GDRV	11111100	G_DRIVE = GDRV + GDOF - 31	43																			
	2	BDRV	11111100	B_DRIVE = BDRV + BDOF - 31	52																			
	3	RCUT	11111100	R_CUTOFF = RCUT + RCOF - 31	45																			
	4	GCUT	11111100	G_CUTOFF = GCUT + GCOF - 31	44																			
	5	BCUT	11111100	B_CUTOFF = BCUT + BCOF - 31	31																			
	6	SBRT	11111100	SUB_BRT = SBRT + SBOF - 3/Sub Birghtness	23	COOL	WARM	TELETEXT/ NEUTRAI																
	7	DCOL	11000000	Dynamic Color Mode Setting		2	0	0																
	8	WBSW	10000000	White Balance Offset Setting		0	0	0																
	9	SBOF	11100000	SUB_BRT = SBRT - 3/Sub Brightness Offset		2	2	3																
	10	RDOF	01111110	R_DRIVE = RDRV + RDOF - 31/R Drive Offset		31	36	36																
	11	GDOF	11111100	G_DRIVE = GDRV + GDOF - 31/G Drive Offset		31	33	37																
	12	BDOF	11111100	B_DRIVE = BDRV + BDOF - 31/B Drive Offset		31	22	31																
	13	RCOF	11111100	R_CUTOFF = RCUT + RCOF - 31/R Cutoff Offset		31	39	30	VIVID								STANDARD & CUSTOM							
	14	GCOF	11111100	G_CUTOFF = GCUT + GCOF - 31/G Cutoff Offset		31	29	24	RF/CV/YC				YUV SD		YUV HD/PROG		RF/CV/YC				YUV SD		YUV HD/PROG	
	15	BCOF	11111100	B_CUTOFF = BCUT + BCOF - 31/B Cutoff Offset		31	22	27	NTSC3.58, PAL60	PAL50	SECAM	NTSC 4.43	480I	576I	60Hz: 480P, 720P	50Hz: 576P, 720P	NTSC3.58, PAL60	PAL50	SECAM	NTSC 4.43	480_60I	576_50I	60Hz: 480P, 720P	50Hz: 576P, 720P
	16	RYR	11110000	Color axis					03	10	14	03	07	10	07	10	03	10	14	03	07	10	07	10
	17	RYB	00001111	Color axis					09	15	15	09	10	15	10	15	09	15	15	09	10	15	10	15
	18	GYR	11110000	Color axis					10	05	01	10	13	07	07	07	10	05	01	10	13	07	07	07
	19	GYB	00001111	Color axis					05	03	03	05	04	03	04	02	05	03	03	05	04	03	04	02

Device Name	Functionality		Bit Info	Table & Note	VIVID													
					RF			CV/YC			YUV							
device name	No.	name	bitmap		NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	480I	576I	480P	576P	720_60P	720_50P	1080_60I	1080_50I
CLTY	0	SYSM	11000000	Signal Band Selection	1	1	1	1	1	1	1	1	1	1	2	2	3	3
	1	SHF0	10000000	Sharpness f0 Setting	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	2	PROV	01100000	Pre/Over Shoot Radio Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3	F1LV	00011000	SHP F1 = F1LV - 7YF1*/HIGH F0 sharpness gain control	2	2	2	2	2	1	3	3	1	2	1	1	2	2
	4	LTLV	00000110	LTI LEV = LTLV - 7LTI*/Luminance Transient Improveme	0	0	0	0	0	1	2	2	1	2	1	1	1	1
	5	LTMD	00000001	LTI Mode Setting	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	6	CTLV	11000000	CTI_LEV = CTLV - 7CTI*/Chrominance Transient Improveme	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Device Name	Functionality		Bit Info	Table & Note	VIVID													
					RF			CV/YC			YUV							
device name	No.	name	bitmap		NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	NTSC 3.58/ 4.43,PAL60	PAL50	SECAM	480I	576I	480P	576P	720_60P	720_50P	1080_60I	1080_50I
CLTY	0	SYSM	11000000	Signal Band Selection	1	1	1	1	1	1	1	1	1	1	2	2	3	3
	1	SHF0	10000000	Sharpness f0 Setting	0	0	0	0	0	0	0	0	0	0	1	1	1	1
	2	PROV	01100000	Pre/Over Shoot Radio Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3	F1LV	00011000	SHP F1 = F1LV - 7YF1*/HIGH F0 sharpness gain control	2	2	2	0	0	0	0	0	2	2	1	1	2	2
	4	LTLV	00000110	LTI LEV = LTLV - 7LTI*/Luminance Transient Improveme	2	2	0	2	2	1	2	2	2	2	1	1	1	1
	5	LTMD	00000001	LTI Mode Setting	1	1	0	1	1	1	1	1	1	1	1	1	1	1
	6	CTLV	11000000	CTI_LEV = CTLV - 7CTI*/Chrominance Transient Improveme	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Device Name	Functionality		Bit Info	Table & Note	COMMON										
device name	No.	name	bitmap												
MCP	0	TCOF	00000010	Color On/Off Setting	0										
	1	PON	10000000	RGB and AKB Reference Pulse Output O	1										
	2	RON	01000000	R Output On/Off	1										
	3	GON	00100000	G Output On/Off	1										
	4	BON	00010000	B Output On/Off	1										
	5	RGBL	11000000	RGB Amplitude Limiter Control	0	RF/CV/YC			YUV HD/PROG			OTHERS	TELETEXT		
	6	YLMT	00110000	Y Amplitude Level Setting	2	NTSC3.58/ 4.43,PAL60	PAL50	SECAM	480P/ 576P	720P	108I				
	7	BLKB	00001100	RGB Bottom Limiter Control	3										
	8	YOF	00001111	DC Offset Canceller for Signal		0	7	7	7	7	7	7	7		
	9	CBOF	11111100	DC Offset Canceller Cb Signal		39	39	39	45	44	43	34	39		
	10	CROF	11111100	DC Offset Canceller for Cr Signal		40	39	39	39	39	39	39	39		
	11	SPIC	11110000	Sub Picture Control		9	9	9	10	9	9	11	7	VCOMP	OTHRES
	12	ABLT	11110000	ABL Current Delection Threshold Voltage										8	0
	13	PICT	11111100	CXA2170 Picture	63										
	14	HUE	11111100	CXA2170 Picture		30	30	30	30	30	30	30	31		
	15	COLR	11111100	CXA2170 Picture		43	42	42	40	40	40	38	63		
	16	BRT	11111100	CXA2170 Picture		35	31	31	31	21	21	31	20		
	17	SHP	11111100	CXA2170 Picture	25										

Device Name	Functionality		Bit Info	Table & Note	NVM Add								
device name	No.	name	bitmap		Range	SNNR0	SNNR1	SNNR2	SNNR3	SNNR4	SNNR5	SNNR6	SNNR7
SNNR	0	7YF1	00000011	CXA2170 Sharpness f1 Level	0/3	3	3	3	3	3	1	0	0
	1	7LTI	11000000	CXA2170 LTI Level	0/3	3	3	3	3	3	3	0	0
	2	7CTI	00110000	CXA2170 CTI Level	0/3	3	3	3	3	3	3	0	0
	3	7VML	00001111	CXA2170 VM Level	0/15	11	8	5	2	2	2	0	0
	4	7VMC	11111111	CXA2170 VM Coring Level	0/255	50	10	10	0	0	0	0	0
	5	7SHP	0001111	CXA2170 Sharpness level	0/15	31	31	15	10	10	5	0	0
	6	7COL	00011111	CXA2170 Color level	0/15	15	15	15	5	5	5	0	0
	7	7BRT	00011111	CXA2170 Brightness level	0/15	20	15	15	5	5	0	0	0
	8	CORG	00011111	Coring gain of coring	0/31	9	5	5	00	00	00	00	00

Device Name	Functionality		Bit Info	Table & Note	COMMON	RF/CV/YC/YUV SD		OTHERS
device name	No.	name	bitmap			NTSC3.58	PAL50	
3DCM	0	TRHD	00011111	3D-Comb threshold value		1	1	1
	1	2DYC	00100000	ON/OFF 3D-Comb		1	1	1
	2	VCRM	00000010	VCR mode detected	1			
	3	NSTD	00000010	Non standard detected	1			

Device Name	Functionality		Bit Info	Table & Note	RF/CV			YC			YUV			OTHERS
device name	No.	name	bitmap		NTSC 3.58	PAL 50	SECAM	NTSC 3.58	PAL 50	SECAM	480P/576P/ 720P/108	480I	576I	
COFF	0	CRLV	11111111	CR saturation	89	89	55	60	55	55	128	88	88	63
	1	CBLV	11111111	CB saturation	122	120	63	63	63	63	128	103	103	63

Device Name	Functionality		Bit Info	Table & Note	YUV HD/PROG	OTHERS
device name	No.	name	bitmap		480P/576P/720P/108	
YUVL	0	YLEV	11111111	Y Analog gain control for HDTV and programm	185	175
	1	ULEV	11111111	CB saturation for HDTV and progressive in	110	127
	2	VLEV	11111111	CR saturation for HDTV and progressive in	170	127
	3	YDCL	11111111	Y DC level	64	64
	4	ASSE	00010000	ASS enable	0	0
	5	ASSG	11100000	ASS gain	6	6

Device Name	Functionality		Bit Info	Table & Note	NVM Add	COMMON																				
device name	No.	name	bitmap		Range										RF			CV/YC			YUV				OTHERS
ADJ	0	CONT	00111111	Contrast adjusment	0/6389	29								NTSC 3.58	PAL 50	SECAM	NTSC 3.58	PAL 50	SECAM	480P/576P/ 720P	1080I	480I	576I	
	1	SCOL	01111111	Sub color	0/127	63								31	31	31	31	31	31	31	31	31	31	31
	2	CLOF	00011111	Color offset	0/31																			
	3	SHUE	11111111	Sub hue	0/255	128																		
	4	YGA	11111111	Y gain	0/255	98	RF/CV/YC			YUV			OTHERS											
	5	BGA	11111111	Brightness gain	0/255	17	NTSC 3.58	PAL 50	SECAM	480P/576P/ 720P/108	480I	576I												
	6	YCDE	00001111	YC delay	0/15		01	02	02	02	02	02	02	RF			CV/YC			YUV				OTHERS
	7	PMIN	01111111	Picture minimum offset	0/127	20								NTSC 3.58	PAL 50	SECAM	NTSC 3.58	PAL 50	SECAM	480P/576P/ 720P	1080I	480I	576I	
	8	HUOF	01111111	Hue offset	0/127									31	31	31	31	31	31	31	31	31	31	31

Device Name	Functionality		Bit Info	Table & Note	COMMON	RF/CV/YC			YUV			OTHERS
device name	No.	name	bitmap			NTSC 3.58	PAL 50	SECAM	480P/576P/ 720P/108	480I	576I	
BRT	0	BOFF	11111111	Brightness offset for contrast		20	16	16	40	13	16	20
	1	BCTR	11111111	Brightness control	32							
	2	SBRO	01111111	Sub brightness	36							
	3	BMIN	01111111	Brightness minimum offset	64							

Device Name	Functionality		Bit Info	Table & Note	YUV HD/PROG	OTHERS
device name	No.	name	bitmap		480P/576P/720P/108	
LTI2	0	LTIG	00011111	LTI peaking gain	12	10
	1	LTIS	01100000	LTI step calculation	03	00
	2	LTHR	11111111	LTI threshold	00	00
	3	HLTI	00011111	Higher LTI gain	00	00

Device Name	Functionality		Bit Info	Table & Note	RF			CV/YC			YUV			OTHERS
device name	No.	name	bitmap		NTSC 3.58	PAL 50	SECAM	NTSC 3.58	PAL 50	SECAM	480P/576P/ 720P	1080I	480I/576I	
PEAK	0	PSTP	01100000	Peaking step for bandpass filter	00	01	01	03	03	03	03	03	03	00
	1	PTHR	11111111	Non-linear control on peaking threshold	00	00	00	00	00	00	00	00	00	00
	2	OVSP	11110000	Over-shoot amount control in the peaking function	02	02	02	02	01	01	02	03	03	02
	3	UDSP	00001111	Under-shoot amount control in the peaking function	01	01	01	01	01	01	02	01	01	01
	4	BPGA	00011111	Bandpass gain	10	10	10	10	10	10	25	10	10	10
	5	GAC1	11100000	Segment2 gain control on non-linear peaking control	00	00	00	00	00	00	00	00	00	00
	6	GAC2	11100000	Segment2 gain control on non-linear peaking control	00	00	01	00	00	00	00	00	00	00
	7	HPGA	00011111	Highpass gain	00	00	00	00	00	00	10	00	10	00
	8	PTH2	11111111	Non-linear control on peaking threshold2	00	00	00	00	00	00	02	00	02	00
	9	SNR	11111111	Spatial noise reduction after sharpness	128	128	128	00	00	00	00	00	00	128
	10	PTH3	11111111	Non-linear control on peaking threshold3	32	32	32	32	32	32	00	00	00	32
	11	GAC3	00111111	Segment1 gain control on non-linear peaking control	00	00	00	00	00	00	00	00	00	00
	12	BYLS	01000000	Bypass horizontal LTI & sharpness	00	00	00	00	00	00	00	00	00	00

Device Name	Functionality		Bit Info	Table & Note	NVM Add	YUV HD/PROG	OTHERS
device name	No.	name	bitmap		Range	480P/576P/720P/108	
CTI	0	CTGA	00001111	Gain of CTI	0/15	12	07
	1	CSTP	01110000	DCTI step	0/7	01	07
	2	DCTI	10000000	DCTI enable function	0/1	01	01
	3	CTHR	11111111	Coring threshold for DCTI	0/255	00	02

Device Name	Functionality		Bit Info	Table & Note	COMMON	RF/CV/YC			YUV			OTHERS
device name	No.	name	bitmap			NTSC 3.58	PAL 50	SECAM	480P/576P/ 720P	1080i	480i/576i	
UVDY	0	VDLY	11110000	V component delay adjustment		05	06	04	08	08	07	03
	1	UDLY	00001111	U component delay adjustment		05	07	04	08	08	07	02
	2	BYLU	00100000	Bypass luma adjus function	00							
	3	BYCH	10000000	Bypass the chroma hue and saturation adjustment	00							

Device Name	Functionality		Bit Info	Table & Note	RF/CV/YC			YUV			OTHERS
device name	No.	name	bitmap		NTSC 3.58	PAL 50	SECAM	480P/576P/ 720P/108	480i	576i	
GREN	0	GRED	00000010	Green enhancement enable/disab	0	0	0	0	0	0	0
	1	GAIN	11111111	Green enhancement gain	150	150	150	150	150	80	150

Device Name	Functionality		Bit Info	Table & Note	RF/CV/YC			YUV			OTHERS
device name	No.	name	bitmap		NTSC 3.58	PAL 50	SECAM	480P/576P/ 720P/108	480i	576i	
GAMA	0	GMED	00001000	Gamma enable/disable	00	00	00	00	00	00	00

Device Name	Functionality		Bit Info	Table & Note	COMMON	50HZ	100HZ	60HZ	120HZ
device name	No.	name	bitmap						
VSHP	0	VTHR	11111111	Vertical sharpness threshold		16	16	16	16
	1	VNEG	00011111	Vertical sharpness gain negative		07	07	07	07
	2	VPOS	00011111	Vertical sharpness gain positive		07	07	07	07
	3	VSED	00000010	Vertical sharpness enable/disable	1				

Device Name	Functionality		Bit Info	Table & Note	RF/CV/YC/YUV SD								OTHERS				YUVHD/ PROG
					PAL50/60, 576I				NTSC3.58, 480I								
device name	No.	name	bitmap		DNR LOW	DNR MID	DNR HIGH	DNR OFF	DNR LOW	DNR MID	DNR HIGH	DNR OFF	DNR LOW	DNR MID	DNR HIGH	DNR OFF	
DNR	0	AP0	11111111	Alpha 0	01	01	01	255	01	01	01	255	01	01	01	255	255
	1	AP1	11111111	Alpha 1	01	01	01	255	01	01	01	255	01	01	01	255	255
	2	AP2	11111111	Alpha 2	17	17	17	255	17	17	17	255	17	17	17	255	255
	3	AP3	11111111	Alpha 3	18	18	18	255	18	18	18	255	18	18	18	255	255
	4	AP4	11111111	Alpha 4	35	35	35	255	35	35	35	255	35	35	35	255	255
	5	AP5	11111111	Alpha 5	35	35	35	255	35	35	35	255	3551	35	35	255	255
	6	AP6	11111111	Alpha 6	51	51	51	255	51	51	51	255	51	51	51	255	255
	7	AP7	11111111	Alpha 7	51	51	51	255	51	51	51	255	68	51	51	255	255
	8	AP8	11111111	Alpha 8	68	68	38	68	68	68	68	68	85	68	68	68	68
	9	AP9	11111111	Alpha 9	85	85	85	85	85	85	85	85	102	85	85	85	85
	10	APA	11111111	Alpha A	102	102	102	102	102	102	102	102	119	102	102	102	102
	11	APB	11111111	Alpha B	119	119	119	119	119	119	119	119	136	119	119	119	119
	12	APC	11111111	Alpha C	136	136	136	136	136	136	136	136	153	136	136	136	136
	13	APD	11111111	Alpha D	153	153	153	153	153	153	153	153	170	153	153	153	153
	14	APE	11111111	Alpha E	170	170	170	170	170	170	170	170	187	170	170	170	170
	15	APF	11111111	Alpha F	187	187	187	187	187	187	187	187	07	187	187	187	187
	16	EYUV	11111111	Alpha YUV	07	07	07	07	07	07	07	07	63	07	07	07	07
	17	SYUV	11111111	Reference to create key for YUV	63	63	63	63	63	63	63	63	63	63	63	63	63
	18	RYUV	11111111	Reference to do NR	63	63	63	63	63	63	63	63	06	63	63	63	63
	19	KYUV	11111111	Key selection for YUV	06	06	06	06	06	06	06	06	00	06	06	06	06
	20	SEYU	11111111	Sensitivity YU	00	00	00	00	00	00	00	00	00	00	00	00	00
	21	SEV	11111111	Sensirivity V	00	00	00	00	00	00	00	00	00	00	00	00	00
	22	FBUV	11111111	Error feedback UV	00	00	00	00	00	00	00	00	00	00	00	00	00
	23	MTA	11111111	Threshold 1A motion adjust	00	00	00	00	00	00	00	00	00	00	00	00	00
	24	MTB	11111111	Threshold 1B motion adjust	00	00	00	00	00	00	00	00	00	00	00	00	00
	25	MTC	11111111	Threshold 2A motion adjust	00	00	00	00	00	00	00	00	00	00	00	00	00
	26	MTD	11111111	Threshold 2B motion adjust	00	00	00	00	00	00	00	00	00	00	00	00	00
	27	MOF	11111111	Motion offset	12	08	08	08	12	08	08	08	12	08	08	08	08
	28	MYUV	11111111	Motion adjust YUV	07	07	07	07	07	07	07	07	07	07	07	07	07
	29	NRBY	10000000	NR Bypass	00	0	0	01	0	0	0	01	0	0	0	01	01

Device Name	Functionality		Bit Info	Table & Note	RF/CV/YC			YUV			OTHERS
device name	No.	name	bitmap		NTSC 3.58	PAL 50	SECAM	480P/576P/ 720P	1080i	480/ 576i	
VM	0	DLY1	10000000	VM delay1	01	01	01	01	01	01	01
	1	VMPO	01000000	VM polarity	00	00	00	00	00	00	00
	2	VMST	00111000	VM step	05	04	04	05	00	05	05
	3	DLY2	11110000	VM delay2	11	11	11	10	11	11	11
	4	VMCO	11111111	VM coring	00	00	00	00	00	00	00

Device Name	Functionality		Bit Info	Table & Note	VIVID	STANDARD	CUSTOM						
device name	No.	name	bitmap				OFF	LOW	HIGH				
VMCT	0	VMMO	00000011	VM Control	03	02	00	01	03	00	01	02	03
	1	VMLV	00001111	VM LEV = VMLV - 7VML*/VM Out Level Control						00	05	08	11

Device Name	Functionality		Bit Info	Table & Note	NVM Add	COMMON										
device name	No.	name	bitmap		Range											
OSD	0	OBRT	00011111	OSD Brightness	-16/+15	02EA	7	576_50I	576_100I	576_50P	480_60I	480_120I	480_60P	1080_50I	1080_60I	720_50P	720_60P
	1	OVPO	00011111	OSD V Position	-16/+15			0	0	0	0	0	0	0	0	0	0
	2	OHPO	00011111	OSD H Position	-16/+15			0	0	0	0	0	0	0	0	0	0

Device Name	Functionality		Bit Info	Table & Note	RF/CV/YC		OTHERS
device name	No.	name	bitmap		NTSC3.58	PAL50	
SYNC	0	AGCK	00110000	Agc gate kill mode	00	00	00
	1	HGA	00000100	Agc half gain mode set	00	00	00
	2	HSYN	11111111	H-sync rising end time window	90	90	90
	3	VSTH	00111111	Threshold to add to the slice level for v syn	45	45	45
	4	VSCT	11000000	Set the v sync output mode	01	01	01

Device Name	Functionality		Bit Info	Table & Note	RF/CV/YC		OTHERS
device name	No.	name	bitmap		NTSC3.58	PAL50	
COKL	0	KIL1	00001110	Set level for chroma kill	04	04	04
	1	KIL2	00001111	Chroma killer level	08	05	08

Device Name	Functionality		Bit Info	Table & Note	RF/CV/YC			YUV			OTHERS
device name	No.	name	bitmap		NTSC 3.58	PAL 50	SECAM	480P/576P/ 720P/108	480I	576I	
BLST	0	BYBS	00000010	Bypass black stretch	0	0	0	1	0	00	00
	1	BGAI	00001111	Black stretch gain	5	6	5	3	5	06	5
	2	BSTR	11111111	Star point for black stretch	100	100	80	100	120	92	112

Device Name	Functionality		Bit Info	Table & Note	RF/CV/YC		OTHERS
device name	No.	name	bitmap		NTSC3.58	PAL50	
COAT	0	CAGC	11111111	Chroma AGC target	64	80	38

Device Name	Functionality		Bit Info	Table & Note	PROGRESSIVE		INTERLACE	
device name	No.	name	bitmap		50HZ	60HZ	100HZ	120HZ
LUDI	0	STPR	11111111	Luma de-interlacing selection	101	101	101	101

Device Name	Functionality		Bit Info	Table & Note	COMMON
device name	No.	name	bitmap		
ID1	0	VDCN	11111111	Wss threshold	01
	1	IDCN	11111111	No wss threshold	43

5-3. PICTURE QUALITY ADJUSTMENTS

Adjustment condition

1. Set to service mode.
2. Set picture mode to CUSTOM.
3. Set the following condition.

INTELLIGENT PICTURE	: OFF
SCAN MODE	: PROGRESSIVE
ECO MODE	: OFF
D-NR	: OFF

Input signal : PAL VIDEO COLOR BAR (White & Color 100%)
576i COLOR BAR (White & Color 100%)

OR

Input signal : NTSC VIDEO COLOR BAR
(White & Color 75%)
480i COLOR BAR (White & Color 75%)

MEASUREMENT POINT

A board CN4301
⑥ B-OUT ➔ VB

5-3(1). DRIVE ADJUSTMENT

(i) SUB CONTRAST (PAL)

Input signal : PAL (100%) Color bar to Video 1
Picture : CUSTOM mode

Condition :	MCP	002	RON	0
		003	GON	0
		004	BON	1
		005	RGBL	3
		006	YLMT	2

Under Picture Menu :	Picture	100
	Color	0

Adjusting parameter:
MCP 011 SPIC

* Note: Reset back adjustment conditions to original data after adjustment.

(ii) SUB CONTRAST (NTSC)

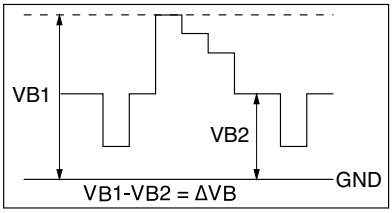
Input signal : NTSC (75%) Color Bar to Video 1
Picture : CUSTOM mode

Condition:	MCP	002	RON	0
		003	GON	0
		004	BON	1
		005	RGBL	3
		006	YLMT	2

Under Picture Menu :	Picture	100
	Color	0

Adjusting parameter :
MCP 011 SPIC

* Note: Reset back adjustment conditions to original data after adjustment.



ΔVB = 2.72 ± 0.07 (Vp-p) ➔ PAL
ΔVB = 2.04 ± 0.07 (Vp-p) ➔ NTSC

5-4. SUB HUE/COL ADJUSTMENT

5-4(1). SUB COL

Input signal : NTSC (75%) Color bar or PAL (100%)
Color Bar to Video 1.
Picture : CUSTOM mode

Condition :	MCP	002	RON	1
		003	GON	1
		004	BON	1
		005	RGBL	0
		006	YLMT	3

Under Picture Menu :	Picture	50
	Color	50

Adjusting parameter:
MCP 015 COLR

* NTSC (75%) and PAL (100%) should be adjusted separately because they have different table.
* Note: Reset back adjustment conditions to original data after adjustment.

5-4(2). SUB HUE

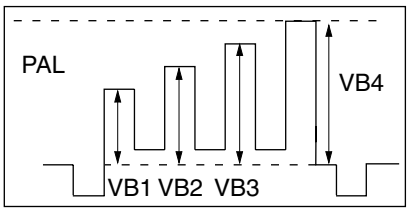
Input signal : NTSC (75%) Color bar to Video 1

Picture :	Custom mode			
Condition :	MCP	002	RON	1
		003	GON	1
		004	BON	1
		005	RGBL	0
		006	YLMT	3

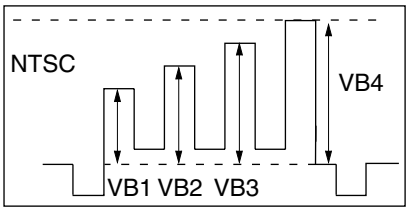
Under Picture Menu :	Picture	50 (for multi models)
	Color	50 (for multi models)

Adjusting parameter:
MCP 014 HUE

* Note: Reset back adjustment conditions to original data after adjustment.



VB1 = VB3 = VB4 ± 70 mV



VB1 = VB4 ± 70 mV
VB2 = VB3 ± 70 mV

5-4(3).480i INPUT / 576i INPUT

(i) SUB CONTRAST

Input Signal : 576i 100% Color Bar to HD / DVD1
Picture: CUSTOM mode

Condition :	MCP	002	RON	0	005	RGBL 3
		003	GON	0	006	YLMT 2
		004	BON	1		
	SADJ	001	PIOF	0		

Under Picture Menu : Picture 100
Color 0

Adjusting parameter : MCP 011 SPIC
(Same table for 480i/576i)

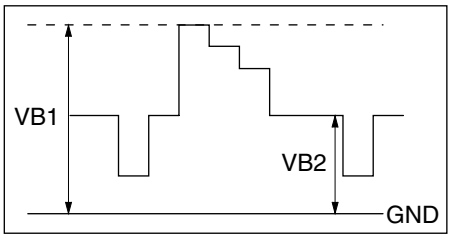
(ii) SUB COLOR & SUB HUE ADJUSTMENT

Input Signal : 480i 75% Color Bar or 576i 100% Color Bar to HD/DVD1
Picture: CUSTOM mode

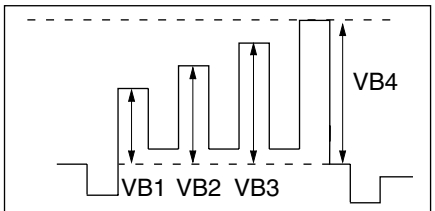
Condition :	MCP	002	RON	1	005	RGBL 0
		003	GON	1	006	YLMT 3
		004	BON	1		

Under Picture Menu : Picture 50
Color 50

Adjusting parameter : MCP 012 COLR
(ADJUSTED +2STEPS)
014 HUE
(Same table for 480i/576i)



VB1- VB2 = ΔVB = 2.72 ± 0.07 Vp-p (For 576i 100% color bar)



VB2 = VB3 = VB4 = ± 70mV } For sub color adjustment
VB1 = VB4 = ± 70mV } For sub Hue adjustment
VB1 = VB3 = ± 70mV }

5-5. DEFLECTION ADJUSTMENTS

FOR PROGRESSIVE (50Hz)

1. Set to Service Mode.
2. Input a PAL cross hatch/dot signal.
3. Set the following condition.
   Picture Mode to [VIVID], Picture Rotation to [+/-0] and Eco Mode to OFF.
4. Set SCAN MODE: PROGRESSIVE.
5. Using the [1] and [4] button, select category DEF 1 (Service Mode).
6. Select and adjust the following items to obtain optimum image. Raise/lower the data using the [3] and [6] buttons.

Service Item

DEF 1 :	000	VPOS	V POSITION
	001	VSIZ	V SIZE
	002	VLN	V LINEARITY
	003	VSCO	S CORRECTION
	005	HTPZ	H TRAPEZOID
DEF 2 :	000	HPOS	H POSITION
	001	HSIZ	H SIZE
	002	PIN	PIN AMP
	003	UCP	UPPER CORNER PIN
	004	LCP	LOWER CORNER PIN
	006	VANG	AFC ANGLE
	007	VBOW	AFC BOW

7. Write into the memory by pressing [MUTING] then [0] on the remote commander.

FOR 16:9 MODE, PROGRESSIVE (50Hz)

8. Adjust condition change to WIDE MODE : 16:9.

Service Item

DEF 1 :	006	ASPT	VASPECT
	007	SCRL	VSCROLL
DEF 2 :	015	PINO	PIN AMP OFFSET
	016	UCPO	UPPER CORNER PIN OFFSET
	017	LCPO	LOWER CORNER PIN OFFSET

FOR PROGRESSIVE (60Hz) MODE

9. Input 525/60Hz signal.
10. Set to WIDE MODE : 4:3

FOR 16:9 MODE, PROGRESSIVE (60Hz)

11. Set to WIDE MODE : 16:9
12. Adjust the following items to obtain optimum image. Raise/lower the data with the [3] and [6] buttons.

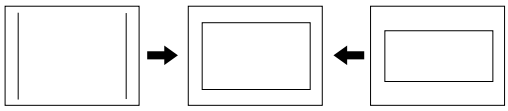
DEF 1 :	006	ASPT	VASPECT
	007	SCRL	VSCROLL
DEF2 :	015	PINO	PIN AMP OFFSET
	016	UCPO	UPPER CORNER PIN OFFSET
	017	LCPO	LOWER CORNER PIN OFFSET

13. Input a NTSC cross hatch/dot signal and repeat all above steps.

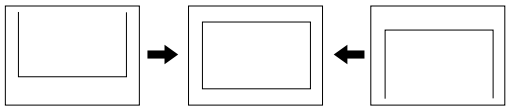
5-6. PICTURE DISTORTION ADJUSTMENT (1)

Item Number 00 – 0B

DE1 1 VSIZ (V SIZE)

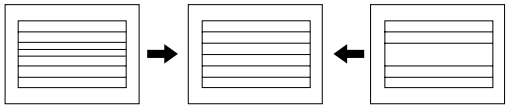


DEF1 10 VPOS (V POSITION)

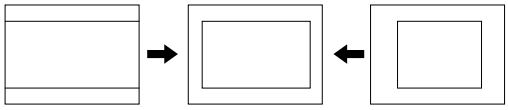


DEF1 2 VLIN (V LINEARITY)

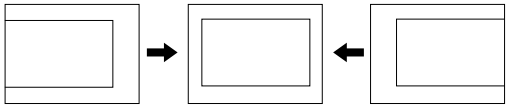
DEF1 3 VSCO (VERTICAL S-Correction)



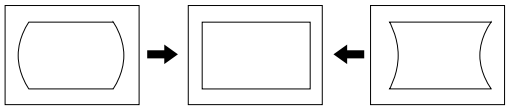
DEF2 1 HSIZ (H SIZE)



DEF2 0 HPOS (H POSITION)

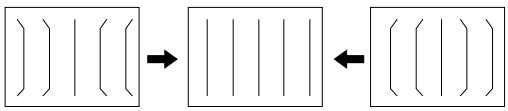


DEF2 2 PIN (PIN AMP)

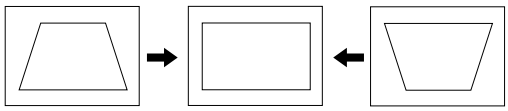


DEF2 3 UCP (UPPER CORNER PIN)

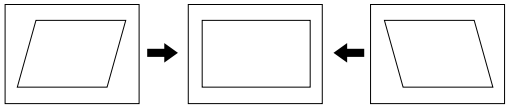
DEF2 4 LCP (LOWER CORNER PIN)



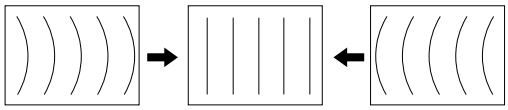
DEF2 5 PPHA (TRAPEZIUM)



DEF2 6 VANG (AFC.ANGLE)

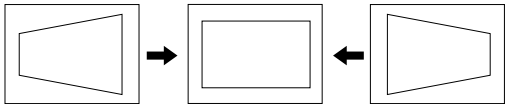


DEF2 7 VBOW (AFC.BOW)



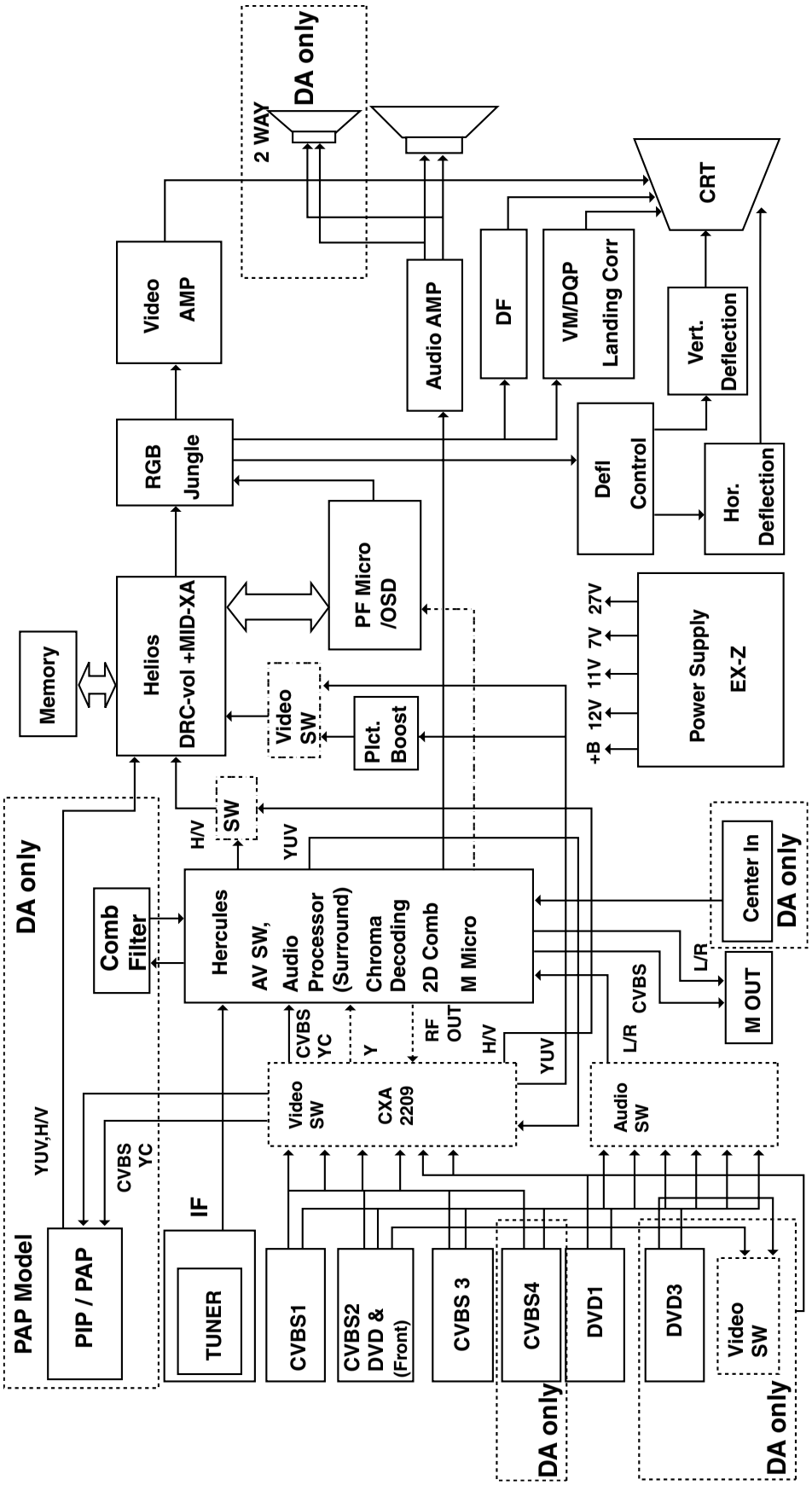
PICTURE DISTORTION ADJUSTMENT (2)

DEF1 5 HTPZ (H TRAPEZOID)



SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM



6-2. SCHEMATIC DIAGRAM INFORMATION

Note:

- All capacitors are in µF unless otherwise noted.
- All electrolytic capacitors are rated at 50V unless otherwise noted.
- All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000kΩ
- Indication of resistance which does not have rating electrical power is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4W (CHIP: 1/10W)

- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B unless otherwise noted.
- **Readings are taken with a color-bar signal input.**
  no mark : Common
  ( ) : PAL
  [ ] : NTSC 3.58
- **Readings are taken with a 10MΩ digital multimeter.**
- **Voltage are dc with respect to ground unless otherwise noted.**
- **Voltage variations may be noted due to normal production tolerances.**
- **All voltage are in Volt.**
- **✻ : Cannot be measured.**
- **Circled numbers are waveform references.**
- **: B +bus.**
- **: B –bus.**
- **⇨ : signal path.**

Note: The reference number which starts with Wxxx (eg: W003) indicates a wire to wire connection.

Note: Components marked as XX are not fitted on this model.

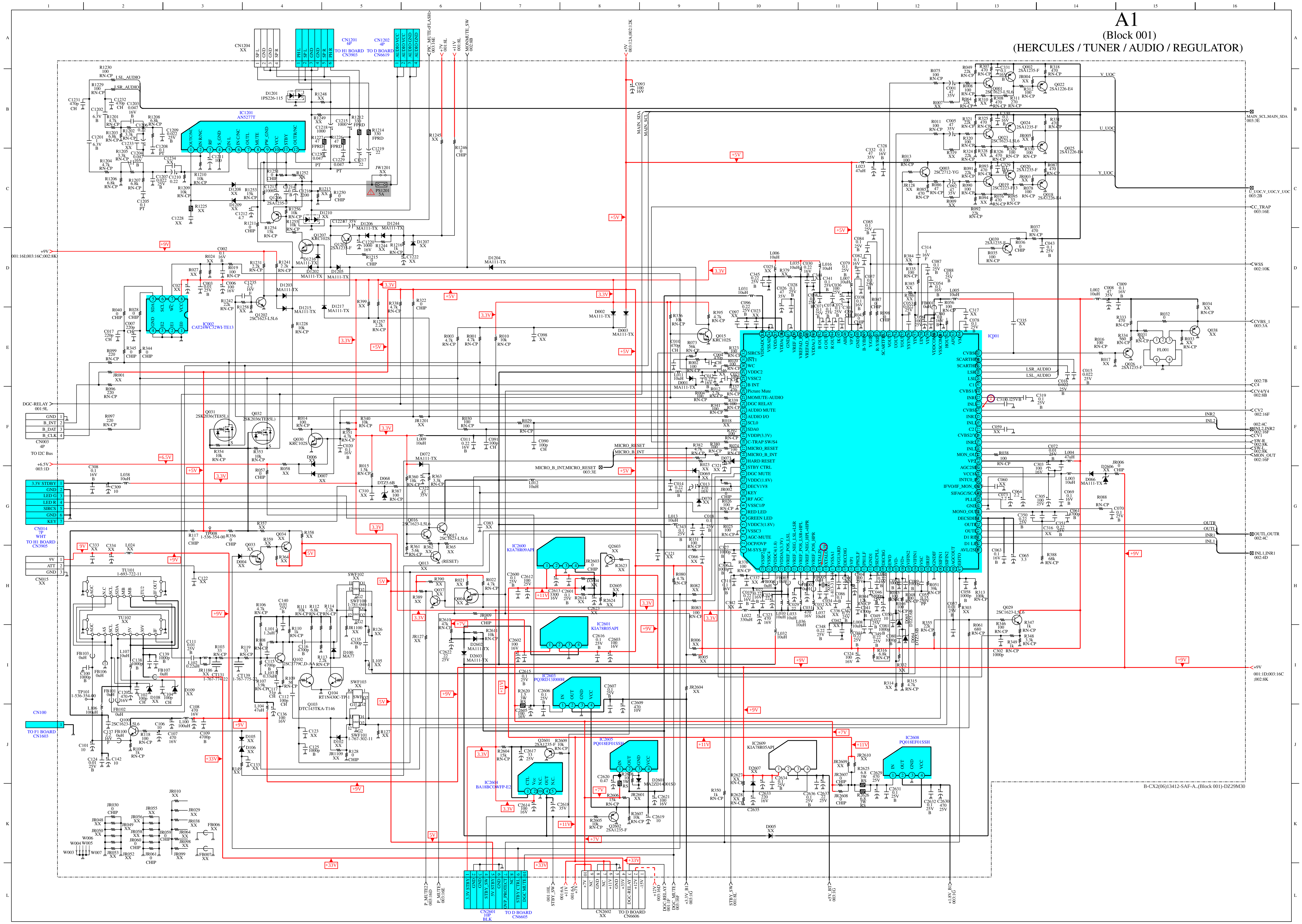
Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ✻	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The component identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

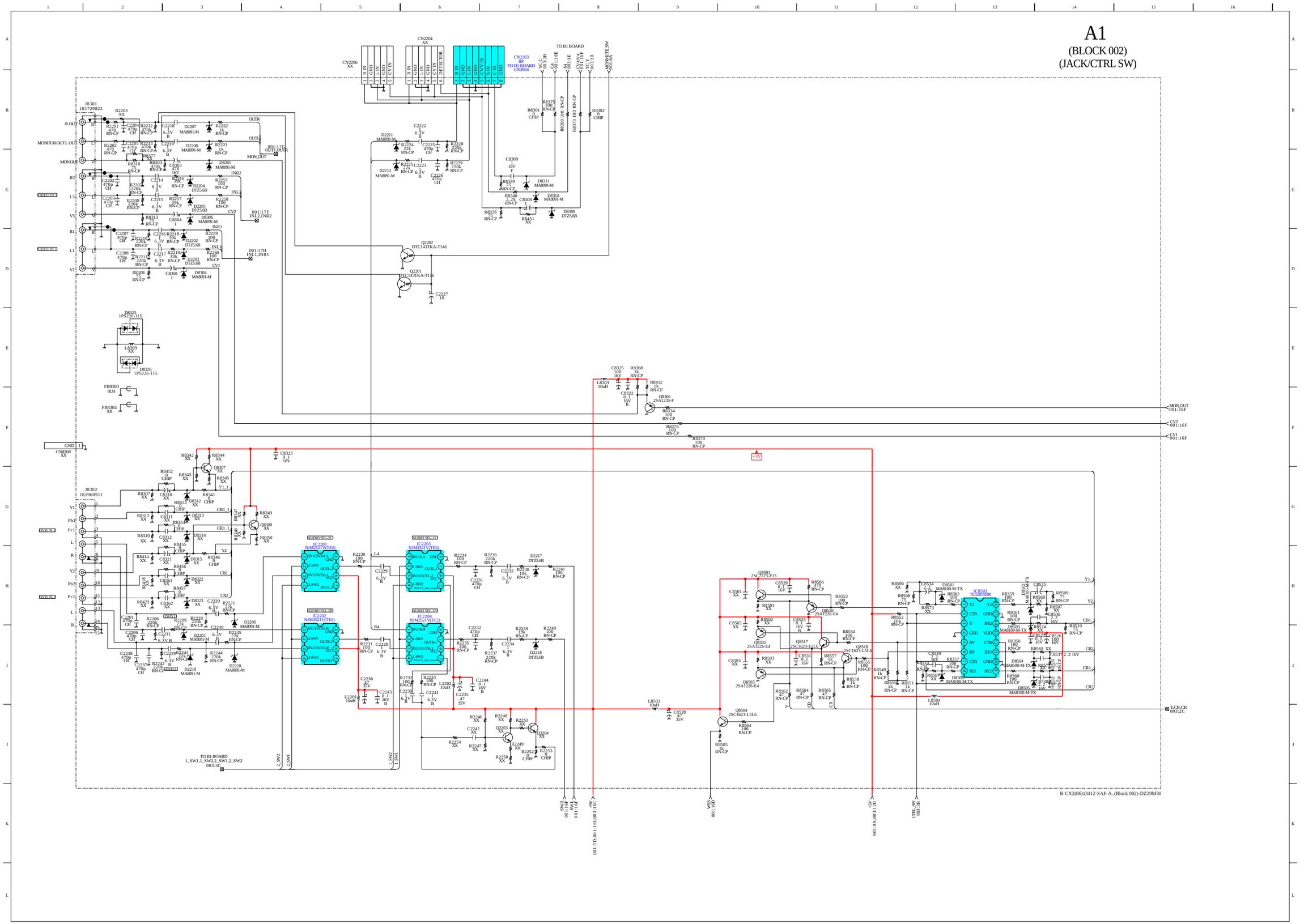
Note: "A1" board schematic diagram is divided into 4 blocks. "BH1" board schematic diagram is divided into 2 blocks. "D" board schematic diagram is divided into 2 blocks. Each block is named by its function and block "number".
eg: Main Signal Processor/Audio Amp/Tuning/ Rectifier (Block 001) Joint connection between boards can be identified using the block number followed by the grid's guide.
eg: –< NVM_SCL
003:1I
Meaning: Block 001 joint "NVM_SCL" is connected to Block 003 joint "NVM_SCL" located at grid 1I.

6-2-1. A1 Board – (Block 001)



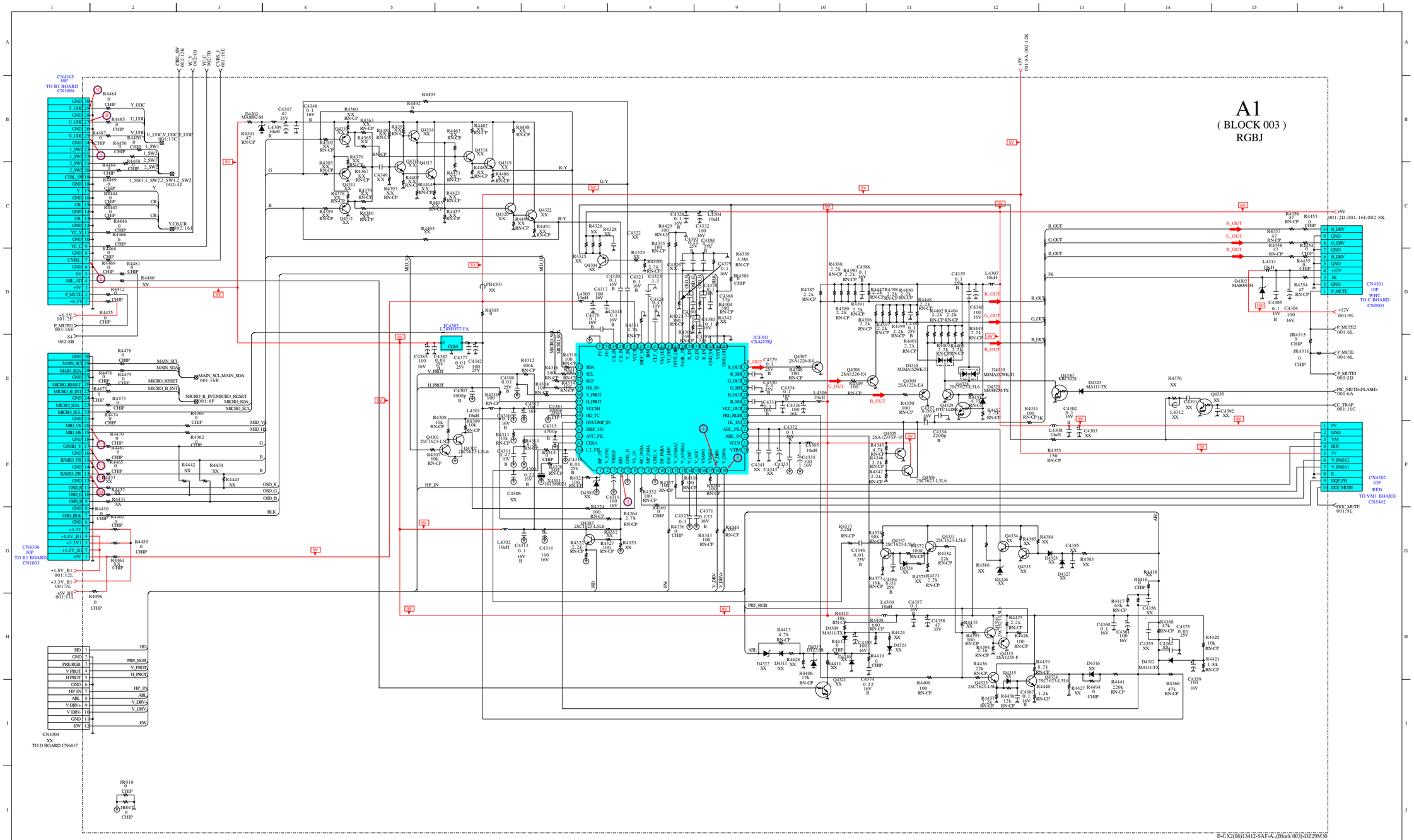
KV-DZ29M30/M61/M91
RM-GA002

6-2-2. A1 Board – (Block 002)

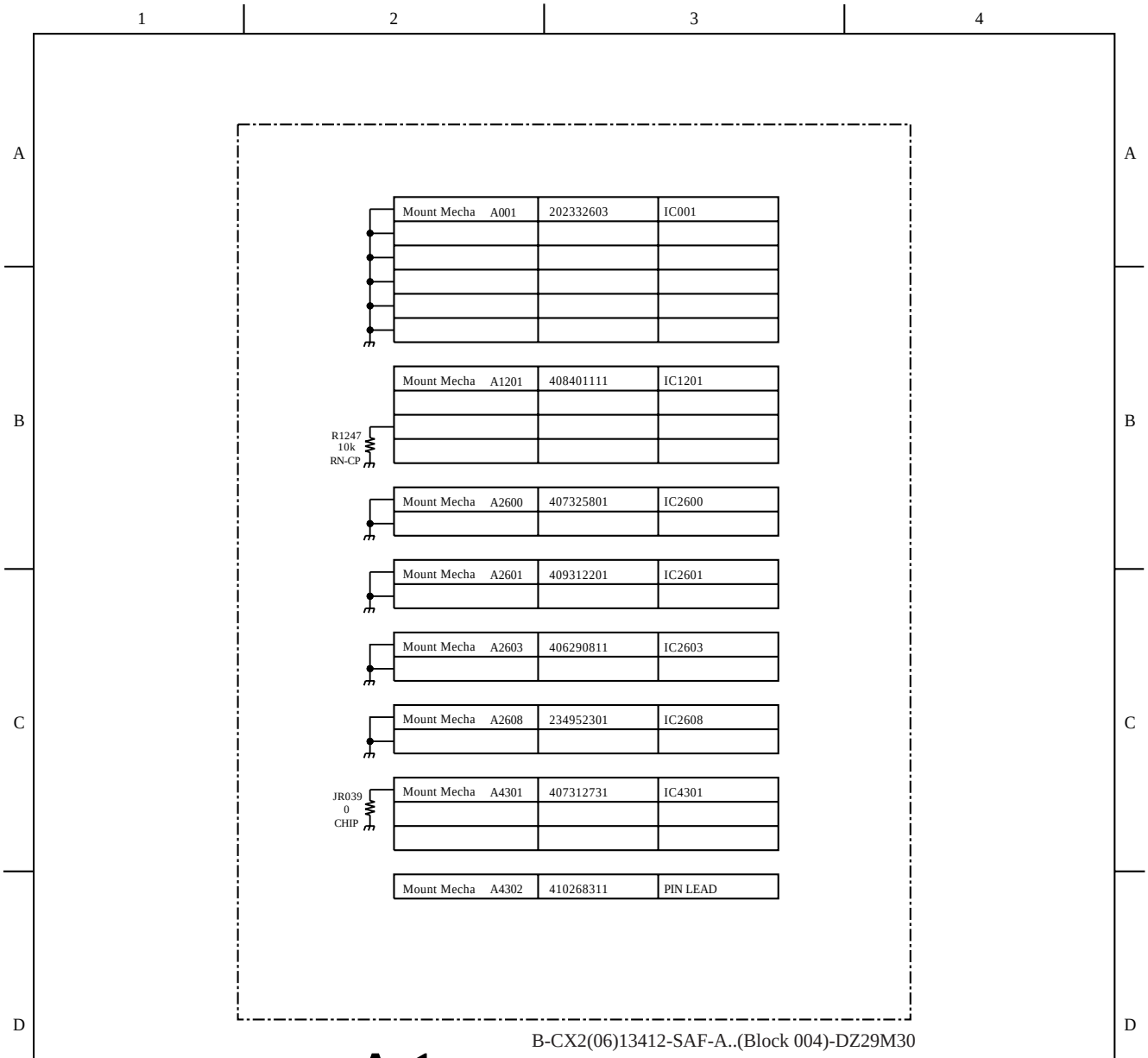


KV-DZ29M30/M61/M91
RM-GA002

6-2-3. A1 Board – (Block 003)



6-2-4. A1 Board – (Block 004)

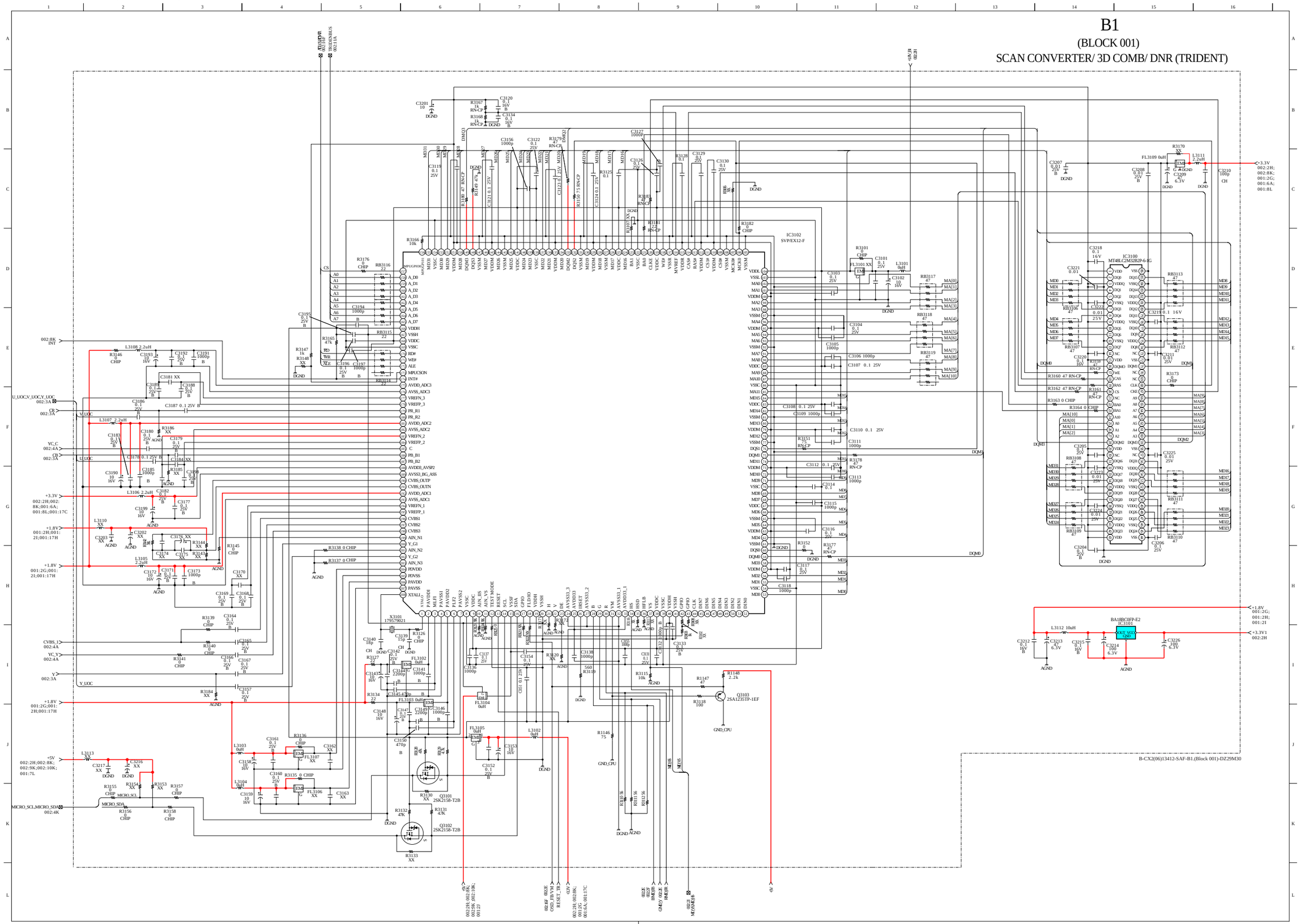


B-CX2(06)13412-SAF-A..(Block 004)-DZ29M30

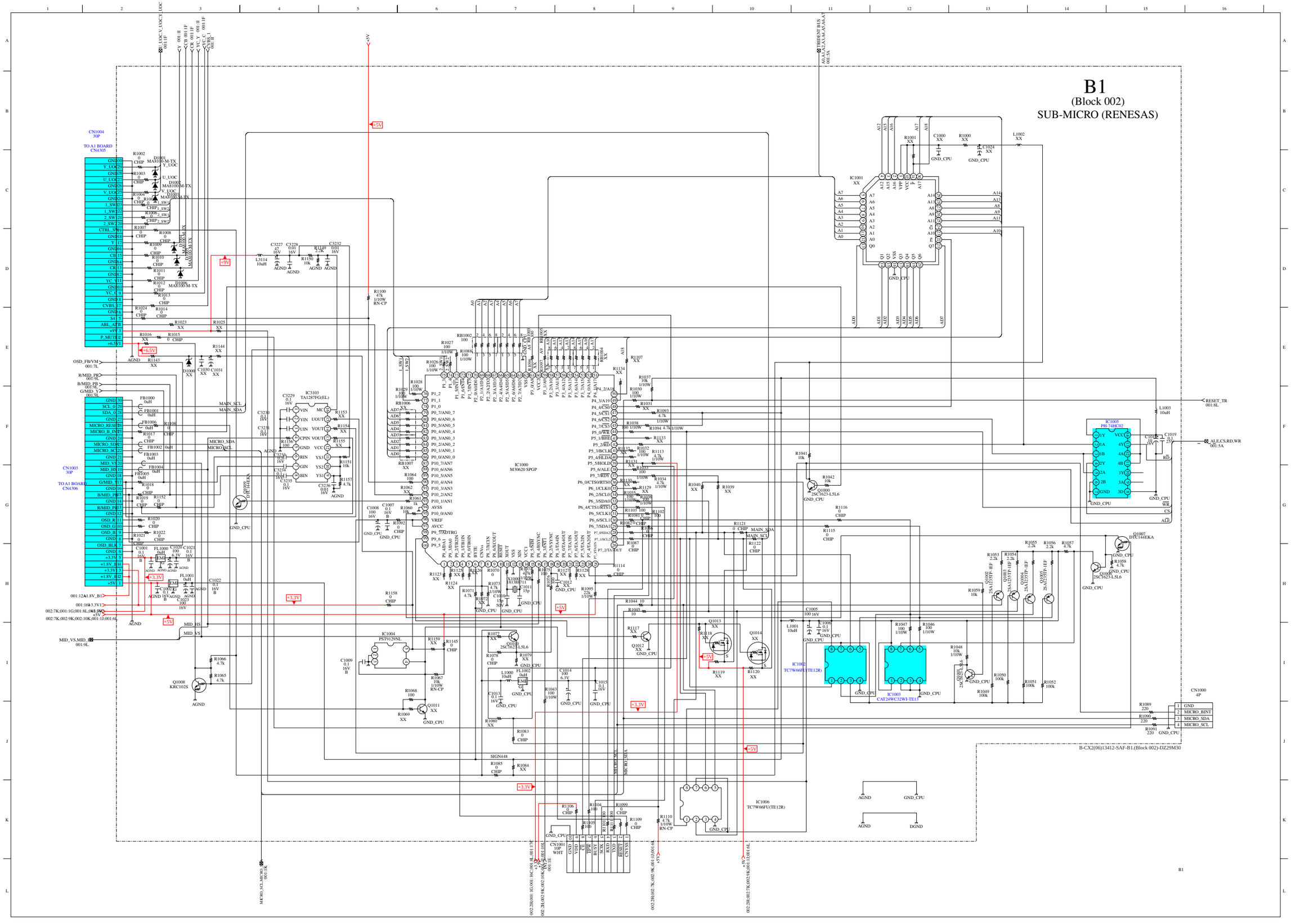
A1
(Block 004)
Heat Sink

KV-DZ29M30/M61/M91
RM-GA002

6-2-5. B1 Board – (Block 001)

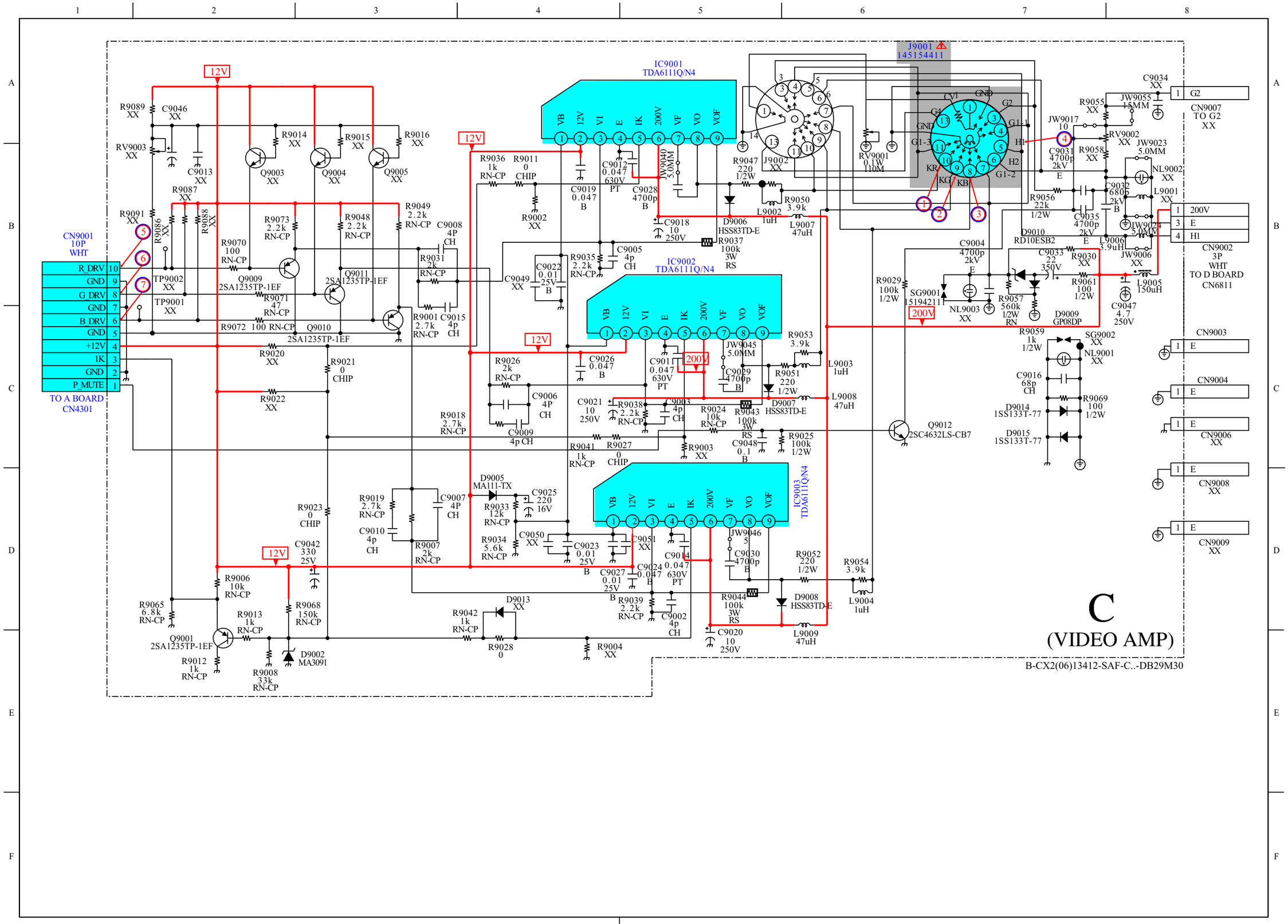


6-2-6. B1 Board – (Block 002)



KV-DZ29M30/M61/M91
RM-GA002

6-2-7. C Board Schematic Diagram



KV-DZ29M30/M61/M91
RM-GA002

6-2-8. D Board – (Block 001)

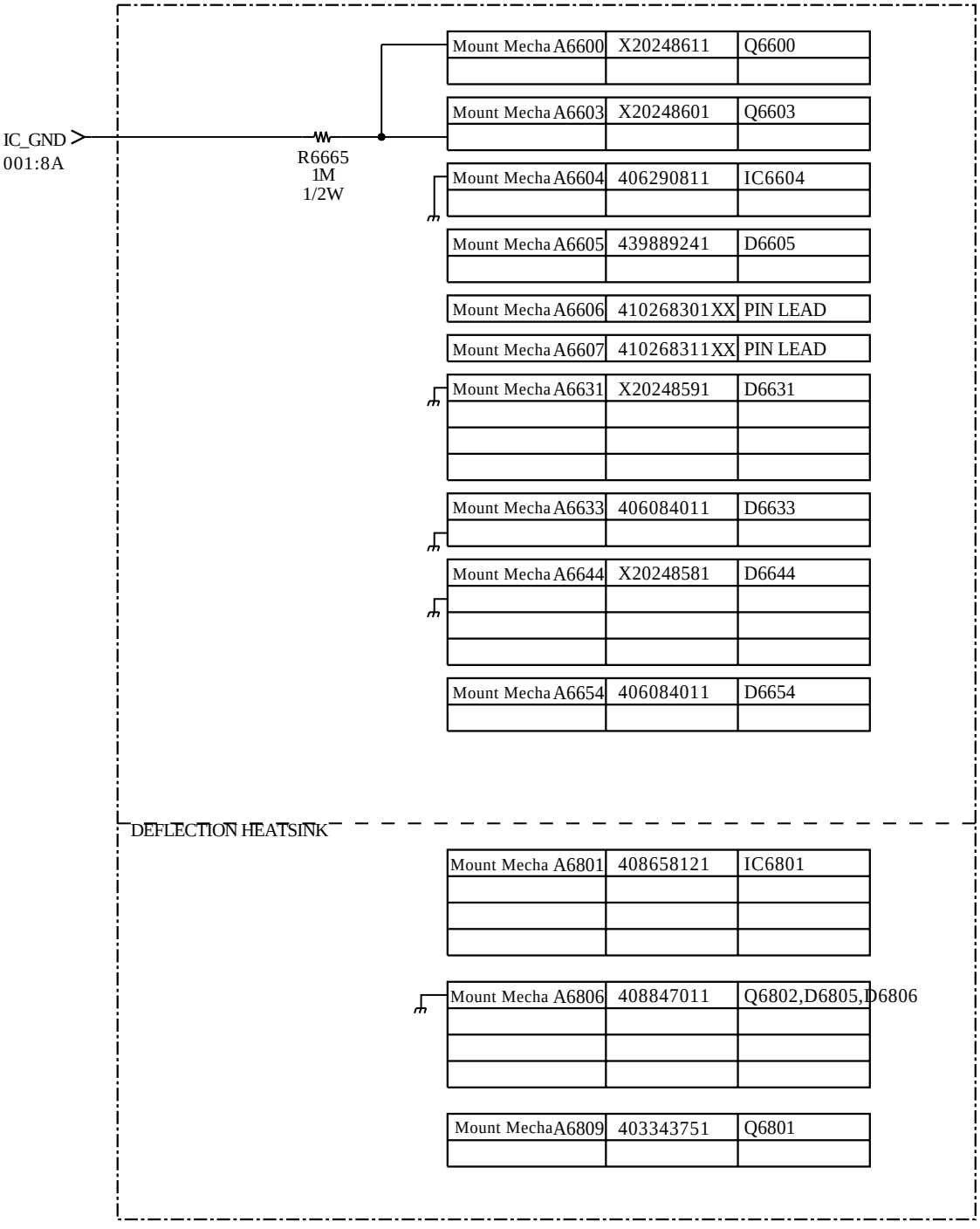
D
POWER/DEFLECTION

B-CX2(06)13412-SAF-D..(Block 001)-DZ29M30

6-2-9. D Board – (Block 002)

D

HEATSINK (Block 002)

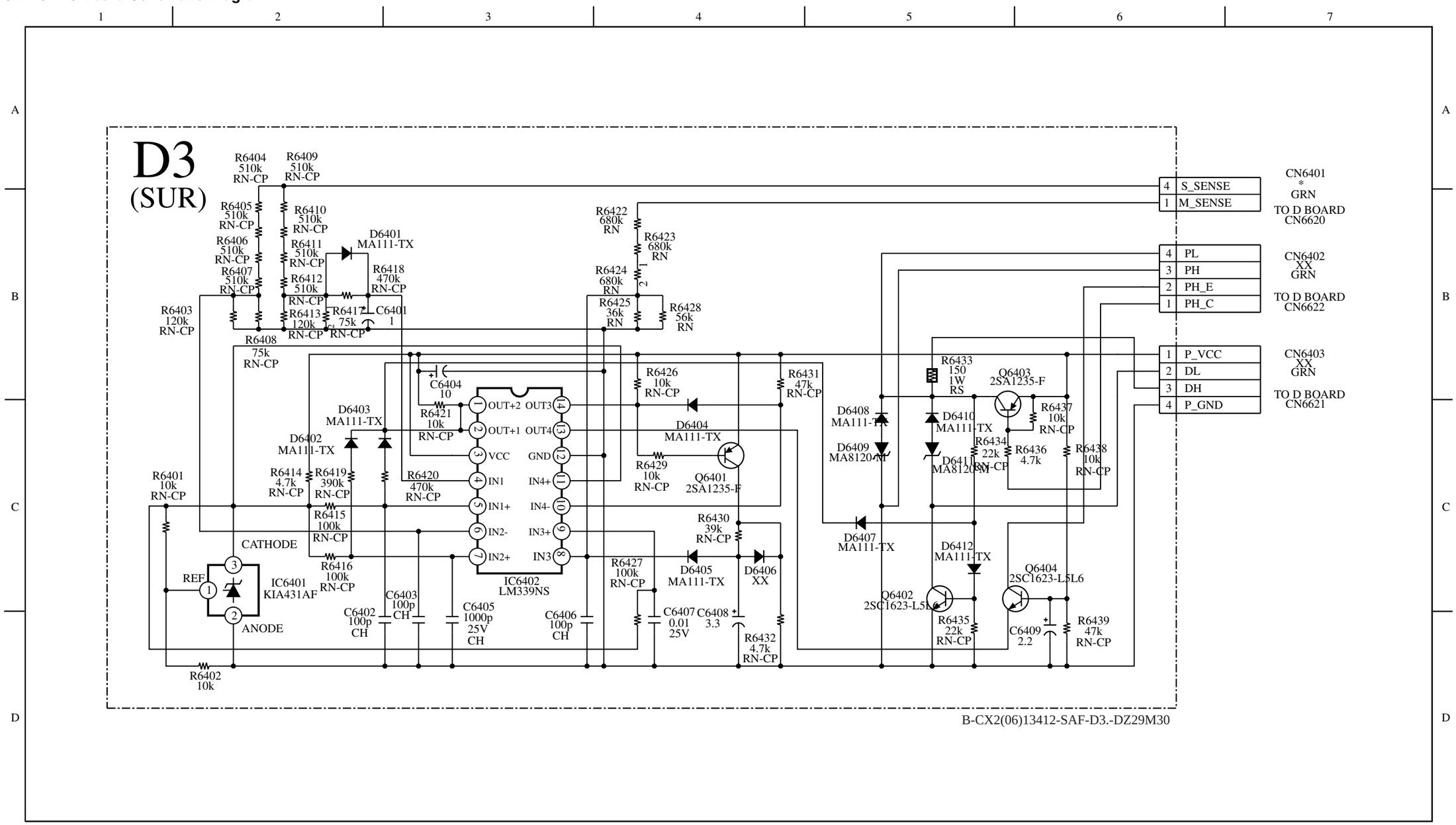


Mount Mecha A6600	X20248611	Q6600
Mount Mecha A6603	X20248601	Q6603
Mount Mecha A6604	406290811	IC6604
Mount Mecha A6605	439889241	D6605
Mount Mecha A6606	410268301XX	PIN LEAD
Mount Mecha A6607	410268311XX	PIN LEAD
Mount Mecha A6631	X20248591	D6631
Mount Mecha A6633	406084011	D6633
Mount Mecha A6644	X20248581	D6644
Mount Mecha A6654	406084011	D6654

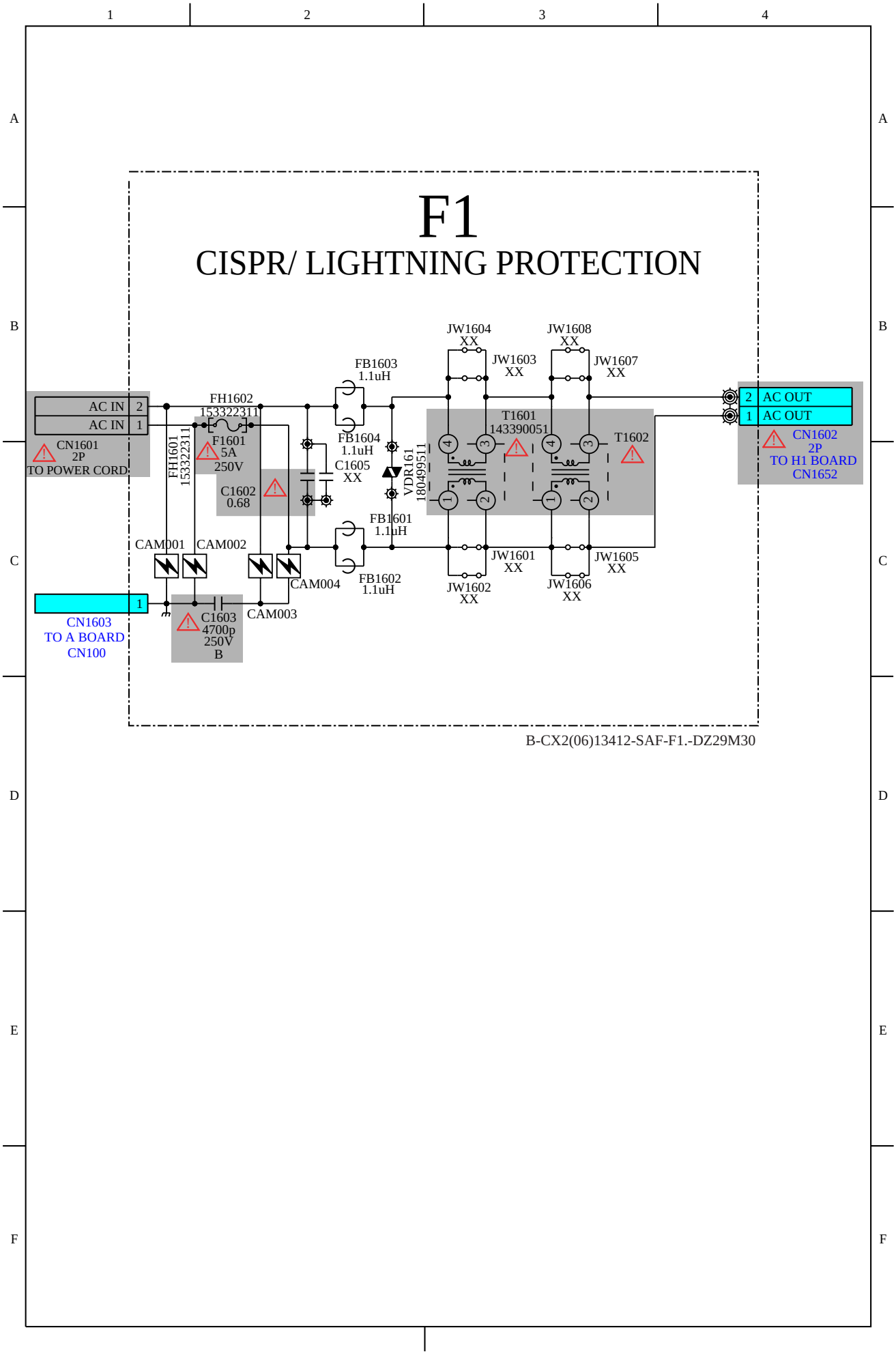
Mount Mecha A6801	408658121	IC6801
Mount Mecha A6806	408847011	Q6802,D6805,D6806
Mount Mecha A6809	403343751	Q6801

B-CX2(06)13412-SAF-D..(Block 002)-DZ29M30

6-2-10. D3 Board Schematic Diagram

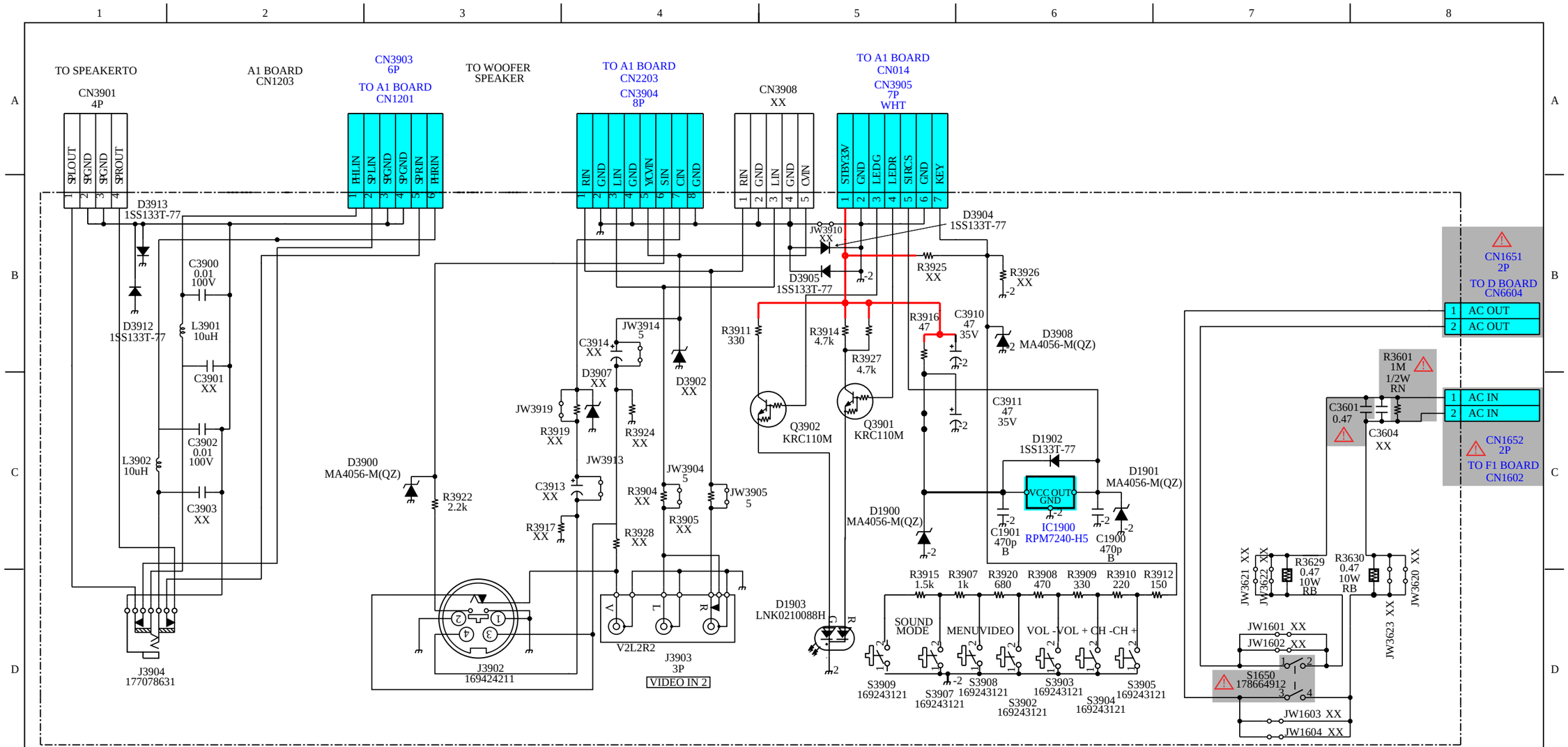


6-2-11. F1 Board Schematic Diagram



KV-DZ29M30/M61/M91
RM-GA002

6-2-12. H1 Board Schematic Diagram



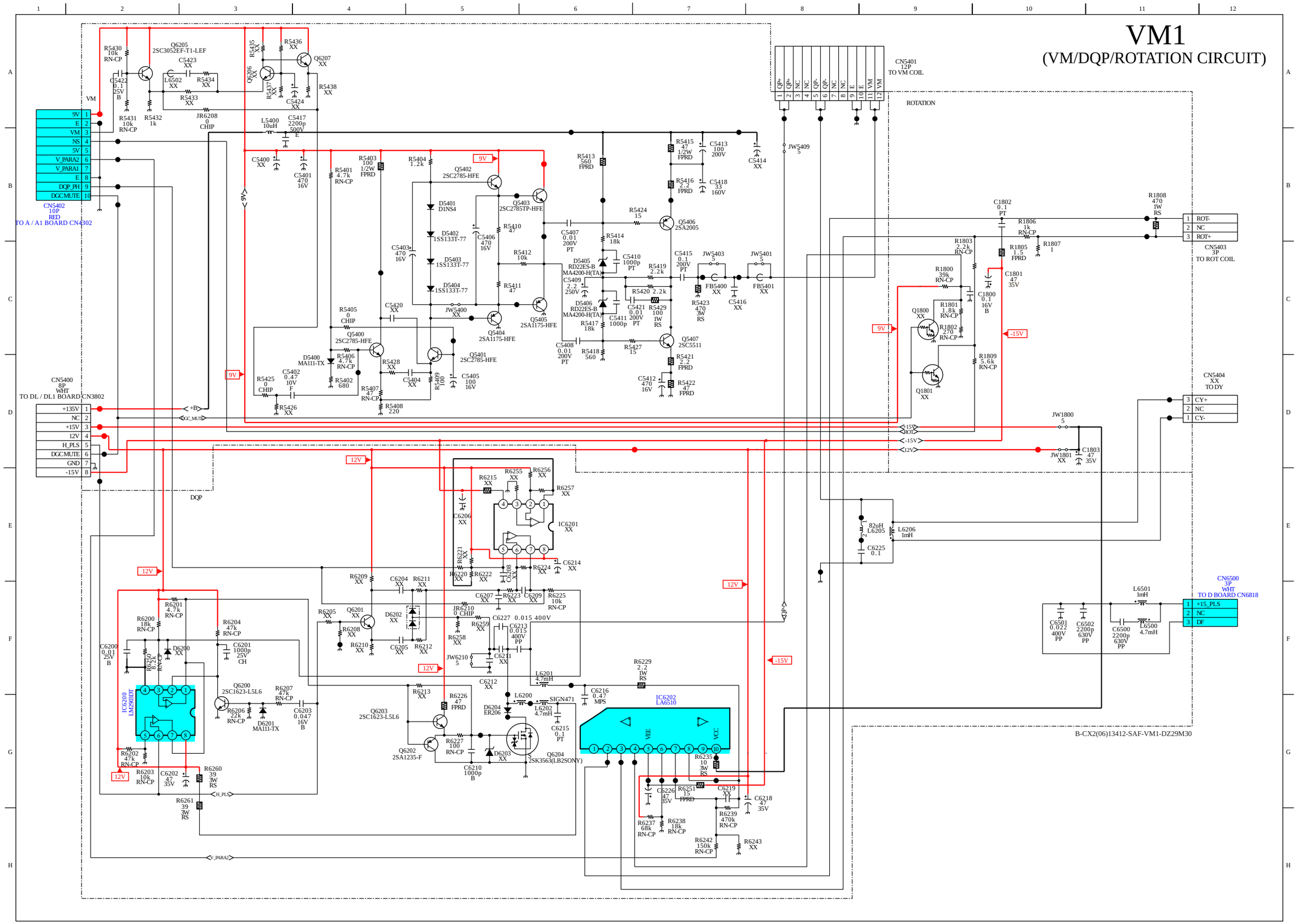
B-CX2(06)13412-SAF-A..(Block 004)-DZ29M30

H1

FRONT PANEL SW

KV-DZ29M30/M61/M91
RM-GA002

6-2-13. VM1 Board Schematic Diagram



6-3. VOLTAGE MEASUREMENT AND WAVEFORM

A1 BOARD VOLTAGE LIST AND WAVEFORM

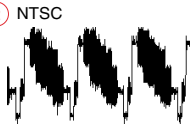
Ref	Pin No	Voltage[v]
IC001	1	0
	2	0
	3	3.2
	4	0
	5	0
	6	3.2
	7	0
	8	0
	9	(2.2)[3.0]
	10	3.2
	11	0
	12	0
	13	0
	14	4.9
	15	0
	16	0
	17	3.1
	18	0
	19	3.2
	20	3.5
	21	3.3
	22	0
	23	2.0
	24	0
	25	2.0
	26	0
	27	3.2
	28	0
	29	0
	30	3.2
	31	2.8
	32	2.9
	33	0
	34	0
	35	3.2
	36	0
	37	0
	38	0
	39	3.2
	40	0
	41	3.2
	42	2.6
	43	2.7
	44	2.6
	45	2.9
	46	3.5
	47	4.9
	48	0
	49	0
	50	0
	51	0
	52	0
	53	0
	54	0
	55	0
	56	0
	57	0
	58	0
	59	0
	60	4.9
	61	0
	62	4.5
	63	0
	64	0
	65	0
	66	3.5
	67	3.5
	68	3.5
	69	3.5
	70	0
	71	0
	72	2.1
	73	2.1

Ref	Pin No.	Voltage[v]
	74	1.6
	75	2.1
	76	2.1
	77	0
	78	0
	79	2.1
	80	2.1
	81	0
	82	4.8
	83	0
	84	8.3
	85	4.3
	86	2.2
	87	0
	88	2.0
	89	0
	90	2.4
	91	2.3
	92	3.5
	93	3.5
	94	2.1
	95	2.1
	96	0
	97	0
	98	3.6
	99	0
	100	0
	101	0
	102	0
	103	2.3
	104	0
	105	0
	106	0
	107	3.3
	108	0
	109	2.2
	110	2.2
	111	0
	112	2.2
	113	0
	114	0
	115	2.5
	116	0
	117	0
	118	*
	119	*

② PAL

1.120Vp-p

② NTSC

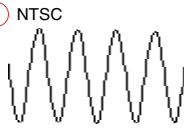


1.040Vp-p

① PAL

2.00Vp-p

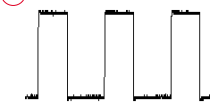
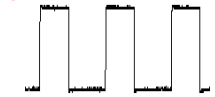
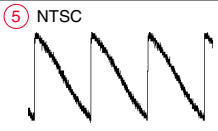
① NTSC



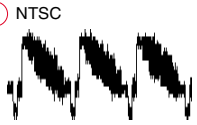
2.12Vp-p

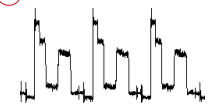
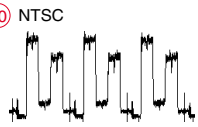
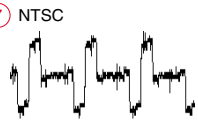
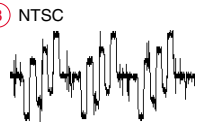
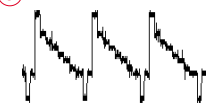
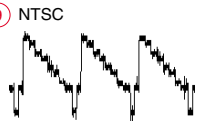
Ref	Pin No.	Voltage[v]
	120	3.2
	121	0
	122	3.2
	123	0
	124	0
	125	3.2
	126	0
	127	0
	128	0
IC002	1	0
	2	0
	3	0
	4	0
	5	3.6
	6	3.6
	7	3.1
	8	3.1
IC1201	1	0
	2	0
	3	29.1
	4	0
	5	0
	6	0
	7	14.3
	8	0
	9	0
	10	29.9
	11	29.8
	12	14.4
IC2201	1	5.9
	2	3.1
	3	5.8
	4	0
	5	5.9
	6	8.9
	7	5.1
	8	0
IC2202	1	5.9
	2	3.1
	3	5.8
	4	0
	5	5.9
	6	8.9
	7	5.1
	8	0
IC2203	1	5.9
	2	3.1
	3	5.8
	4	0
	5	5.9
	6	8.9
	7	5.1
	8	0
IC2204	1	5.9
	2	3.1
	3	5.8
	4	0
	5	5.9
	6	8.9
	7	5.1
	8	0
IC2600	I	13.3
	G	0
	O	8.8
	V	13.4
IC2601	I	6.8
	G	0
	O	4.9
	V	2.2
IC2603	I	5.9
	G	0
	O	3.2

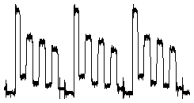
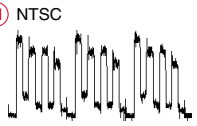
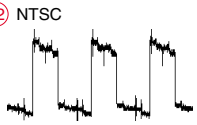
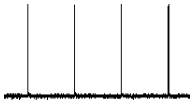
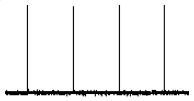
A1 BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
IC2604	1	2.3
	2	3.1
	3	0
	4	1.7
	5	0
IC2605	I	5.9
	G	0
	O	1.7
	V	2.5
IC2608	I	*
	G	0
	O	1.7
	V	2.4
IC4301	1	0
	2	3.8
	3	4.9
	4	2.6
	③ PAL  376.0mVp-p	
	③ NTSC  384.0mVp-p	
	5	0
	6	0
	7	3.6
	8	2.8
	9	0
	10	3.4
	11	3.6
	12	2.8
	13	3.8
	14	4.4
	15	4.7
	16	3.8
	17	3.8
	18	3.4
	④  156.0mVp-p	
	19	3.4
	⑤ PAL  164.0mVp-p	
	⑤ NTSC  156.0mVp-p	
	20	0
	21	8.8
	22	0
	23	3.7
	24	4.3
	25	0
	26	8.8
	27	3.0
	28	2.5
	29	3.2
	30	2.6
	31	3.0
	32	2.6
	33	0
	34	0
	35	0
	36	3.0
	37	3.1
	38	3.1
	39	0
	40	0
	41	0
	42	2.0
	43	2.8
	44	2.5
	45	0
	46	4.8
	47	3.8
	48	3.5
	49	3.5
	50	1.8
	51	0
	52	4.6
	53	4.6
	54	0
	55	0
	56	0
	57	0
	58	4.8
	59	0
	60	2.0
	61	0
	62	2.9
	63	*
	64	2.5
IC4302	I	8.9
	G	0
	O	4.9
IC8503	1	2.8
	2	0
	3	2.0
	4	0
	5	2.0
	6	2.0
	7	0
	8	2.8
	9	2.8
	10	0
	11	2.8
	12	0
	13	4.9
	14	2.8
	15	0
	16	2.8
Q001	B	2.4
	C	4.1
	E	0
Q002	B	4.2
	C	1.7
	E	4.8
Q003	B	0
	C	4.8
	E	0
Q015	B	1.9
	C	0
	E	0
Q018	B	1.5
	C	0
	E	2.3
Q019	B	2.3
	C	4.2
	E	1.5
Q020	B	4.2
	C	1.5
	E	4.8
Q022	B	0
	C	0
	E	2.4
Q023	B	2.3
	C	4.1
	E	0
Q024	B	4.2
	C	0
	E	4.8
Q025	B	0
	C	0
	E	2.5
Q026	B	1.3
	C	0
	E	1.9
Q029	B	4.5
	C	4.9
	E	3.9
Q030	B	2.0
	C	0
	E	0
Q031	B	4.9
	C	3.5
	E	0
Q032	B	4.9
	C	3.7
	E	0
Q100	B	3.9
	C	8.8
	E	3.2
Q102	B	3.0
	C	2.3
	E	8.8
Q103	B	3.1
	C	2.9
	E	0
Q104	B	3.3
	C	4.8
	E	0
Q1201	B	13.2
	C	0
	E	13.0
Q2601	B	2.3
	C	0
	E	2.5
Q2602	B	2.4
	C	0
	E	2.5
Q4301	B	0
	C	0.6
	E	0
Q4302	B	0.5
	C	0
	E	0
Q4303	B	2.7
	C	8.9
	E	2.8
Q4305	B	4.3
	C	0
	E	4.3
Q4306	B	4.2
	C	0
	E	3.9
Q4307	B	2.6
	C	0
	E	3.3
Q4308	B	2.6
	C	0
	E	3.4
Q4310	B	1.6
	C	0
	E	1.0

A1 BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
Q4323	B	0
	C	8.9
	E	0
Q4324	B	1.0
	C	5.6
	E	0.4
Q4328	B	0
	C	4.4
	E	0
Q4329	B	2.6
	C	0
	E	0
Q4330	B	3.4
	C	(4.4)[4.7]
	E	3.3
Q4331	B	0
	C	8.8
	E	0
Q4332	B	0
	C	5.1
	E	0
Q8306	B	2.2
	C	0
	E	2.5
Q8501	B	2.0
	C	8.9
	E	2.8
Q8502	B	2.0
	C	0
	E	1.4
Q8503	B	2.9
	C	7.0
	E	2.3
Q8504	B	7.0
	C	8.8
	E	6.5
Q8517	B	1.9
	C	8.9
	E	1.4
Q8518	B	3.0
	C	8.8
	E	2.5
CN4305	7	*
	⑥ PAL  108.0mVp-p	
	⑥ NTSC  96.0mVp-p	

Ref	Pin No.	Voltage[v]
CN4306	13	*
	⑩ PAL  72.0mVp-p	
	⑩ NTSC  60.0mVp-p	
	25	*
	⑦ PAL  60.0mVp-p	
	⑦ NTSC  70.0mVp-p	
	27	*
	⑧ PAL  50.40mVp-p	
	⑧ NTSC  52.80mVp-p	
	29	*
	⑨ PAL  98.0mVp-p	
	⑨ NTSC  84.0mVp-p	

Ref	Pin No.	Voltage[v]
	15	*
	⑪ PAL  71.20mVp-p	
	⑪ NTSC  60.0mVp-p	
	17	*
	⑫ PAL  65.60mVp-p	
	⑫ NTSC  56.80mVp-p	
	20	*
	⑬ PAL  368.0mVp-p	
	⑬ NTSC  312.0mVp-p	

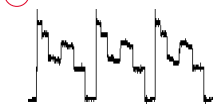
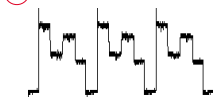
B1 BOARD VOLTAGE LIST

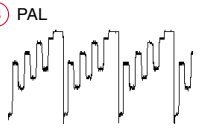
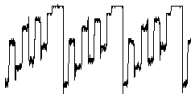
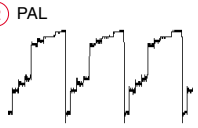
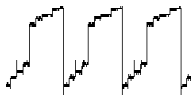
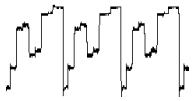
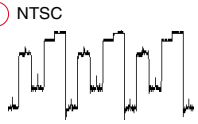
Ref	Pin No.	Voltage[v]
IC1005	1	0
	2	3.1
	3	3.1
	4	0
	5	3.1
	6	0
	7	0
	8	0
	9	0
	10	4.8
	11	0
	12	0
	13	4.6
	14	4.8
IC1002	1	3.6
	2	4.7
	3	0
	4	0
	5	4.7
	6	0
	7	0
	8	4.8
IC1003	1	4.8
	2	0
	3	0
	4	0
	5	4.7
	6	4.7
	7	4.8
	8	4.8
IC3101	I	3.2
	G	0
	O	1.7
Q1001	B	0.6
	C	0
	E	0
Q1002	B	0
	C	4.6
	E	4.6
Q1003	B	4.8
	C	4.6
	E	4.6
Q1005	B	0
	C	4.7
	E	4.7
Q1006	B	0
	C	4.8
	E	0
Q1007	B	0.1
	C	0
	E	0
Q1009	B	4.7
	C	0
	E	0
Q1010	B	-6.2
	C	3.1
	E	0

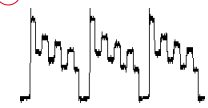
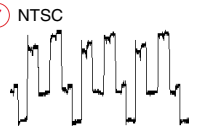
VM1 BOARD VOLTAGE LIST

Ref	Pin No.	Voltage[v]
IC6200	1	6.8
	2	2.1
	3	3.4
	4	0
	5	2.0
	6	0.9
	7	6.8
	8	11.9
IC6201	1	-11.9
	2	0
	3	0
	4	-15.6
	5	-0.2
	6	-0.2
	7	-2.7
	8	11.8
IC6202	1	*
	2	0.1
	3	0.4
	4	0.4
	5	-15.0
	6	2.4
	7	(2.9)[2.7]
	8	0
	9	*
	10	14.9
Q5400	B	1.5
	C	8.7
	E	0.7
Q5401	B	1.6
	C	5.0
	E	0.9
Q5402	B	7.0
	C	8.9
	E	6.3
Q5403	B	6.4
	C	8.9
	E	6.0
Q5404	B	5.0
	C	0
	E	5.6
Q5405	B	5.6
	C	0
	E	6.0
Q5406	B	134.5
	C	67.8
	E	135.0
Q5407	B	1.3
	C	67.8
	E	0.7
Q6200	B	0
	C	2.1
	E	0
Q6201	B	0.4
	C	11.1
	E	0.6
Q6202	B	6.8
	C	0
	E	6.8
Q6203	B	6.8
	C	11.8
	E	6.8
Q6205	B	4.4
	C	8.9
	E	4.5

C BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
IC9001	1	3.4
	2	11.8
	3	3.3
	4	0
	5	(7.1)[6.9]
	6	(196.5)[195.8]
	7	(151.6)[153.4]
	8	(159.3)[160.4]
	9	(150.8)[152.8]
IC9002	1	3.4
	2	11.9
	3	3.3
	4	0
	5	(7.2)[6.9]
	6	(196.5)[195.8]
	7	(154.6)[156.4]
	8	(159.6)[160.9]
	9	(153.8)[155.5]
IC9003	1	3.4
	2	11.9
	3	3.3
	4	0
	5	(7.1)[6.9]
	6	(196.5)[195.8]
	7	(149.7)[152.7]
	8	(156.8)[159.0]
	9	(148.8)[151.8]
J9001	H1	0
	④ PAL  3.840Vp-p	
	④ NTSC  3.600Vp-p	
	H2	0

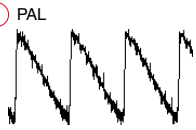
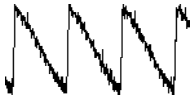
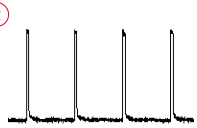
Ref	Pin No.	Voltage[v]
	KB	(155.2)[157.8]
	③ PAL  124.0Vp-p	
	③ NTSC  102.0Vp-p	
	KG	(159.2)[160.7]
	② PAL  112.0Vp-p	
	② NTSC  88.0Vp-p	
	KR	(158.7)[160.4]
	① PAL  110.0Vp-p	
	① NTSC  94.0Vp-p	
Q9001	B	6.9
	C	0.1
	E	4.0
Q9009	B	2.8
	C	0
	E	3.4

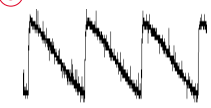
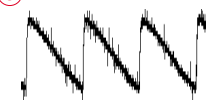
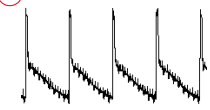
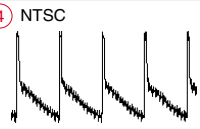
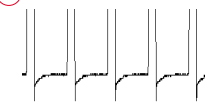
Ref	Pin No.	Voltage[v]
Q9010	B	2.7
	C	0
	E	3.4
Q9011	B	2.8
	C	0
	E	3.5
Q9012	B	0.1
	C	*
	E	0
CN9001	10	*
	⑤ PAL  3.840Vp-p	
	⑤ NTSC  3.520Vp-p	
	8	*
	⑥ PAL  4.000Vp-p	
	⑥ NTSC  3.680Vp-p	
	6	*
	⑦ PAL  4.12Vp-p	
	⑦ NTSC  4.24Vp-p	

H1 BOARD VOLTAGE LIST

Ref	Pin No.	Voltage[v]
IC1900	V	3.2
	G	0
	O	2.9

D BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]
IC6600	1	2.2
	2	1.5
	3	1.8
	4	2.1
	5	0
	6	-0.3
	7	-0.2
	8	17.6
	9	0
	10	10.0
	11	0
	12	4.2
	13	*
	14	164.0
	15	153.8
	16	159.3
	17	*
	18	*
IC6602	I	6.8
	G	0
	O	4.9
IC6604	I	14.2
	G	0
	O	11.9
IC6607	1	135.1
	2	0
	3	-3.2
	4	2.6
	5	2.3
	6	11.4
	7	0
	8	0
IC6609	1	2.1
	2	6.8
	3	0
	4	3.2
	5	0
IC6800	1	1.4
	2	3.9
	3	0.6
	4	0
	5	3.1
	6	2.8
	7	8.5
	8	11.9
IC6801	1	0.9
	① PAL  50.40mVp-p	
	① NTSC  48.80mVp-p	
	2	15.4
	3	-12.6
	②  3.080Vp-p	

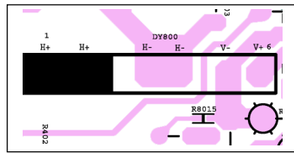
Ref	Pin No.	Voltage[v]
	4	-15.5
	5	(0.6)[0.4]
	6	(16.0)[16.3]
	7	0.9
	③ PAL  58.0mVp-p	
	③ NTSC  60.0mVp-p	
DY1	V+	0
	④ PAL  6.160Vp-p	
	④ NTSC  6.240Vp-p	
	V-	0
	⑤ PAL  176.0mVp-p	
	⑤ NTSC  172.0mVp-p	
	H-	135.6
	⑥  24.60Vp-p	
	H+	(143.6)[143.4]
	⑦  42.20Vp-p	

Ref	Pin No.	Voltage[v]
Q6100	S	(15.0)[15.3]
	G	(16.1)[16.3]
	D	*
Q6600	S	(142.3)[143.2]
	G	(146.9)[148.0]
	D	*
Q6601	B	0
	C	12.0
	E	0
Q6603	S	0
	G	4.8
	D	(141.9)[143.5]
Q6606	B	0
	C	4.9
	E	0
Q6607	S	4.9
	G	0
	D	4.9
Q6608	B	0.1
	C	0
	E	0
Q6800	B	0
	C	2.5
	E	0
Q6801	S	0
	G	8.5
	D	30.2
Q6802	B	0
	C	(143.6)[143.4]
	E	0
Q6804	B	135.3
	C	1.3
	E	135.7
Q6807	B	1.5
	C	8.5
	E	0.9
Q6810	B	0.5
	C	15.4
	E	0.1
Q6811	B	0.3
	C	0
	E	0.9
Q6812	B	0.7
	C	11.9
	E	0.9
Q6813	B	0.6
	C	0
	E	0.9
Q6814	B	0.1
	C	0
	E	0
Q6815	B	0
	C	5.2
	E	0
Q6816	B	5.0
	C	0
	E	4.9
Q6817	B	5.0
	C	11.9
	E	4.9
Q6818	S	0
	G	5.2
	D	(67.7)[68.1]

KV-DZ29M30/M61/M91
RM-GA002

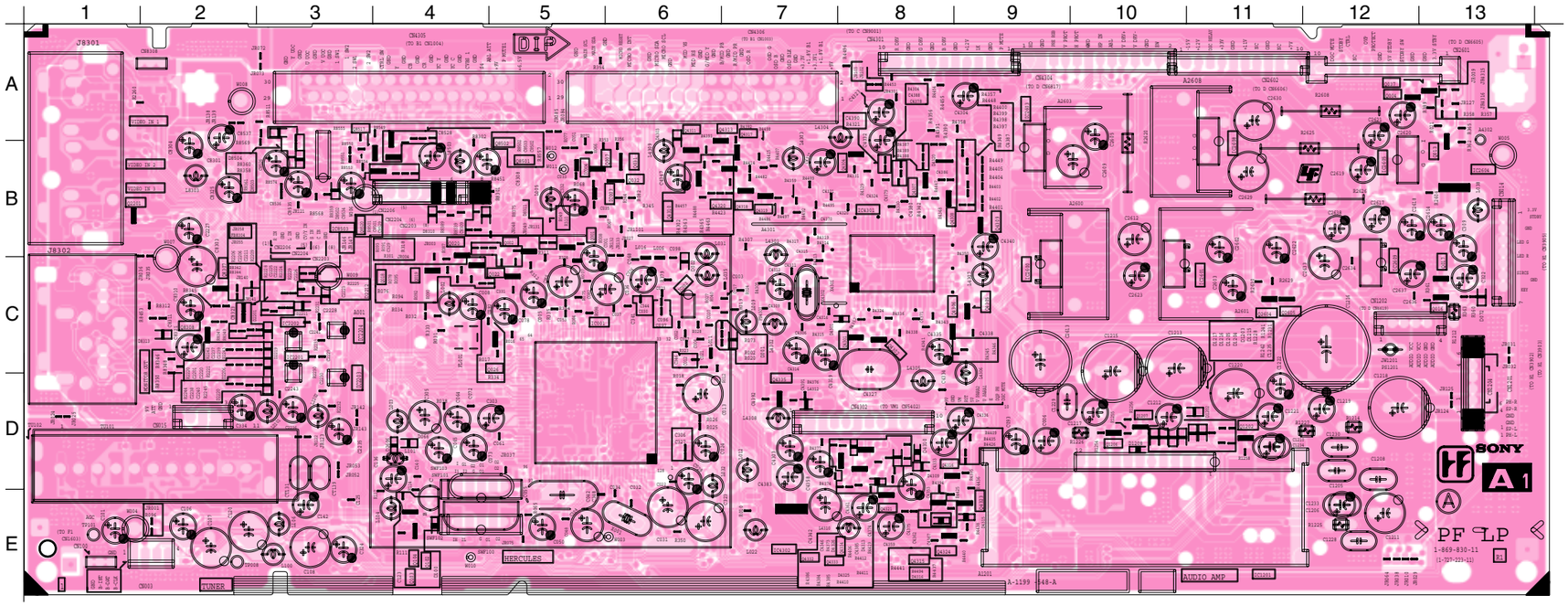
6-4. PRINTED WIRING BOARDS

A1 [HERCULES/TUNER/AUDIO/REGULATOR, JACK/CTRL SW, RGBJ, HEAT SINK]



NOTE:
The circuit indicated at left contains high voltage of over 1220 Vp-p. Please pay attention when inspecting or repairing it to prevent an electric shock.

– A1 Board – (Component side)



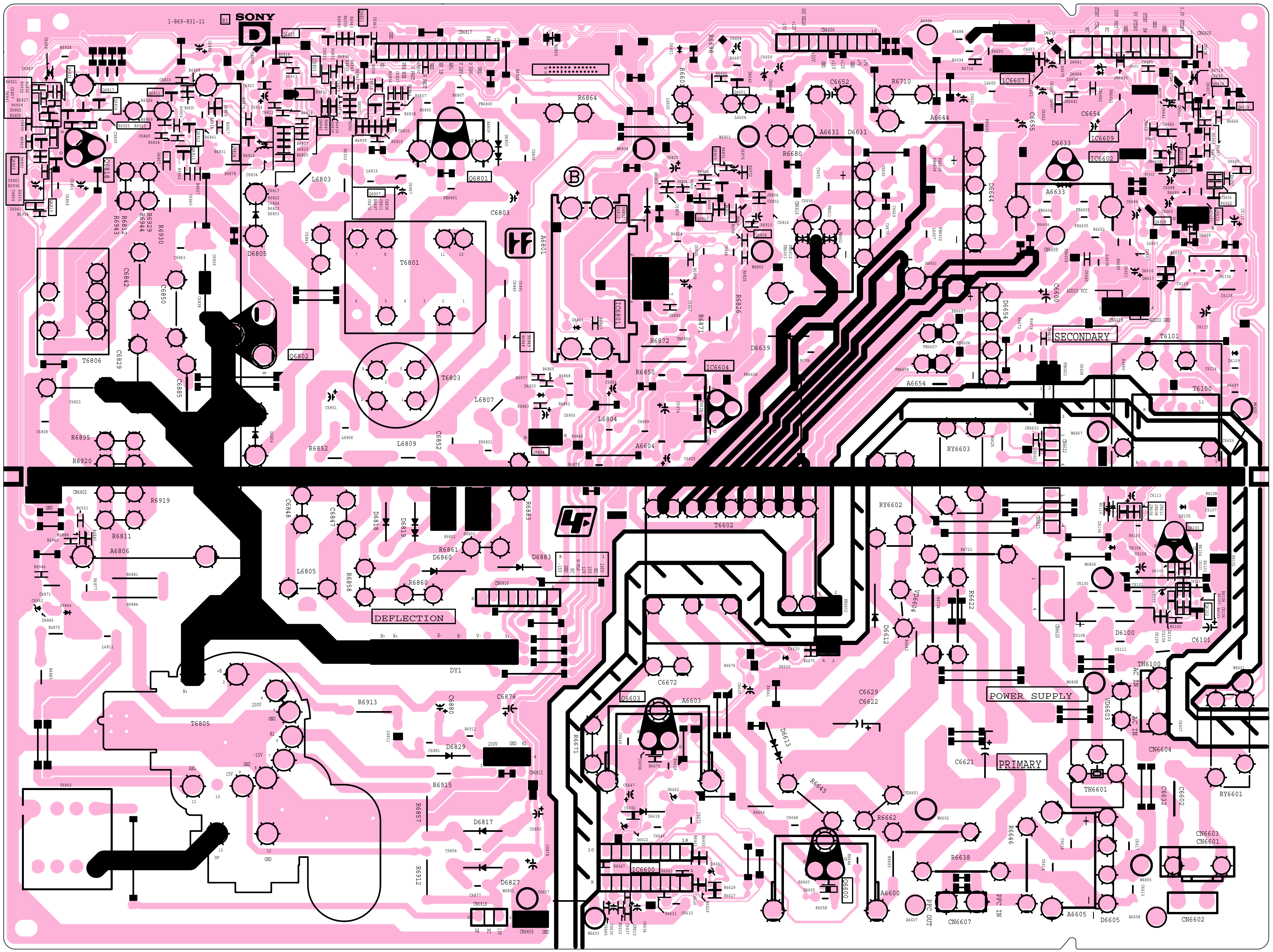
– A1 Board – (Conductor side)

RM-GA002

PRINTED WIRING BOARDS

D [POWER SUPPLY, DEFLECTION, HEAT SINK]

– D Board –

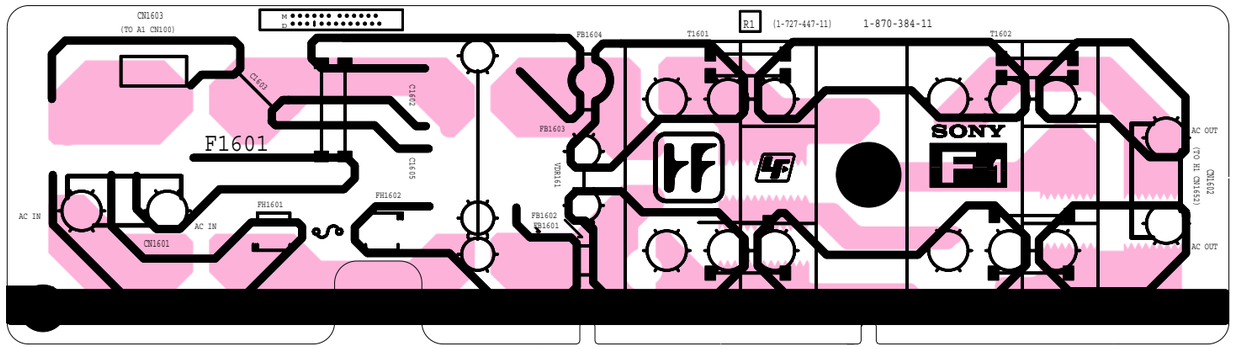


KV-DZ29M30/M61/M91
RM-GA002

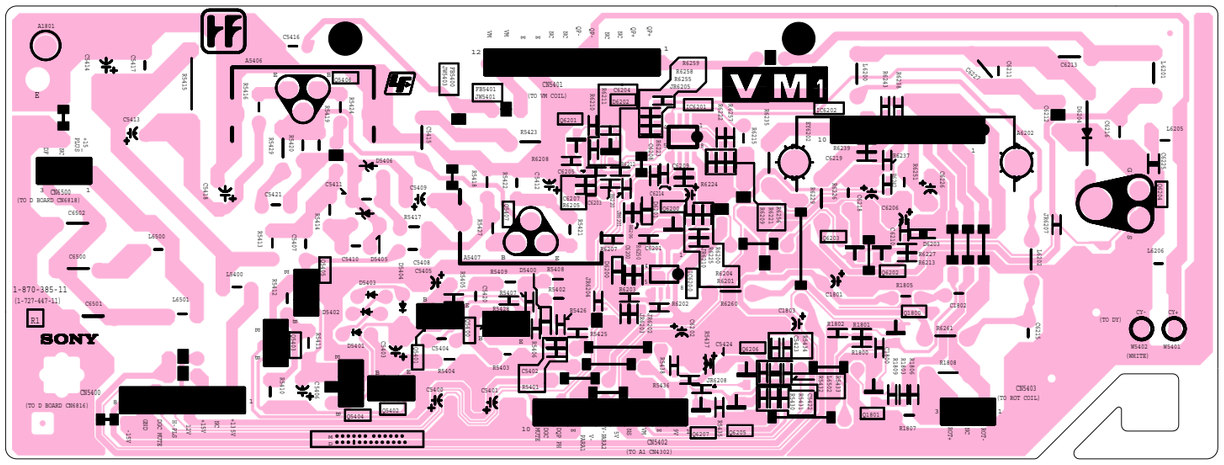
PRINTED WIRING BOARDS

C [VIDEO AMP] **F1** [CISPR, LIGHTNING PROTECTION] **VM1** [VM/DQP/ROTATION CIRCUIT] **H1** [FRONT PANEL SW] **D3** [SUR]

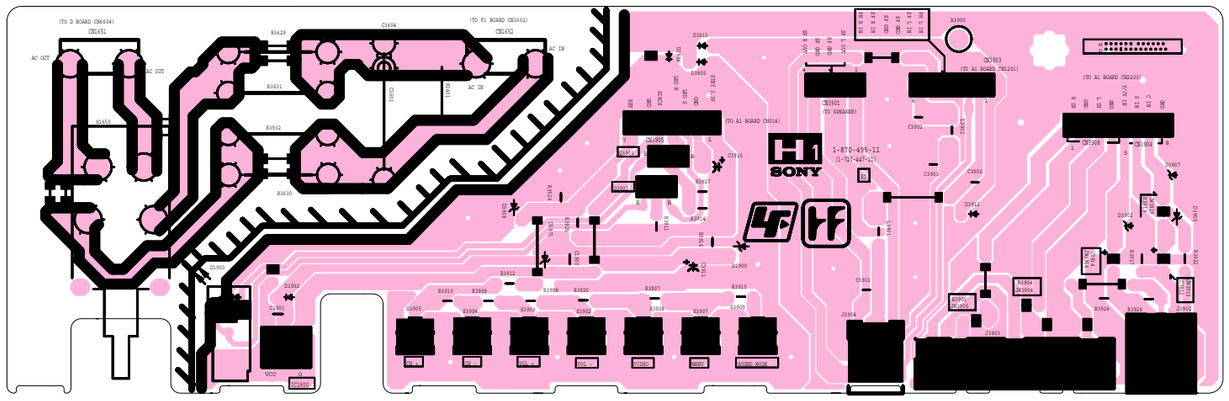
– F1 Board –



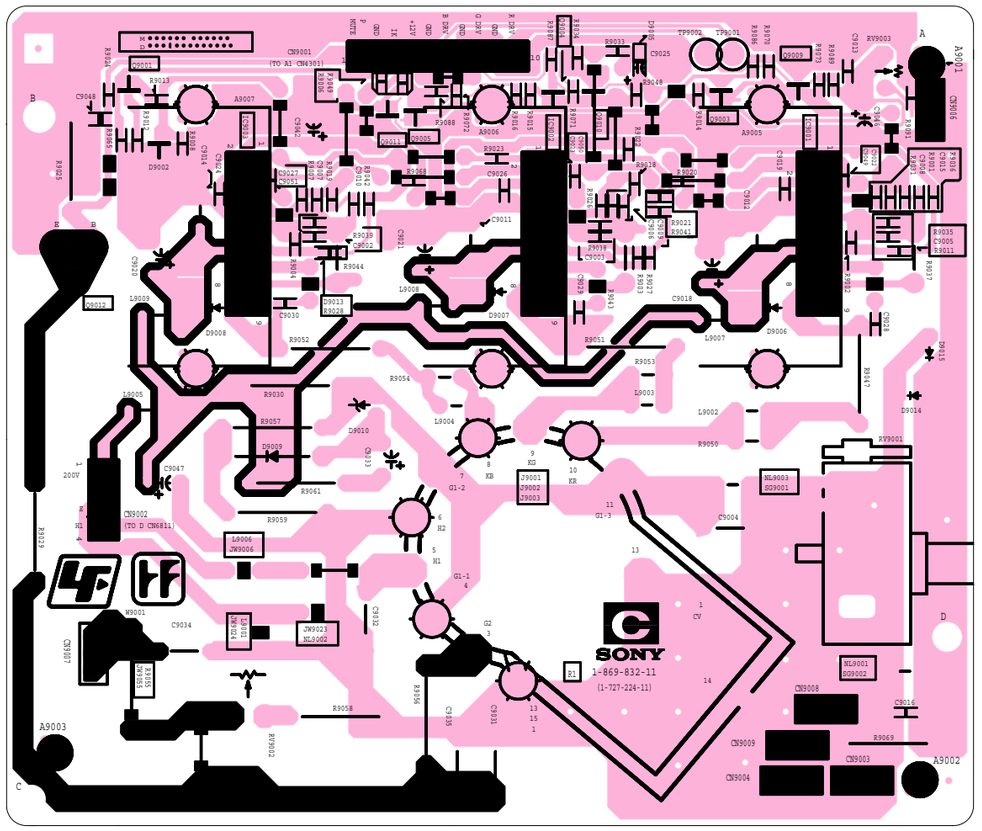
– VM1 Board –



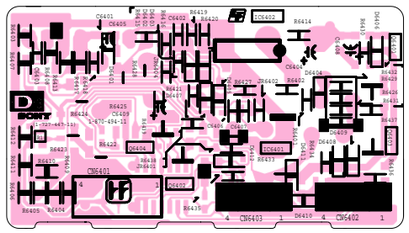
– H1 Board –



– C Board –

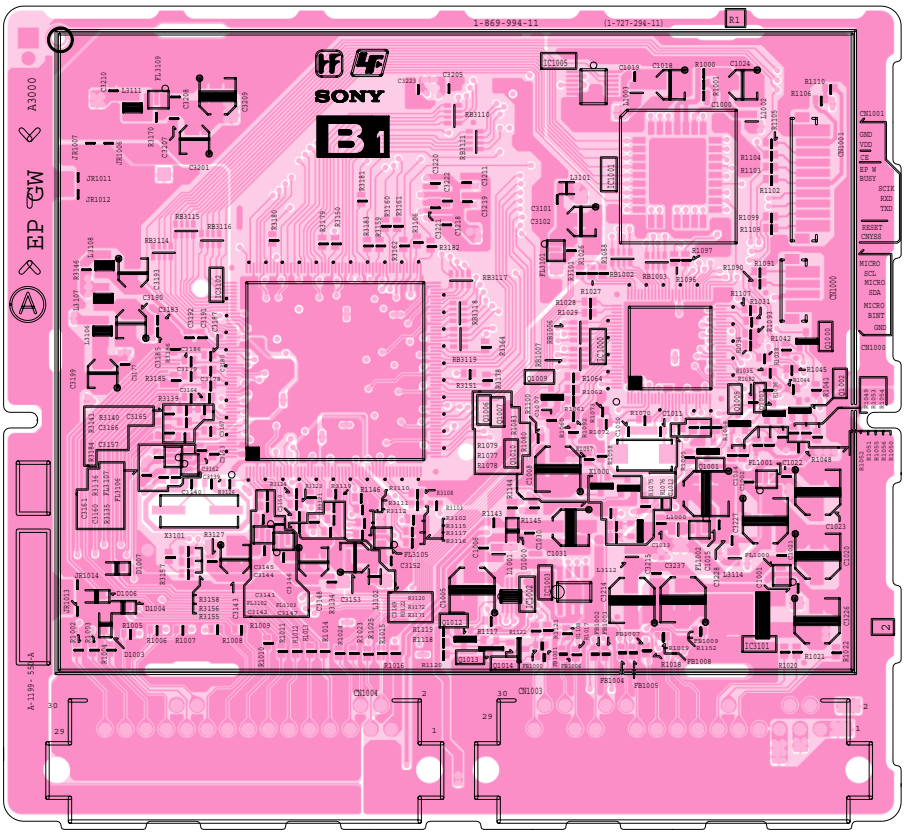


– D3 Board –

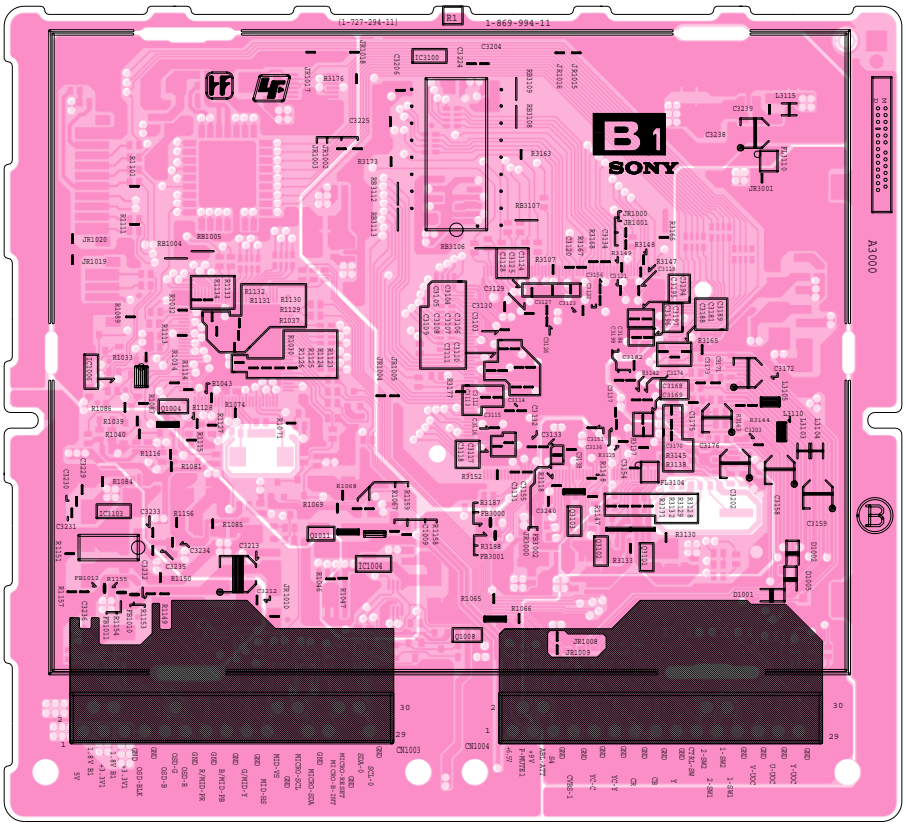


B1 [SCAN CONVERTER/3D COMB/DNP (TRIDENT), SUB-MICRO (RENESAS)]

– B1 Board – (Component side)

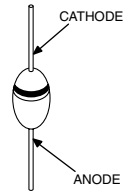
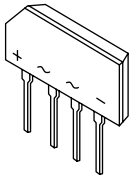
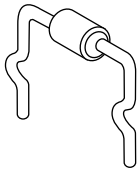
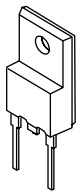
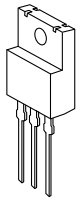
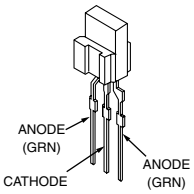


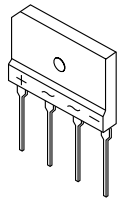
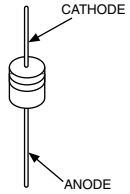
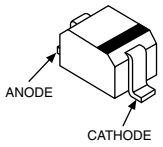
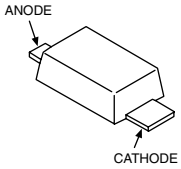
– B1 Board – (Conductor side)



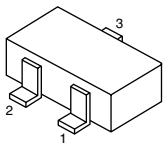
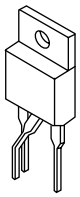
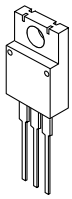
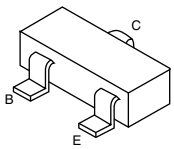
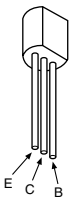
6-5. SEMICONDUCTORS

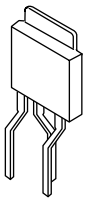
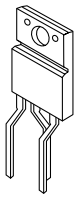
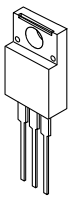
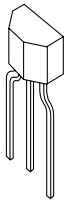
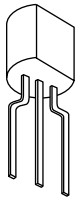
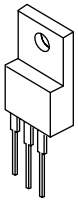
DIODE

					
U05G	D2SB60A-F04 KBP153G-A2	S3L20UF4	FMQ-G5FMS	RB085T-60	LNK0210088H

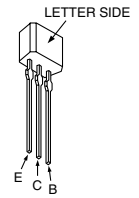
					
D10SBS4F	1SS133T-77 D1NS4 HSS82-TJ HSS83TD-E MA4300-H(TA) MA4200-H(TA) MTZJ-T-77-15	RD10ESB2 RD18ESB2 RD6.8ESB2	10ERB20-TB5 30PRA20 ER106T/B ER206 FR104-A5 GP08D PG102R S2L20UF 1F6G	MA111-TX DTZ5.6B	MA2ZD14001S0 MA77 MA8047 MA8091-M MA8100-M-TX MA8150-M-TX UDZS-TE17-12B

TRANSISTOR

					
1PS226-115 M1MA152WK-T1 MA3062M-TX MA3091	2SK3563(LB2SONY)	2SA2005 2SC5511	DTC143TKA-T146 DTC144EKA KRC102S 2SA1226-E4 2SA1235-F 2SC1623-L5L6 2SC2223-F13 2SC2712-YG 2SD2114K		2SK2036

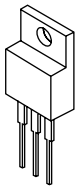
					
TDA6111Q/N4	2SK3568(LBSSONY,Q	2SK2381	KRC110M KTC3199GR-TP	2SC3779C,D-AA	2SC4632LS-CB7 2SK3462

TRANSISTOR



2SA1175-HFE
2SC2785-HFE

IC



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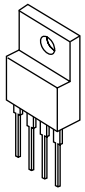
KIA78R09API



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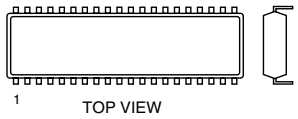
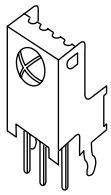
PQ018EF01SSH

DIP

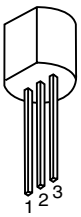


Dual In-line Package
Pin 6~98

EK1135
MCZ3001DB
MT48LC2M32B2P-6:G
TL52055DR

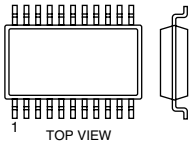


RPM7240-H5



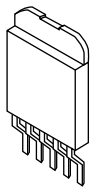
KIA431AF

SOP

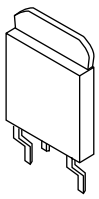


Small Outline L-leaded
Package
Pin 8~98

BR24L32F-WE2
CAT24WC32WI-TE13
LM2903DT
LM339NS
NJM2521V(TE2)
TC7W66FU(TE12R)



BA18BCOWFP-E2



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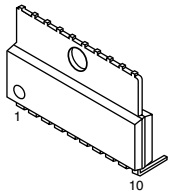
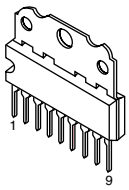
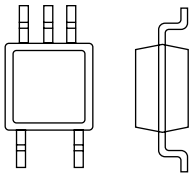
BA33BC0WFP-E2
L78M05T-FA



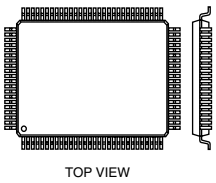
LA6510



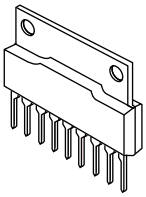
KTA1279



PST9129NL



CXA2170Q



AN5277T

SECTION 7
EXPLODED VIEWS

NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ∗ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

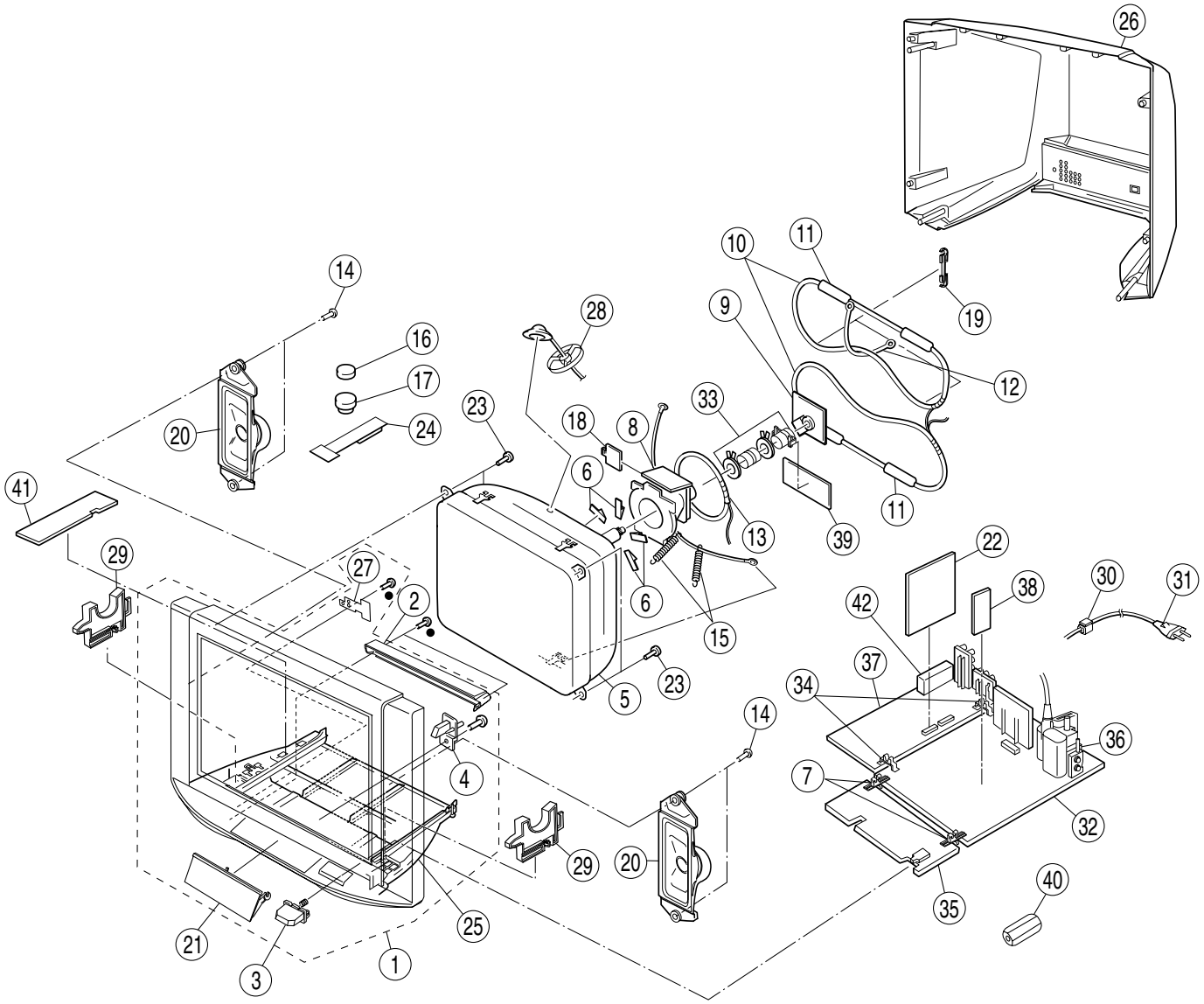
The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

7-1. PICTURE TUBE AND SPEAKER BRACKET

● : 7-685-648-79 SCREW +BVTP 3 × 12 TYPE2 IT-3
■ : 7-685-663-71 SCREW +BVTP 4 × 16 TYPE2 IT-3

Note:

- For KV-DZ29M30 (South Africa), the picture tube is upside down and the position for the anode cap and tension springs are change accordingly.



REF. NO.		PART NO.	DESCRIPTION	REMARK
1		X-2149-752-1	BEZNET ASSY (KV-DZ29M91)	1~4,21,25,27
		X-2109-295-1	BEZNET ASSY (except KV-DZ29M91)	
2		2-677-860-01	COVER, FRONT PANEL	
3		2-677-856-01	BUTTON, POWER	
4	*	2-660-431-01	GUIDE, LIGHT	
5	⚠	8-735-238-05	PICTURE TUBE A68LYK00X (Except KV-DZ29M61)	
	⚠	8-735-239-05	PICTURE TUBE A68LYK00X (KV-DZ29M61)	
6		4-046-600-11	SPACER, DY	
7	*	2-668-944-01	HOLDER, PWB	
8	⚠	1-451-560-12	DEFLECTION YOKE (Y29SEC-T)	
9	*	A-1215-580-A	MOUNTED PWB (VAR), C (KV-DZ29M30)	
	*	A-1199-551-A	MOUNTED PWB (VAR), C (except KV-DZ29M81)	
10	⚠	1-419-323-11	COIL, DEGAUSSING (except KV-DZ29M61(GE))	
	⚠	1-419-294-11	COIL, DEGAUSSING (KV-DZ29M61(GE))	
11	*	2-664-650-01	CUSHION (60X120), DGC	
12		4-079-376-01	BAND, DGC	
13		1-451-498-21	COIL, NA ROTATION	
14		4-302-404-03	TAPPING SCREW (+PWH 4X16)	
15		4-369-318-61	SPRING, TENSION	
16		1-452-032-00	MAGNET,DISC	
17		1-452-094-00	CIRCULAR DISC MAGNET B	
18		4-077-228-02	PIECE, TLH CONVERGENCE	
19		4-064-883-03	HOLDER, DGC	
20		1-826-364-11	LOUDSPEAKER (6.5X15CM)	
21		2-677-855-01	DOOR, CONTROL	
22	*	A-1199-549-A	COMPLETE PWB, B1	
23		4-046-765-12	SCREW, TAPPING 7+CROWN WASHER	
24		X-4387-214-3	PERMALOY ASSY, CORRECTION	
25	*	2-660-427-04	COVER, BOTTOM	
26		2-677-854-01	COVER, REAR (29)	
27		2-668-661-01	SPRING, DOOR	
28	*	2-656-888-01	HOLDER, HV CABLE COMBI	
29	*	2-660-434-03	SUPPORT, CRT	
30		4-022-115-00	HOLDER, AC CORD	

REF. NO.		PART NO.	DESCRIPTION	REMARK
31	⚠	1-823-483-11	CORD, POWER (WITH NOISE FILTER) (KV-DZ29M91)	
	⚠	1-823-480-11	CORD, AC POWER (WITH CONNECTOR) (KV-DZ29M61)	
	⚠	1-831-311-12	POWER CORD (WITH CONNECTOR) (KV-DZ29M30)	
32	*	A-1215-604-A	COMPLETE PWB, D (KV-DZ29M30)	
	*	A-1216-668-A	COMPLETE PWB, D (KV-DZ29M61(Malaysia))	
	*	A-1199-560-A	COMPLETE PWB, D (KV-DZ29M61(GE))	
	*	A-1215-638-A	COMPLETE PWB, D (KV-DZ29M91)	
33		8-453-021-21	NA2919-M2	
34	*	2-668-945-01	HOLDER, PWB	
35	*	A-1199-557-A	MOUNTED PWB, H1	
36		1-453-485-11	TRANSFORMER ASSY FLYBACK (NX-4901//M3B4) (Except KV-DZ29M30)	
		1-453-485-21	TRANSFORMER ASSY FLYBACK (NX-4901//M3B4) (KV-DZ29M30)	
37	*	A-1215-578-A	COMPLETE PWB, A1 (KV-DZ29M30)	
	*	A-1215-088-A	COMPLETE PWB, A1 (KV-DZ29M61(GE))	
	*	A-1216-670-A	COMPLETE PWB, A1 (KV-DZ29M61(Malaysia))	
	*	A-1215-176-A	COMPLETE PWB, A1 (KV-DZ29M91)	
38	*	A-1199-555-A	MOUNTED PWB, D3 (KV-DZ29M61(GE))	
39	*	A-1199-556-A	MOUNTED PWB, VM1	
40	*	1-469-969-31	CLAMP, FERRITE	
41	*	A-1199-558-A	MOUNTED PWB (VAR), F1 (Except KV-DZ29M91)	
	*	A-1212-035-A	MOUNTED PWB (VAR), F1 (KV-DZ29M91)	
42		1-693-722-11	TUNER	

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

REF NO.	PART NO.	DESCRIPTION	REMARK
*	A-1215-578-A	COMPLETE PWB, A1 (KV-DZ29M30)	
	A-1216-670-A	COMPLETE PWB, A1 (KV-DZ29M61(Malaysia))	
*	A-1215-088-A	COMPLETE PWB, A1 (KV-DZ29M61(GE))	
*	A-1215-176-A	COMPLETE PWB, A1 (KV-DZ29M91)	
		**********	
	4-382-854-01	SCREW (M3X8), P, SW (+)	
		<CAPACITOR>	
C001	1-126-947-11	ELECT 47UF 20.00% 35V	
C002	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	
C003	1-162-970-11	CERAMIC CHIP 0.01UF 10.00% 25V	
C004	1-164-315-11	CERAMIC CHIP 470PF 5.00% 50V	
C005	1-126-947-11	ELECT 47UF 20.00% 35V	
C006	1-126-933-11	ELECT 100UF 20.00% 16V	
C007	1-164-230-11	CERAMIC CHIP 220PF 5.00% 50V	
C008	1-126-947-11	ELECT 47UF 20.00% 35V	
C009	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	
C010	1-164-315-11	CERAMIC CHIP 470PF 5.00% 50V	
C011	1-127-715-91	CERAMIC CHIP 0.22UF 10% 16V	
C012	1-127-715-91	CERAMIC CHIP 0.22UF 10% 16V	
C013	1-126-935-11	ELECT 470UF 20.00% 16V	
C014	1-127-715-91	CERAMIC CHIP 0.22UF 10% 16V	
C015	1-164-227-11	CERAMIC CHIP 0.022UF 10.00% 25V	
C016	1-164-227-11	CERAMIC CHIP 0.022UF 10.00% 25V	
C017	1-164-230-11	CERAMIC CHIP 220PF 5.00% 50V	
C018	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C019	1-127-715-91	CERAMIC CHIP 0.22UF 10% 16V	
C020	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	
C021	1-162-927-11	CERAMIC CHIP 100PF 5.00% 50V	
C022	1-127-715-91	CERAMIC CHIP 0.22UF 10% 16V	
C024	1-126-965-91	ELECT 22UF 20.00% 50V	
C026	1-126-947-11	ELECT 47UF 20.00% 35V	
C028	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C029	1-126-965-91	ELECT 22UF 20.00% 50V	
C030	1-127-715-91	CERAMIC CHIP 0.22UF 10% 16V	
C031	1-126-935-11	ELECT 470UF 20.00% 16V	
C036	1-104-665-11	ELECT 100UF 20.00% 25V	
C037	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C038	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	
C041	1-162-968-11	CERAMIC CHIP 0.0047UF 10.00% 50V	
C043	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C044	1-115-340-11	CERAMIC CHIP 0.22UF 10.00% 25V	
C046	1-162-969-11	CERAMIC CHIP 0.0068UF 10.00% 25V	
C048	1-127-715-91	CERAMIC CHIP 0.22UF 10% 16V	
C049	1-164-227-11	CERAMIC CHIP 0.022UF 10.00% 25V	
C050	1-126-964-11	ELECT 10UF 20.00% 50V	
C052	1-162-964-11	CERAMIC CHIP 0.001UF 10.00% 50V	
C053	1-164-227-11	CERAMIC CHIP 0.022UF 10.00% 25V	

REF NO.	PART NO.	DESCRIPTION	REMARK
C054	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	
C055	1-100-829-31	FILM 0.15UF 5% 250V	
C056	1-104-665-11	ELECT 100UF 20.00% 25V	
C057	1-162-970-11	CERAMIC CHIP 0.01UF 10.00% 25V	
C058	1-162-964-11	CERAMIC CHIP 0.001UF 10.00% 50V	
C061	1-162-968-11	CERAMIC CHIP 0.0047UF 10.00% 50V	
C063	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	
C064	1-126-961-11	ELECT 2.2UF 20.00% 50V	
C065	1-126-962-11	ELECT 3.3UF 20.00% 50V	
C068	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C069	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	
C070	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C071	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C072	1-162-970-11	CERAMIC CHIP 0.01UF 10.00% 25V	
C073	1-126-961-11	ELECT 2.2UF 20.00% 50V	
C074	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C075	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C078	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C079	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C080	1-162-964-11	CERAMIC CHIP 0.001UF 10.00% 50V	
C081	1-162-964-11	CERAMIC CHIP 0.001UF 10.00% 50V	
C082	1-107-826-11	CERAMIC CHIP 0.1UF 10.00% 16V	
C084	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C085	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C086	1-115-339-11	CERAMIC CHIP 0.1UF 10.00% 50V	
C087	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C088	1-100-566-91	CERAMIC CHIP 0.1UF 10.00% 25V	
C089	1-162-964-11	CERAMIC CHIP 0.001UF 10.00% 50V	
C090	1-162-927-11	CERAMIC CHIP 100PF 5.00% 50V	
C091	1-162-927-11	CERAMIC CHIP 100PF 5.00% 50V	
C092	1-126-947-11	ELECT 47UF 20.00% 35V	
C093	1-126-933-11	ELECT 100UF 20.00% 16V	
C096	1-115-340-11	CERAMIC CHIP 0.22UF 10.00% 25V	
C100	1-162-964-11	CERAMIC CHIP 0.001UF 10.00% 50V	
C101	1-126-964-11	ELECT 10UF 20.00% 50V	
C102	1-162-927-11	CERAMIC CHIP 100PF 5.00% 50V	
C104	1-162-927-11	CERAMIC CHIP 100PF 5.00% 50V	
C106	1-126-964-11	ELECT 10UF 20.00% 50V	
C107	1-126-935-11	ELECT 470UF 20.00% 16V	
C108	1-126-935-11	ELECT 470UF 20.00% 16V	
C109	1-162-968-11	CERAMIC CHIP 0.0047UF 10.00% 50V	
C111	1-162-970-11	CERAMIC CHIP 0.01UF 10.00% 25V	
C112	1-162-927-11	CERAMIC CHIP 100PF 5.00% 50V	
C115	1-162-968-11	CERAMIC CHIP 0.0047UF 10.00% 50V	
C116	1-162-968-11	CERAMIC CHIP 0.0047UF 10.00% 50V	
C117	1-164-380-11	CERAMIC CHIP 51PF 5.00% 50V	
C120	1-126-935-11	ELECT 470UF 20.00% 16V	
C124	1-162-970-11	CERAMIC CHIP 0.01UF 10.00% 25V	
C125	1-162-964-11	CERAMIC CHIP 0.001UF 10.00% 50V	
C135	1-162-968-11	CERAMIC CHIP 0.0047UF 10.00% 50V	

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REF NO.	PART NO.	DESCRIPTION		REMARK	
C136	1-126-933-11	ELECT	100UF	20.00%	16V
C137	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C138	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C139	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C140	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C142	1-126-964-11	ELECT	10UF	20.00%	50V
C301	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C302	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C303	1-126-933-11	ELECT	100UF	20.00%	16V
C304	1-104-665-11	ELECT	100UF	20.00%	25V
C305	1-104-665-11	ELECT	100UF	20.00%	25V
C306	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C308	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C309	1-126-964-11	ELECT	10UF	20.00%	50V
C311	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C314	1-164-346-11	CERAMIC CHIP	1UF		16V
C318	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C319	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C322	1-126-947-11	ELECT	47UF	20.00%	35V
C323	1-126-935-11	ELECT	470UF	20.00%	16V
C324	1-126-933-11	ELECT	100UF	20.00%	16V
C327	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C328	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C329	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C330	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C331	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C332	1-126-947-11	ELECT	47UF	20.00%	35V
C340	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C341	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C343	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C345	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C347	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C348	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C349	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C350	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C351	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C1201	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C1202	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C1203	1-165-176-11	CERAMIC CHIP	0.047UF	10.00%	16V
C1204	1-165-176-11	CERAMIC CHIP	0.047UF	10.00%	16V
C1205	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C1206	1-126-957-11	ELECT	0.22UF	20.00%	50V
C1207	1-164-227-11	CERAMIC CHIP	0.022UF	10.00%	25V
C1208	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C1209	1-164-227-11	CERAMIC CHIP	0.022UF	10.00%	25V
C1210	1-126-957-11	ELECT	0.22UF	20.00%	50V
C1211	1-126-968-11	ELECT	100UF	20.00%	50V
C1212	1-126-963-11	ELECT	4.7UF	20.00%	50V
C1213	1-126-972-11	ELECT	1000UF	20.00%	50V
C1214	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C1215	1-126-972-11	ELECT	1000UF	20.00%	50V
C1216	1-128-550-11	ELECT	2200UF	20.00%	50V
C1217	1-126-965-91	ELECT	22UF	20.00%	50V
C1218	1-126-972-11	ELECT	1000UF	20.00%	50V
C1219	1-126-965-91	ELECT	22UF	20.00%	50V
C1220	1-126-767-11	ELECT	1000UF	20.00%	16V
C1221	1-126-947-11	ELECT	47UF	20.00%	35V
C1229	1-137-374-11	MYLAR	0.047UF	5.00%	50V
C1230	1-137-374-11	MYLAR	0.047UF	5.00%	50V
C1231	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V

REF NO.	PART NO.	DESCRIPTION		REMARK	
C1232	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C1235	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C2201	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2202	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2203	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2204	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2205	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2206	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2207	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2208	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2211	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2214	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2215	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2216	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2217	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2218	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2219	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2220	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2222	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2223	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2225	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2226	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2227	1-126-964-11	ELECT	10UF	20.00%	50V
C2228	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2229	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2230	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2231	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2232	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2233	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2234	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2235	1-126-947-11	ELECT	47UF	20.00%	35V
C2236	1-126-947-11	ELECT	47UF	20.00%	35V
C2237	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2238	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C2239	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2240	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2241	1-125-837-91	CERAMIC CHIP	1UF	10%	6.3V
C2243	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C2244	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C2600	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C2601	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C2602	1-107-882-91	ELECT	100UF	20%	16V
C2603	1-107-882-91	ELECT	100UF	20%	16V
C2605	1-107-882-91	ELECT	100UF	20%	16V
C2606	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C2607	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C2609	1-104-652-11	ELECT	470UF	20%	10V
C2612	1-128-526-11	ELECT	100UF	20%	25V
C2613	1-126-936-11	ELECT	3300UF	20.00%	16V
C2614	1-126-933-11	ELECT	100UF	20.00%	16V
C2615	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C2616	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C2617	1-104-663-11	ELECT	33UF	20.00%	25V
C2618	1-126-947-11	ELECT	47UF	20.00%	35V
C2619	1-126-964-11	ELECT	10UF	20.00%	50V
C2620	1-126-959-11	ELECT	0.47UF	20.00%	50V
C2621	1-126-933-11	ELECT	100UF	20.00%	16V
C2622	1-104-662-91	ELECT	22UF	20.00%	25V
C2629	1-128-528-11	ELECT	470UF	20%	25V
C2630	1-128-528-11	ELECT	470UF	20%	25V

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REF NO.	PART NO.	DESCRIPTION		REMARK	
C2631	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C2632	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C2633	1-126-934-11	ELECT	220UF	20.00%	16V
C2634	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C2636	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C2637	1-104-662-91	ELECT	22UF	20.00%	25V
C2638	1-126-933-11	ELECT	100UF	20.00%	16V
C4302	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4304	1-126-933-11	ELECT	100UF	20.00%	16V
C4305	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4307	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C4308	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C4309	1-127-715-91	CERAMIC CHIP	0.22UF	10%	16V
C4310	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4311	1-125-891-11	CERAMIC CHIP	0.47UF	10.00%	10V
C4312	1-126-933-11	ELECT	100UF	20.00%	16V
C4313	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4314	1-126-933-11	ELECT	100UF	20.00%	16V
C4315	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C4316	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C4317	1-126-933-11	ELECT	100UF	20.00%	16V
C4318	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4319	1-126-933-11	ELECT	100UF	20.00%	16V
C4320	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4321	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4323	1-126-962-11	ELECT	3.3UF	20.00%	50V
C4324	1-125-891-11	CERAMIC CHIP	0.47UF	10.00%	10V
C4327	1-136-244-11	FILM	0.1UF	2.00%	50V
C4328	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4329	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C4330	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C4331	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4332	1-126-933-11	ELECT	100UF	20.00%	16V
C4333	1-126-963-11	ELECT	4.7UF	20.00%	50V
C4334	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4335	1-126-933-11	ELECT	100UF	20.00%	16V
C4336	1-126-933-11	ELECT	100UF	20.00%	16V
C4337	1-110-563-11	CERAMIC CHIP	0.068UF	10.00%	16V
C4338	1-162-966-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C4339	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C4340	1-126-933-11	ELECT	100UF	20.00%	16V
C4342	1-128-526-11	ELECT	100UF	20%	25V
C4346	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C4347	1-126-947-11	ELECT	47UF	20.00%	35V
C4348	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4353	1-126-933-11	ELECT	100UF	20.00%	16V
C4357	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4358	1-126-947-11	ELECT	47UF	20.00%	35V
C4359	1-126-933-11	ELECT	100UF	20.00%	16V
C4360	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4361	1-126-933-11	ELECT	100UF	20.00%	16V
C4367	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4370	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4371	1-164-677-11	CERAMIC CHIP	0.033UF	10.00%	16V
C4372	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4374	1-127-715-91	CERAMIC CHIP	0.22UF	10%	16V
C4375	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C4377	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C4378	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4379	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V

REF NO.	PART NO.	DESCRIPTION		REMARK	
C4380	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4381	1-115-416-11	CERAMIC CHIP	0.001UF	5.00%	25V
C4382	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C4383	1-126-933-11	ELECT	100UF	20.00%	16V
C4384	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C4386	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C4387	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C4388	1-162-921-11	CERAMIC CHIP	33PF	5.00%	50V
C4389	1-162-921-11	CERAMIC CHIP	33PF	5.00%	50V
C4390	1-162-921-11	CERAMIC CHIP	33PF	5.00%	50V
C4393	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C4394	1-115-340-11	CERAMIC CHIP	0.22UF	10.00%	25V
C8301	1-126-960-11	ELECT	1UF	20.00%	50V
C8303	1-126-935-11	ELECT	470UF	20.00%	16V
C8304	1-126-960-11	ELECT	1UF	20.00%	50V
C8308	1-126-960-11	ELECT	1UF	20.00%	50V
C8309	1-164-346-11	CERAMIC CHIP	1UF		16V
C8322	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C8323	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C8325	1-126-933-11	ELECT	100UF	20.00%	16V
C8526	1-126-933-11	ELECT	100UF	20.00%	16V
C8527	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C8528	1-126-947-11	ELECT	47UF	20.00%	35V
C8529	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C8531	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C8533	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C8534	1-126-961-11	ELECT	2.2UF	20.00%	50V
C8535	1-126-961-11	ELECT	2.2UF	20.00%	50V
C8536	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C8537	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C8538	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C8539	1-164-505-11	CERAMIC CHIP	2.2UF		16V

<CONNECTOR>

CN003	1-508-797-00	PIN, CONNECTOR 4P
* CN014	1-564-510-11	PLUG, CONNECTOR 7P
CN100	1-695-915-11	TAB (CONTACT)
* CN1201	1-564-509-11	PLUG, CONNECTOR 6P
* CN1202	1-564-507-11	PLUG, CONNECTOR 4P
* CN2203	1-564-511-11	PLUG, CONNECTOR 8P
* CN2601	1-779-890-11	CONNECTOR, BOARD TO BOARD 10P
* CN4301	1-764-333-11	PIN, CONNECTOR(PCB)(V TYPE)10P
* CN4302	1-764-333-11	PIN, CONNECTOR(PCB)(V TYPE)10P
CN4305	1-783-967-11	CONNECTOR, BOARD TO BOARD 30P
CN4306	1-783-967-11	CONNECTOR, BOARD TO BOARD 30P
CT131	1-767-774-22	TRAP, CERAMIC
CT139	1-767-775-22	TRAP, CERAMIC

<DIODE>

D001	8-719-404-50	DIODE MA111-TX
D002	8-719-404-50	DIODE MA111-TX
D003	8-719-404-50	DIODE MA111-TX
D064	8-719-977-03	DIODE DTZ5.6B
D065	8-719-977-03	DIODE DTZ5.6B
D066	8-719-404-50	DIODE MA111-TX
D068	8-719-977-03	DIODE DTZ5.6B
D072	8-719-404-50	DIODE MA111-TX
D100	8-719-421-40	DIODE MA77
D1201	8-719-062-51	DIODE 1PS226-115

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REF NO.	PART NO.	DESCRIPTION	REMARK
D1202	8-719-404-50	DIODE MA111-TX	
D1203	8-719-404-50	DIODE MA111-TX	
D1204	8-719-404-50	DIODE MA111-TX	
D1205	8-719-404-50	DIODE MA111-TX	
D1206	8-719-404-50	DIODE MA111-TX	
D1215	8-719-404-50	DIODE MA111-TX	
D1216	8-719-404-50	DIODE MA111-TX	
D1217	8-719-404-50	DIODE MA111-TX	
D1244	8-719-404-50	DIODE MA111-TX	
D2201	8-719-422-97	DIODE MA8091-M	
D2202	8-719-977-03	DIODE DTZ5.6B	
D2203	8-719-977-03	DIODE DTZ5.6B	
D2204	8-719-977-03	DIODE DTZ5.6B	
D2205	8-719-977-03	DIODE DTZ5.6B	
D2206	8-719-422-97	DIODE MA8091-M	
D2207	8-719-422-97	DIODE MA8091-M	
D2208	8-719-422-97	DIODE MA8091-M	
D2211	8-719-422-97	DIODE MA8091-M	
D2212	8-719-422-97	DIODE MA8091-M	
D2217	8-719-977-03	DIODE DTZ5.6B	
D2218	8-719-977-03	DIODE DTZ5.6B	
D2219	8-719-422-97	DIODE MA8091-M	
D2220	8-719-422-97	DIODE MA8091-M	
D2601	8-719-072-70	DIODE MA2ZD14001S0	
D2602	8-719-404-50	DIODE MA111-TX	
D2603	8-719-404-50	DIODE MA111-TX	
D2608	8-719-404-50	DIODE MA111-TX	
D2609	8-719-017-79	DIODE MA8033	
D4302	8-719-422-97	DIODE MA8091-M	
D4303	8-719-420-14	DIODE MA8082-M	
D4309	8-719-404-50	DIODE MA111-TX	
D4312	8-719-404-50	DIODE MA111-TX	
D4313	8-719-977-03	DIODE DTZ5.6B	
D4318	8-719-050-38	DIODE M1MA152WK-T1	
D4319	8-719-050-38	DIODE M1MA152WK-T1	
D4320	8-719-401-63	DIODE MA3062M-TX	
D4323	8-719-404-50	DIODE MA111-TX	
D8301	8-719-422-97	DIODE MA8091-M	
D8304	8-719-422-97	DIODE MA8091-M	
D8306	8-719-422-97	DIODE MA8091-M	
D8309	8-719-977-03	DIODE DTZ5.6B	
D8310	8-719-422-97	DIODE MA8091-M	
D8311	8-719-422-97	DIODE MA8091-M	
D8325	8-719-062-51	DIODE 1PS226-115	
D8326	8-719-062-51	DIODE 1PS226-115	
D8501	8-719-423-10	DIODE MA8100-M-TX	
D8502	8-719-423-10	DIODE MA8100-M-TX	
D8503	8-719-423-10	DIODE MA8100-M-TX	
D8504	8-719-423-10	DIODE MA8100-M-TX	
D8505	8-719-423-10	DIODE MA8100-M-TX	
D8506	8-719-423-10	DIODE MA8100-M-TX	

<FERRITE BEAD>

FB001	1-469-981-21	FERRITE	0UH
FB002	1-469-981-21	FERRITE	0UH
FB003	1-469-981-21	FERRITE	0UH
FB004	1-469-981-21	FERRITE	0UH
FB005	1-469-981-21	FERRITE	0UH
FB100	1-414-228-11	FERRITE	0UH
FB101	1-414-228-11	FERRITE	0UH
FB102	1-414-228-11	FERRITE	0UH
FB103	1-414-228-11	FERRITE	0UH
FB106	1-414-228-11	FERRITE	0UH
FB107	1-414-228-11	FERRITE	0UH
FB8303	1-469-981-21	FERRITE	0UH

<IC>

IC001	6-806-892-01	IC TDA12011H1/N1F0B (KV-DZ29M30)
IC001	6-806-890-01	IC TDA12021H1/N1F0B (Except KV-DZ29M30)
IC002	6-705-870-01	IC CAT24WC32WI-TE13
IC1201	6-703-477-01	IC AN5277T
IC2201	8-759-836-72	IC NJM2521V(TE2)
IC2202	8-759-836-72	IC NJM2521V(TE2)
IC2203	8-759-836-72	IC NJM2521V(TE2)
IC2204	8-759-836-72	IC NJM2521V(TE2)
IC2600	6-706-789-01	IC KIA78R09API
IC2601	6-707-344-01	IC KIA78R05API
IC2603	6-707-921-01	IC PQ3RD13J000H
IC2604	6-702-987-01	IC BA18BCOWFP-E2
IC2605	6-703-478-01	IC PQ018EF01SSH
IC2608	6-703-478-01	IC PQ018EF01SSH
IC2609	6-707-344-01	IC KIA78R05API
IC4301	8-752-102-68	IC CXA2170Q
IC4302	8-759-052-52	IC L78M05T-FA
IC8503	6-706-805-01	IC TL52055DR

<JACK>

J8301	1-817-298-22	PHONO JACK 9P
J8302	1-819-609-11	PIN JACK BLOCK 10P

<CHIP CONDUCTOR>

JR002	1-216-864-11	SHORT CHIP	0
JR006	1-216-864-11	SHORT CHIP	0
JR009	1-216-864-11	SHORT CHIP	0
JR016	1-216-864-11	SHORT CHIP	0
JR017	1-216-864-11	SHORT CHIP	0
JR021	1-216-864-11	SHORT CHIP	0
JR027	1-216-864-11	SHORT CHIP	0
JR030	1-216-864-11	SHORT CHIP	0
JR031	1-216-864-11	SHORT CHIP	0
JR032	1-216-864-11	SHORT CHIP	0
JR033	1-216-864-11	SHORT CHIP	0
JR034	1-216-864-11	SHORT CHIP	0
JR039	1-216-864-11	SHORT CHIP	0
JR047	1-216-864-11	SHORT CHIP	0
JR059	1-216-864-11	SHORT CHIP	0
JR060	1-216-864-11	SHORT CHIP	0
JR061	1-216-864-11	SHORT CHIP	0
JR075	1-216-864-11	SHORT CHIP	0
JR077	1-216-864-11	SHORT CHIP	0
JR078	1-216-864-11	SHORT CHIP	0
JR084	1-216-864-11	SHORT CHIP	0
JR085	1-216-864-11	SHORT CHIP	0
JR088	1-216-864-11	SHORT CHIP	0
JR089	1-216-864-11	SHORT CHIP	0
JR102	1-216-864-11	SHORT CHIP	0
JR103	1-216-864-11	SHORT CHIP	0
JR109	1-216-864-11	SHORT CHIP	0

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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REF NO.	PART NO.	DESCRIPTION		REMARK
JR111	1-216-864-11	SHORT CHIP	0	
JR112	1-216-864-11	SHORT CHIP	0	
JR114	1-216-864-11	SHORT CHIP	0	
JR115	1-216-864-11	SHORT CHIP	0	
JR121	1-216-864-11	SHORT CHIP	0	
JR122	1-216-864-11	SHORT CHIP	0	
JR123	1-216-864-11	SHORT CHIP	0	
JR124	1-216-864-11	SHORT CHIP	0	
JR125	1-216-864-11	SHORT CHIP	0	
JR132	1-216-864-11	SHORT CHIP	0	
JR133	1-216-864-11	SHORT CHIP	0	
JR2603	1-216-864-11	SHORT CHIP	0	
JR2607	1-216-864-11	SHORT CHIP	0	
JR2608	1-216-864-11	SHORT CHIP	0	
JR4300	1-216-864-11	SHORT CHIP	0	
JR4301	1-216-864-11	SHORT CHIP	0	
JR4315	1-216-864-11	SHORT CHIP	0	
JR4316	1-216-864-11	SHORT CHIP	0	
		<COIL>		
L002	1-414-856-11	INDUCTOR	10UH	
L003	1-414-856-11	INDUCTOR	10UH	
L004	1-469-527-91	INDUCTOR	47UH	
L005	1-414-856-11	INDUCTOR	10UH	
L006	1-469-525-91	INDUCTOR	10UH	
L007	1-469-525-91	INDUCTOR	10UH	
L008	1-469-525-91	INDUCTOR	10UH	
L009	1-414-856-11	INDUCTOR	10UH	
L010	1-469-525-91	INDUCTOR	10UH	
L011	1-469-525-91	INDUCTOR	10UH	
L012	1-414-856-11	INDUCTOR	10UH	
L013	1-469-525-91	INDUCTOR	10UH	
L016	1-469-525-91	INDUCTOR	10UH	
L022	1-414-922-51	INDUCTOR	330UH	
L023	1-469-559-21	INDUCTOR	47UH	
L031	1-414-856-11	INDUCTOR	10UH	
L032	1-414-856-11	INDUCTOR	10UH	
L033	1-469-525-91	INDUCTOR	10UH	
L035	1-414-856-11	INDUCTOR	10UH	
L036	1-469-525-91	INDUCTOR	10UH	
L037	1-469-525-91	INDUCTOR	10UH	
L038	1-414-856-11	INDUCTOR	10UH	
L100	1-414-857-11	INDUCTOR	100UH	
L101	1-410-498-11	INDUCTOR	1.2UH	
L102	1-410-985-42	INDUCTOR	0.22UH	
L103	1-410-987-42	INDUCTOR	0.33UH	
L104	1-414-187-11	INDUCTOR	47UH	
L106	1-414-189-31	INDUCTOR	100UH	
L107	1-469-525-91	INDUCTOR	10UH	
L2201	1-414-856-11	INDUCTOR	10UH	
L2202	1-414-856-11	INDUCTOR	10UH	
L4301	1-414-856-11	INDUCTOR	10UH	
L4302	1-414-856-11	INDUCTOR	10UH	
L4303	1-414-856-11	INDUCTOR	10UH	
L4304	1-414-856-11	INDUCTOR	10UH	
L4305	1-414-856-11	INDUCTOR	10UH	
L4306	1-414-856-11	INDUCTOR	10UH	
L4307	1-414-856-11	INDUCTOR	10UH	
L4308	1-414-856-11	INDUCTOR	10UH	
L4309	1-414-856-11	INDUCTOR	10UH	
L4310	1-414-856-11	INDUCTOR	10UH	
L4311	1-469-525-91	INDUCTOR	10UH	
L8303	1-414-856-11	INDUCTOR	10UH	
L8503	1-414-856-11	INDUCTOR	10UH	
L8504	1-469-525-91	INDUCTOR	10UH	
		<IC LINK>		
PS1201 ⚠	1-533-597-42	IC LINK	5A	90V
		<TRANSISTOR>		
Q001	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q002	8-729-600-22	TRANSISTOR 2SA1235-F		
Q003	8-729-230-49	TRANSISTOR 2SC2712-YG		
Q015	8-729-038-67	TRANSISTOR KRC102S		
Q016	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q017	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q018	8-729-122-63	TRANSISTOR 2SA1226-E4		
Q019	8-729-102-07	TRANSISTOR 2SC2223-F13		
Q020	8-729-600-22	TRANSISTOR 2SA1235-F		
Q022	8-729-122-63	TRANSISTOR 2SA1226-E4		
Q023	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q024	8-729-600-22	TRANSISTOR 2SA1235-F		
Q025	8-729-122-63	TRANSISTOR 2SA1226-E4		
Q026	8-729-600-22	TRANSISTOR 2SA1235-F		
Q029	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q030	8-729-038-67	TRANSISTOR KRC102S		
Q031	8-729-028-28	TRANSISTOR 2SK2036(TE85L)		
Q032	8-729-028-28	TRANSISTOR 2SK2036(TE85L)		
Q039	8-729-600-22	TRANSISTOR 2SA1235-F		
Q100	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q102	8-729-022-54	TRANSISTOR 2SC3779C,D-AA		
Q103	8-729-027-56	TRANSISTOR DTC143TKA-T146		
Q104	8-729-027-56	TRANSISTOR DTC143TKA-T146		
Q1201	8-729-600-22	TRANSISTOR 2SA1235-F		
Q1202	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q1206	8-729-600-22	TRANSISTOR 2SA1235-F		
Q1207	8-729-038-67	TRANSISTOR KRC102S		
Q2201	8-729-027-56	TRANSISTOR DTC143TKA-T146		
Q2202	8-729-027-56	TRANSISTOR DTC143TKA-T146		
Q2601	8-729-600-22	TRANSISTOR 2SA1235-F		
Q2602	8-729-600-22	TRANSISTOR 2SA1235-F		
Q2604	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q2605	1-801-806-11	TRANSISTOR DTC144EKA		
Q4301	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q4302	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q4303	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q4305	6-550-580-01	TRANSISTOR 2SA1235TP-1F		
Q4306	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q4307	8-729-122-63	TRANSISTOR 2SA1226-E4		
Q4308	8-729-122-63	TRANSISTOR 2SA1226-E4		
Q4309	8-729-122-63	TRANSISTOR 2SA1226-E4		
Q4315	8-729-600-22	TRANSISTOR 2SA1235-F		
Q4316	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q4323	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q4324	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q4328	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q4329	1-801-806-11	TRANSISTOR DTC144EKA		
Q4330	8-729-038-67	TRANSISTOR KRC102S		
Q4331	8-729-120-28	TRANSISTOR 2SC1623-L5L6		
Q4332	8-729-120-28	TRANSISTOR 2SC1623-L5L6		

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REF NO.	PART NO.	DESCRIPTION			REMARK
Q8306	8-729-600-22	TRANSISTOR 2SA1235-F			
Q8501	8-729-102-07	TRANSISTOR 2SC2223-F13			
Q8502	8-729-122-63	TRANSISTOR 2SA1226-E4			
Q8503	8-729-122-63	TRANSISTOR 2SA1226-E4			
Q8504	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q8517	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q8518	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q8520	8-729-122-63	TRANSISTOR 2SA1226-E4			
		<RESISTOR>			
R001	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R002	1-216-809-11	METAL CHIP	100	5%	1/10W
R003	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R004	1-216-809-11	METAL CHIP	100	5%	1/10W
R008	1-216-809-11	METAL CHIP	100	5%	1/10W
R010	1-216-833-11	METAL CHIP	10K	5%	1/10W
R011	1-216-809-11	METAL CHIP	100	5%	1/10W
R012	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R013	1-216-809-11	METAL CHIP	100	5%	1/10W
R014	1-216-809-11	METAL CHIP	100	5%	1/10W
R015	1-218-851-11	METAL CHIP	1.5K	0.50%	1/10W
R016	1-216-809-11	METAL CHIP	100	5%	1/10W
R019	1-216-809-11	METAL CHIP	100	5%	1/10W
R020	1-216-809-11	METAL CHIP	100	5%	1/10W
R022	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R025	1-216-809-11	METAL CHIP	100	5%	1/10W
R026	1-216-809-11	METAL CHIP	100	5%	1/10W
R028	1-216-864-11	SHORT CHIP	0		
R029	1-216-809-11	METAL CHIP	100	5%	1/10W
R030	1-216-809-11	METAL CHIP	100	5%	1/10W
R032	1-216-864-11	SHORT CHIP	0		
R035	1-216-809-11	METAL CHIP	100	5%	1/10W
R036	1-216-864-11	SHORT CHIP	0		
R037	1-216-817-11	METAL CHIP	470	5%	1/10W
R038	1-216-809-11	METAL CHIP	100	5%	1/10W
R040	1-216-864-11	SHORT CHIP	0		
R043	1-216-864-11	SHORT CHIP	0		
R044	1-216-834-11	METAL CHIP	12K	5%	1/10W
R045	1-216-809-11	METAL CHIP	100	5%	1/10W
R046	1-216-809-11	METAL CHIP	100	5%	1/10W
R047	1-216-864-11	SHORT CHIP	0		
R048	1-216-809-11	METAL CHIP	100	5%	1/10W
R049	1-216-837-11	METAL CHIP	22K	5%	1/10W
R051	1-218-885-11	METAL CHIP	39K	0.50%	1/10W
R056	1-216-809-11	METAL CHIP	100	5%	1/10W
R057	1-216-864-11	SHORT CHIP	0		
R061	1-216-819-11	METAL CHIP	680	5%	1/10W
R064	1-216-837-11	METAL CHIP	22K	5%	1/10W
R073	1-216-842-11	METAL CHIP	56K	5%	1/10W
R074	1-216-809-11	METAL CHIP	100	5%	1/10W
R075	1-216-809-11	METAL CHIP	100	5%	1/10W
R076	1-216-817-11	METAL CHIP	470	5%	1/10W
R078	1-216-809-11	METAL CHIP	100	5%	1/10W
R080	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R083	1-216-809-11	METAL CHIP	100	5%	1/10W
R084	1-216-864-11	SHORT CHIP	0		
R085	1-216-817-11	METAL CHIP	470	5%	1/10W
R086	1-216-805-11	METAL CHIP	47	5%	1/10W
R087	1-216-817-11	METAL CHIP	470	5%	1/10W
R088	1-216-816-11	METAL CHIP	390	5%	1/10W
R088		(KV-DZ29M61(Malaysia))			
R088	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R088		(Except KV-DZ29M61(Malaysia))			
R090	1-216-809-11	METAL CHIP	100	5%	1/10W
R091	1-216-837-11	METAL CHIP	22K	5%	1/10W
R092	1-216-837-11	METAL CHIP	22K	5%	1/10W
R093	1-216-817-11	METAL CHIP	470	5%	1/10W
R095	1-211-981-11	METAL CHIP	33	0.50%	1/10W
R096	1-216-813-11	METAL CHIP	220	5%	1/10W
R097	1-216-813-11	METAL CHIP	220	5%	1/10W
R098	1-216-864-11	SHORT CHIP	0		
R099	1-216-813-11	METAL CHIP	220	5%	1/10W
R100	1-216-821-11	METAL CHIP	1K	5%	1/10W
R103	1-211-981-11	METAL CHIP	33	0.50%	1/10W
R106	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R107	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R108	1-216-821-11	METAL CHIP	1K	5%	1/10W
R109	1-216-806-11	METAL CHIP	56	5%	1/10W
R110	1-216-821-11	METAL CHIP	1K	5%	1/10W
R111	1-216-833-11	METAL CHIP	10K	5%	1/10W
R112	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R113	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R114	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R117	1-216-864-11	SHORT CHIP	0		
R118	1-216-809-11	METAL CHIP	100	5%	1/10W
R119	1-211-981-11	METAL CHIP	33	0.50%	1/10W
R128	1-216-864-11	SHORT CHIP	0		
R131	1-216-809-11	METAL CHIP	100	5%	1/10W
R301	1-216-864-11	SHORT CHIP	0		
R302	1-216-864-11	SHORT CHIP	0		
R307	1-216-817-11	METAL CHIP	470	5%	1/10W
R308	1-216-817-11	METAL CHIP	470	5%	1/10W
R311	1-218-833-11	METAL CHIP	270	0.50%	1/10W
R312	1-216-809-11	METAL CHIP	100	5%	1/10W
R313	1-216-845-11	METAL CHIP	100K	5%	1/10W
R315	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R316	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R318	1-218-839-11	METAL CHIP	470	0.50%	1/10W
R320	1-216-809-11	METAL CHIP	100	5%	1/10W
R321	1-216-837-11	METAL CHIP	22K	5%	1/10W
R322	1-216-864-11	SHORT CHIP	0		
R323	1-216-809-11	METAL CHIP	100	5%	1/10W
R324	1-216-837-11	METAL CHIP	22K	5%	1/10W
R325	1-216-817-11	METAL CHIP	470	5%	1/10W
R326	1-216-817-11	METAL CHIP	470	5%	1/10W
R329	1-218-823-11	METAL CHIP	100	0.50%	1/10W
R330	1-216-809-11	METAL CHIP	100	5%	1/10W
R331	1-218-839-11	METAL CHIP	470	0.50%	1/10W
R333	1-216-817-11	METAL CHIP	470	5%	1/10W
R334	1-218-841-11	METAL CHIP	560	0.50%	1/10W
R335	1-216-809-11	METAL CHIP	100	5%	1/10W
R336	1-216-833-11	METAL CHIP	10K	5%	1/10W
R337	1-216-817-11	METAL CHIP	470	5%	1/10W
R338	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R339	1-216-809-11	METAL CHIP	100	5%	1/10W
R340	1-216-833-11	METAL CHIP	10K	5%	1/10W
R341	1-216-809-11	METAL CHIP	100	5%	1/10W
R344	1-216-864-11	SHORT CHIP	0		
R345	1-216-864-11	SHORT CHIP	0		
R346	1-216-809-11	METAL CHIP	100	5%	1/10W
R347	1-216-821-11	METAL CHIP	1K	5%	1/10W

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R348	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R349	1-216-821-11	METAL CHIP	1K	5%	1/10W
R350	1-216-821-11	METAL CHIP	1K	5%	1/10W
R351	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R353	1-216-833-11	METAL CHIP	10K	5%	1/10W
R354	1-216-833-11	METAL CHIP	10K	5%	1/10W
R355	1-216-837-11	METAL CHIP	22K	5%	1/10W
R356	1-216-864-11	SHORT CHIP	0		
R360	1-218-877-11	METAL CHIP	18K	0.50%	1/10W
R361	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R363	1-218-859-11	METAL CHIP	3.3K	0.50%	1/10W
R376	1-216-809-11	METAL CHIP	100	5%	1/10W
R380	1-216-809-11	METAL CHIP	100	5%	1/10W
R382	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R387	1-216-809-11	METAL CHIP	100	5%	1/10W
R388	1-216-843-11	METAL CHIP	68K	5%	1/10W
R392	1-216-809-11	METAL CHIP	100	5%	1/10W
R395	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1201	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1202	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R1203	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R1204	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1205	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R1206	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R1207	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R1208	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R1209	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1210	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1211	1-216-864-11	SHORT CHIP	0		
R1212	1-249-411-11	CARBON	330	5%	1/4W
R1214	1-249-411-11	CARBON	330	5%	1/4W
R1215	1-216-864-11	SHORT CHIP	0		
R1216	1-216-821-11	METAL CHIP	1K	5%	1/10W
R1226	1-249-401-11	CARBON	47	5%	1/4W
R1227	1-249-401-11	CARBON	47	5%	1/4W
R1228	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1229	1-216-809-11	METAL CHIP	100	5%	1/10W
R1230	1-216-809-11	METAL CHIP	100	5%	1/10W
R1231	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R1241	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R1242	1-216-837-11	METAL CHIP	22K	5%	1/10W
R1246	1-216-864-11	SHORT CHIP	0		
R1247	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1250	1-216-864-11	SHORT CHIP	0		
R1251	1-216-864-11	SHORT CHIP	0		
R1253	1-216-835-11	METAL CHIP	15K	5%	1/10W
R1254	1-216-835-11	METAL CHIP	15K	5%	1/10W
R1255	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1256	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1257	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R1260	1-216-864-11	SHORT CHIP	0		
R2201	1-216-817-11	METAL CHIP	470	5%	1/10W
R2202	1-216-817-11	METAL CHIP	470	5%	1/10W
R2206	1-216-849-11	METAL CHIP	220K	5%	1/10W
R2207	1-216-849-11	METAL CHIP	220K	5%	1/10W
R2208	1-216-849-11	METAL CHIP	220K	5%	1/10W
R2209	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2210	1-216-849-11	METAL CHIP	220K	5%	1/10W
R2211	1-216-849-11	METAL CHIP	220K	5%	1/10W
R2212	1-216-853-11	METAL CHIP	470K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R2213	1-216-853-11	METAL CHIP	470K	5%	1/10W
R2216	1-216-840-11	METAL CHIP	39K	5%	1/10W
R2217	1-216-840-11	METAL CHIP	39K	5%	1/10W
R2218	1-216-840-11	METAL CHIP	39K	5%	1/10W
R2219	1-216-840-11	METAL CHIP	39K	5%	1/10W
R2220	1-216-849-11	METAL CHIP	220K	5%	1/10W
R2221	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2222	1-216-821-11	METAL CHIP	1K	5%	1/10W
R2223	1-216-821-11	METAL CHIP	1K	5%	1/10W
R2224	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2225	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2228	1-216-849-11	METAL CHIP	220K	5%	1/10W
R2229	1-216-849-11	METAL CHIP	220K	5%	1/10W
R2230	1-216-809-11	METAL CHIP	100	5%	1/10W
R2231	1-216-809-11	METAL CHIP	100	5%	1/10W
R2232	1-216-809-11	METAL CHIP	100	5%	1/10W
R2233	1-216-809-11	METAL CHIP	100	5%	1/10W
R2234	1-216-809-11	METAL CHIP	100	5%	1/10W
R2235	1-216-809-11	METAL CHIP	100	5%	1/10W
R2236	1-216-849-11	METAL CHIP	220K	5%	1/10W
R2237	1-216-849-11	METAL CHIP	220K	5%	1/10W
R2238	1-218-877-11	METAL CHIP	18K	0.50%	1/10W
R2239	1-218-877-11	METAL CHIP	18K	0.50%	1/10W
R2240	1-216-809-11	METAL CHIP	100	5%	1/10W
R2241	1-216-809-11	METAL CHIP	100	5%	1/10W
R2242	1-216-849-11	METAL CHIP	220K	5%	1/10W
R2243	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2244	1-216-849-11	METAL CHIP	220K	5%	1/10W
R2245	1-216-837-11	METAL CHIP	22K	5%	1/10W
R2252	1-216-864-11	SHORT CHIP	0		
R2253	1-216-864-11	SHORT CHIP	0		
R2257	1-216-809-11	METAL CHIP	100	5%	1/10W
R2258	1-216-809-11	METAL CHIP	100	5%	1/10W
R2259	1-216-809-11	METAL CHIP	100	5%	1/10W
R2260	1-216-809-11	METAL CHIP	100	5%	1/10W
R2604	1-216-835-11	METAL CHIP	15K	5%	1/10W
R2605	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2606	1-216-835-11	METAL CHIP	15K	5%	1/10W
R2607	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2608	1-243-519-71	METAL OXIDE	10	5%	3W
R2609	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2610	1-216-841-11	METAL CHIP	47K	5%	1/10W
R2611	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2620	1-243-509-71	METAL OXIDE	1.5	5%	3W
R2625	1-243-517-71	METAL OXIDE	6.8	5%	3W
R2626	1-243-517-71	METAL OXIDE	6.8	5%	3W
R2629	1-216-833-11	METAL CHIP	10K	5%	1/10W
R2630	1-216-821-11	METAL CHIP	1K	5%	1/10W
R2631	1-216-833-11	METAL CHIP	10K	5%	1/10W
R4301	1-216-805-11	METAL CHIP	47	5%	1/10W
R4304	1-216-816-11	METAL CHIP	390	5%	1/10W
R4305	1-216-864-11	SHORT CHIP	0		
R4306	1-216-816-11	METAL CHIP	390	5%	1/10W
R4307	1-216-833-11	METAL CHIP	10K	5%	1/10W
R4308	1-216-833-11	METAL CHIP	10K	5%	1/10W
R4309	1-216-833-11	METAL CHIP	10K	5%	1/10W
R4310	1-216-809-11	METAL CHIP	100	5%	1/10W
R4311	1-218-871-11	METAL CHIP	10K	0.50%	1/10W
R4312	1-216-845-11	METAL CHIP	100K	5%	1/10W
R4313	1-216-832-11	METAL CHIP	8.2K	5%	1/10W

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R4314	1-216-809-11	METAL CHIP	100	5%	1/10W
R4315	1-216-864-11	SHORT CHIP	0		
R4316	1-216-809-11	METAL CHIP	100	5%	1/10W
R4317	1-216-809-11	METAL CHIP	100	5%	1/10W
R4318	1-216-809-11	METAL CHIP	100	5%	1/10W
R4319	1-216-809-11	METAL CHIP	100	5%	1/10W
R4320	1-216-818-11	METAL CHIP	560	5%	1/10W
R4321	1-216-816-11	METAL CHIP	390	5%	1/10W
R4322	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4323	1-216-809-11	METAL CHIP	100	5%	1/10W
R4324	1-216-809-11	METAL CHIP	100	5%	1/10W
R4327	1-216-809-11	METAL CHIP	100	5%	1/10W
R4330	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R4331	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R4332	1-216-809-11	METAL CHIP	100	5%	1/10W
R4335	1-216-809-11	METAL CHIP	100	5%	1/10W
R4336	1-216-864-11	SHORT CHIP	0		
R4337	1-216-809-11	METAL CHIP	100	5%	1/10W
R4338	1-216-809-11	METAL CHIP	100	5%	1/10W
R4339	1-216-863-11	METAL CHIP	3.3M	5%	1/10W
R4341	1-216-809-11	METAL CHIP	100	5%	1/10W
R4343	1-216-809-11	METAL CHIP	100	5%	1/10W
R4344	1-216-809-11	METAL CHIP	100	5%	1/10W
R4345	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R4346	1-218-855-11	METAL CHIP	2.2K	0.50%	1/10W
R4347	1-218-855-11	METAL CHIP	2.2K	0.50%	1/10W
R4348	1-216-809-11	METAL CHIP	100	5%	1/10W
R4349	1-216-809-11	METAL CHIP	100	5%	1/10W
R4350	1-216-809-11	METAL CHIP	100	5%	1/10W
R4351	1-216-809-11	METAL CHIP	100	5%	1/10W
R4354	1-216-805-11	METAL CHIP	47	5%	1/10W
R4355	1-216-811-11	METAL CHIP	150	5%	1/10W
R4356	1-216-805-11	METAL CHIP	47	5%	1/10W
R4357	1-216-805-11	METAL CHIP	47	5%	1/10W
R4358	1-216-805-11	METAL CHIP	47	5%	1/10W
R4361	1-216-864-11	SHORT CHIP	0		
R4362	1-216-864-11	SHORT CHIP	0		
R4364	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R4366	1-218-887-11	METAL CHIP	47K	0.50%	1/10W
R4368	1-218-887-11	METAL CHIP	47K	0.50%	1/10W
R4369	1-216-864-11	SHORT CHIP	0		
R4371	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4372	1-218-895-11	METAL CHIP	100K	0.50%	1/10W
R4373	1-218-871-11	METAL CHIP	10K	0.50%	1/10W
R4374	1-218-891-11	METAL CHIP	68K	0.50%	1/10W
R4377	1-216-861-11	METAL CHIP	2.2M	5%	1/10W
R4382	1-216-837-11	METAL CHIP	22K	5%	1/10W
R4387	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4388	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4389	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4390	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4391	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4394	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4395	1-216-809-11	METAL CHIP	100	5%	1/10W
R4396	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4397	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4398	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4399	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4400	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4401	1-216-825-11	METAL CHIP	2.2K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R4402	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4403	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4404	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4405	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4406	1-218-873-11	METAL CHIP	12K	0.50%	1/10W
R4408	1-216-819-11	METAL CHIP	680	5%	1/10W
R4409	1-216-809-11	METAL CHIP	100	5%	1/10W
R4410	1-216-833-11	METAL CHIP	10K	5%	1/10W
R4412	1-216-864-11	SHORT CHIP	0		
R4413	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R4416	1-216-864-11	SHORT CHIP	0		
R4417	1-218-891-11	METAL CHIP	68K	0.50%	1/10W
R4419	1-216-864-11	SHORT CHIP	0		
R4420	1-216-833-11	METAL CHIP	10K	5%	1/10W
R4421	1-218-853-11	METAL CHIP	1.8K	0.50%	1/10W
R4425	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4426	1-216-809-11	METAL CHIP	100	5%	1/10W
R4429	1-216-809-11	METAL CHIP	100	5%	1/10W
R4430	1-216-864-11	SHORT CHIP	0		
R4436	1-216-837-11	METAL CHIP	22K	5%	1/10W
R4437	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4438	1-218-873-11	METAL CHIP	12K	0.50%	1/10W
R4439	1-218-869-11	METAL CHIP	8.2K	0.50%	1/10W
R4440	1-218-849-11	METAL CHIP	1.2K	0.50%	1/10W
R4441	1-218-903-11	METAL CHIP	220K	0.50%	1/10W
R4444	1-216-864-11	SHORT CHIP	0		
R4445	1-216-864-11	SHORT CHIP	0		
R4446	1-216-864-11	SHORT CHIP	0		
R4447	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4448	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4449	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4450	1-216-864-11	SHORT CHIP	0		
R4451	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R4452	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R4453	1-216-864-11	SHORT CHIP	0		
R4454	1-216-864-11	SHORT CHIP	0		
R4455	1-216-864-11	SHORT CHIP	0		
R4456	1-216-864-11	SHORT CHIP	0		
R4458	1-216-864-11	SHORT CHIP	0		
R4459	1-216-864-11	SHORT CHIP	0		
R4460	1-216-864-11	SHORT CHIP	0		
R4464	1-216-864-11	SHORT CHIP	0		
R4465	1-216-864-11	SHORT CHIP	0		
R4466	1-216-864-11	SHORT CHIP	0		
R4467	1-216-864-11	SHORT CHIP	0		
R4468	1-216-864-11	SHORT CHIP	0		
R4469	1-216-864-11	SHORT CHIP	0		
R4470	1-216-864-11	SHORT CHIP	0		
R4472	1-216-864-11	SHORT CHIP	0		
R4473	1-216-864-11	SHORT CHIP	0		
R4474	1-216-864-11	SHORT CHIP	0		
R4475	1-216-864-11	SHORT CHIP	0		
R4476	1-216-864-11	SHORT CHIP	0		
R4477	1-216-864-11	SHORT CHIP	0		
R4478	1-216-864-11	SHORT CHIP	0		
R4479	1-216-864-11	SHORT CHIP	0		
R4481	1-216-864-11	SHORT CHIP	0		
R4484	1-216-864-11	SHORT CHIP	0		
R4485	1-216-864-11	SHORT CHIP	0		
R4487	1-216-864-11	SHORT CHIP	0		

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REF NO.	PART NO.	DESCRIPTION			REMARK
R4489	1-216-864-11	SHORT CHIP	0		
R4492	1-216-864-11	SHORT CHIP	0		
R4493	1-216-864-11	SHORT CHIP	0		
R4494	1-216-864-11	SHORT CHIP	0		
R4495	1-216-864-11	SHORT CHIP	0		
R4496	1-216-864-11	SHORT CHIP	0		
R8301	1-216-864-11	SHORT CHIP	0		
R8302	1-216-864-11	SHORT CHIP	0		
R8303	1-216-853-11	METAL CHIP	470K	5%	1/10W
R8308	1-218-285-11	METAL CHIP	75	5%	1/10W
R8313	1-218-285-11	METAL CHIP	75	5%	1/10W
R8318	1-218-285-11	METAL CHIP	75	5%	1/10W
R8334	1-216-809-11	METAL CHIP	100	5%	1/10W
R8338	1-218-285-11	METAL CHIP	75	5%	1/10W
R8339	1-218-285-11	METAL CHIP	75	5%	1/10W
R8340	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R8341	1-216-864-11	SHORT CHIP	0		
R8346	1-216-864-11	SHORT CHIP	0		
R8357	1-216-809-11	METAL CHIP	100	5%	1/10W
R8358	1-216-809-11	METAL CHIP	100	5%	1/10W
R8359	1-216-809-11	METAL CHIP	100	5%	1/10W
R8360	1-216-809-11	METAL CHIP	100	5%	1/10W
R8361	1-216-809-11	METAL CHIP	100	5%	1/10W
R8362	1-216-809-11	METAL CHIP	100	5%	1/10W
R8368	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8370	1-216-809-11	METAL CHIP	100	5%	1/10W
R8373	1-216-809-11	METAL CHIP	100	5%	1/10W
R8375	1-216-809-11	METAL CHIP	100	5%	1/10W
R8376	1-216-809-11	METAL CHIP	100	5%	1/10W
R8389	1-216-809-11	METAL CHIP	100	5%	1/10W
R8412	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8452	1-216-864-11	SHORT CHIP	0		
R8453	1-216-864-11	SHORT CHIP	0		
R8454	1-216-864-11	SHORT CHIP	0		
R8455	1-216-864-11	SHORT CHIP	0		
R8456	1-216-864-11	SHORT CHIP	0		
R8457	1-216-864-11	SHORT CHIP	0		
R8504	1-216-809-11	METAL CHIP	100	5%	1/10W
R8505	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8508	1-218-285-11	METAL CHIP	75	5%	1/10W
R8509	1-218-285-11	METAL CHIP	75	5%	1/10W
R8510	1-218-285-11	METAL CHIP	75	5%	1/10W
R8511	1-218-285-11	METAL CHIP	75	5%	1/10W
R8512	1-218-285-11	METAL CHIP	75	5%	1/10W
R8513	1-218-285-11	METAL CHIP	75	5%	1/10W
R8549	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8550	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8551	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8552	1-216-833-11	METAL CHIP	10K	5%	1/10W
R8553	1-216-809-11	METAL CHIP	100	5%	1/10W
R8554	1-216-809-11	METAL CHIP	100	5%	1/10W
R8555	1-216-809-11	METAL CHIP	100	5%	1/10W
R8557	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8558	1-216-821-11	METAL CHIP	1K	5%	1/10W
R8562	1-216-805-11	METAL CHIP	47	5%	1/10W
R8564	1-216-805-11	METAL CHIP	47	5%	1/10W
R8565	1-216-805-11	METAL CHIP	47	5%	1/10W
R8566	1-216-817-11	METAL CHIP	470	5%	1/10W

REF NO.	PART NO.	DESCRIPTION	REMARK
		<SWITCH>	
SWF100	1-781-040-11	FILTER, SURFACE WAVE	
SWF101	1-767-302-11	FILTER, SURFACE WAVE	
		<TRANSFORMER>	
TP008	1-536-354-00	POST PIN	
TP101	1-536-354-00	POST PIN	
		<TUNER>	
TU101	1-693-722-11	TUNER	
		<CRYSTAL>	
X001	1-813-311-21	QUARTS CRYSTAL UNIT	
X4301	1-813-800-21	VIBRATOR, CERAMIC	

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* A-1199-549-A COMPLETE PWB, B1
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<CAPACITOR>

C1001	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C1002	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C1005	1-117-681-11	ELECT CHIP	100UF	20.00%	16V
C1006	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C1007	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C1008	1-117-681-11	ELECT CHIP	100UF	20.00%	16V
C1009	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C1010	1-162-917-11	CERAMIC CHIP	15PF	5.00%	50V
C1011	1-162-917-11	CERAMIC CHIP	15PF	5.00%	50V
C1013	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C1014	1-126-206-11	ELECT CHIP	100UF	20.00%	6.3V
C1015	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C1018	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C1019	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C1020	1-126-206-11	ELECT CHIP	100UF	20.00%	6.3V
C1021	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C1022	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C1023	1-117-681-11	ELECT CHIP	100UF	20.00%	16V
C3101	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3102	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C3103	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3104	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3105	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3106	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3107	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3108	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3109	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3110	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3111	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3112	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3113	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3114	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3115	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3116	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3117	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V

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REF NO.	PART NO.	DESCRIPTION		REMARK	
C3118	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3119	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3120	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3121	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3122	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3123	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3124	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3125	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3126	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3127	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3128	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3129	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3130	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3131	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3132	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3133	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3134	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3136	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3137	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3138	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3139	1-162-917-11	CERAMIC CHIP	15PF	5.00%	50V
C3140	1-162-918-11	CERAMIC CHIP	18PF	5.00%	50V
C3141	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3142	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3143	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C3144	1-162-966-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C3145	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C3146	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3147	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3148	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C3149	1-162-966-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C3150	1-162-962-11	CERAMIC CHIP	470PF	10.00%	50V
C3151	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3152	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3153	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C3154	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3155	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3156	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3157	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3158	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C3159	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C3160	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3161	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3164	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3165	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3166	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3167	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3168	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3169	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3171	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3172	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C3173	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3177	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3178	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3179	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3180	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3182	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3183	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3185	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3186	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V

REF NO.	PART NO.	DESCRIPTION		REMARK	
C3187	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3188	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3189	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3190	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C3191	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3192	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3193	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C3194	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3195	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3196	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3197	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C3198	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3199	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C3201	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C3204	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3205	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3206	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C3207	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C3208	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C3209	1-126-205-11	ELECT CHIP	47UF	20.00%	6.3V
C3210	1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C3211	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C3212	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3213	1-126-205-11	ELECT CHIP	47UF	20.00%	6.3V
C3214	1-126-206-11	ELECT CHIP	100UF	20.00%	6.3V
C3215	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3218	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3219	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3220	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3221	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C3222	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C3223	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C3224	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C3225	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C3226	1-126-206-11	ELECT CHIP	100UF	20.00%	6.3V
C3227	1-126-204-11	ELECT CHIP	47UF	20.00%	16V
C3228	1-107-726-91	CERAMIC CHIP	0.01UF	10.00%	16V
C3229	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3230	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3231	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3232	1-107-726-91	CERAMIC CHIP	0.01UF	10.00%	16V
C3233	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3234	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3235	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C3236	1-107-726-91	CERAMIC CHIP	0.01UF	10.00%	16V
C3237	1-126-206-11	ELECT CHIP	100UF	20.00%	6.3V
C3240	1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V

<CONNECTOR>

CN1000	1-573-290-21	PIN, CONNECTOR (1.5MM) (SMD)4P
CN1001	1-766-382-21	PIN, CONNECTOR (1.5MM)(SMD)10P
CN1003	1-783-966-11	CONNECTOR, BOARD TO BOARD 30P
CN1004	1-783-966-11	CONNECTOR, BOARD TO BOARD 30P

<DIODE>

D1001	8-719-423-10	DIODE MA8100-M-TX
D1002	8-719-423-10	DIODE MA8100-M-TX
D1003	8-719-423-10	DIODE MA8100-M-TX

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REF NO.	PART NO.	DESCRIPTION	REMARK
D1004	8-719-423-10	DIODE MA8100-M-TX	
D1005	8-719-423-10	DIODE MA8100-M-TX	
D1006	8-719-423-10	DIODE MA8100-M-TX	
		<FERRITE BEAD>	
FB1000	1-543-949-22	FERRITE 0UH	
FB1001	1-543-949-22	FERRITE 0UH	
FB1002	1-543-949-22	FERRITE 0UH	
FB1003	1-543-949-22	FERRITE 0UH	
FB1004	1-543-949-22	FERRITE 0UH	
FB1005	1-543-949-22	FERRITE 0UH	
FB1006	1-543-949-22	FERRITE 0UH	
FB1010	1-414-229-11	FERRITE 0UH	
FB1011	1-414-229-11	FERRITE 0UH	
FB1012	1-414-229-11	FERRITE 0UH	
		<FILTER>	
FL1000	1-234-177-21	FERRITE 0UH	
FL1001	1-234-177-21	FERRITE 0UH	
FL1002	1-234-177-21	FERRITE 0UH	
FL3102	1-234-177-21	FERRITE 0UH	
FL3103	1-234-177-21	FERRITE 0UH	
FL3104	1-234-177-21	FERRITE 0UH	
FL3105	1-234-177-21	FERRITE 0UH	
FL3109	1-234-177-21	FERRITE 0UH	
		<IC>	
IC1000	6-806-911-01	IC M30622MWP-B04GP#U0	
IC1002	8-759-488-29	IC TC7W66FU(TE12R)	
IC1003	6-705-870-01	IC CAT24WC32WI-TE13	
IC1004	6-801-375-01	IC PST9129NL	
IC1005	6-710-231-01	IC PH-74HC02	
IC1006	8-759-488-29	IC TC7W66FU(TE12R)	
IC3100	6-706-155-01	IC MT48LC2M32B2P-6:G	
IC3101	8-759-832-05	IC BA18BC0FP-E2	
IC3102	6-710-242-01	IC SVPEX12-LF	
IC3103	6-706-929-01	IC TA1287FG(EL)	
		<CHIP CONDUCTOR>	
JR3000	1-216-864-11	SHORT CHIP 0	
		<COIL>	
L1000	1-469-555-21	INDUCTOR 10UH	
L1001	1-469-555-21	INDUCTOR 10UH	
L1003	1-469-555-21	INDUCTOR 10UH	
L3101	1-400-179-21	FERRITE 0UH	
L3102	1-400-179-21	FERRITE 0UH	
L3103	1-400-179-21	FERRITE 0UH	
L3104	1-400-179-21	FERRITE 0UH	
L3105	1-414-394-11	INDUCTOR 2.2UH	
L3106	1-414-394-11	INDUCTOR 2.2UH	
L3107	1-414-394-11	INDUCTOR 2.2UH	
L3108	1-414-394-11	INDUCTOR 2.2UH	
L3111	1-414-394-11	INDUCTOR 2.2UH	
L3112	1-469-555-21	INDUCTOR 10UH	
L3114	1-469-555-21	INDUCTOR 10UH	

REF NO.	PART NO.	DESCRIPTION			REMARK
		<TRANSISTOR>			
Q1000	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q1001	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q1002	8-729-600-22	TRANSISTOR 2SA1235-F			
Q1003	8-729-600-22	TRANSISTOR 2SA1235-F			
Q1004	8-729-600-22	TRANSISTOR 2SA1235-F			
Q1005	8-729-600-22	TRANSISTOR 2SA1235-F			
Q1006	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q1007	1-801-806-11	TRANSISTOR DTC144EKA			
Q1008	8-729-038-67	TRANSISTOR KRC102S			
Q1009	1-801-806-11	TRANSISTOR DTC144EKA			
Q1010	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q3101	8-729-045-62	TRANSISTOR 2SK2158-T2B			
Q3102	8-729-045-62	TRANSISTOR 2SK2158-T2B			
Q3103	8-729-600-22	TRANSISTOR 2SA1235-F			
		<RESISTOR>			
R1002	1-216-809-11	METAL CHIP	100	5%	1/10W
R1003	1-216-809-11	METAL CHIP	100	5%	1/10W
R1004	1-216-809-11	METAL CHIP	100	5%	1/10W
R1005	1-216-864-11	SHORT CHIP	0		
R1006	1-216-864-11	SHORT CHIP	0		
R1007	1-216-864-11	SHORT CHIP	0		
R1008	1-216-864-11	SHORT CHIP	0		
R1009	1-216-809-11	METAL CHIP	100	5%	1/10W
R1010	1-216-809-11	METAL CHIP	100	5%	1/10W
R1011	1-216-809-11	METAL CHIP	100	5%	1/10W
R1014	1-216-809-11	METAL CHIP	100	5%	1/10W
R1015	1-216-864-11	SHORT CHIP	0		
R1017	1-216-864-11	SHORT CHIP	0		
R1020	1-216-864-11	SHORT CHIP	0		
R1021	1-216-864-11	SHORT CHIP	0		
R1022	1-216-864-11	SHORT CHIP	0		
R1024	1-216-864-11	SHORT CHIP	0		
R1026	1-216-809-11	METAL CHIP	100	5%	1/10W
R1027	1-216-809-11	METAL CHIP	100	5%	1/10W
R1028	1-216-809-11	METAL CHIP	100	5%	1/10W
R1029	1-216-809-11	METAL CHIP	100	5%	1/10W
R1030	1-216-809-11	METAL CHIP	100	5%	1/10W
R1032	1-216-809-11	METAL CHIP	100	5%	1/10W
R1033	1-216-809-11	METAL CHIP	100	5%	1/10W
R1034	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1035	1-216-809-11	METAL CHIP	100	5%	1/10W
R1036	1-216-809-11	METAL CHIP	100	5%	1/10W
R1037	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1038	1-216-809-11	METAL CHIP	100	5%	1/10W
R1041	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1042	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1043	1-216-809-11	METAL CHIP	100	5%	1/10W
R1044	1-216-797-11	METAL CHIP	10	5%	1/10W
R1045	1-216-797-11	METAL CHIP	10	5%	1/10W
R1046	1-216-809-11	METAL CHIP	100	5%	1/10W
R1047	1-216-809-11	METAL CHIP	100	5%	1/10W
R1048	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1049	1-216-845-11	METAL CHIP	100K	5%	1/10W
R1050	1-216-845-11	METAL CHIP	100K	5%	1/10W
R1051	1-216-845-11	METAL CHIP	100K	5%	1/10W
R1052	1-216-845-11	METAL CHIP	100K	5%	1/10W
R1053	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R1054	1-216-825-11	METAL CHIP	2.2K	5%	1/10W

B1

REF NO.	PART NO.	DESCRIPTION		REMARK	
R1055	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R1056	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R1057	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1058	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1059	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1060	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1061	1-216-821-11	METAL CHIP	1K	5%	1/10W
R1064	1-216-809-11	METAL CHIP	100	5%	1/10W
R1065	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1066	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1067	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1068	1-216-809-11	METAL CHIP	100	5%	1/10W
R1070	1-216-864-11	SHORT CHIP	0		
R1071	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1073	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1074	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1075	1-216-809-11	METAL CHIP	100	5%	1/10W
R1076	1-216-809-11	METAL CHIP	100	5%	1/10W
R1078	1-216-864-11	SHORT CHIP	0		
R1081	1-216-864-11	SHORT CHIP	0		
R1082	1-216-864-11	SHORT CHIP	0		
R1083	1-216-864-11	SHORT CHIP	0		
R1085	1-216-864-11	SHORT CHIP	0		
R1086	1-216-864-11	SHORT CHIP	0		
R1087	1-216-864-11	SHORT CHIP	0		
R1088	1-216-809-11	METAL CHIP	100	5%	1/10W
R1089	1-216-813-11	METAL CHIP	220	5%	1/10W
R1090	1-216-813-11	METAL CHIP	220	5%	1/10W
R1091	1-216-813-11	METAL CHIP	220	5%	1/10W
R1092	1-216-864-11	SHORT CHIP	0		
R1093	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1094	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1095	1-216-837-11	METAL CHIP	22K	5%	1/10W
R1099	1-216-864-11	SHORT CHIP	0		
R1100	1-216-841-11	METAL CHIP	47K	5%	1/10W
R1101	1-216-809-11	METAL CHIP	100	5%	1/10W
R1102	1-216-809-11	METAL CHIP	100	5%	1/10W
R1103	1-216-809-11	METAL CHIP	100	5%	1/10W
R1104	1-216-809-11	METAL CHIP	100	5%	1/10W
R1105	1-216-809-11	METAL CHIP	100	5%	1/10W
R1106	1-216-864-11	SHORT CHIP	0		
R1108	1-216-864-11	SHORT CHIP	0		
R1109	1-216-864-11	SHORT CHIP	0		
R1110	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1111	1-216-809-11	METAL CHIP	100	5%	1/10W
R1113	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R1114	1-216-864-11	SHORT CHIP	0		
R1115	1-216-864-11	SHORT CHIP	0		
R1116	1-216-864-11	SHORT CHIP	0		
R1121	1-216-864-11	SHORT CHIP	0		
R1122	1-216-864-11	SHORT CHIP	0		
R1145	1-216-864-11	SHORT CHIP	0		
R1146	1-218-285-11	METAL CHIP	75	5%	1/10W
R1147	1-216-805-11	METAL CHIP	47	5%	1/10W
R1148	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R1149	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R1150	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1151	1-216-833-11	METAL CHIP	10K	5%	1/10W
R1156	1-216-809-11	METAL CHIP	100	5%	1/10W
R1157	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R1158	1-216-864-11	SHORT CHIP	0		
R3101	1-216-864-11	SHORT CHIP	0		
R3103	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3110	1-211-987-11	METAL CHIP	56	0.50%	1/10W
R3111	1-211-987-11	METAL CHIP	56	0.50%	1/10W
R3112	1-211-987-11	METAL CHIP	56	0.50%	1/10W
R3115	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3118	1-216-809-11	METAL CHIP	100	5%	1/10W
R3119	1-216-818-11	METAL CHIP	560	5%	1/10W
R3125	1-216-864-11	SHORT CHIP	0		
R3126	1-216-864-11	SHORT CHIP	0		
R3127	1-216-801-11	METAL CHIP	22	5%	1/10W
R3128	1-216-841-11	METAL CHIP	47K	5%	1/10W
R3129	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R3131	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R3132	1-216-841-11	METAL CHIP	47K	5%	1/10W
R3134	1-216-801-11	METAL CHIP	22	5%	1/10W
R3135	1-216-864-11	SHORT CHIP	0		
R3136	1-216-864-11	SHORT CHIP	0		
R3137	1-216-864-11	SHORT CHIP	0		
R3138	1-216-864-11	SHORT CHIP	0		
R3139	1-216-864-11	SHORT CHIP	0		
R3140	1-216-864-11	SHORT CHIP	0		
R3141	1-216-864-11	SHORT CHIP	0		
R3145	1-216-864-11	SHORT CHIP	0		
R3146	1-216-864-11	SHORT CHIP	0		
R3147	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3149	1-216-841-11	METAL CHIP	47K	5%	1/10W
R3150	1-218-285-11	METAL CHIP	75	5%	1/10W
R3151	1-218-285-11	METAL CHIP	75	5%	1/10W
R3152	1-216-864-11	SHORT CHIP	0		
R3155	1-216-864-11	SHORT CHIP	0		
R3156	1-216-864-11	SHORT CHIP	0		
R3157	1-216-864-11	SHORT CHIP	0		
R3158	1-216-864-11	SHORT CHIP	0		
R3159	1-216-805-11	METAL CHIP	47	5%	1/10W
R3160	1-216-805-11	METAL CHIP	47	5%	1/10W
R3161	1-216-805-11	METAL CHIP	47	5%	1/10W
R3162	1-216-805-11	METAL CHIP	47	5%	1/10W
R3163	1-216-864-11	SHORT CHIP	0		
R3164	1-216-864-11	SHORT CHIP	0		
R3165	1-216-841-11	METAL CHIP	47K	5%	1/10W
R3166	1-216-833-11	METAL CHIP	10K	5%	1/10W
R3167	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3168	1-216-821-11	METAL CHIP	1K	5%	1/10W
R3173	1-216-864-11	SHORT CHIP	0		
R3176	1-216-864-11	SHORT CHIP	0		
R3177	1-216-805-11	METAL CHIP	47	5%	1/10W
R3178	1-216-805-11	METAL CHIP	47	5%	1/10W
R3179	1-216-805-11	METAL CHIP	47	5%	1/10W
R3180	1-216-805-11	METAL CHIP	47	5%	1/10W
R3181	1-216-801-11	METAL CHIP	22	5%	1/10W
R3182	1-216-864-11	SHORT CHIP	0		
R3183	1-216-805-11	METAL CHIP	47	5%	1/10W
R3187	1-216-864-11	SHORT CHIP	0		
R3188	1-216-809-11	METAL CHIP	100	5%	1/10W

<RESISTOR BRIDGE>

RB1002	1-233-576-11	RES, CHIP NETWORK 100 (3216)
RB1003	1-233-576-11	RES, CHIP NETWORK 100 (3216)

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

B1 **C**

REF NO.	PART NO.	DESCRIPTION	REMARK
RB3106	1-239-409-11	NETWORK RESISTOR(CHIP)	47
RB3107	1-239-409-11	NETWORK RESISTOR(CHIP)	47
RB3108	1-239-409-11	NETWORK RESISTOR(CHIP)	47
RB3109	1-239-409-11	NETWORK RESISTOR(CHIP)	47
RB3110	1-239-409-11	NETWORK RESISTOR(CHIP)	47
RB3111	1-239-409-11	NETWORK RESISTOR(CHIP)	47
RB3112	1-239-409-11	NETWORK RESISTOR(CHIP)	47
RB3113	1-239-409-11	NETWORK RESISTOR(CHIP)	47
RB3114	1-233-575-11	RES, CHIP NETWORK 22 (3216)	
RB3115	1-233-575-11	RES, CHIP NETWORK 22 (3216)	
RB3116	1-233-575-11	RES, CHIP NETWORK 22 (3216)	
RB3117	1-239-409-11	NETWORK RESISTOR(CHIP)	47
RB3118	1-239-409-11	NETWORK RESISTOR(CHIP)	47
RB3119	1-239-409-11	NETWORK RESISTOR(CHIP)	47
		<CRYSTAL>	
X1000	1-813-887-11	VIBRATOR, CRYSTAL (SMD)	
X3101	1-795-790-21	VIBRATOR, CRYSTAL	

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*	A-1215-580-A	MOUNTED PWB (VAR), C (KV-DZ29M30)
*	A-1199-551-A	MOUNTED PWB (VAR), C (Except KV-DZ29M30)
		**********
	4-382-854-01	SCREW (M3X8), P, SW (+)
		<CAPACITOR>

C9002	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C9003	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C9004	1-115-350-51	CERAMIC	0.0047UF		2KV
C9005	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C9006	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C9007	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C9008	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C9009	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C9010	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C9011	1-136-207-11	MYLAR	0.047UF	5.00%	630V
C9012	1-136-207-11	MYLAR	0.047UF	5.00%	630V
C9014	1-136-207-11	MYLAR	0.047UF	5.00%	630V
C9015	1-162-909-11	CERAMIC CHIP	4PF	0.25PF	50V
C9016	1-162-925-11	CERAMIC CHIP	68PF	5.00%	50V
C9018	1-107-961-91	ELECT	10UF	20%	250V
C9019	1-100-756-91	CERAMIC CHIP	0.047UF		50V
C9020	1-107-961-91	ELECT	10UF	20%	250V
C9021	1-107-961-91	ELECT	10UF	20%	250V
C9022	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C9023	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C9024	1-100-756-91	CERAMIC CHIP	0.047UF		50V
C9025	1-126-934-11	ELECT	220UF	20.00%	16V
C9026	1-100-756-91	CERAMIC CHIP	0.047UF		50V
C9027	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C9028	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C9029	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C9030	1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C9031	1-115-350-51	CERAMIC	0.0047UF		2KV
C9032	1-162-116-00	CERAMIC	680PF	10.00%	2KV
C9033	1-107-662-11	ELECT	22UF	20.00%	350V

REF NO.	PART NO.	DESCRIPTION			REMARK
C9035	1-115-350-51	CERAMIC	0.0047UF		2KV
C9042	1-126-940-11	ELECT	330UF	20.00%	25V
C9047	1-107-651-11	ELECT	4.7UF	20.00%	250V
C9048	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
		<CONNECTOR>			
* CN9001	1-764-333-11	PIN, CONNECTOR(PCB)(V TYPE)10P			
CN9002	1-691-765-11	PLUG (MICRO CONNECTOR) 3P			
CN9003	1-695-915-11	TAB (CONTACT)			
CN9004	1-695-915-11	TAB (CONTACT)			
		<DIODE>			
D9002	8-719-400-75	DIODE MA3091			
D9005	8-719-404-50	DIODE MA111-TX			
D9006	8-719-051-85	DIODE HSS83TD-E			
D9007	8-719-051-85	DIODE HSS83TD-E			
D9008	8-719-051-85	DIODE HSS83TD-E			
D9009	8-719-908-03	DIODE GP08D			
D9010	8-719-110-17	DIODE RD10ESB2			
D9014	8-719-991-33	DIODE 1SS133T-77			
D9015	8-719-991-33	DIODE 1SS133T-77			
		<IC>			
IC9001	8-759-360-83	IC TDA6111Q/N4			
IC9002	8-759-360-83	IC TDA6111Q/N4			
IC9003	8-759-360-83	IC TDA6111Q/N4			
		<JACK>			
J9001	⚠ 1-451-544-11	SOCKET, CRT			
		<COIL>			
L9002	1-414-855-31	INDUCTOR	1UH		
L9003	1-414-855-31	INDUCTOR	1UH		
L9004	1-414-855-31	INDUCTOR	1UH		
L9005	1-406-666-21	INDUCTOR	150UH		
L9006	1-412-520-11	INDUCTOR	3.9UH		
L9007	1-414-187-11	INDUCTOR	47UH		
L9008	1-414-187-11	INDUCTOR	47UH		
L9009	1-414-187-11	INDUCTOR	47UH		
		<TRANSISTOR>			
Q9001	8-729-600-22	TRANSISTOR 2SA1235-F			
Q9009	8-729-600-22	TRANSISTOR 2SA1235-F			
Q9010	8-729-600-22	TRANSISTOR 2SA1235-F			
Q9011	8-729-600-22	TRANSISTOR 2SA1235-F			
Q9012	8-729-823-81	TRANSISTOR 2SC4632LS-CB7			
		<RESISTOR>			
R9001	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R9006	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9007	1-218-854-11	METAL CHIP	2K	0.50%	1/10W
R9008	1-216-839-11	METAL CHIP	33K	5%	1/10W
R9011	1-216-864-11	SHORT CHIP	0		
R9012	1-216-821-11	METAL CHIP	1K	5%	1/10W
R9013	1-216-821-11	METAL CHIP	1K	5%	1/10W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

C **D**

REF NO.	PART NO.	DESCRIPTION		REMARK	
R9018	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R9019	1-216-826-11	METAL CHIP	2.7K	5%	1/10W
R9021	1-216-864-11	SHORT CHIP	0		
R9023	1-216-864-11	SHORT CHIP	0		
R9024	1-216-833-11	METAL CHIP	10K	5%	1/10W
R9025	1-260-123-11	CARBON	100K	5%	1/2W
R9026	1-218-854-11	METAL CHIP	2K	0.50%	1/10W
R9027	1-216-864-11	SHORT CHIP	0		
R9028	1-216-864-11	SHORT CHIP	0		
R9029	1-260-123-11	CARBON	100K	5%	1/2W
R9031	1-218-854-11	METAL CHIP	2K	0.50%	1/10W
R9033	1-218-873-11	METAL CHIP	12K	0.50%	1/10W
R9034	1-218-865-11	METAL CHIP	5.6K	0.50%	1/10W
R9035	1-218-855-11	METAL CHIP	2.2K	0.50%	1/10W
R9036	1-216-821-11	METAL CHIP	1K	5%	1/10W
R9037	1-240-233-71	METAL OXIDE	100K	5%	3W
R9038	1-218-855-11	METAL CHIP	2.2K	0.50%	1/10W
R9039	1-218-855-11	METAL CHIP	2.2K	0.50%	1/10W
R9041	1-216-821-11	METAL CHIP	1K	5%	1/10W
R9042	1-216-821-11	METAL CHIP	1K	5%	1/10W
R9043	1-240-233-71	METAL OXIDE	100K	5%	3W
R9044	1-240-233-71	METAL OXIDE	100K	5%	3W
R9047	1-219-744-11	METAL	220	5%	1/2W
R9048	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R9049	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R9050	1-249-424-11	CARBON	3.9K	5%	1/4W
R9051	1-219-744-11	METAL	220	5%	1/2W
R9052	1-219-744-11	METAL	220	5%	1/2W
R9053	1-249-424-11	CARBON	3.9K	5%	1/4W
R9054	1-249-424-11	CARBON	3.9K	5%	1/4W
R9056	1-219-750-91	METAL	22K	5%	1/2W
R9057	1-220-827-91	METAL	560K	5%	1/2W
R9059	1-219-746-11	METAL	1K	5%	1/2W
R9061	1-219-743-11	METAL	100	5%	1/2W
R9065	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R9068	1-216-847-11	METAL CHIP	150K	5%	1/10W
R9069	1-219-743-11	METAL	100	5%	1/2W
R9070	1-218-823-11	METAL CHIP	100	0.50%	1/10W
R9071	1-216-805-11	METAL CHIP	47	5%	1/10W
R9072	1-218-823-11	METAL CHIP	100	0.50%	1/10W
R9073	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
		<VARIABLE RESISTOR>			
RV9001	1-241-656-21	RES, ADJ, METAL FILM 110M			
		<SPARK GAP>			
SG9001	1-519-421-11	GAP, DISCHARGE			

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* A-1215-604-A COMPLETE PWB, D (KV-DZ29M30)
* A-1216-668-A COMPLETE PWB, D (KV-DZ29M61(Malaysia))
* A-1199-560-A COMPLETE PWB, D (KV-DZ29M61(GE))
* A-1215-638-A COMPLETE PWB, D (KV-DZ29M91)
****

1-543-298-11	FERRITE	0UH
4-382-854-01	SCREW (M3X8), P, SW (+)	
4-382-854-11	SCREW (M3X10), P, SW (+)	

REF NO.	PART NO.	DESCRIPTION		REMARK	
		<CAPACITOR>			
C6100	1-161-830-00	CERAMIC	0.0047UF		500V
C6100		(KV-DZ29M61(GE))			
C6101	1-107-680-91	ELECT	22UF	20.00%	450V
C6101		(KV-DZ29M61(GE))			
C6102	1-161-830-00	CERAMIC	0.0047UF		500V
C6102		(KV-DZ29M61(GE))			
C6103	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C6103		(KV-DZ29M61(GE))			
C6104	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C6104		(KV-DZ29M61(GE))			
C6105	1-164-156-11	CERAMIC CHIP	0.1UF		25V
C6105		(KV-DZ29M61(GE))			
C6106	1-164-315-11	CERAMIC CHIP	470PF	5.00%	50V
C6106		(KV-DZ29M61(GE))			
C6107	1-137-605-11	MYLAR	0.01UF	10.00%	250V
C6107		(KV-DZ29M61(GE))			
C6108	1-161-830-00	CERAMIC	0.0047UF		500V
C6108		(KV-DZ29M61(GE))			
C6109	1-126-971-11	ELECT	470UF	20.00%	50V
C6109		(KV-DZ29M61(GE))			
C6110	1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C6110		(KV-DZ29M61(GE))			
C6111	1-161-830-00	CERAMIC	0.0047UF		500V
C6111		(KV-DZ29M61(GE))			
C6113	1-126-965-91	ELECT	22UF	20.00%	50V
C6113		(KV-DZ29M61(GE))			
C6115	1-126-941-11	ELECT	470UF	20.00%	25V
C6115		(KV-DZ29M61(GE))			
C6115	1-126-942-61	ELECT	1000UF	20.00%	25V
C6115		(Except KV-DZ29M61(GE))			
C6117	1-126-971-11	ELECT	470UF	20.00%	50V
C6117		(Except KV-DZ29M61(GE))			
C6118	1-161-964-91	CERAMIC	0.0047UF		250V
C6118		(Except KV-DZ29M61(GE))			
C6119	1-161-964-91	CERAMIC	0.0047UF		250V
C6119		(Except KV-DZ29M61(GE))			
C6600	1-128-550-11	ELECT	2200UF	20.00%	50V
C6601	1-126-967-11	ELECT	47UF	20.00%	50V
C6602 ⚠	1-165-529-31	MYLAR	0.22UF	10	0V
C6603	1-126-949-11	ELECT	220UF	20.00%	35V
C6604	1-126-934-11	ELECT	220UF	20.00%	16V
C6607 ⚠	1-119-893-51	CERAMIC	0.001UF	20.00%	250V
C6608 ⚠	1-119-893-51	CERAMIC	0.001UF	20.00%	250V
C6613	1-161-830-00	CERAMIC	0.0047UF		500V
C6614	1-161-830-00	CERAMIC	0.0047UF		500V
C6617	1-161-830-00	CERAMIC	0.0047UF		500V
C6619	1-161-830-00	CERAMIC	0.0047UF		500V
C6620	1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6621	1-131-940-11	ELECT	1200UF	20%	250V
C6621		(KV-DZ29M61(GE))			
C6622	1-131-940-11	ELECT	1200UF	20%	250V
C6622		(KV-DZ29M61(GE))			
C6625	1-126-933-11	ELECT	100UF	20.00%	16V
C6626	1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6628	1-164-156-11	CERAMIC CHIP	0.1UF		25V
C6629	1-117-753-11	ELECT(BLOCK)	470UF	20%	450V
C6629		(Except KV-DZ29M61(GE))			
C6633	1-136-479-11	FILM	0.001UF	5.00%	100V
C6634	1-126-964-11	ELECT	10UF	20.00%	50V
C6635	1-126-963-11	ELECT	4.7UF	20.00%	50V

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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REF NO.		PART NO.	DESCRIPTION		REMARK	
C6636		1-125-891-11	CERAMIC CHIP	0.47UF	10.00%	10V
C6637		1-164-156-11	CERAMIC CHIP	0.1UF		25V
C6641		1-104-665-11	ELECT	100UF	20.00%	25V
C6641			(Except KV-DZ29M61(GE))			
C6645		1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C6647		1-126-964-11	ELECT	10UF	20.00%	50V
C6648		1-164-143-11	CERAMIC	0.001UF	10.00%	1KV
C6649		1-164-143-11	CERAMIC	0.001UF	10.00%	1KV
C6650		1-125-969-91	CERAMIC	680PF	10.00%	1KV
C6651		1-125-969-91	CERAMIC	680PF	10.00%	1KV
C6652		1-110-626-11	ELECT	330UF	20.00%	160V
C6653		1-162-968-11	CERAMIC CHIP	0.0047UF	10.00%	50V
C6654		1-126-936-11	ELECT	3300UF	20.00%	16V
C6655		1-126-943-11	ELECT	2200UF	20.00%	25V
C6658		1-104-330-91	CERAMIC	470PF	10.00%	1KV
C6659		1-126-967-11	ELECT	47UF	20.00%	50V
C6660		1-126-960-11	ELECT	1UF	20.00%	50V
C6661		1-126-947-11	ELECT	47UF	20.00%	35V
C6662		1-126-947-11	ELECT	47UF	20.00%	35V
C6668		1-126-947-11	ELECT	47UF	20.00%	35V
C6669		1-125-969-91	CERAMIC	680PF	10.00%	1KV
C6670		1-125-969-91	CERAMIC	680PF	10.00%	1KV
C6672		1-165-953-11	FILM	47000PF	3%	800V
C6673		1-137-528-11	MYLAR	0.1UF	10.00%	250V
C6674		1-126-941-11	ELECT	470UF	20.00%	25V
C6678		1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6682		1-126-941-11	ELECT	470UF	20.00%	25V
C6682			(Except KV-DZ29M61(GE))			
C6686		1-126-947-11	ELECT	47UF	20.00%	35V
C6688		1-126-965-91	ELECT	22UF	20.00%	50V
C6688			(Except KV-DZ29M61(GE))			
C6692		1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C6693		1-126-965-91	ELECT	22UF	20.00%	50V
C6800		1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6801		1-162-966-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C6802		1-164-227-11	CERAMIC CHIP	0.022UF	10.00%	25V
C6803		1-107-639-11	ELECT	47UF	20.00%	160V
C6805		1-164-227-11	CERAMIC CHIP	0.022UF	10.00%	25V
C6806		1-162-318-11	CERAMIC	0.001UF	10.00%	500V
C6807		1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6808		1-106-383-00	MYLAR	0.047UF	10.00%	200V
C6809		1-102-228-00	CERAMIC	470PF	10.00%	500V
C6811		1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6812		1-115-416-11	CERAMIC CHIP	0.001UF	5.00%	25V
C6814		1-107-889-11	ELECT	220UF	20%	25V
C6816		1-126-941-11	ELECT	470UF	20.00%	25V
C6817		1-164-227-11	CERAMIC CHIP	0.022UF	10.00%	25V
C6820		1-126-941-11	ELECT	470UF	20.00%	25V
C6822		1-126-968-11	ELECT	100UF	20.00%	50V
C6823		1-117-815-11	FILM	1000PF	3.00%	1.5KV
C6825		1-136-171-00	FILM	0.33UF	5.00%	50V
C6829		1-117-819-11	FILM	1500PF	3.00%	1.5KV
C6833		1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C6834		1-107-907-11	ELECT	22UF	20%	50V
C6837		1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C6838		1-162-116-00	CERAMIC	680PF	10.00%	2KV
C6839		1-162-116-00	CERAMIC	680PF	10.00%	2KV
C6840		1-106-359-00	MYLAR	0.0047UF	5.00%	100V
C6842	⚠	1-117-644-21	FILM	10000PF	3.00%	1.2KV
C6844	⚠	1-117-667-31	FILM	0.47UF	5%	250V

REF NO.		PART NO.	DESCRIPTION		REMARK	
C6845		1-161-830-00	CERAMIC	0.0047UF		500V
C6846		1-106-371-00	MYLAR	0.015UF	99%	200V
C6847	⚠	1-117-668-91	FILM	0.56UF	5%	250V
C6848		1-117-662-91	FILM	0.18UF	5%	250V
C6849		1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C6850		1-117-627-21	FILM	2200PF	3.00%	1.2KV
C6851		1-107-635-11	ELECT	4.7UF	20.00%	160V
C6852		1-112-165-91	MYLAR	0.056UF	10%	250V
C6853		1-126-941-11	ELECT	470UF	20.00%	25V
C6854		1-102-228-00	CERAMIC	470PF	10.00%	500V
C6855		1-126-965-91	ELECT	22UF	20.00%	50V
C6857		1-128-582-11	ELECT	10UF	20.00%	100V
C6859		1-126-964-11	ELECT	10UF	20.00%	50V
C6860		1-126-933-11	ELECT	100UF	20.00%	16V
C6861		1-165-176-11	CERAMIC CHIP	0.047UF	10.00%	16V
C6863		1-106-359-00	MYLAR	0.0047UF	5.00%	100V
C6871		1-106-375-12	MYLAR	0.022UF	5.00%	200V
C6872		1-162-969-11	CERAMIC CHIP	0.0068UF	10.00%	25V
C6875		1-126-934-11	ELECT	220UF	20.00%	16V
C6876		1-165-441-81	ELECT	33UF	20%	160V
C6877		1-102-228-00	CERAMIC	470PF	10.00%	500V
C6878		1-126-941-11	ELECT	470UF	20.00%	25V
C6880		1-107-639-11	ELECT	47UF	20.00%	160V
C6881		1-102-228-00	CERAMIC	470PF	10.00%	500V
C6885	⚠	1-117-838-11	FILM	8200PF	3.00%	1.5KV
C6889		1-162-318-11	CERAMIC	0.001UF	10.00%	500V
C6890		1-162-960-11	CERAMIC CHIP	220PF	10.00%	50V
C6892		1-104-665-11	ELECT	100UF	20.00%	25V
			<CONNECTOR>			
* CN6601		1-691-134-11	PIN, CONNECTOR (PC BOARD) 2P			
CN6601			(Except KV-DZ29M61(GE))			
* CN6602		1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			
* CN6603		1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P			
CN6603			(KV-DZ29M61(GE))			
* CN6604	⚠	1-580-843-11	PIN, CONNECTOR (POWER)			
* CN6605		1-779-892-11	CONNECTOR, BOARD TO BOARD 10P			
* CN6607		1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P			
CN6607			(KV-DZ29M91)			
* CN6606		1-764-333-11	PIN, CONNECTOR(PCB)(V TYPE)10P			
* CN6619		1-564-507-11	PLUG, CONNECTOR 4P			
* CN6816		1-564-511-11	PLUG, CONNECTOR 8P			
* CN6817		1-564-515-11	PLUG, CONNECTOR 12P			
* CN6818		1-564-506-11	PLUG, CONNECTOR 3P			
			<DIODE>			
D6100		8-719-077-76	DIODE D2SB60A-F04 (KV-DZ29M61(GE))			
D6101		8-719-110-49	DIODE RD18ESB2 (KV-DZ29M61(GE))			
D6102		8-719-057-76	DIODE MA8150-M-TX (KV-DZ29M61(GE))			
D6103		8-719-404-50	DIODE MA111-TX (KV-DZ29M61(GE))			
D6104		6-500-522-01	DIODE 10EDB40-TA1B2 (KV-DZ29M61(GE))			
D6105		6-501-297-01	DIODE 1F6G (KV-DZ29M61(GE))			
D6106		6-500-582-01	DIODE KBP153G-A2 (Except KV-DZ29M61(GE))			
D6108		6-500-567-21	DIODE 10ERB20-TB5 (KV-DZ29M61(GE))			
D6109		6-500-567-21	DIODE 10ERB20-TB5			
D6600		8-719-404-50	DIODE MA111-TX			
D6601		8-719-991-33	DIODE 1SS133T-77			
D6605		8-719-510-22	DIODE D3SB60			
D6607		8-719-404-50	DIODE MA111-TX			

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

D

REF NO.	PART NO.	DESCRIPTION	REMARK
D6612	8-719-911-55	DIODE U05G (KV-DZ29M61(GE))	
D6613	8-719-911-55	DIODE U05G (KV-DZ29M61(GE))	
D6616	8-719-081-97	DIODE MMDL914T1 (Except KV-DZ29M61(GE))	
D6617	8-719-083-82	DIODE UDZS-TE17-12B (Except KV-DZ29M61(GE))	
D6618	6-500-105-01	DIODE ER106T/B	
D6620	6-500-567-21	DIODE 10ERB20-TB5	
D6622	8-719-923-86	DIODE MTZJ-T-77-15	
D6631	8-719-050-18	DIODE D4SBL20U	
D6633	6-501-303-01	DIODE RB085T-60	
D6635	8-719-110-49	DIODE RD18ESB2	
D6639	8-719-027-43	DIODE S2L20UF	
D6640	8-719-036-43	DIODE MA4300-H(TA)	
D6641	8-719-109-97	DIODE RD6.8ESB2	
D6644	8-719-052-92	DIODE D10SBS4F	
D6654	8-719-052-92	DIODE D10SBS4F	
D6661	8-719-923-86	DIODE MTZJ-T-77-15	
D6662	8-719-923-86	DIODE MTZJ-T-77-15	
D6664	8-719-991-33	DIODE 1SS133T-77 (KV-DZ29M61(GE))	
D6664	8-719-970-83	DIODE HSS82-TJ (Except KV-DZ29M61(GE))	
D6666	8-719-057-76	DIODE MA8150-M-TX	
D6800	8-719-075-05	DIODE FR104-A5	
D6801	8-719-404-50	DIODE MA111-TX	
D6802	8-719-083-20	DIODE PG102R	
D6803	8-719-422-97	DIODE MA8091-M	
D6805	8-719-061-21	DIODE FMQ-G5FMS	
D6806	8-719-061-21	DIODE FMQ-G5FMS	
D6807	8-719-057-76	DIODE MA8150-M-TX	
D6809	8-719-404-50	DIODE MA111-TX	
D6817	8-719-510-73	DIODE S3L20UF4	
D6818	6-500-968-01	DIODE 30PRA20	
D6819	6-500-968-01	DIODE 30PRA20	
D6820	8-719-991-33	DIODE 1SS133T-77	
D6821	8-719-991-33	DIODE 1SS133T-77	
D6826	8-719-422-23	DIODE MA8047	
D6827	8-719-510-73	DIODE S3L20UF4	
D6829	8-719-075-05	DIODE FR104-A5	
D6832	8-719-404-50	DIODE MA111-TX	
D6839	8-719-404-50	DIODE MA111-TX	
D6841	8-719-404-50	DIODE MA111-TX	
D6842	8-719-404-50	DIODE MA111-TX	
D6843	8-719-404-50	DIODE MA111-TX	
D6860	8-719-083-20	DIODE PG102R	
D6883	8-719-083-20	DIODE PG102R	
		<DY CONNECTOR>	
* DY1	1-580-798-11	CONNECTOR PIN (DY)	6P
		<FERRITE BEAD>	
FB6604	1-469-579-11	FERRITE	0.45UH
FB6605	1-469-579-11	FERRITE	0.45UH
FB6606	1-469-578-11	FERRITE	1.1UH
FB6607	1-469-579-11	FERRITE	0.45UH
FB6608	1-469-579-11	FERRITE	0.45UH
FB6609	1-469-579-11	FERRITE	0.45UH
FB6611	1-239-358-21	FILTER, NOISE	
FB6612	1-239-358-21	FILTER, NOISE	
FB6800	1-410-397-21	FERRITE	1.1UH
FB6801	1-410-397-21	FERRITE	1.1UH

REF NO.	PART NO.	DESCRIPTION	REMARK
		<IC>	
IC6600	6-705-810-01	IC MCZ3001DB	
IC6602	8-759-052-52	IC L78M05T-FA	
IC6604	6-708-421-01	IC KIA78D12PI	
IC6607	6-704-264-01	IC EK1135	
IC6609	6-705-756-01	IC BA33BC0WFP-E2	
IC6800	6-703-708-01	IC LM2903DT	
IC6801	8-759-593-33	IC LA78045	
		<CHIP CONDUCTOR>	
JR601	1-216-864-11	SHORT CHIP	0
JR606	1-216-295-91	SHORT CHIP	0
JR608	1-216-864-11	SHORT CHIP	0 (KV-DZ29M61(GE))
JR610	1-216-864-11	SHORT CHIP	0
JR611	1-216-864-11	SHORT CHIP	0 (KV-DZ29M61(GE))
JR612	1-216-295-91	SHORT CHIP	0
JR800	1-216-864-11	SHORT CHIP	0
JR803	1-216-864-11	SHORT CHIP	0
JR804	1-216-864-11	SHORT CHIP	0
JR807	1-216-864-11	SHORT CHIP	0
JR6601	1-216-864-11	SHORT CHIP	0 (Except KV-DZ29M61(GE))
JR6602	1-216-864-11	SHORT CHIP	0 (Except KV-DZ29M61(GE))
JR6606	1-216-864-11	SHORT CHIP	0 (KV-DZ29M61(GE))
JR6608	1-216-295-91	SHORT CHIP	0
JR6681	1-216-864-11	SHORT CHIP	0
		<COIL>	
L6600	1-412-529-11	INDUCTOR	22UH
L6603	1-414-856-11	INDUCTOR	10UH
L6604	1-412-525-31	INDUCTOR	10UH
L6605	1-412-525-31	INDUCTOR	10UH
L6606	1-412-525-31	INDUCTOR	10UH
L6607	1-406-656-21	INDUCTOR	3.3UH
L6608	1-412-525-31	INDUCTOR	10UH
L6800	1-414-187-11	INDUCTOR	47UH
L6803	1-419-633-21	INDUCTOR	10MH
L6804	1-406-665-11	INDUCTOR	100UH
L6805	1-456-939-21	INDUCTOR	33UH
L6806	1-412-552-11	INDUCTOR	2.2MH
L6807	1-419-633-21	INDUCTOR	10MH
L6809	1-406-983-11	INDUCTOR	1MH
L6811	1-412-526-11	INDUCTOR	12UH
L6812	1-412-552-11	INDUCTOR	2.2MH
L6815	1-414-496-25	INDUCTOR	10MH
		<PHOTO COUPLER>	
PH6601 ⚠	8-749-924-35	PHOTO COUPLER ON3171-R (KV-DZ29M61(GE))	
PH6602 ⚠	8-749-924-35	PHOTO COUPLER ON3171-R	
		<IC LINK>	
PS6602 ⚠	1-533-597-42	IC LINK	5A 90V
PS6603 ⚠	1-533-597-42	IC LINK	5A 90V
PS6604 ⚠	1-533-597-42	IC LINK	5A 90V
PS6605	1-533-597-41	IC LINK	5A 90V
PS6606	1-533-597-41	IC LINK	5A 90V

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

D

REF NO.	PART NO.	DESCRIPTION		REMARK	
PS6607 ⚠	1-533-597-42	IC LINK	5A	90V	
PS6801	1-533-588-42	IC LINK	0.5A	90V	
		<TRANSISTOR>			
Q6100	8-729-046-40	TRANSISTOR 2SK2663 (KV-DZ29M61(GE))			
Q6102	8-729-023-22	TRANSISTOR 2SD2114K (KV-DZ29M61(GE))			
Q6600	6-550-882-01	TRANSISTOR 2SK3568(LBS2SONY,Q			
Q6601	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6603	6-550-882-01	TRANSISTOR 2SK3568(LBS2SONY,Q			
Q6606	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6607	8-729-600-22	TRANSISTOR 2SA1235-F			
Q6608	8-729-016-42	TRANSISTOR KTC3199GR-TP			
Q6613	8-729-038-67	TRANSISTOR KRC102S			
Q6800	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6801	6-551-116-01	TRANSISTOR 2SK2381			
Q6802	6-551-087-01	TRANSISTOR 2SC5931001S0			
Q6804	6-550-362-01	TRANSISTOR KTA1279			
Q6807	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6808	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6809	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6810	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6811	8-729-600-22	TRANSISTOR 2SA1235-F			
Q6812	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6813	8-729-600-22	TRANSISTOR 2SA1235-F			
Q6814	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6815	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6816	8-729-600-22	TRANSISTOR 2SA1235-F			
Q6817	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6818	6-551-129-01	TRANSISTOR 2SK3462			
Q6819	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
		<RESISTOR>			
R6100	1-260-298-51	CARBON	3.3	5%	1/2W
R6100		(KV-DZ29M61(GE))			
R6101	1-216-819-11	METAL CHIP	680	5%	1/10W
R6101		(KV-DZ29M61(GE))			
R6102	1-249-389-11	CARBON	4.7	5%	1/4W
R6102		(KV-DZ29M61(GE))			
R6103	1-216-801-11	METAL CHIP	22	5%	1/10W
R6103		(KV-DZ29M61(GE))			
R6104	1-240-205-91	METAL	22M	5%	1/2W
R6104		(KV-DZ29M61(GE))			
R6105	1-216-845-11	METAL CHIP	100K	5%	1/10W
R6105		(KV-DZ29M61(GE))			
R6106	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R6106		(KV-DZ29M61(GE))			
R6107	1-216-841-11	METAL CHIP	47K	5%	1/10W
R6107		(KV-DZ29M61(GE))			
R6108	1-215-493-00	METAL	1M	1%	1/4W
R6108		(KV-DZ29M61(GE))			
R6110	1-216-817-11	METAL CHIP	470	5%	1/10W
R6110		(KV-DZ29M61(GE))			
R6600	1-216-864-11	SHORT CHIP	0		
R6602	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R6622	1-220-797-11	METAL	0.47	5%	10W
R6625	1-215-864-00	METAL OXIDE	150	5%	1W
R6625		(KV-DZ29M61(GE))			
R6625	1-243-683-71	METAL OXIDE	47	5%	1W
R6625		(Except KV-DZ29M61(GE))			
R6626	1-208-805-11	METAL CHIP	9.1K	0.50%	1/10W
R6627	1-208-840-11	METAL CHIP	270K	0.50%	1/10W
R6629	1-218-760-11	METAL CHIP	220K	0.50%	1/10W
R6630	1-218-760-11	METAL CHIP	220K	0.50%	1/10W
R6631	1-218-873-11	METAL CHIP	12K	0.50%	1/10W
R6632	1-218-823-11	METAL CHIP	100	0.50%	1/10W
R6638	1-220-797-11	METAL	0.47	5%	10W
R6638		(KV-DZ29M61(GE))			
R6638	1-205-998-11	METAL	1	5%	10W
R6638		(Except KV-DZ29M61(GE))			
R6641	1-260-131-11	CARBON	470K	5%	1/2W
R6641		(KV-DZ29M61(GE))			
R6642	1-260-131-11	CARBON	470K	5%	1/2W
R6642		(KV-DZ29M61(GE))			
R6644	1-249-417-11	CARBON	1K	5%	1/4W
R6645	1-242-949-11	FUSIBLE	0.1	10%	1W
R6646	1-220-797-11	METAL	0.47	5%	10W
R6647	1-218-835-11	METAL CHIP	330	0.50%	1/10W
R6653	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6657	1-216-842-11	METAL CHIP	56K	5%	1/10W
R6658	1-249-393-11	CARBON	10	5%	1/4W
R6659	1-249-393-11	CARBON	10	5%	1/4W
R6660	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6662	1-220-797-11	METAL	0.47	5%	10W
R6662		(KV-DZ29M61(GE))			
R6662	1-205-998-11	METAL	1	5%	10W
R6662		(Except KV-DZ29M61(GE))			
R6663	1-208-840-11	METAL CHIP	270K	0.50%	1/10W
R6665	1-260-135-11	CARBON	1M	5%	1/2W
R6666	1-216-864-11	SHORT CHIP	0		
R6668	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R6669	1-249-417-11	CARBON	1K	5%	1/4W
R6669		(KV-DZ29M61(GE))			
R6670	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6671	1-217-611-00	METAL	0.1	10%	2W
R6672	1-249-421-11	CARBON	2.2K	5%	1/4W
R6674	1-249-418-11	CARBON	1.2K	5%	1/4W
R6675	1-218-839-11	METAL CHIP	470	0.50%	1/10W
R6676	1-249-393-11	CARBON	10	5%	1/4W
R6677	1-216-821-11	METAL CHIP	1K	5%	1/10W
R6679	1-216-841-11	METAL CHIP	47K	5%	1/10W
R6685	1-249-421-11	CARBON	2.2K	5%	1/4W
R6686 ⚠	1-240-917-91	METAL	8.2M	5%	1W
R6688	1-249-417-11	CARBON	1K	5%	1/4W
R6689	1-249-389-11	CARBON	4.7	5%	1/4W
R6693	1-215-451-00	METAL	18K	1%	1/4W
R6694	1-215-471-00	METAL	120K	1%	1/4W
R6696	1-215-925-11	METAL OXIDE	22K	5%	3W
R6697	1-249-377-11	CARBON	0.47	5%	1/4W
R6704	1-219-134-11	FUSIBLE	0.1	10%	1/4W
R6710	1-217-158-00	METAL	0.47	10%	5W
R6716	1-218-871-11	METAL CHIP	10K	0.50%	1/10W
R6719	1-216-845-11	METAL CHIP	100K	5%	1/10W
R6723	1-220-797-11	METAL	0.47	5%	10W
R6723		(KV-DZ29M61(GE))			
R6724	1-220-797-11	METAL	0.47	5%	10W
R6724		(KV-DZ29M61(GE))			
R6725	1-216-835-11	METAL CHIP	15K	5%	1/10W
R6726	1-216-835-11	METAL CHIP	15K	5%	1/10W
R6800	1-218-865-11	METAL CHIP	5.6K	0.50%	1/10W
R6801	1-218-865-11	METAL CHIP	5.6K	0.50%	1/10W

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REF NO.	PART NO.	DESCRIPTION		REMARK	
R6802	1-216-821-11	METAL CHIP	1K	5%	1/10W
R6804	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R6805	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6806	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R6807	1-245-484-21	METAL	820K	1%	1/4W
R6808	1-216-813-11	METAL CHIP	220	5%	1/10W
R6809	1-216-864-11	SHORT CHIP	0		
R6811	1-243-614-71	METAL OXIDE	4.7K	5%	3W
R6812	1-243-949-71	METAL OXIDE	0.47	5%	2W
R6813	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R6814	1-218-899-11	METAL CHIP	150K	0.50%	1/16W
R6817	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R6818	1-218-879-11	METAL CHIP	22K	0.50%	1/10W
R6819	1-216-837-11	METAL CHIP	22K	5%	1/10W
R6822	1-216-834-11	METAL CHIP	12K	5%	1/10W
R6824	1-249-383-11	CARBON	1.5	5%	1/4W
R6825	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R6826	1-243-572-71	METAL OXIDE	470	5%	2W
R6828	1-245-478-21	METAL	470K	1%	1/4W
R6830	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R6831	1-260-107-11	CARBON	4.7K	5%	1/2W
R6833	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R6834	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R6837	1-216-864-11	SHORT CHIP	0		
R6840	1-216-864-11	SHORT CHIP	0		
R6841	1-249-377-11	CARBON	0.47	5%	1/4W
R6843	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R6845	1-249-385-11	CARBON	2.2	5%	1/4W
R6848	1-215-864-00	METAL OXIDE	150	5%	1W
R6850	1-214-796-00	METAL	1.5	1%	1/2W
R6852	1-243-525-71	METAL OXIDE	33	5%	3W
R6856	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R6857	1-260-292-11	CARBON	1	5%	1/2W
R6858	1-243-515-71	METAL OXIDE	4.7	5%	3W
R6860	1-243-521-71	METAL OXIDE	15	5%	3W
R6861	1-243-527-71	METAL OXIDE	47	5%	3W
R6862	1-245-470-21	METAL	220K	1%	1/4W
R6863	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R6864	1-243-957-71	METAL OXIDE	0.47	5%	3W
R6865	1-218-843-11	METAL CHIP	680	0.50%	1/10W
R6866	1-247-891-00	CARBON	330K	5%	1/4W
R6867	1-216-834-11	METAL CHIP	12K	5%	1/10W
R6868	1-245-470-21	METAL	220K	1%	1/4W
R6869	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R6870	1-216-460-71	METAL OXIDE	3.9K	5%	2W
R6871	1-243-572-71	METAL OXIDE	470	5%	2W
R6872	1-214-796-00	METAL	1.5	1%	1/2W
R6873	1-249-414-11	CARBON	560	5%	1/4W
R6877	1-215-439-00	METAL	5.6K	1%	1/4W
R6878	1-260-107-11	CARBON	4.7K	5%	1/2W
R6879	1-216-845-11	METAL CHIP	100K	5%	1/10W
R6881	1-214-899-81	METAL	27K	1%	1/2W
R6883	1-243-525-71	METAL OXIDE	33	5%	3W
R6884	1-214-897-00	METAL	22K	1%	1/2W
R6885	1-215-895-71	METAL OXIDE	3.3K	5%	2W
R6887	1-218-859-11	METAL CHIP	3.3K	0.50%	1/10W
R6888	1-218-879-11	METAL CHIP	22K	0.50%	1/10W
R6895	1-243-614-71	METAL OXIDE	4.7K	5%	3W
R6896	1-218-867-11	METAL CHIP	6.8K	0.50%	1/10W
R6897	1-218-855-11	METAL CHIP	2.2K	0.50%	1/10W

REF NO.	PART NO.	DESCRIPTION		REMARK	
R6901	1-218-901-11	METAL CHIP	180K	0.50%	1/10W
R6902	1-216-841-11	METAL CHIP	47K	5%	1/10W
R6903	1-218-865-11	METAL CHIP	5.6K	0.50%	1/10W
R6904	1-216-845-11	METAL CHIP	100K	5%	1/10W
R6905	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6906	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6907	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6908	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6909	1-218-865-11	METAL CHIP	5.6K	0.50%	1/10W
R6910	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6911	1-245-470-21	METAL	220K	1%	1/4W
R6912	1-260-292-11	CARBON	1	5%	1/2W
R6913	1-211-877-21	FUSIBLE	0.22	10%	1/2W
R6914	1-216-845-11	METAL CHIP	100K	5%	1/10W
R6915	1-243-511-71	METAL OXIDE	2.2	5%	3W
R6916	1-216-845-11	METAL CHIP	100K	5%	1/10W
R6917	1-216-845-11	METAL CHIP	100K	5%	1/10W
R6919	1-243-614-71	METAL OXIDE	4.7K	5%	3W
R6920	1-243-614-71	METAL OXIDE	4.7K	5%	3W
R6921	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R6922	1-216-809-11	METAL CHIP	100	5%	1/10W
R6923	1-216-809-11	METAL CHIP	100	5%	1/10W
R6924	1-249-393-11	CARBON	10	5%	1/4W
R6925	1-216-841-11	METAL CHIP	47K	5%	1/10W
R6926	1-215-915-21	METAL OXIDE	470	5%	3W
R6927	1-216-821-11	METAL CHIP	1K	5%	1/10W
R6928	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6929	1-243-949-71	METAL OXIDE	0.47	5%	2W
R6930	1-215-880-00	METAL OXIDE	10	5%	2W
R6932	1-243-685-71	METAL OXIDE	68	5%	1W
R6933	1-218-847-11	METAL CHIP	1K	0.50%	1/10W
R6934	1-218-895-11	METAL CHIP	100K	0.50%	1/10W
R6935	1-218-891-11	METAL CHIP	68K	0.50%	1/10W
R6936	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6937	1-216-864-11	SHORT CHIP	0		
R6938	1-218-893-11	METAL CHIP	82K	0.50%	1/10W
R6939	1-218-873-11	METAL CHIP	12K	0.50%	1/10W
R6942	1-216-864-11	SHORT CHIP	0		
R6945	1-216-864-11	SHORT CHIP	0		
R6947	1-216-864-11	SHORT CHIP	0		

<RELAY>

RY6601	⚠	1-755-198-12	RELAY, AC POWER
RY6602	⚠	1-755-516-11	RELAY, AC POWER (KV-DZ29M61 (GE))
RY6603	⚠	1-755-516-11	RELAY, AC POWER

<SWITCH>

S6800	1-572-707-11	SWITCH, LEVER
S6801	1-572-707-11	SWITCH, LEVER

<TRANSFORMER>

T6100	⚠	1-433-844-11	TRANSFORMER, CONVERTER (KV-DZ29M61(GE))
T6101	⚠	1-437-483-21	TRANSFORMER, STANDBY
T6101			(Except KV-DZ29M61(GE))
T6602	⚠	1-443-368-11	TRANSFORMER, CONVERTER (PIT)
T6801	⚠	1-443-367-11	FERRITE TRANSFORMER (PMT)

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

D **D3**

REF NO.		PART NO.	DESCRIPTION	REMARK
T6802	⚠	1-413-059-21	TRANSFORMER, FERRITE (DFT)	
T6803	⚠	1-443-618-11	HORIZONTALLINEARITYTRANSFORMER	
T6805	⚠	1-453-485-11	TRANSFORMER ASSY FLYBACK (NX-4901//M3B4)	
T6805			(Except KV-DZ29M30)	
T6805	⚠	1-453-485-21	TRANSFORMER ASSY FLYBACK (NX-4901//M3B4)	
T6805			(KV-DZ29M30)	
T6806	⚠	1-435-636-41	TRANSFORMER, HORIZONTAL DRIVE	
			<THERMISTOR>	
TH6100		1-803-586-11	THERMISTOR, NTC (KV-DZ29M61(GE))	
TH6601	⚠	1-805-808-11	THERMISTOR, PTC	
TH6800		1-800-193-00	THERMISTOR	
			<VARISTOR>	
VD6603		1-804-995-11	VARISTOR (KV-DZ29M61(GE))	
VD6604		1-804-824-11	VARISTOR ENE271D-20A (KV-DZ29M61(GE))	

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	*	A-1199-555-A	MOUNTED PWB, D3 (KV-DZ29M61(GE))			
			**********			
			<CAPASITOR>			
C6401		1-126-960-11	ELECT	1UF	20.00%	50V
C6402		1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C6403		1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C6404		1-126-964-11	ELECT	10UF	20.00%	50V
C6405		1-115-416-11	CERAMIC CHIP	0.001UF	5.00%	25V
C6406		1-162-927-11	CERAMIC CHIP	100PF	5.00%	50V
C6407		1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6408		1-126-962-11	ELECT	3.3UF	20.00%	50V
C6409		1-126-961-11	ELECT	2.2UF	20.00%	50V
			<CONNECTOR>			
CN6401		1-819-457-11	CONNECTOR PIN (FOR		PCB)	4P
			<DIODE>			
D6401		8-719-404-50	DIODE MA111-TX			
D6402		8-719-404-50	DIODE MA111-TX			
D6403		8-719-404-50	DIODE MA111-TX			
D6404		8-719-404-50	DIODE MA111-TX			
D6405		8-719-404-50	DIODE MA111-TX			
D6407		8-719-404-50	DIODE MA111-TX			
D6408		8-719-404-50	DIODE MA111-TX			
D6409		8-719-423-32	DIODE MA8120-M			
D6410		8-719-404-50	DIODE MA111-TX			
D6411		8-719-423-32	DIODE MA8120-M			
D6412		8-719-404-50	DIODE MA111-TX			
			<IC>			
IC6401		6-708-427-01	IC KIA431AF			
IC6402		8-759-085-67	IC LM339NS			

REF NO.	PART NO.	DESCRIPTION		REMARK	
		<CHIP CONDUCTOR>			
JR6401	1-216-864-11	SHORT CHIP	0		
JR6402	1-216-864-11	SHORT CHIP	0		
JR6404	1-216-864-11	SHORT CHIP	0		
		<TRANSISTOR>			
Q6401	8-729-600-22	TRANSISTOR 2SA1235-F			
Q6402	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6403	8-729-600-22	TRANSISTOR 2SA1235-F			
Q6404	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
		<RESISTOR>			
R6401	1-218-871-11	METAL CHIP	10K	0.50%	1/10W
R6402	1-218-871-11	METAL CHIP	10K	0.50%	1/10W
R6403	1-208-832-11	METAL CHIP	120K	0.50%	1/10W
R6404	1-208-847-11	METAL CHIP	510K	0.50%	1/10W
R6405	1-208-847-11	METAL CHIP	510K	0.50%	1/10W
R6406	1-208-847-11	METAL CHIP	510K	0.50%	1/10W
R6407	1-208-847-11	METAL CHIP	510K	0.50%	1/10W
R6408	1-208-827-11	METAL CHIP	75K	0.50%	1/10W
R6409	1-208-847-11	METAL CHIP	510K	0.50%	1/10W
R6410	1-208-847-11	METAL CHIP	510K	0.50%	1/10W
R6411	1-208-847-11	METAL CHIP	510K	0.50%	1/10W
R6412	1-208-847-11	METAL CHIP	510K	0.50%	1/10W
R6413	1-208-832-11	METAL CHIP	120K	0.50%	1/10W
R6414	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R6415	1-218-895-11	METAL CHIP	100K	0.50%	1/10W
R6416	1-218-895-11	METAL CHIP	100K	0.50%	1/10W
R6417	1-208-827-11	METAL CHIP	75K	0.50%	1/10W
R6418	1-216-853-11	METAL CHIP	470K	5%	1/10W
R6419	1-218-909-11	METAL CHIP	390K	0.50%	1/10W
R6420	1-218-911-11	METAL CHIP	470K	0.50%	1/10W
R6421	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6422	1-215-489-00	METAL	680K	1%	1/4W
R6423	1-215-489-00	METAL	680K	1%	1/4W
R6424	1-215-489-00	METAL	680K	1%	1/4W
R6425	1-215-458-00	METAL	36K	1%	1/4W
R6426	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6427	1-218-895-11	METAL CHIP	100K	0.50%	1/10W
R6428	1-215-463-00	METAL	56K	1%	1/4W
R6429	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6430	1-216-840-11	METAL CHIP	39K	5%	1/10W
R6431	1-218-887-11	METAL CHIP	47K	0.50%	1/10W
R6432	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R6433	1-215-864-00	METAL OXIDE	150	5%	1W
R6434	1-216-837-11	METAL CHIP	22K	5%	1/10W
R6435	1-216-837-11	METAL CHIP	22K	5%	1/10W
R6436	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R6437	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6438	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6439	1-216-841-11	METAL CHIP	47K	5%	1/10W

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The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

F1 H1

REF NO.		PART NO.	DESCRIPTION			REMARK
	*	A-1199-558-A	MOUNTED PWB (VAR), F1(Except KV-DZ21M91)			
	*	A-1212-035-A	MOUNTED PWB (VAR), F1(KV-DZ21M91)			
			**********			
			<CAPACITOR>			
C1602	⚠	1-165-533-31	MYLAR	0.68UF	10	0V
C1603	⚠	1-117-703-11	CERAMIC	0.0047UF	99%	250V
			<CONNECTOR>			
* CN1601	⚠	1-580-843-11	PIN, CONNECTOR (POWER)			
* CN1602	⚠	1-580-843-11	PIN, CONNECTOR (POWER)			
CN1603		1-695-915-11	TAB (CONTACT)			
			<FUSE>			
F1601	⚠	1-576-334-41	FUSE	5A		250V
			<FERRITE BEAD>			
FB1601		1-410-397-21	FERRITE	1.1UH		
FB1602		1-410-397-21	FERRITE	1.1UH		
FB1603		1-410-397-21	FERRITE	1.1UH		
FB1604		1-410-397-21	FERRITE	1.1UH		
			<FUSE HOLDER>			
FH1601		1-533-223-11	FUSE HOLDER	0A		0V
FH1602		1-533-223-11	FUSE HOLDER	0A		0V
			<TRANSFORMER>			
T1601	⚠	1-433-900-51	TRANSFORMER, LINE FILTER			
T1602	⚠	1-433-900-51	TRANSFORMER, LINE FILTER (KV-DZ21M91)			
			<VARISTOR>			
VDR161		1-804-995-11	VARISTOR			

****

	*	A-1199-557-A	MOUNTED PWB, H1			
			**********			
			<CAPACITOR>			
C1900		1-102-114-00	CERAMIC	470PF	10.00%	50V
C1901		1-102-114-00	CERAMIC	470PF	10.00%	50V
C3601	⚠	1-165-530-31	MYLAR	0.47UF	10	0V
C3601			(KV-DZ21M91)			
C3601		1-165-530-31	MYLAR	0.47UF	10	0V
C3601			(Except KV-DZ21M91)			
C3900		1-137-150-11	FILM	0.01UF	5.00%	100V
C3902		1-137-150-11	FILM	0.01UF	5.00%	100V
C3910		1-126-947-11	ELECT	47UF	20.00%	35V
C3911		1-126-947-11	ELECT	47UF	20.00%	35V

REF NO.		PART NO.	DESCRIPTION			REMARK
			<CONNECTOR>			
* CN1651	⚠	1-580-843-11	PIN, CONNECTOR (POWER)			
* CN1652	⚠	1-580-843-11	PIN, CONNECTOR (POWER)			
* CN3901		1-564-507-11	PLUG, CONNECTOR 4P			
* CN3903		1-564-509-11	PLUG, CONNECTOR 6P			
* CN3904		1-564-511-11	PLUG, CONNECTOR 8P			
* CN3905		1-564-510-11	PLUG, CONNECTOR 7P			
			<DIODE>			
D1900		8-719-034-42	DIODE MA4056-M(QZ)			
D1901		8-719-034-42	DIODE MA4056-M(QZ)			
D1902		8-719-991-33	DIODE 1SS133T-77			
D1903		6-500-706-01	DIODE LNK0210088H			
D3900		8-719-034-42	DIODE MA4056-M(QZ)			
D3904		8-719-991-33	DIODE 1SS133T-77			
D3905		8-719-991-33	DIODE 1SS133T-77			
D3908		8-719-034-42	DIODE MA4056-M(QZ)			
D3912		8-719-991-33	DIODE 1SS133T-77			
D3913		8-719-991-33	DIODE 1SS133T-77			
			<IC>			
IC1900		6-704-532-01	IC RPM7240-H5			
			<JACK>			
J3902		1-694-242-11	TERMINAL, S			
J3903		1-770-329-13	JACK, PIN 3P			
J3904		1-770-786-31	JACK			
			<COIL>			
L3901		1-414-183-41	INDUCTOR	10UH		
L3902		1-414-183-41	INDUCTOR	10UH		
			<TRANSISTOR>			
Q3901		8-729-036-80	TRANSISTOR KRC110M			
Q3902		8-729-036-80	TRANSISTOR KRC110M			
			<RESISTOR>			
R3601	⚠	1-219-759-11	METAL	1M	5%	1/2W
R3629		1-220-797-11	METAL	0.47	5%	10W
R3630		1-220-797-11	METAL	0.47	5%	10W
R3907		1-249-417-11	CARBON	1K	5%	1/4W
R3908		1-249-413-11	CARBON	470	5%	1/4W
R3909		1-249-411-11	CARBON	330	5%	1/4W
R3910		1-249-409-11	CARBON	220	5%	1/4W
R3911		1-249-411-11	CARBON	330	5%	1/4W
R3912		1-249-407-11	CARBON	150	5%	1/4W
R3914		1-249-425-11	CARBON	4.7K	5%	1/4W
R3915		1-249-419-11	CARBON	1.5K	5%	1/4W
R3916		1-249-401-11	CARBON	47	5%	1/4W
R3920		1-249-415-11	CARBON	680	5%	1/4W
R3922		1-249-421-11	CARBON	2.2K	5%	1/4W
R3927		1-249-425-11	CARBON	4.7K	5%	1/4W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

H1 **VM1**

REF NO.		PART NO.	DESCRIPTION			REMARK
			<SWITCH>			
S1650	⚠	1-786-649-12	SWITCH, AC POWER PUSH			
S3902		1-692-431-21	SWITCH, TACTILE			
S3903		1-692-431-21	SWITCH, TACTILE			
S3904		1-692-431-21	SWITCH, TACTILE			
S3905		1-692-431-21	SWITCH, TACTILE			
S3907		1-692-431-21	SWITCH, TACTILE			
S3908		1-692-431-21	SWITCH, TACTILE			
S3909		1-692-431-21	SWITCH, TACTILE			
**********						
	*	A-1199-556-A	MOUNTED PWB, VM1 **********			
		4-382-854-01	SCREW (M3X8), P, SW (+)			
			<CAPACITOR>			
C1800		1-107-826-11	CERAMIC CHIP	0.1UF	10.00%	16V
C1801		1-126-947-11	ELECT	47UF	20.00%	35V
C1802		1-130-495-00	MYLAR	0.1UF	5.00%	50V
C1803		1-126-947-11	ELECT	47UF	20.00%	35V
C5401		1-126-935-11	ELECT	470UF	20.00%	16V
C5402		1-113-619-11	CERAMIC CHIP	0.47UF		10V
C5403		1-126-935-11	ELECT	470UF	20.00%	16V
C5405		1-126-933-11	ELECT	100UF	20.00%	16V
C5406		1-126-935-11	ELECT	470UF	20.00%	16V
C5407		1-107-364-11	MYLAR	0.01UF	10.00%	200V
C5408		1-107-364-11	MYLAR	0.01UF	10.00%	200V
C5409		1-107-649-11	ELECT	2.2UF	20.00%	250V
C5410		1-130-471-00	MYLAR	0.001UF	5.00%	50V
C5411		1-130-471-00	MYLAR	0.001UF	5.00%	50V
C5412		1-126-935-11	ELECT	470UF	20.00%	16V
C5413		1-107-648-91	ELECT	100UF	20.00%	200V
C5415		1-104-999-11	MYLAR	0.1UF	5.00%	200V
C5417		1-101-821-00	CERAMIC	0.0022UF		500V
C5418		1-107-638-11	ELECT	33UF	20.00%	160V
C5421		1-107-364-11	MYLAR	0.01UF	10.00%	200V
C5422		1-100-566-91	CERAMIC CHIP	0.1UF	10.00%	25V
C6200		1-162-970-11	CERAMIC CHIP	0.01UF	10.00%	25V
C6201		1-115-416-11	CERAMIC CHIP	0.001UF	5.00%	25V
C6202		1-126-947-11	ELECT	47UF	20.00%	35V
C6203		1-165-176-11	CERAMIC CHIP	0.047UF	10.00%	16V
C6210		1-162-964-11	CERAMIC CHIP	0.001UF	10.00%	50V
C6213		1-100-121-21	FILM	0.015UF	5%	400V
C6215		1-130-495-00	MYLAR	0.1UF	5.00%	50V
C6216		1-137-194-81	FILM	0.47UF	5.00%	50V
C6218		1-126-947-11	ELECT	47UF	20.00%	35V
C6225		1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C6226		1-126-947-11	ELECT	47UF	20.00%	35V
C6227		1-100-121-21	FILM	0.015UF	5%	400V
C6500		1-100-141-21	FILM	0.0022UF	5%	630V
C6501		1-100-122-21	FILM	0.022UF	5%	400V
C6502		1-100-141-21	FILM	0.0022UF	5%	630V
			<CONNECTOR>			
* CN5400		1-564-511-11	PLUG, CONNECTOR 8P			
* CN5401		1-770-747-11	CONNECTOR, BOARD TO BOARD 12P			
* CN5402		1-764-333-11	PIN, CONNECTOR(PCB)(V TYPE)10P			
* CN5403		1-564-506-11	PLUG, CONNECTOR 3P			
* CN6500		1-564-506-11	PLUG, CONNECTOR 3P			
			<DIODE>			
D5400		8-719-404-50	DIODE MA111-TX			
D5401		8-719-510-02	DIODE D1NS4			
D5402		8-719-991-33	DIODE 1SS133T-77			
D5403		8-719-991-33	DIODE 1SS133T-77			
D5404		8-719-991-33	DIODE 1SS133T-77			
D5405		8-719-036-27	DIODE MA4200-H(TA)			
D5406		8-719-036-27	DIODE MA4200-H(TA)			
D6201		8-719-404-50	DIODE MA111-TX			
D6204		8-719-085-65	DIODE ER206			
			<IC>			
IC6200		6-703-708-01	IC LM2903DT			
IC6202		8-759-822-38	IC LA6510			
			<CHIP CONDUCTOR>			
JR6201		1-216-864-11	SHORT CHIP	0		
JR6202		1-216-864-11	SHORT CHIP	0		
JR6203		1-216-864-11	SHORT CHIP	0		
JR6204		1-216-864-11	SHORT CHIP	0		
JR6205		1-216-864-11	SHORT CHIP	0		
JR6207		1-216-864-11	SHORT CHIP	0		
JR6208		1-216-864-11	SHORT CHIP	0		
JR6210		1-216-864-11	SHORT CHIP	0		
			<COIL>			
L5400		1-412-525-31	INDUCTOR	10UH		
L6200		1-406-987-21	INDUCTOR	4.7MH		
L6201		1-406-987-21	INDUCTOR	4.7MH		
L6202		1-406-987-21	INDUCTOR	4.7MH		
L6205		1-412-536-31	INDUCTOR	82UH		
L6206		1-406-671-11	INDUCTOR	1MH		
L6500		1-406-675-11	INDUCTOR	4.7MH		
L6501		1-406-671-11	INDUCTOR	1MH		
			<TRANSISTOR>			
Q5400		8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q5401		8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q5402		8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q5403		8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q5404		8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q5405		8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q5406		8-729-045-05	TRANSISTOR 2SA2005			
Q5407		8-729-045-04	TRANSISTOR 2SC5511			
Q6200		8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6202		8-729-600-22	TRANSISTOR 2SA1235-F			
Q6203		8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q6204		6-551-319-01	TRANSISTOR 2SK3563(LB2SONY)			
Q6205		8-729-120-28	TRANSISTOR 2SC1623-L5L6			

VM1

REF NO.	PART NO.	DESCRIPTION		REMARK	
		<RESISTOR>			
R1800	1-218-885-11	METAL CHIP	39K	0.50%	1/10W
R1801	1-218-853-11	METAL CHIP	1.8K	0.50%	1/10W
R1802	1-218-833-11	METAL CHIP	270	0.50%	1/10W
R1803	1-218-855-11	METAL CHIP	2.2K	0.50%	1/10W
R1805	1-249-383-11	CARBON	1.5	5%	1/4W
R1806	1-218-847-11	METAL CHIP	1K	0.50%	1/10W
R1807	1-249-381-11	CARBON	1	5%	1/4W
R1808	1-243-696-71	METAL OXIDE	470	5%	1W
R1809	1-218-865-11	METAL CHIP	5.6K	0.50%	1/10W
R5401	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R5402	1-249-415-11	CARBON	680	5%	1/4W
R5403	1-260-316-51	CARBON	100	5%	1/2W
R5404	1-249-418-11	CARBON	1.2K	5%	1/4W
R5405	1-216-864-11	SHORT CHIP	0		
R5406	1-218-863-11	METAL CHIP	4.7K	0.50%	1/10W
R5407	1-216-805-11	METAL CHIP	47	5%	1/10W
R5408	1-249-409-11	CARBON	220	5%	1/4W
R5409	1-247-807-31	CARBON	100	5%	1/4W
R5410	1-249-401-11	CARBON	47	5%	1/4W
R5411	1-249-401-11	CARBON	47	5%	1/4W
R5412	1-249-429-11	CARBON	10K	5%	1/4W
R5413	1-249-414-11	CARBON	560	5%	1/4W
R5414	1-249-432-11	CARBON	18K	5%	1/4W
R5415	1-247-735-11	CARBON	47	5%	1/2W
R5416	1-249-385-11	CARBON	2.2	5%	1/4W
R5417	1-249-432-11	CARBON	18K	5%	1/4W
R5418	1-249-414-11	CARBON	560	5%	1/4W
R5419	1-249-421-11	CARBON	2.2K	5%	1/4W
R5420	1-249-421-11	CARBON	2.2K	5%	1/4W
R5421	1-249-385-11	CARBON	2.2	5%	1/4W
R5422	1-249-401-11	CARBON	47	5%	1/4W
R5423	1-215-915-21	METAL OXIDE	470	5%	3W
R5424	1-249-395-11	CARBON	15	5%	1/4W
R5425	1-216-864-11	SHORT CHIP	0		
R5427	1-249-395-11	CARBON	15	5%	1/4W
R5429	1-215-863-11	METAL OXIDE	100	5%	1W
R5430	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5431	1-216-833-11	METAL CHIP	10K	5%	1/10W
R5432	1-216-821-11	METAL CHIP	1K	5%	1/10W
R6200	1-218-877-11	METAL CHIP	18K	0.50%	1/10W
R6201	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R6202	1-216-841-11	METAL CHIP	47K	5%	1/10W
R6203	1-216-833-11	METAL CHIP	10K	5%	1/10W
R6204	1-218-887-11	METAL CHIP	47K	0.50%	1/10W
R6206	1-216-837-11	METAL CHIP	22K	5%	1/10W
R6207	1-216-841-11	METAL CHIP	47K	5%	1/10W
R6225	1-218-871-11	METAL CHIP	10K	0.50%	1/10W
R6226	1-249-401-11	CARBON	47	5%	1/4W
R6227	1-216-809-11	METAL CHIP	100	5%	1/10W
R6229	1-216-353-00	METAL OXIDE	2.2	5%	1W
R6235	1-243-519-71	METAL OXIDE	10	5%	3W
R6237	1-218-891-11	METAL CHIP	68K	0.50%	1/10W
R6238	1-218-877-11	METAL CHIP	18K	0.50%	1/10W
R6239	1-216-853-11	METAL CHIP	470K	5%	1/10W
R6242	1-218-899-11	METAL CHIP	150K	0.50%	1/16W
R6250	1-218-869-11	METAL CHIP	8.2K	0.50%	1/10W
R6251	1-249-395-11	CARBON	15	5%	1/4W
R6260	1-243-526-71	METAL OXIDE	39	5%	3W
R6261	1-243-526-71	METAL OXIDE	39	5%	3W

****

<ACCESSORIES AND PACKING MATERIALS>
****

2-651-491-01	SCREW, SPECIAL
2-637-162-01	BAND, HOLD
2-890-313-11	MANUAL(FOLDING), INSTRUCTION (KV-DZ29M30)
2-889-977-11	MANUAL, INSTRUCTION (KV-DZ29M61(GE))
2-890-006-11	MANUAL(FOLDING), INSTRUCTION (KV-DZ29M91)
2-891-295-11	MANUAL, INSTRUCTION (KV-DZ29M61(Malaysia))
* 2-677-857-01	CUSHION, UPPER
* 2-677-858-01	CUSHION, LOWER
* 2-677-859-01	INDIVIDUAL CARTON
* 4-029-168-01	BAG, PROTECTION

****

<REMOTE COMMANDER>
****

1-479-379-11	REMOTE COMMANDER (RM-GA002)
4-084-290-01	REMOTE COMMANDER BATTERY COVER

9-872-925-01

Sony Corporation
Sony EMCS (Malaysia) Sdn. Bd.
TV Operations of Pan Asia

English

SONY

2-889-977-**11** (1)

Trinitron Color TV

Operating Instructions GB

- Before operating the unit, please read this manual thoroughly and retain it for future reference.

使用說明書 CT

- 使用本電視機之前請先詳細閱讀此手冊，並妥善保存以備日後用作參考。

WEGA

KV-DZ29

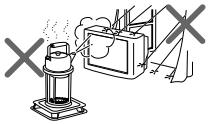
M61

WARNING

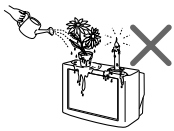
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 110 – 240 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid leaks from the batteries and touches your skin, immediately wash it away with water.

For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.

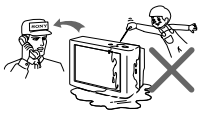
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



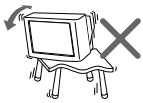
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



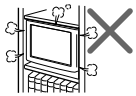
Do not place any objects on the TV. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.



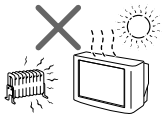
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.

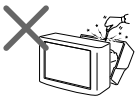


Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.

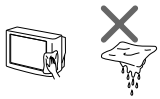


Your TV is recommended for home use only. Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.

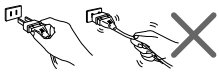
Do not plug in too many appliances to the same power socket. Do not damage the power cord.



Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



Clean the TV with a dry and soft cloth. Do not use benzine, thinner, or any other chemicals to clean the TV. Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



Pull the power cord out by the plug. Do not pull the power cord itself. Even if your TV is turned off, it is still connected to the AC power source (mains) as long as the power cord is plugged in. Unplug the TV before moving it or if you are not going to use it for several days.

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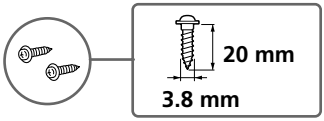
GB

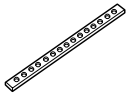
■ Securing the TV

To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.

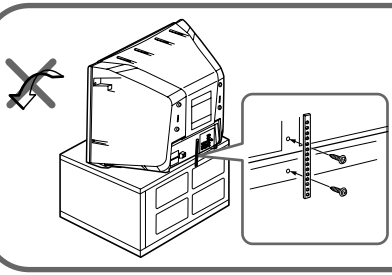


screws

clamps

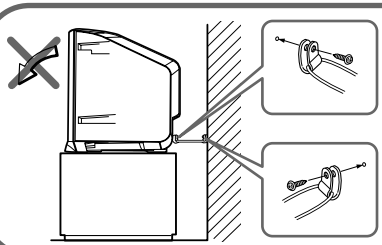


band



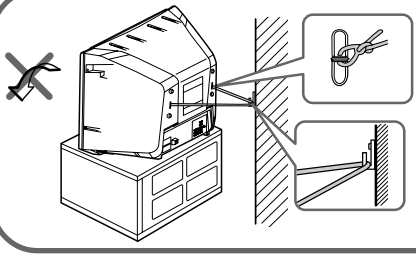
Screw the band to the TV stand and to the provided hole at the rear of your TV.

or



(1) Put a cord or chain through the clamps.
(2) Screw one clamp to a wall or pillar and the other clamp to the provided hole at the rear of your TV.

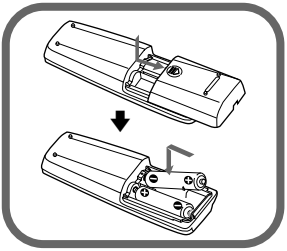
or



(1) Attach each end of a cord or chain to the provided holders at the rear of your TV.
(2) Securely fix the attached cord or chain to a wall or pillar using an attachment which can support the TV set weight.

✍: • Use only the supplied screws. Use of other screws may damage the TV.

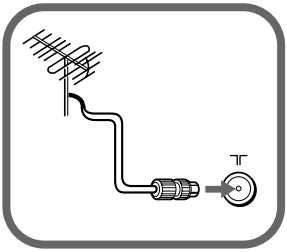
■ Getting Started



Step 1

Insert the batteries (supplied) into the remote.

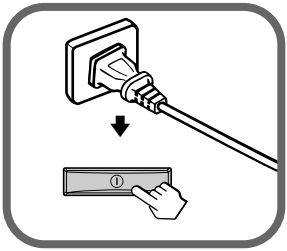
✍: • Do not use old or different types of batteries together.



Step 2

Connect the antenna cable (not supplied) to ⊤ (antenna input) at the rear of the TV.

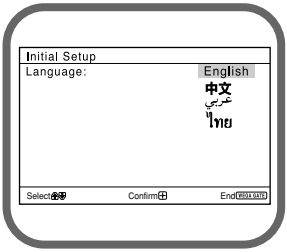
✍: • You can also connect the TV to other optional components (see page 7).



Step 3

Plug in the power cord, then press ⏻ on the TV to turn it on.

✍: • The ⏻ (standby) indicator flashes green for a few seconds when turning on the TV. This does not indicate a malfunction.



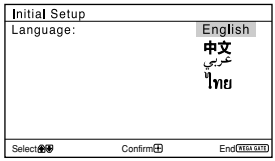
Step 4

Set up the TV by following the instructions of the "Initial Setup" menu (see page 6).

■ Setting up your TV (“Initial Setup”)

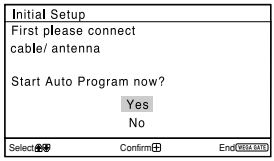
When you turn on your TV for the first time, the “Initial Setup” menu will appear. You can adjust settings below using the buttons on the remote control or TV front panel. Press ↑, ↓, ← or → to select or adjust items, then press ⊕.

1 Select the desired menu language.

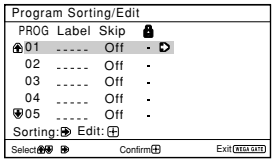


2 Select “Yes” to preset the channels automatically.

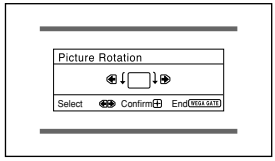
To skip automatic channel presetting, select “No”.



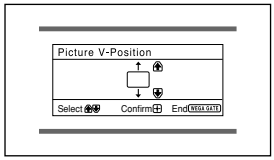
3 The “Program Sorting/Edit” menu enables you to sort and edit the channels (see page 16).



4 Adjust the bars on the top and bottom of the menu if they are slanted.

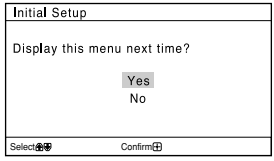


5 Adjust the upper and lower bars if they are not equally positioned to the top and bottom of the screen.



6 To prevent this “Initial Setup” menu from appearing again when you turn on the TV by pressing ⏻, select “No”.

To allow this menu to appear again, select “Yes”.

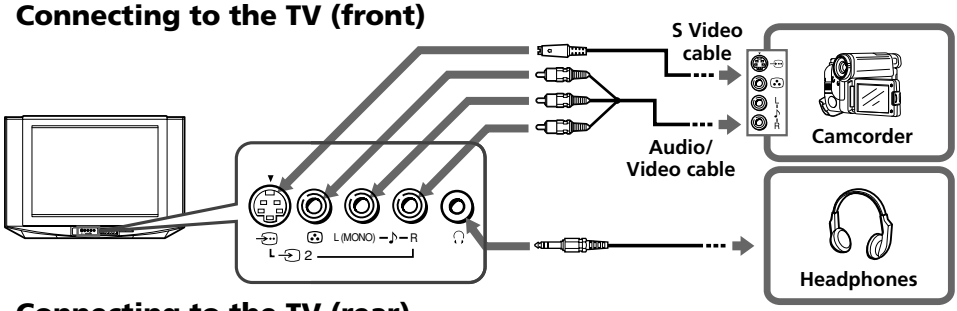


✍: • You can immediately go to the end of the ”Initial Setup” menu by pressing WEGA GATE.
• Before adjusting “Picture Rotation” and “Picture V-Position”, keep electrical equipment (external speakers) away from the TV to avoid magnetic disturbance.

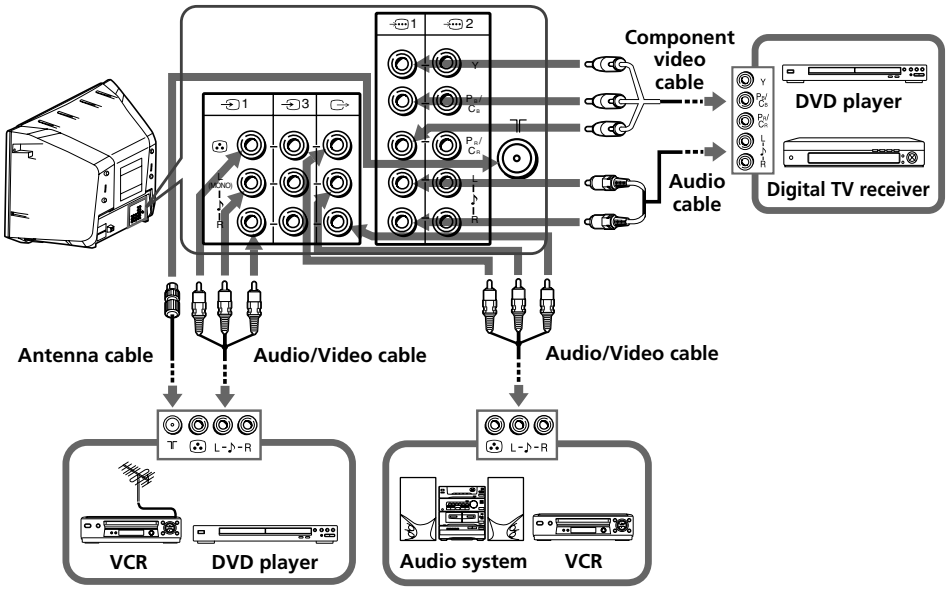
■ Connecting optional components

You can connect a wide range of optional components to your TV. Connecting cables are not supplied.

Connecting to the TV (front)



Connecting to the TV (rear)

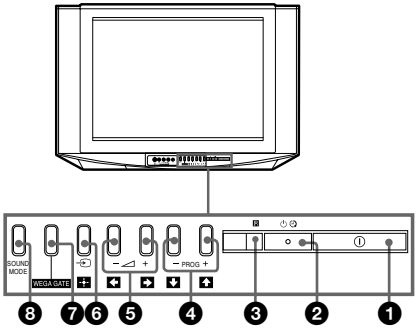


✍: • If you connect a VCR to ⅂ (antenna input), preset the signal output from the VCR to the program number 0 on the TV (see page 17).

- When both ⇨ (S video) and ⚽ (video) for ⇦2 are connected at the same time, ⇨ (S video) is automatically selected. To view ⚽ (video), disconnect the S video cable.
- The component video terminals on your DVD player are sometimes labeled Y/C_B/C_R, Y/P_B/P_R, Y/C_b/C_r or Y/B-Y/R-Y.
- If you select "HD/DVD 1" or "HD/DVD 2" on your TV screen, the signal from the ⇦ (monitor output) terminals will not be output properly. This does not indicate a malfunction.
- The TV accepts the following signal formats:

Total scanning line	1125i	750p	625p	625i	525p	525i
Effective scanning line	1080i	720p	576p	576i	480p	480i
fV (Hz)	50/60	50/60	50	50	60	60

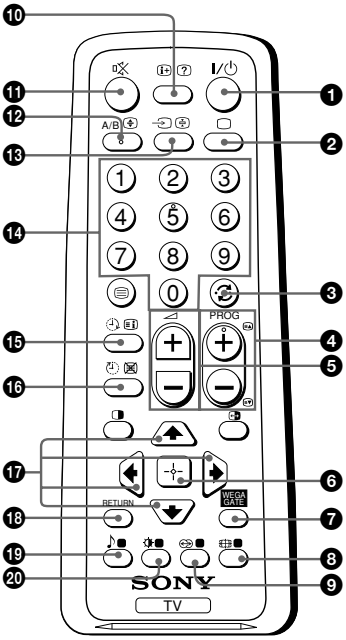
■ TV buttons and remote control



❶ ⏻ Turn off or turn on the TV.
❷ Wake Up indicator.
❷ Standby indicator.
❸ Remote control sensor.
❹ PROG +/– Select program number.
❺ +/– Adjust volume.
❻ Select TV or video input.

WEGA GATE menu operations (see page 10)

❹, ❺ ↑, ↓, ←, → Select or adjust items.
❻ Confirm selected items.
❼ WEGA GATE Display or cancel WEGA GATE menu.
❽ SOUND MODE Select sound mode options with a 5-Band Graphic Equalizer display (see page 14).



❶ I/⏻ Turn off temporarily or turn on the TV.
❷ Display the TV program.
❸ Jump to last program number that has been watched for at least five seconds.
❹ PROG +/– Select program number. To select quickly, press and hold until the desired program number appears.
❺ +/– Adjust volume.
❽ Change the picture size: "4:3", "16:9" (16:9 wide mode).
❾ Select surround mode options (see page 14).
❿ Display on-screen information.
⓫ Mute the sound.
⓬ A/B Select stereo/bilingual mode:

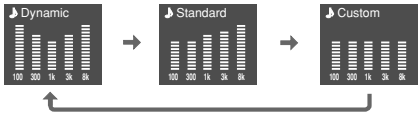
Broadcasting	Display (selected sound)
NICAM stereo	NICAM (stereo), Mono (regular)
NICAM bilingual	NICAM Main (main), NICAM Sub (sub), Mono (regular)
NICAM monaural	NICAM Main (main), Mono (regular)
A2 stereo	Stereo (stereo), Mono (regular)
A2 bilingual	Main (main), Sub (sub)

✍: • If the stereo sound is noisy when receiving a stereo program, select "Mono". The sound becomes monaural, but the noise is reduced.

⓭ Select TV or video input.

⓮ 0 – 9 Input numbers. For program numbers 10 and above, enter the second digit within two seconds.

⓳ Select sound mode options with a 5-Band Graphic Equalizer display: "Dynamic", "Standard", "Custom"* (see page 14).



* When the "Custom" mode is selected, you can receive the last adjusted sound settings from the "Sound Adjustment" option in the menu.

⓴ Select picture mode options: "Vivid", "Standard", "Custom"* (see page 12).

* When the "Custom" mode is selected, you can receive the last adjusted picture settings from the "Picture Adjustment" option in the menu.

WEGA GATE menu operations (see page 10)

⓺ Confirm selected items.

⓻ WEGA GATE Display or cancel WEGA GATE menu.

⓱ ↑, ↓, ←, → Select or adjust items.

⓲ RETURN Return to the previous level.

Timer operations

⓯ (Wake Up Timer) Set TV to turn on automatically according to the desired period of time (max. of 12 hours). The indicator on TV lights up amber once you set the wake up timer. If no buttons or controls are pressed for more than one hour after the TV is turned on using the wake up timer, the TV automatically goes into standby mode.

⓰ (Sleep Timer) Set TV to turn off automatically according to the desired period of time (max. of one hour and 30 min.).

Teletext operations (green icon)

Display Teletext broadcast: Teletext → Teletext and TV → TV. If there is no Teletext broadcast, only "100" is displayed at the top left corner of the screen.

Display Teletext service contents.

0 – 9 Input three digits Teletext page number.

, Display the next or previous page.

Stop Teletext display from scrolling.

Reveal concealed information.

Enlarge the Teletext display.

Show TV screen while waiting for Teletext page. Enter the Teletext page number that you want to refer to, then press . When the page number is displayed, press to show the text.

■ (red, green, yellow, blue) Access the corresponding colored FASTEXT menu. The FASTEXT feature can be used only when the FASTEXT broadcast is available.

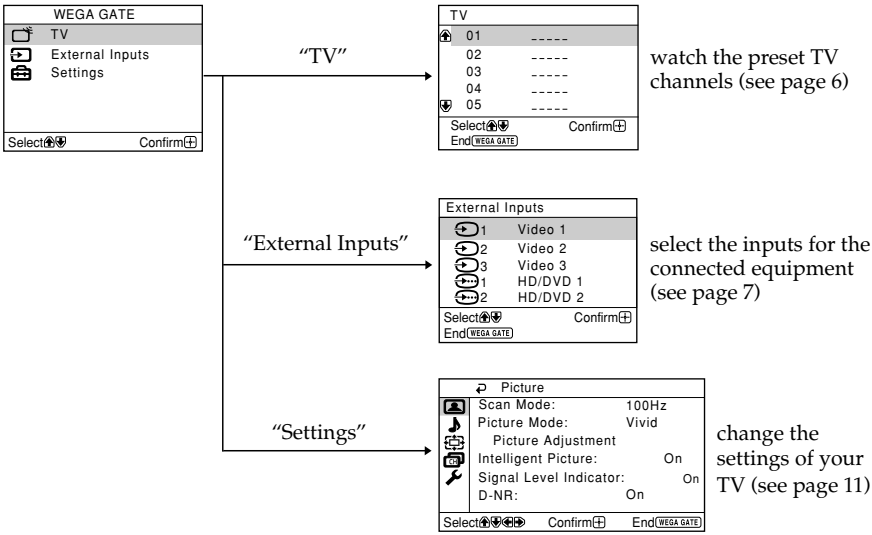
✍: • Teletext is automatically cancelled when there is no signal or the frequency of input signal is not within the proper range.

PIP operations

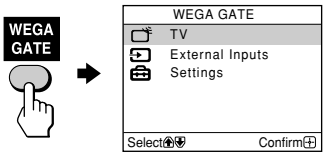
, , ↑, ↓, ←, → Not function for your TV.

■ WEGA GATE navigator

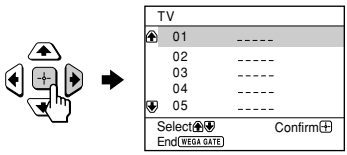
WEGA GATE is a gateway that allows you access to preset TV channels, connected external inputs and "Settings" menu.



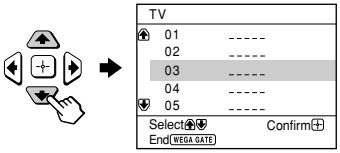
How to use WEGA GATE



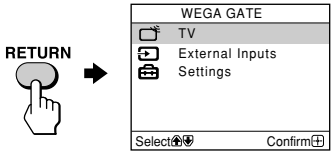
(1) Press WEGA GATE to display or cancel the WEGA GATE menu.



(2) Press ⊕ (or →) to confirm your selection or go to the next level.



(3) Press ↑ or ↓ to select the desired item.



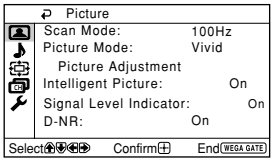
(4) Press RETURN to move to the previous level.

✍: • When a feature is dimmed in the menu, it is not selectable.

• The WEGA GATE, ⊕ and ↑, ↓, ←, → buttons on the front panel can also be used for the operations above.

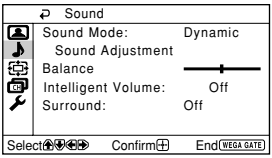
■ “Settings” Adjustment

You are able to change the settings of your TV from “Settings” in WEGA GATE menu (see page 10). The following is an overview of the items that can be adjusted.



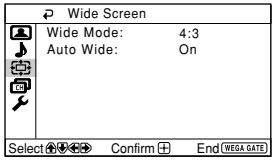
“Picture” (see page 12)

“Scan Mode”: “100Hz” → “Progressive”
“Picture Mode”: “Vivid” → “Standard” → “Custom”
“Picture Adjustment”: “Picture”, “Brightness”, “Color”, “Hue”, “Sharpness”, “Color Temperature”, “VM”, “Reset”
“Intelligent Picture”: “On” → “Off”
“Signal Level Indicator”: “On” → “Off”
“D-NR”: “On” → “Off”



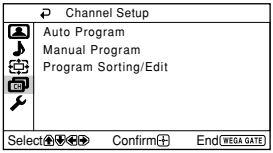
“Sound” (see page 14)

“Sound Mode”: “Dynamic” → “Standard” → “Custom”
“Sound Adjustment”: “Adjust”, “Reset”
“Balance”
“Intelligent Volume”: “On” → “Off”
“Surround”: “Movie” → “Sports” → “Off”



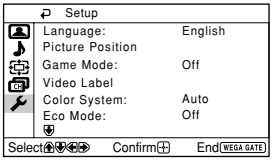
“Wide Screen” (see page 15)

“Wide Mode”: “16:9” → “4:3”
“Auto Wide”: “On” → “Off”



“Channel Setup” (see page 16)

“Auto Program”
“Manual Program”
“Program”: “00” - “99”
“TV System”: “B/G” → “I” → “D/K” → “M”
“VHF Low” / “VHF High” / “UHF”
“Fine”: “Auto” → “Manual”
“Signal Booster”: “Auto” → “Off”
“Program Sorting/Edit”

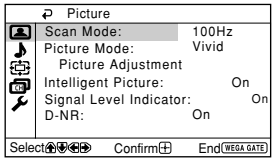


“Setup” (see page 18)

“Language”: “English” → “中文” (Chinese) → “عربي” (Arabic) → “ไทย” (Thai)
“Picture Position”: “Picture Rotation”, “Picture V-Position”
“Game Mode”: “On” → “Off”
“Video Label”
“Color System”: “Auto” → “PAL” → “SECAM” → “NTSC3.58” → “NTSC4.43”
“Eco Mode”: “On” → “Off”
“Factory Settings”: “Yes” → “No”

■ “Picture” setting

Press WEGA GATE and select “Settings”. Make sure the “Picture” icon ( ) is selected, then press ⊕.



“Scan Mode”	Choose either “100Hz” (reduce flicker on the screen to provide a stable picture) or “Progressive” (reduce jitter of any small areas or scanning lines on the screen).
“Picture Mode”	Choose either “Vivid” (bright, contrast and sharp), “Standard” (normal) or “Custom”*.
“Intelligent Picture”	Optimize picture quality. Press ↑ or ↓ to select “On”, then press ⊕. To cancel, select “Off”, then press ⊕.
“Signal Level Indicator”	Display the signal level when the “Intelligent Picture” is functioning. “Intelligent Picture Signal Level” indicator will be displayed, followed by picture improvement when you change the program number or the input mode.  red (weak) amber (average) green (good) Press ↑ or ↓ to select “On”, then press ⊕. To cancel, select “Off”, then press ⊕. “Intelligent Picture” is still functioning.
“D-NR” (Digital Noise Reduction)	Reduce noise level automatically to get optimum picture. Press ↑ or ↓ to select “On”, then press ⊕. To cancel, select “Off”, then press ⊕.

* You can adjust the setting to your personal preference in the “Picture Adjustment” option only when the “Custom” mode is selected (see page 13).

✍: • “Scan Mode” is not selectable when “Game Mode” is turned to “On”. “Scan Mode” is not available for HD (high-definition) and progressive input signals.
• “D-NR” is not available in HD and progressive input signals.
• “Signal Level Indicator” does not function in “HD/DVD 1” and “HD/DVD 2” input modes.

Adjusting the “Picture Adjustment” items under “Custom” mode

1 Press ↑ or ↓ to select either “Picture” (contrast), “Brightness”, “Color”, “Hue” (color tones), “Sharpness”, “Color Temperature” (choose either “Cool”, “Neutral” or “Warm”) or “VM” (choose either “High”, “Low” or “Off”), then press ⊕.

Selecting “Reset” will set your TV to the factory settings.

2 Press ↑,↓,← or → to adjust the setting of your selected item, then press ⊕.

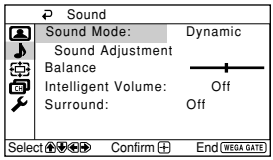
3 Repeat the above steps to adjust other items.

The adjusted settings will be received when you select “Custom”.

✍: • “Hue” can be adjusted for the NTSC color system only.
• Reducing “Sharpness” can also reduce picture noise.

■ “Sound” setting

Press WEGA GATE and select “Settings”. Press ↑ or ↓ to select the “Sound” icon (♪), then press ⊕.



“Sound Mode”	Choose either “Dynamic” (low and high tones), “Standard” (voice and high tones) or “Custom”*.
“Balance”	Press ↓ or ← to emphasize the left speaker. Press ↑ or → to emphasize the right speaker.
“Intelligent Volume”	Adjust the volume of all program numbers and video inputs automatically. Press ↑ or ↓ to select “On”, then press ⊕. To cancel, select “Off”, then press ⊕.
“Surround”	Choose either “Movie” (cinema surround effect for stereo sound), “Sports” (simulated stadium effect for monaural sound) or “Off”.

* You can adjust the setting to your personal preference in the “Sound Adjustment” option only when the “Custom” mode is selected.

Adjusting the “Sound Adjustment” items under “Custom” mode

The 5-Band Graphic Equalizer feature allows you to adjust sound frequency settings of “Custom” mode in the menu.

1 Make sure that “Adjust” is selected, then press ⊕.

Selecting “Reset” will set your TV to the factory settings.

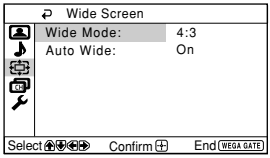
2 Press ← or → to select the desired sound frequency, then press ↑ or ↓ to adjust the setting and press ⊕.

The adjusted settings will be received when you select “Custom”.

✍: • Adjusting higher frequency will affect higher pitched sound and adjusting lower frequency will affect lower pitched sound.
• You may display the settings directly by using the SOUND MODE button on the TV front panel (see page 8) or ♪ button on the remote control (see page 9).

■ “Wide Screen” setting

Press WEGA GATE and select “Settings”.
Press ↑ or ↓ to select the “Wide Screen” icon (), then press .

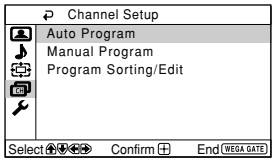


“Wide Mode”	Change the size of the picture when receiving wide-mode (16:9) picture signal. Choose “16:9”. To restore the normal picture size, select “4:3”, then press .
“Auto Wide”	Display the picture in optimum wide screen automatically when you choose “On”. To cancel, select “Off”, then press .

✍: • You can also change to wide-mode picture size by pressing the button on the remote control (see page 8).
• “Wide Mode” is not selectable for HD (1080i, 720p) input signals. For HD (1080i, 720p) input signals, your TV will always display wide mode picture.
• “Auto Wide” is only available when receiving 576i, 480p and 480i input signals.

■ “Channel Setup” setting

Press WEGA GATE and select “Settings”. Press ↑ or ↓ to select the “Channel Setup” icon (CH), then press ⊕.



“Auto Program”	Preset channels automatically.
“Manual Program”	Manually preset desired channels and channels that cannot be preset automatically (see Presetting channels manually in page 17).
“Program Sorting/Edit”	Sort and edit the channels. (a) If you wish to keep the channels in the current condition, press WEGA GATE to exit. (b) Press ↑ or ↓ to select the program number with the channel you wish to change. The selected channel will appear on the screen. (c) If you wish to store the channels in a different order: (1) Press → to enter sorting mode. (2) Press ↑ or ↓ to select the new program number position for your selected channel, then press ←. (d) If you wish to edit the channels, press ⊕ to change to edit mode. Press → until the mode that you wish to edit is highlighted: Label, Skip, 🔒 (block symbol). Then press ⊕. (1) To label, press ↑ or ↓ to select the alphanumeric characters for the label. Then press ⊕. (2) To skip the program number, press ↑ or ↓ to select “On”. Then press ⊕. You can skip this program number when using PROG +/–. (3) To block unwanted program number, press ↑ or ↓ to select 🔒. Then press ⊕. (e) Repeat step (b) to (d) if you wish to change other channels. Press WEGA GATE to exit.

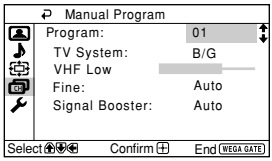
✍: • If you preset a blocked program number, that program number will be unblocked automatically.
• If you sort a blocked program, that program will remain blocked.

Presetting channels manually

1 After selecting "Manual Program", select the program number to which you want to preset a channel.

(1) Make sure "Program" is selected, then press ⊕.

(2) Press ↑ or ↓ until the program number you want to preset appears on the menu, then press ⊕.



2 Select the desired channel.

(1) Make sure either "VHF Low", "VHF High" or "UHF" is selected, then press ⊕.

(2) Press ↑ or ↓ until the desired channel's broadcast appears on the TV screen, then press ⊕.

3 If the sound of the desired channel is abnormal, select the appropriate TV system.

(1) Press ↑ or ↓ to select "TV System", then press ⊕.

(2) Press ↑ or ↓ until the sound becomes normal, then press ⊕.

4 If you are not satisfied with the picture and sound quality, you may be able to improve them by using the "Fine" tuning feature.

(1) Press ↑ or ↓ to select "Fine", then press ⊕.

(2) Press ↑ or ↓ to select "Manual", then press ⊕.

(3) Press ↑,↓,← or → until the picture and sound quality are optimal, then press ⊕.

The + or – icon on the menu flashes while tuning.

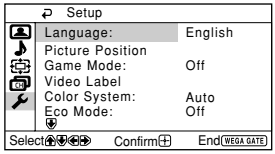
5 If the TV signal is too strong (picture distorted; picture with lines; signal interference) or weak (snowy picture), you may be able to improve the picture quality by setting the "Signal Booster" feature.

(1) Press ↑ or ↓ to select "Signal Booster", then press ⊕.

(2) Press ↑ or ↓ to select either "Off"(for picture distorted; picture with lines; signal interference) or "Auto" (for snowy picture), then press ⊕.

“Setup” setting

Press WEGA GATE and select “Settings”.
Press ↑ or ↓ to select the “Setup” icon (🔧), then press ⊕.



“Language”	Change the menu language. Press ↑ or ↓ to select either “English”, “中文” (Chinese), “عربي” (Arabic) or “ไทย” (Thai), then press ⊕.
“Picture Position”	Adjust the picture position when it is not aligned with the TV screen. Press ↑ or ↓ to select “Picture Rotation” or “Picture V-Position”, then press ⊕. Press ↑, ↓, ← or → to adjust the picture position, then press ⊕.
“Game Mode”	Adjust the picture setting that is suitable to view video games. Press ↑ or ↓ to select “On”, then press ⊕. To cancel, select “Off”, then press ⊕.
“Video Label”	Label the connected equipment. (1) Press ↑ or ↓ to select the input you want to label, then press ⊕. (2) Press ↑ or ↓ to select the label options: “Video 1”/ “Video 2”/ “Video 3”/ “HD/DVD 1”/ “HD/DVD 2”, “VCR”, “SAT”, “Game” or “Edit”*, then press ⊕. * You may edit the video label to your favorite name. Press ↑ or ↓ to select alphanumeric characters for the label, then press ⊕.
“Color System”	Select the color system. Press ↑ or ↓ to select either “Auto”, “PAL”, “SECAM”, “NTSC3.58” or “NTSC4.43”, then press ⊕. Normally, set this to “Auto”.
“Eco Mode”	Reduce power consumption of your TV to save energy. Press ↑ or ↓ to select “On”, then press ⊕. When you press ⓘ or turn on the TV, Eco Mode (ECO) symbol will appear on the screen for a while. To cancel, select “Off”, then press ⊕.

“Factory Settings”	Reset your TV to factory settings. Press ⊕ and press ↑ or ↓ to select “Yes”, then press ⊕. Your TV will go blank for a few seconds, then the “Initial Setup” menu will appear. To cancel, select “No”, then press ⊕.

✍: • You cannot adjust “Picture Rotation” and “Picture V-Position” when HD (1080i, 720p) signals are input.

• “Game Mode” is available only when receiving signals through the ⇨ (video input), ⇨ (S video input) or ⇨ (component video input) terminals.

• When HD or progressive signals are input, “Game Mode” does not function.

■ Troubleshooting

If you find any problem while viewing your TV, you can either use the "Factory Settings" function (see page 19) or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

Snowy picture, noisy sound

- Check the antenna setup and other connections.
- Preset the channel manually again (see page 17).
- Set the "Signal Booster" to "Auto" (see page 17) or try using an external booster.

Distorted picture, noisy sound

- Set the "Signal Booster" to "Off" (see page 17), or turn off or disconnect any external booster in use.

Good picture, noisy sound

- Select the appropriate "TV System" (see page 17).

No picture, no sound

- Check the power cord, antenna setup and other connections.
- Press I/⏻ (power) to turn on the TV.
- Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.

Good picture, no sound

- Press + to increase the volume level or press 🔇 to cancel the muting.

Dotted lines or stripes

- Do not use a hair dryer or other equipment near the TV.
- Check the antenna setup.

Double images or "ghosts"

- Use the fine tuning ("Fine") function (see page 17).
- Check the antenna setup or use a highly directional antenna.
- Turn off or disconnect any external booster in use.

No color

- Adjust the "Color" level from "Picture Adjustment" (see page 13).
- Select the appropriate "Color System" (see page 18).
- Check the antenna setup.

Picture slant

- Keep external speakers or other electrical equipment away from the TV. The magnetic disturbance from these equipments or the direction of the earth's magnetic field may affect the TV.
- Adjust the "Picture Rotation" or "Picture V-Position" (see page 18).

Abnormal color patches

- Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again to demagnetize the TV.

TV cannot receive stereo broadcast sound or stereo broadcast sound switches on and off or is distorted.

- Check the antenna setup and other connections.

Teletext display is incomplete (snowy picture or double images).

- Check the antenna setup and other connections.
- Set the "Signal Booster" to "Auto" (see page 17) or try using an external booster.
- Use the fine tuning ("Fine") function (see page 17).

The ⏻ (standby) indicator on your TV flashes red several times after every three seconds.

- Count the number of times the ⏻ (standby) indicator flashes. Press ⏻ (main power) to turn off your TV. Contact your nearest Sony service center.

The TV screen sometimes goes blank for slightly longer than usual during channel change.

- The "Signal Booster" is functioning to detect a weak signal. This does not indicate a malfunction.

Cannot play shooting games.

- Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with your TV. For details, see the instruction manual supplied with the video game software.

TV cabinet creaks.

- Changes in room temperature sometimes make the TV cabinet expand or contract, causing a noise. This does not indicate a malfunction.

A small "boom" sound is heard when the TV is turned on.

- The TV's demagnetizing function is working. This does not indicate a malfunction.

Horizontal thin lines appear on the TV screen.

- The visible lines that sometimes appear on your TV screen are shadows from the damper wires used to stabilize the aperture grille of the Trinitron picture tube. This does not indicate a malfunction.

■ Specifications

	KV-DZ29M61	Note
Power requirements	110-240 V AC, 50/60 Hz	
Power consumption (W)	Indicated on the rear of the TV	
Television system	B/G, I, D/K, M	
Color system	PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43	
Stereo/Bilingual system	NICAM Stereo/Bilingual B/G, I; A2 Stereo/Bilingual B/G	
Teletext language	English, Farsi (Persian), French	
Channel coverage		
B/G	VHF : E2 to E12 /UHF : E21 to E69 / CATV : S01 to S03, S1 to S41	
I	UHF : B21 to B68 /CATV : S01 to S03, S1 to S41	
D/K	VHF : C1 to C12, R1 to R12 / UHF : C13 to C57, R21 to R60 / CATV : S01 to S03, S1 to S41, Z1 to Z39	
M	VHF : A2 to A13 /UHF : A14 to A79 / CATV : A-8 to A-2, A to W+4, W+6 to W+84	
(Antenna)	75-ohm external terminal	
Audio output (Speaker)	10 W + 10 W	
Number of terminal		
(Video)	Input: 3 Output: 1 Phono jacks; 1 Vp-p, 75 ohms	
(Audio)	Input: 5 Output: 1 Phono jacks; 500 mVrms	
(S Video)	Input: 1 Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms	
(Component Video)	Input: 2 Phono jacks; Y: 1 Vp-p, 75 ohms, sync negative P_B/C_B: 0.7 Vp-p, 75 ohms P_R/C_R: 0.7 Vp-p, 75 ohms	
(Headphone)	Output: 1 Stereo minijack	
Picture tube	29 in.	
Tube size (cm)	72	Measured diagonally
Screen size (cm)	68	Measured diagonally
Dimensions (w/h/d, mm)	794 × 590 × 507	
Mass (kg)	47	

Design and specifications are subject to change without notice.

SONY

2-890-006-**11** (1)

Trinitron Color TV

Operating Instructions

GB

- Before operating the unit, please read this manual thoroughly and retain it for future reference.

WEGA

KV-DZ29

M91

A Specifications

	KV-DZ29M91			Note
Power requirements	220-240 V AC, 50/60 Hz			
Power consumption (W)	Indicated on the rear of the TV			
Television system	B/G, I, D/K, M			
Color system	PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43			
Stereo/Bilingual system	NICAM Stereo/Bilingual B/G, I, D/K; A2 Stereo/Bilingual B/G			
Teletext language	English, Russian			
Channel coverage				
B/G	VHF : E2 to E12 /UHF : E21 to E69 / CATV : S01 to S03, S1 to S41			
I	UHF : B21 to B68 /CATV : S01 to S03, S1 to S41			
D/K	VHF : C1 to C12, R1 to R12 / UHF : C13 to C57, R21 to R60 / CATV : S01 to S03, S1 to S41, Z1 to Z39			
M	VHF : A2 to A13 /UHF : A14 to A79 / CATV : A-8 to A-2, A to W+4, W+6 to W+84			
(Antenna)	75-ohm external terminal			
Audio output (Speaker)	10 W + 10 W			
Number of terminal				
(Video)	Input: 3	Output: 1	Phono jacks; 1 Vp-p, 75 ohms	
(Audio)	Input: 5	Output: 1	Phono jacks; 500 mVrms	
(S Video)	Input: 1		Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms	
(Component Video)	Input: 2		Phono jacks; Y: 1 Vp-p, 75 ohms, sync negative P_B/C_B: 0.7 Vp-p, 75 ohms P_R/C_R: 0.7 Vp-p, 75 ohms	
(Headphone)	Output: 1		Stereo minijack	
Picture tube	29 in.			
Tube size (cm)	72			Measured diagonally
Screen size (cm)	68			Measured diagonally
Dimensions (w/h/d, mm)	794 × 590 × 507			
Mass (kg)	47			

Design and specifications are subject to change without notice.

Made in Malaysia.

Sony Corporation
6-7-35 Kitashinagawa,
Shinagawa-ku, Tokyo, 141-0001 Japan.

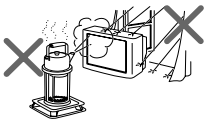
http://www.sony.net/

B WARNING

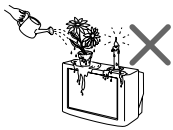
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 220 – 240 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid leaks from the batteries and touches your skin, immediately wash it away with water.

For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.

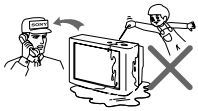
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



To prevent fire or shock hazard, do not expose the TV to rain or moisture.

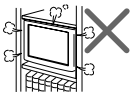


Do not place any objects on the TV. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

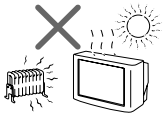


Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.

Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.

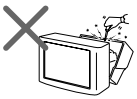


Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.

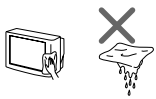


Your TV is recommended for home use only. Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.

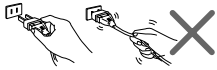
Do not plug in too many appliances to the same power socket. Do not damage the power cord.



Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



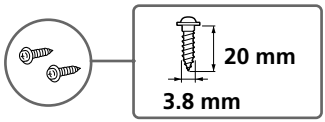
Clean the TV with a dry and soft cloth. Do not use benzine, thinner, or any other chemicals to clean the TV. Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



Pull the power cord out by the plug. Do not pull the power cord itself. Even if your TV is turned off, it is still connected to the AC power source (mains) as long as the power cord is plugged in. Unplug the TV before moving it or if you are not going to use it for several days.

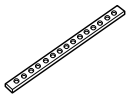
C Securing the TV

To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.

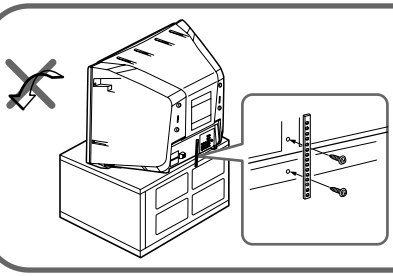


screws

clamps

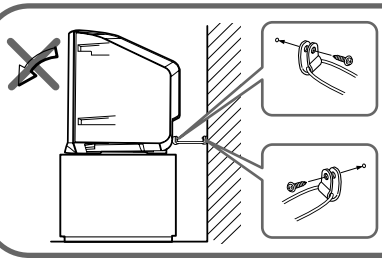


band



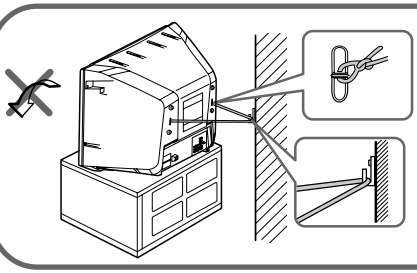
Screw the band to the TV stand and to the provided hole at the rear of your TV.

or



(1) Put a cord or chain through the clamps.
(2) Screw one clamp to a wall or pillar and the other clamp to the provided hole at the rear of your TV.

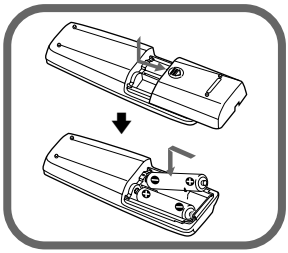
or



(1) Attach each end of a cord or chain to the provided holders at the rear of your TV.
(2) Securely fix the attached cord or chain to a wall or pillar using an attachment which can support the TV set weight.

✍: • Use only the supplied screws. Use of other screws may damage the TV.

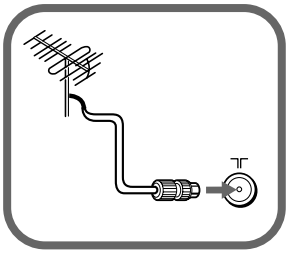
D Getting Started



Step 1

Insert the batteries (supplied) into the remote.

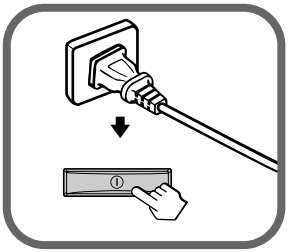
✍: • Do not use old or different types of batteries together.



Step 2

Connect the antenna cable (not supplied) to ⅂⌐ (antenna input) at the rear of the TV.

✍: • You can also connect the TV to other optional components (see **F**).



Step 3

Plug in the power cord, then press ① on the TV to turn it on.

✍: • The ⏻ (standby) indicator flashes green for a few seconds when turning on the TV. This does not indicate a malfunction.

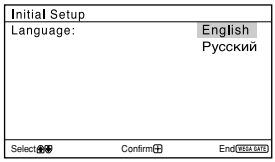
Step 4

Set up the TV by following the instructions of the “Начальная настройка” (“Initial Setup”) menu (see **E**).

E Setting up your TV (“Initial Setup”)

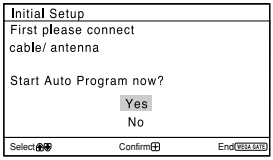
When you turn on your TV for the first time, the “Начальная настройка” (“Initial Setup”) menu will appear. You can adjust settings below using the buttons on the remote control or TV front panel. Press ↑, ↓, ← or → to select or adjust items, then press ⊕.

1 Select the desired menu language.

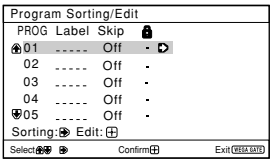


2 Select “Yes” to preset the channels automatically.

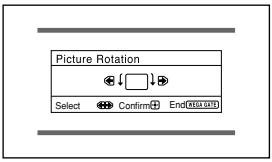
To skip automatic channel presetting, select “No”.



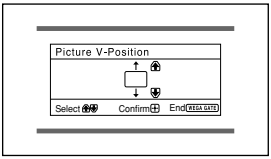
3 The “Program Sorting/Edit” menu enables you to sort and edit the channels (see **N**).



4 Adjust the bars on the top and bottom of the menu if they are slanted.

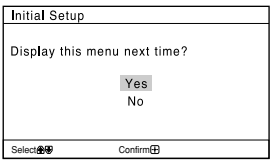


5 Adjust the upper and lower bars if they are not equally positioned to the top and bottom of the screen.



6 To prevent this “Initial Setup” menu from appearing again when you turn on the TV by pressing ⏻, select “No”.

To allow this menu to appear again, select “Yes”.

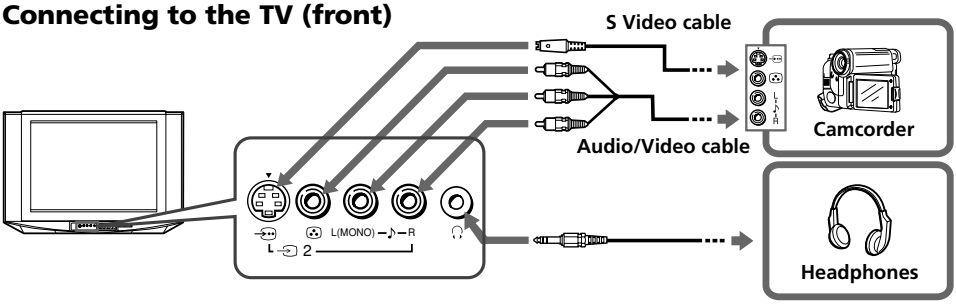


✍: • You can immediately go to the end of the “Initial Setup” menu by pressing WEGA GATE.
• Before adjusting “Picture Rotation” and “Picture V-Position”, keep electrical equipment (external speakers) away from the TV to avoid magnetic disturbance.

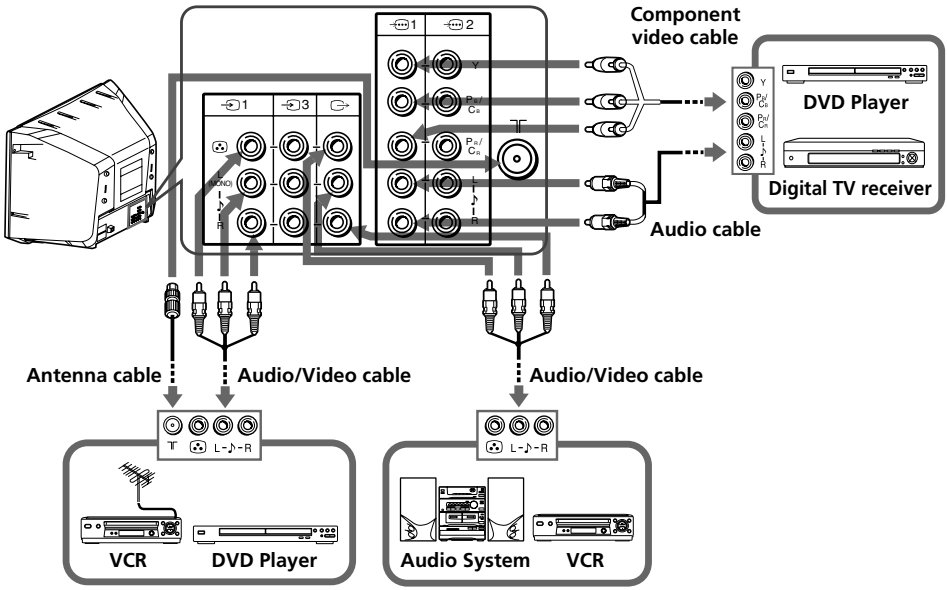
F Connecting optional components

You can connect a wide range of optional components to your TV. Connecting cables are not supplied.

Connecting to the TV (front)



Connecting to the TV (rear)



✍: • If you connect a VCR to ⊤ (antenna input), preset the signal output from the VCR to the program number 0 on the TV (see N).

- When both ⇨ (S video) and ◉ (video) for ⇦2 are connected at the same time, ⇨ (S video) is automatically selected. To view ◉ (video), disconnect the S video cable.
- The component video terminals on your DVD player are sometimes labeled Y/C_B/C_R, Y/P_B/P_R, Y/C_b/C_r or Y/B-Y/R-Y.
- If you select "HD/DVD 1" or "HD/DVD 2" on your TV screen, the signal from the ⇨ (monitor output) terminals will not be output properly. This does not indicate a malfunction.
- The TV accepts the following signal formats:

Total scanning line	1125i	750p	625p	625i	525p	525i
Effective scanning line	1080i	720p	576p	576i	480p	480i
fV (Hz)	50/60	50/60	50	50	60	60

G Troubleshooting

If you find any problem while viewing your TV, you can either use the "Factory Settings" function (see O) or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

Snowy picture, noisy sound

- Check the antenna setup and other connections.
- Preset the channel manually again (see N).
- Set the "Signal Booster" to "Auto" (see N) or try using an external booster.

Distorted picture, noisy sound

- Set the "Signal Booster" to "Off" (see N), or turn off or disconnect any external booster in use.

Good picture, noisy sound

- Select the appropriate "TV System" (see N).

No picture, no sound

- Check the power cord, antenna setup and other connections.
- Press I/⏻ (power) to turn on the TV.
- Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.

Good picture, no sound

- Press + to increase the volume level or press 🔇 to cancel the muting.

Dotted lines or stripes

- Do not use a hair dryer or other equipment near the TV.
- Check the antenna setup.

Double images or "ghosts"

- Use the fine tuning ("Fine") function (see N).
- Check the antenna setup or use a highly directional antenna.
- Turn off or disconnect any external booster in use.

No color

- Adjust the "Color" level from "Picture Adjustment" (see K).
- Select the appropriate "Color System" (see O).
- Check the antenna setup.

Picture slant

- Keep external speakers or other electrical equipment away from the TV. The magnetic disturbance from these equipments or the direction of the earth's magnetic field may affect the TV.
- Adjust the "Picture Rotation" or "Picture V-Position" (see O).

Abnormal color patches

- Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again to demagnetize the TV.

TV cannot receive stereo broadcast sound or stereo broadcast sound switches on and off or is distorted.

- Check the antenna setup and other connections.

Teletext display is incomplete (snowy picture or double images).

- Check the antenna setup and other connections.
- Set the "Signal Booster" to "Auto" (see N) or try using an external booster.
- Use the fine tuning ("Fine") function (see N).

Troubleshooting (continued)

The ⏻ (standby) indicator on your TV flashes red several times after every three seconds.

- Count the number of times the ⏻ (standby) indicator flashes. Press ⏻ (main power) to turn off your TV. Contact your nearest Sony service center.

The TV screen sometimes goes blank for slightly longer than usual during channel change.

- The "Signal Booster" is functioning to detect a weak signal. This does not indicate a malfunction.

Cannot play shooting games.

- Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with your TV. For details, see the instruction manual supplied with the video game software.

TV cabinet creaks.

- Changes in room temperature sometimes make the TV cabinet expand or contract, causing a noise. This does not indicate a malfunction.

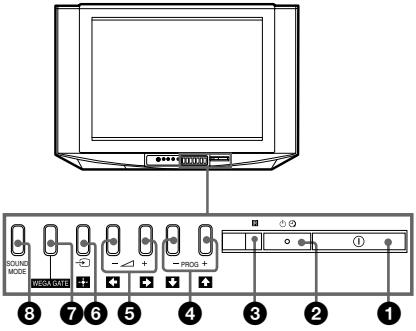
A small "boom" sound is heard when the TV is turned on.

- The TV's demagnetizing function is working. This does not indicate a malfunction.

Horizontal thin lines appear on the TV screen.

- The visible lines that sometimes appear on your TV screen are shadows from the damper wires used to stabilize the aperture grille of the Trinitron picture tube. This does not indicate a malfunction.

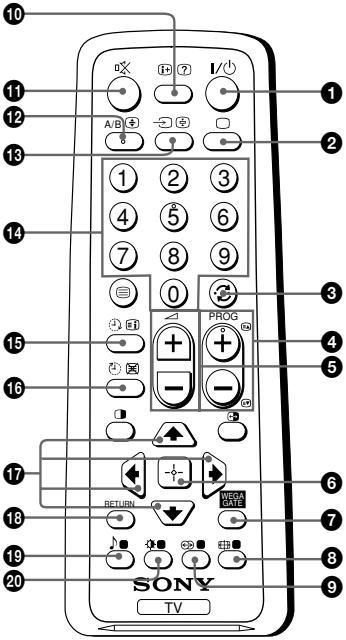
H TV buttons and remote control



❶ ⏻ Turn off or turn on the TV.
❷ 🕘 Wake Up indicator.
❷ ⏻ Standby indicator.
❸ Remote control sensor.
❹ PROG +/– Select program number.
❺ ◿ +/– Adjust volume.
❻ ⏎ Select TV or video input.

WEGA GATE menu operations (see I)

❹,❺ ↑,↓,←,→ Select or adjust items.
❻ + Confirm selected items.
❼ WEGA GATE Display or cancel WEGA GATE menu.
❽ SOUND MODE Select sound mode options with a 5-Band Graphic Equalizer display (see L).



❶ I/⏻ Turn off temporarily or turn on the TV.
❷ ▭ Display the TV program.
❸ ↻ Jump to last program number that has been watched for at least five seconds.
❹ PROG +/– Select program number. To select quickly, press and hold until the desired program number appears.
❺ ◿ +/– Adjust volume.
❽ ⊞ Change the picture size: "4:3", "16:9" (16:9 wide mode).
❾ ⊛ Select surround mode options (see L).
❿ ⓘ Display on-screen information.
⓫ 🔇 Mute the sound.
⓬ A/B Select stereo/bilingual mode:

Broadcasting	Display (selected sound)
NICAM stereo	NICAM (stereo), Mono (regular)
NICAM bilingual	NICAM Main (main), NICAM Sub (sub), Mono (regular)
NICAM monaural	NICAM Main (main), Mono (regular)
A2 stereo	Stereo (stereo), Mono (regular)
A2 bilingual	Main (main), Sub (sub)

✍: • If the stereo sound is noisy when receiving a stereo program, select "Mono". The sound becomes monaural, but the noise is reduced.

TV buttons and remote control (continued)

⓭ Select TV or video input.

⓮ 0 – 9 Input numbers. For program numbers 10 and above, enter the second digit within two seconds.

⓳ Select sound mode options with a 5-Band Graphic Equalizer display: "Dynamic", "Standard", "Custom"* (see **L**).

* When the "Custom" mode is selected, you can receive the last adjusted sound settings from the "Sound Adjustment" option in the menu.

⓴ Select picture mode options: "Vivid", "Standard", "Custom"* (see **K**).

* When the "Custom" mode is selected, you can receive the last adjusted picture settings from the "Picture Adjustment" option in the menu.

WEGA GATE menu operations (see **I**)

⓺ Confirm selected items.

⓻ WEGA GATE Display or cancel WEGA GATE menu.

⓱ ↑, ↓, ←, → Select or adjust items.

⓲ RETURN Return to the previous level.

Timer operations

⓯ (Wake Up Timer) Set TV to turn on automatically according to the desired period of time (max. of 12 hours). The indicator on TV lights up amber once you set the wake up timer. If no buttons or controls are pressed for more than one hour after the TV is turned on using the wake up timer, the TV automatically goes into standby mode.

⓰ (Sleep Timer) Set TV to turn off automatically according to the desired period of time (max. of one hour and 30 min.).

Teletext operations (green icon)

Display Teletext broadcast: Teletext ⟶ Teletext and TV ⟶ TV. If there is no Teletext broadcast, only "100" is displayed at the top left corner of the screen.

Display Teletext service contents.

0 – 9 Input three digits Teletext page number.

, Display the next or previous page.

Stop Teletext display from scrolling.

Reveal concealed information.

Enlarge the Teletext display.

Show TV screen while waiting for Teletext page. Enter the Teletext page number that you want to refer to, then press . When the page number is displayed, press to show the text.

■ (red, green, yellow, blue) Access the corresponding colored FASTEXT menu. The FASTEXT feature can be used only when the FASTEXT broadcast is available.

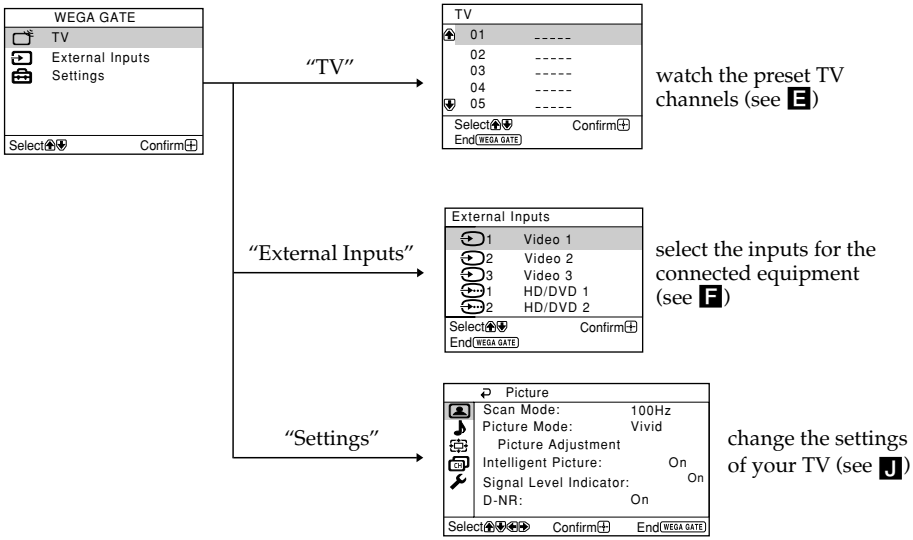
✍: • Teletext is automatically cancelled when there is no signal or the frequency of input signal is not within the proper range.

PIP operations

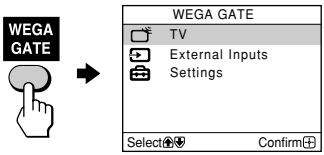
, , ↑, ↓, ←, → Not function for your TV.

I WEGA GATE navigator

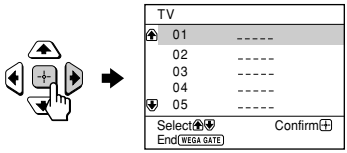
WEGA GATE is a gateway that allows you access to preset TV channels, connected external inputs and "Settings" menu.



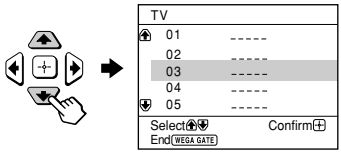
How to use WEGA GATE



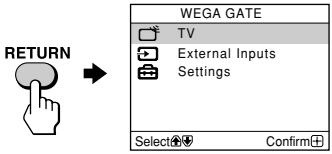
(1) Press WEGA GATE to display or cancel the WEGA GATE menu.



(2) Press ⊹ (or →) to confirm your selection or go to the next level.



(3) Press ↑ or ↓ to select the desired item.



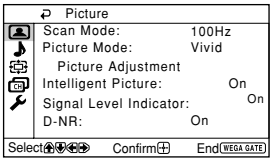
(4) Press RETURN to move to the previous level.

✍: • When a feature is dimmed in the menu, it is not selectable.

• The WEGA GATE, ⊹ and ↑,↓,←,→ buttons on the front panel can also be used for the operations above.

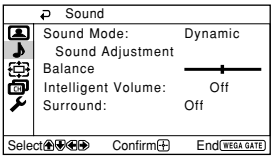
J "Settings" Adjustment

You are able to change the settings of your TV from "Settings" in WEGA GATE menu (see I). The following is an overview of the items that can be adjusted.



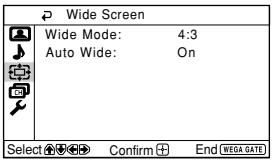
"Picture" (see K)

"Scan Mode": "100Hz" → "Progressive"
"Picture Mode": "Vivid" → "Standard" → "Custom"
"Picture Adjustment": "Picture", "Brightness", "Color", "Hue", "Sharpness", "Color Temperature", "VM", "Reset"
"Intelligent Picture": "On" → "Off"
"Signal Level Indicator": "On" → "Off"
"D-NR": "On" → "Off"



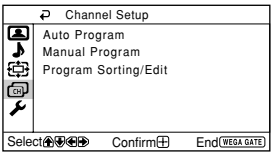
"Sound" (see L)

"Sound Mode": "Dynamic" → "Standard" → "Custom"
"Sound Adjustment": "Adjust", "Reset"
"Balance"
"Intelligent Volume": "On" → "Off"
"Surround": "Movie" → "Sports" → "Off"



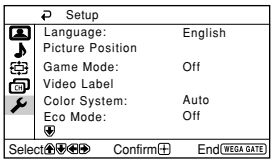
"Wide Screen" (see M)

"Wide Mode": "16:9" → "4:3"
"Auto Wide": "On" → "Off"



"Channel Setup" (see N)

"Auto Program"
"Manual Program"
"Program": "00" - "99"
"TV System": "B/G" → "I" → "D/K" → "M"
"VHF Low"/"VHF High"/"UHF"
"Fine": "Auto" → "Manual"
"Signal Booster": "Auto" → "Off"
"Program Sorting/Edit"

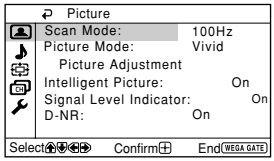


"Setup" (see O)

"Language": "English" → "Русский" (Russian)
"Picture Position": "Picture Rotation", "Picture V-Position"
"Game Mode": "On" → "Off"
"Video Label"
"Color System": "Auto" → "PAL" → "SECAM" → "NTSC3.58" → "NTSC4.43"
"Eco Mode": "On" → "Off"
"Factory Settings": "Yes" → "No"

K “Picture” setting

Press WEGA GATE and select “Settings”. Make sure the “Picture” icon ( ) is selected, then press .



“Scan Mode”	Choose either “100Hz” (reduce flicker on the screen to provide a stable picture) or “Progressive” (reduce jitter of any small areas or scanning lines on the screen).
“Picture Mode”	Choose either “Vivid” (bright, contrast and sharp), “Standard” (normal) or “Custom”*.
“Intelligent Picture”	Optimize picture quality. Press ↑ or ↓ to select “On”, then press . To cancel, select “Off”, then press .
“Signal Level Indicator”	Display the signal level when the “Intelligent Picture” is functioning. “Intelligent Picture Signal Level” indicator will be displayed, followed by picture improvement when you change the program number or the input mode.  red (weak) amber (average) green (good) Press ↑ or ↓ to select “On”, then press . To cancel, select “Off”, then press . “Intelligent Picture” is still functioning.
“D-NR” (Digital Noise Reduction)	Reduce noise level automatically to get optimum picture. Press ↑ or ↓ to select “On”, then press . To cancel, select “Off”, then press .

* You can adjust the setting to your personal preference in the “Picture Adjustment” option only when the “Custom” mode is selected.

✍: • “Scan Mode” is not selectable when “Game Mode” is turned to “On”. “Scan Mode” is not available for HD (high-definition) and progressive input signals.
- “D-NR” is not available in HD and progressive input signals.
- “Signal Level Indicator” does not function in “HD/DVD 1” and “HD/DVD 2” input modes.

Adjusting the "Picture Adjustment" items under "Custom" mode

1 Press ↑ or ↓ to select either "Picture" (contrast), "Brightness", "Color", "Hue" (color tones), "Sharpness", "Color Temperature" (choose either "Cool", "Neutral" or "Warm") or "VM" (choose either "High", "Low" or "Off"), then press ⊕.

Selecting "Reset" will set your TV to the factory settings.

2 Press ↑,↓,← or → to adjust the setting of your selected item, then press ⊕.

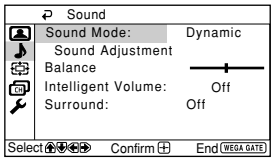
3 Repeat the above steps to adjust other items.

The adjusted settings will be received when you select "Custom".

✍: • "Hue" can be adjusted for the NTSC color system only.
• Reducing "Sharpness" can also reduce picture noise.

L “Sound” setting

Press WEGA GATE and select “Settings”. Press ↑ or ↓ to select the “Sound” icon (♪), then press ⊕.



“Sound Mode”	Choose either “Dynamic” (low and high tones), “Standard” (voice and high tones) or “Custom”*.
“Balance”	Press ↓ or ← to emphasize the left speaker. Press ↑ or → to emphasize the right speaker.
“Intelligent Volume”	Adjust the volume of all program numbers and video inputs automatically. Press ↑ or ↓ to select “On”, then press ⊕. To cancel, select “Off”, then press ⊕.
“Surround”	Choose either “Movie” (cinema surround effect for stereo sound), “Sports” (simulated stadium effect for monaural sound) or “Off”.

* You can adjust the setting to your personal preference in the “Sound Adjustment” option only when the “Custom” mode is selected.

Adjusting the “Sound Adjustment” items under “Custom” mode

The 5-Band Graphic Equalizer feature allows you to adjust sound frequency settings of “Custom” mode in the menu.

1 Make sure that “Adjust” is selected, then press ⊕.

Selecting “Reset” will set your TV to the factory settings.

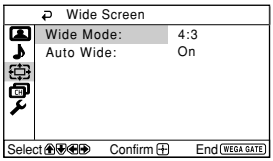
2 Press ← or → to select the desired sound frequency, then press ↑ or ↓ to adjust the setting and press ⊕.

The adjusted settings will be received when you select “Custom”.

✍: • Adjusting higher frequency will affect higher pitched sound and adjusting lower frequency will affect lower pitched sound.
• You may display the settings directly by using the SOUND MODE button on the TV front panel (see H) or ♪ button on the remote control (see H).

M “Wide Screen” setting

Press WEGA GATE and select “Settings”. Press ↑ or ↓ to select the “Wide Screen” icon (), then press .

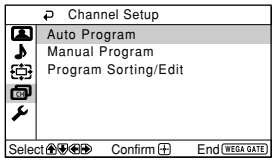


“Wide Mode”	Change the size of the picture when receiving wide-mode (16:9) picture signal. Choose “16:9”. To restore the normal picture size, select “4:3”, then press .
“Auto Wide”	Display the picture in optimum wide screen automatically when you choose “On”. To cancel, select “Off”, then press .

✍: • You can also change to wide-mode picture size by pressing the button on the remote control (see H).
• “Wide Mode” is not selectable for HD (1080i, 720p) input signals. For HD (1080i, 720p) input signals, your TV will always display wide mode picture.
• “Auto Wide” is only available when receiving 576i, 480p and 480i input signals.

N “Channel Setup” setting

Press WEGA GATE and select “Settings”. Press ↑ or ↓ to select the “Channel Setup” icon (CH), then press ⊕.



“Auto Program”	Preset channels automatically.
“Manual Program”	Manually preset desired channels and channels that cannot be preset automatically (see **Presetting channels manually**).
“Program Sorting/Edit”	Sort and edit the channels. (a) If you wish to keep the channels in the current condition, press WEGA GATE to exit. (b) Press ↑ or ↓ to select the program number with the channel you wish to change. The selected channel will appear on the screen. (c) If you wish to store the channels in a different order: (1) Press → to enter sorting mode. (2) Press ↑ or ↓ to select the new program number position for your selected channel, then press ←. (d) If you wish to edit the channels, press ⊕ to change to edit mode. Press → until the mode that you wish to edit is highlighted: Label, Skip, 🔒 (block symbol). Then press ⊕. (1) To label, press ↑ or ↓ to select the alphanumeric characters for the label. Then press ⊕. (2) To skip the program number, press ↑ or ↓ to select “On”. Then press ⊕. You can skip this program number when using PROG +/–. (3) To block unwanted program number, press ↑ or ↓ to select 🔒. Then press ⊕. (e) Repeat step (b) to (d) if you wish to change other channels. Press WEGA GATE to exit.

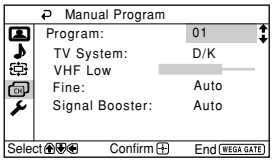
✍: • If you preset a blocked program number, that program number will be unblocked automatically.
• If you sort a blocked program, that program will remain blocked.

Presetting channels manually

1 After selecting "Manual Program", select the program number to which you want to preset a channel.

(1) Make sure "Program" is selected, then press ⊕.

(2) Press ↑ or ↓ until the program number you want to preset appears on the menu, then press ⊕.



2 Select the desired channel.

(1) Make sure either "VHF Low", "VHF High" or "UHF" is selected, then press ⊕.

(2) Press ↑ or ↓ until the desired channel's broadcast appears on the TV screen, then press ⊕.

3 If the sound of the desired channel is abnormal, select the appropriate TV system.

(1) Press ↑ or ↓ to select "TV System", then press ⊕.

(2) Press ↑ or ↓ until the sound becomes normal, then press ⊕.

4 If you are not satisfied with the picture and sound quality, you may be able to improve them by using the "Fine" tuning feature.

(1) Press ↑ or ↓ to select "Fine", then press ⊕.

(2) Press ↑ or ↓ to select "Manual", then press ⊕.

(3) Press ↑,↓,← or → until the picture and sound quality are optimal, then press ⊕.

The + or – icon on the menu flashes while tuning.

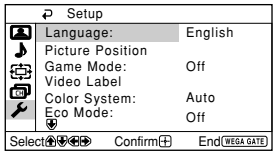
5 If the TV signal is too strong (picture distorted; picture with lines; signal interference) or weak (snowy picture), you may be able to improve the picture quality by setting the "Signal Booster" feature.

(1) Press ↑ or ↓ to select "Signal Booster", then press ⊕.

(2) Press ↑ or ↓ to select either "Off"(for picture distorted; picture with lines; signal interference) or "Auto" (for snowy picture), then press ⊕.

“Setup” setting

Press WEGA GATE and select “Settings”. Press ↑ or ↓ to select the “Setup” icon (🔧), then press ⊕.



“Language”	Change the menu language. Press ↑ or ↓ to select either “English”or “Русский” (Russian), then press ⊕.
“Picture Position”	Adjust the picture position when it is not aligned with the TV screen. Press ↑ or ↓ to select “Picture Rotation” or “Picture V-Position”, then press ⊕. Press ↑, ↓, ← or → to adjust the picture position, then press ⊕.
“Game Mode”	Adjust the picture setting that is suitable to view video games. Press ↑ or ↓ to select “On”, then press ⊕. To cancel, select “Off”, then press ⊕.
“Video Label”	Label the connected equipment. (1) Press ↑ or ↓ to select the input you want to label, then press ⊕. (2) Press ↑ or ↓ to select the label options: “Video 1”/ “Video 2”/ “Video 3”/ “HD/DVD 1”/ “HD/DVD 2”, “VCR”, “SAT”, “Game” or “Edit”*, then press ⊕. * You may edit the video label to your favorite name. Press ↑ or ↓ to select alphanumeric characters for the label, then press ⊕.
“Color System”	Select the color system. Press ↑ or ↓ to select either “Auto”, “PAL”, “SECAM”, “NTSC3.58” or “NTSC4.43”, then press ⊕. Normally, set this to “Auto”.
“Eco Mode”	Reduce power consumption of your TV to save energy. Press ↑ or ↓ to select “On”, then press ⊕. When you press ⊕ or turn on the TV, Eco Mode (ECO) symbol will appear on the screen for a while. To cancel, select “Off”, then press ⊕.

"Setup" setting (continued)

"Factory Settings"	Reset your TV to factory settings. Press ⊕ and press ↑ or ↓ to select "Yes", then press ⊕. Your TV will go blank for a few seconds, then the "Initial Setup" menu will appear. To cancel, select "No", then press ⊕.

✍: • You cannot adjust "Picture Rotation" and "Picture V-Position" when HD (1080i, 720p) signals are input.

- "Game Mode" is available only when receiving signals through the → (video input), → (S video input) or → (component video input) terminals.
- When HD or progressive signals are input, "Game Mode" does not function.

SONY

2-891-295-**11** (1)

Trinitron Color TV

Operating Instructions — GB

- Before operating the unit, please read this manual thoroughly and retain it for future reference.

使用說明書 — CT

- 使用本電視機之前請先詳細閱讀此手冊，並妥善保存以備日後用作參考。

Panduan Pengendalian — MY

- Sebelum mengendalikan unit, sila baca buku panduan ini dengan teliti dan simpan untuk rujukan masa depan.

WEGA

KV-DZ29

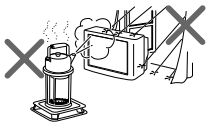
M61

WARNING

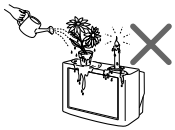
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 220 – 240 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage and damage to the remote, remove the batteries from the remote if you are not going to use it for several days. If any liquid leaks from the batteries and touches your skin, immediately wash it away with water.

For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.

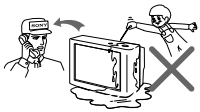
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



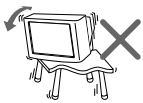
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



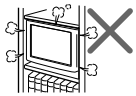
Do not place any objects on the TV. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.



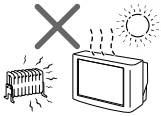
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



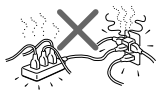
Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.



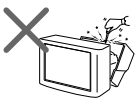
Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



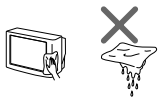
Your TV is recommended for home use only. Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



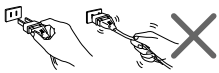
Do not plug in too many appliances to the same power socket. Do not damage the power cord.



Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



Clean the TV with a dry and soft cloth. Do not use benzine, thinner, or any other chemicals to clean the TV. Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



Pull the power cord out by the plug. Do not pull the power cord itself. Even if your TV is turned off, it is still connected to the AC power source (mains) as long as the power cord is plugged in. Unplug the TV before moving it or if you are not going to use it for several days.

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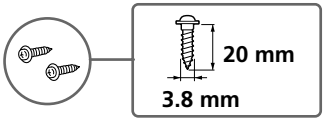
GB

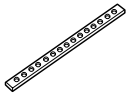
■ Securing the TV

To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.

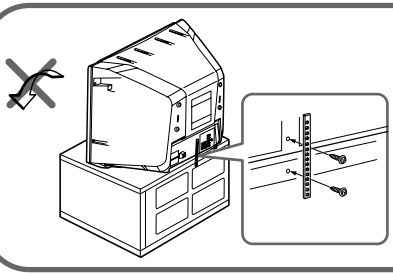


screws

clamps

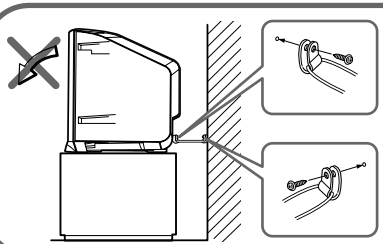


band



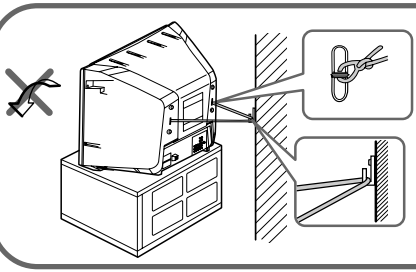
Screw the band to the TV stand and to the provided hole at the rear of your TV.

or



(1) Put a cord or chain through the clamps.
(2) Screw one clamp to a wall or pillar and the other clamp to the provided hole at the rear of your TV.

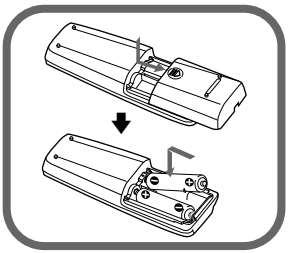
or



(1) Attach each end of a cord or chain to the provided holders at the rear of your TV.
(2) Securely fix the attached cord or chain to a wall or pillar using an attachment which can support the TV set weight.

✍: • Use only the supplied screws. Use of other screws may damage the TV.

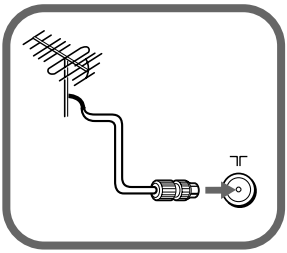
■ Getting Started



Step 1

Insert the batteries (supplied) into the remote.

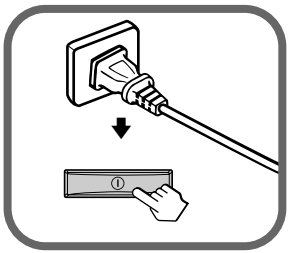
✍: • Do not use old or different types of batteries together.



Step 2

Connect the antenna cable (not supplied) to ⊤ (antenna input) at the rear of the TV.

✍: • You can also connect the TV to other optional components (see page 7).



Step 3

Plug in the power cord, then press ⏻ on the TV to turn it on.

✍: • The ⏻ (standby) indicator flashes green for a few seconds when turning on the TV. This does not indicate a malfunction.

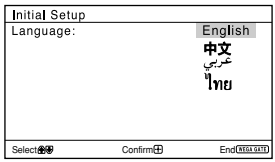
Step 4

Set up the TV by following the instructions of the "Initial Setup" menu (see page 6).

■ Setting up your TV (“Initial Setup”)

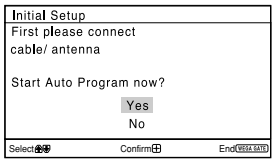
When you turn on your TV for the first time, the “Initial Setup” menu will appear. You can adjust settings below using the buttons on the remote control or TV front panel. Press ↑, ↓, ← or → to select or adjust items, then press ⊕.

1 Select the desired menu language.

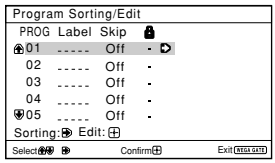


2 Select “Yes” to preset the channels automatically.

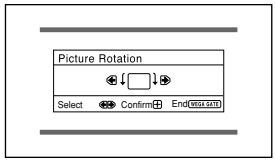
To skip automatic channel presetting, select “No”.



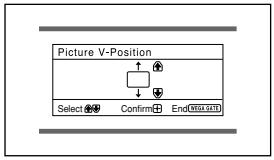
3 The “Program Sorting/Edit” menu enables you to sort and edit the channels (see page 16).



4 Adjust the bars on the top and bottom of the menu if they are slanted.

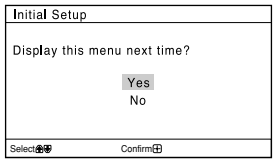


5 Adjust the upper and lower bars if they are not equally positioned to the top and bottom of the screen.



6 To prevent this “Initial Setup” menu from appearing again when you turn on the TV by pressing ⏻, select “No”.

To allow this menu to appear again, select “Yes”.

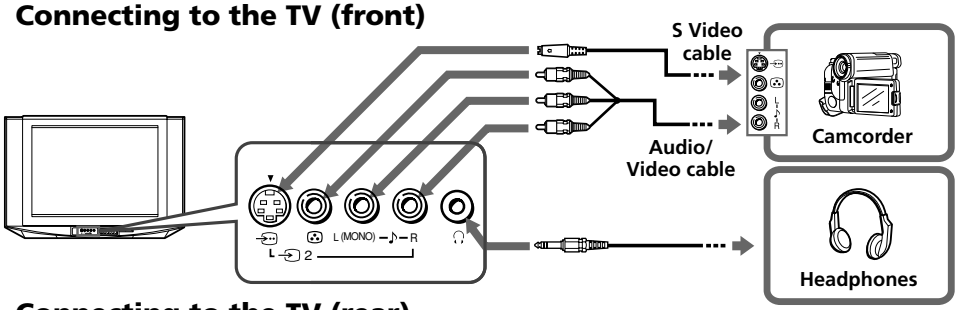


✍: • You can immediately go to the end of the “Initial Setup” menu by pressing WEGA GATE.
• Before adjusting “Picture Rotation” and “Picture V-Position”, keep electrical equipment (external speakers) away from the TV to avoid magnetic disturbance.

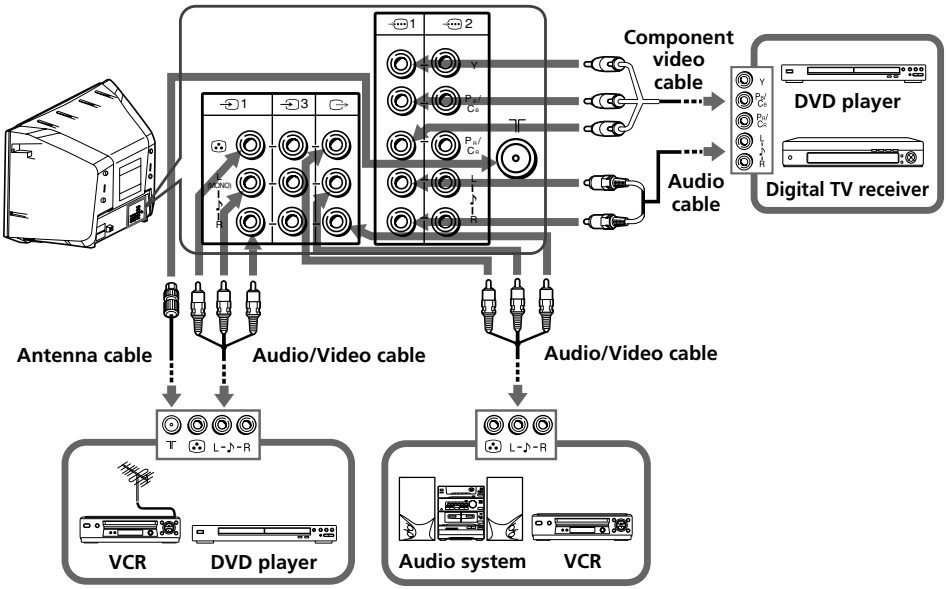
■ Connecting optional components

You can connect a wide range of optional components to your TV. Connecting cables are not supplied.

Connecting to the TV (front)



Connecting to the TV (rear)

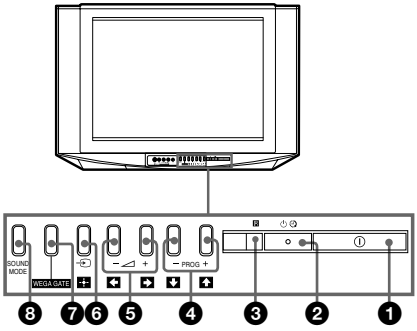


✍: • If you connect a VCR to ⅂ (antenna input), preset the signal output from the VCR to the program number 0 on the TV (see page 17).

- When both (S video) and (video) for 2 are connected at the same time, (S video) is automatically selected. To view (video), disconnect the S video cable.
- The component video terminals on your DVD player are sometimes labeled Y/C_B/C_R, Y/P_B/P_R, Y/C_b/C_r or Y/B-Y/R-Y.
- If you select "HD/DVD 1" or "HD/DVD 2" on your TV screen, the signal from the (monitor output) terminals will not be output properly. This does not indicate a malfunction.
- The TV accepts the following signal formats:

Total scanning line	1125i	750p	625p	625i	525p	525i
Effective scanning line	1080i	720p	576p	576i	480p	480i
fV (Hz)	50/60	50/60	50	50	60	60

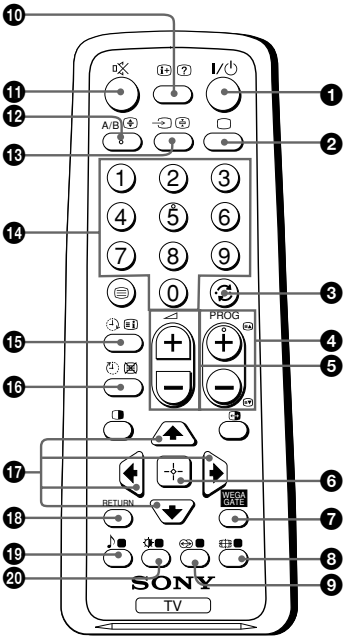
■ TV buttons and remote control



❶ ⏻ Turn off or turn on the TV.
❷ Wake Up indicator.
❷ Standby indicator.
❸ Remote control sensor.
❹ PROG +/– Select program number.
❺ +/– Adjust volume.
❻ Select TV or video input.

WEGA GATE menu operations (see page 10)

❹,❺ ↑,↓,←,→ Select or adjust items.
❻ Confirm selected items.
❼ WEGA GATE Display or cancel WEGA GATE menu.
❽ SOUND MODE Select sound mode options with a 5-Band Graphic Equalizer display (see page 14).



❶ I/⏻ Turn off temporarily or turn on the TV.
❷ Display the TV program.
❸ Jump to last program number that has been watched for at least five seconds.
❹ PROG +/– Select program number. To select quickly, press and hold until the desired program number appears.
❺ +/– Adjust volume.
❽ Change the picture size: "4:3", "16:9" (16:9 wide mode).
❾ Select surround mode options (see page 14).
❿ Display on-screen information.
⓫ Mute the sound.
⓬ A/B Select stereo/bilingual mode:

Broadcasting	Display (selected sound)
NICAM stereo	NICAM (stereo), Mono (regular)
NICAM bilingual	NICAM Main (main), NICAM Sub (sub), Mono (regular)
NICAM monaural	NICAM Main (main), Mono (regular)
A2 stereo	Stereo (stereo), Mono (regular)
A2 bilingual	Main (main), Sub (sub)

✍: • If the stereo sound is noisy when receiving a stereo program, select "Mono". The sound becomes monaural, but the noise is reduced.

⓭ Select TV or video input.

⓮ 0 – 9 Input numbers. For program numbers 10 and above, enter the second digit within two seconds.

⓳ Select sound mode options with a 5-Band Graphic Equalizer display: "Dynamic", "Standard", "Custom"* (see page 14).

* When the "Custom" mode is selected, you can receive the last adjusted sound settings from the "Sound Adjustment" option in the menu.

⓴ Select picture mode options: "Vivid", "Standard", "Custom"* (see page 12).

* When the "Custom" mode is selected, you can receive the last adjusted picture settings from the "Picture Adjustment" option in the menu.

WEGA GATE menu operations (see page 10)

⓺ Confirm selected items.

⓻ WEGA GATE Display or cancel WEGA GATE menu.

⓱ ↑, ↓, ←, → Select or adjust items.

⓲ RETURN Return to the previous level.

Timer operations

⓯ (Wake Up Timer) Set TV to turn on automatically according to the desired period of time (max. of 12 hours). The indicator on TV lights up amber once you set the wake up timer. If no buttons or controls are pressed for more than one hour after the TV is turned on using the wake up timer, the TV automatically goes into standby mode.

⓰ (Sleep Timer) Set TV to turn off automatically according to the desired period of time (max. of one hour and 30 min.).

Teletext operations (green icon)

Display Teletext broadcast: Teletext → Teletext and TV → TV. If there is no Teletext broadcast, only "100" is displayed at the top left corner of the screen.

Display Teletext service contents.

0 – 9 Input three digits Teletext page number.

, Display the next or previous page.

Stop Teletext display from scrolling.

Reveal concealed information.

Enlarge the Teletext display.

Show TV screen while waiting for Teletext page. Enter the Teletext page number that you want to refer to, then press . When the page number is displayed, press to show the text.

■ (red, green, yellow, blue) Access the corresponding colored FASTEXT menu. The FASTEXT feature can be used only when the FASTEXT broadcast is available.

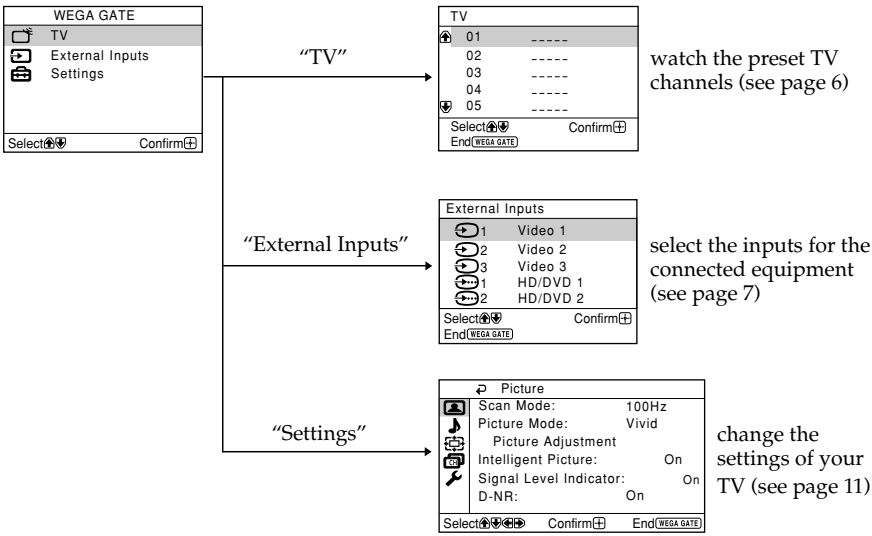
✍: • Teletext is automatically cancelled when there is no signal or the frequency of input signal is not within the proper range.

PIP operations

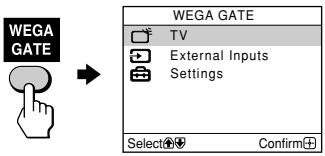
, , ↑, ↓, ←, → Not function for your TV.

■ WEGA GATE navigator

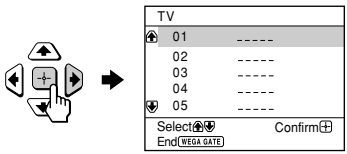
WEGA GATE is a gateway that allows you access to preset TV channels, connected external inputs and "Settings" menu.



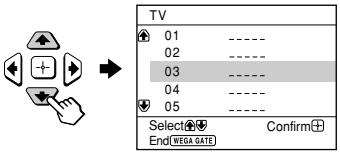
How to use WEGA GATE



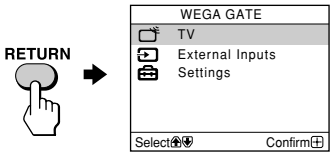
(1) Press WEGA GATE to display or cancel the WEGA GATE menu.



(2) Press ⊹ (or →) to confirm your selection or go to the next level.



(3) Press ↑ or ↓ to select the desired item.



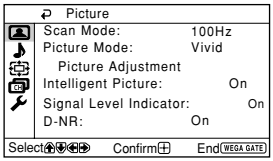
(4) Press RETURN to move to the previous level.

✍: • When a feature is dimmed in the menu, it is not selectable.

• The WEGA GATE, ⊹ and ↑, ↓, ←, → buttons on the front panel can also be used for the operations above.

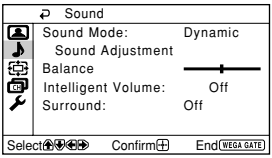
■ “Settings” Adjustment

You are able to change the settings of your TV from “Settings” in WEGA GATE menu (see page 10). The following is an overview of the items that can be adjusted.



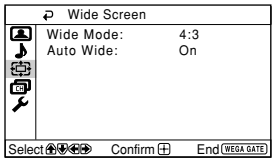
“Picture” (see page 12)

“Scan Mode”: “100Hz” → “Progressive”
“Picture Mode”: “Vivid” → “Standard” → “Custom”
“Picture Adjustment”: “Picture”, “Brightness”, “Color”, “Hue”, “Sharpness”, “Color Temperature”, “VM”, “Reset”
“Intelligent Picture”: “On” → “Off”
“Signal Level Indicator”: “On” → “Off”
“D-NR”: “On” → “Off”



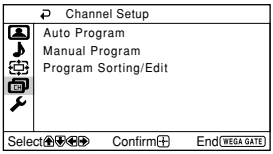
“Sound” (see page 14)

“Sound Mode”: “Dynamic” → “Standard” → “Custom”
“Sound Adjustment”: “Adjust”, “Reset”
“Balance”
“Intelligent Volume”: “On” → “Off”
“Surround”: “Movie” → “Sports” → “Off”



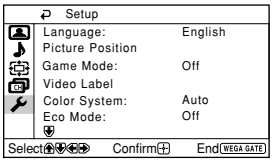
“Wide Screen” (see page 15)

“Wide Mode”: “16:9” → “4:3”
“Auto Wide”: “On” → “Off”



“Channel Setup” (see page 16)

“Auto Program”
“Manual Program”
“Program”: “00” - “99”
“TV System”: “B/G” → “I” → “D/K” → “M”
“VHF Low” / “VHF High” / “UHF”
“Fine”: “Auto” → “Manual”
“Signal Booster”: “Auto” → “Off”
“Program Sorting/Edit”

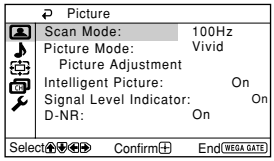


“Setup” (see page 18)

“Language”: “English” → “中文” (Chinese) → “عربي” (Arabic) → “ไทย” (Thai)
“Picture Position”: “Picture Rotation”, “Picture V-Position”
“Game Mode”: “On” → “Off”
“Video Label”
“Color System”: “Auto” → “PAL” → “SECAM” → “NTSC3.58” → “NTSC4.43”
“Eco Mode”: “On” → “Off”
“Factory Settings”: “Yes” → “No”

■ “Picture” setting

Press WEGA GATE and select “Settings”. Make sure the “Picture” icon ( ) is selected, then press ⊕.



“Scan Mode”	Choose either “100Hz” (reduce flicker on the screen to provide a stable picture) or “Progressive” (reduce jitter of any small areas or scanning lines on the screen).
“Picture Mode”	Choose either “Vivid” (bright, contrast and sharp), “Standard” (normal) or “Custom”*.
“Intelligent Picture”	Optimize picture quality. Press ↑ or ↓ to select “On”, then press ⊕. To cancel, select “Off”, then press ⊕.
“Signal Level Indicator”	Display the signal level when the “Intelligent Picture” is functioning. “Intelligent Picture Signal Level” indicator will be displayed, followed by picture improvement when you change the program number or the input mode.  red (weak) amber (average) green (good) Press ↑ or ↓ to select “On”, then press ⊕. To cancel, select “Off”, then press ⊕. “Intelligent Picture” is still functioning.
“D-NR” (Digital Noise Reduction)	Reduce noise level automatically to get optimum picture. Press ↑ or ↓ to select “On”, then press ⊕. To cancel, select “Off”, then press ⊕.

* You can adjust the setting to your personal preference in the “Picture Adjustment” option only when the “Custom” mode is selected (see page 13).

✍: • “Scan Mode” is not selectable when “Game Mode” is turned to “On”. “Scan Mode” is not available for HD (high-definition) and progressive input signals.
• “D-NR” is not available in HD and progressive input signals.
• “Signal Level Indicator” does not function in “HD/DVD 1” and “HD/DVD 2” input modes.

Adjusting the “Picture Adjustment” items under “Custom” mode

1 Press ↑ or ↓ to select either “Picture” (contrast), “Brightness”, “Color”, “Hue” (color tones), “Sharpness”, “Color Temperature” (choose either “Cool”, “Neutral” or “Warm”) or “VM” (choose either “High”, “Low” or “Off”), then press ⊕.

Selecting “Reset” will set your TV to the factory settings.

2 Press ↑,↓,← or → to adjust the setting of your selected item, then press ⊕.

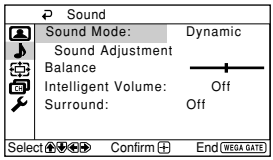
3 Repeat the above steps to adjust other items.

The adjusted settings will be received when you select “Custom”.

✍: • “Hue” can be adjusted for the NTSC color system only.
• Reducing “Sharpness” can also reduce picture noise.

■ “Sound” setting

Press WEGA GATE and select “Settings”. Press ↑ or ↓ to select the “Sound” icon (♪), then press ⊕.



“Sound Mode”	Choose either “Dynamic” (low and high tones), “Standard” (voice and high tones) or “Custom”*.
“Balance”	Press ↓ or ← to emphasize the left speaker. Press ↑ or → to emphasize the right speaker.
“Intelligent Volume”	Adjust the volume of all program numbers and video inputs automatically. Press ↑ or ↓ to select “On”, then press ⊕. To cancel, select “Off”, then press ⊕.
“Surround”	Choose either “Movie” (cinema surround effect for stereo sound), “Sports” (simulated stadium effect for monaural sound) or “Off”.

* You can adjust the setting to your personal preference in the “Sound Adjustment” option only when the “Custom” mode is selected.

Adjusting the “Sound Adjustment” items under “Custom” mode

The 5-Band Graphic Equalizer feature allows you to adjust sound frequency settings of “Custom” mode in the menu.

1 Make sure that “Adjust” is selected, then press ⊕.

Selecting “Reset” will set your TV to the factory settings.

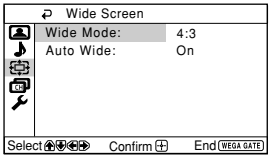
2 Press ← or → to select the desired sound frequency, then press ↑ or ↓ to adjust the setting and press ⊕.

The adjusted settings will be received when you select “Custom”.

✍: • Adjusting higher frequency will affect higher pitched sound and adjusting lower frequency will affect lower pitched sound.
• You may display the settings directly by using the SOUND MODE button on the TV front panel (see page 8) or ♪ button on the remote control (see page 9).

■ “Wide Screen” setting

Press WEGA GATE and select “Settings”.
Press ↑ or ↓ to select the “Wide Screen” icon (), then press .

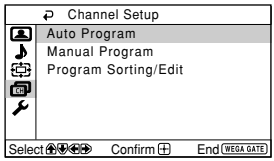


“Wide Mode”	Change the size of the picture when receiving wide-mode (16:9) picture signal. Choose “16:9”. To restore the normal picture size, select “4:3”, then press .
“Auto Wide”	Display the picture in optimum wide screen automatically when you choose “On”. To cancel, select “Off”, then press .

✍: • You can also change to wide-mode picture size by pressing the button on the remote control (see page 8).
• “Wide Mode” is not selectable for HD (1080i, 720p) input signals. For HD (1080i, 720p) input signals, your TV will always display wide mode picture.
• “Auto Wide” is only available when receiving 576i, 480p and 480i input signals.

■ “Channel Setup” setting

Press WEGA GATE and select “Settings”. Press ↑ or ↓ to select the “Channel Setup” icon (CH), then press ⊕.



“Auto Program”	Preset channels automatically.
“Manual Program”	Manually preset desired channels and channels that cannot be preset automatically (see Presetting channels manually in page 17).
“Program Sorting/Edit”	Sort and edit the channels. (a) If you wish to keep the channels in the current condition, press WEGA GATE to exit. (b) Press ↑ or ↓ to select the program number with the channel you wish to change. The selected channel will appear on the screen. (c) If you wish to store the channels in a different order: (1) Press → to enter sorting mode. (2) Press ↑ or ↓ to select the new program number position for your selected channel, then press ←. (d) If you wish to edit the channels, press ⊕ to change to edit mode. Press → until the mode that you wish to edit is highlighted: Label, Skip, 🔒 (block symbol). Then press ⊕. (1) To label, press ↑ or ↓ to select the alphanumeric characters for the label. Then press ⊕. (2) To skip the program number, press ↑ or ↓ to select “On”. Then press ⊕. You can skip this program number when using PROG +/–. (3) To block unwanted program number, press ↑ or ↓ to select 🔒. Then press ⊕. (e) Repeat step (b) to (d) if you wish to change other channels. Press WEGA GATE to exit.

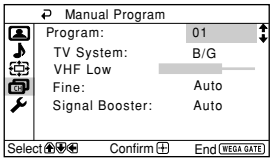
✍: • If you preset a blocked program number, that program number will be unblocked automatically.
• If you sort a blocked program, that program will remain blocked.

Presetting channels manually

1 After selecting "Manual Program", select the program number to which you want to preset a channel.

(1) Make sure "Program" is selected, then press ⊕.

(2) Press ↑ or ↓ until the program number you want to preset appears on the menu, then press ⊕.



2 Select the desired channel.

(1) Make sure either "VHF Low", "VHF High" or "UHF" is selected, then press ⊕.

(2) Press ↑ or ↓ until the desired channel's broadcast appears on the TV screen, then press ⊕.

3 If the sound of the desired channel is abnormal, select the appropriate TV system.

(1) Press ↑ or ↓ to select "TV System", then press ⊕.

(2) Press ↑ or ↓ until the sound becomes normal, then press ⊕.

4 If you are not satisfied with the picture and sound quality, you may be able to improve them by using the "Fine" tuning feature.

(1) Press ↑ or ↓ to select "Fine", then press ⊕.

(2) Press ↑ or ↓ to select "Manual", then press ⊕.

(3) Press ↑,↓,← or → until the picture and sound quality are optimal, then press ⊕.

The + or – icon on the menu flashes while tuning.

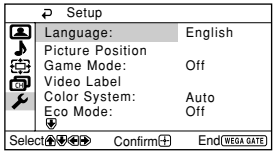
5 If the TV signal is too strong (picture distorted; picture with lines; signal interference) or weak (snowy picture), you may be able to improve the picture quality by setting the "Signal Booster" feature.

(1) Press ↑ or ↓ to select "Signal Booster", then press ⊕.

(2) Press ↑ or ↓ to select either "Off"(for picture distorted; picture with lines; signal interference) or "Auto" (for snowy picture), then press ⊕.

■ “Setup” setting

Press WEGA GATE and select “Settings”.
Press ↑ or ↓ to select the “Setup” icon (🔧), then press ⊕.



“Language”	Change the menu language. Press ↑ or ↓ to select either “English”, “中文” (Chinese), “عربي” (Arabic) or “ไทย” (Thai), then press ⊕.
“Picture Position”	Adjust the picture position when it is not aligned with the TV screen. Press ↑ or ↓ to select “Picture Rotation” or “Picture V-Position”, then press ⊕. Press ↑, ↓, ← or → to adjust the picture position, then press ⊕.
“Game Mode”	Adjust the picture setting that is suitable to view video games. Press ↑ or ↓ to select “On”, then press ⊕. To cancel, select “Off”, then press ⊕.
“Video Label”	Label the connected equipment. (1) Press ↑ or ↓ to select the input you want to label, then press ⊕. (2) Press ↑ or ↓ to select the label options: “Video 1”/ “Video 2”/ “Video 3”/ “HD/DVD 1”/ “HD/DVD 2”, “VCR”, “SAT”, “Game” or “Edit”*, then press ⊕. * You may edit the video label to your favorite name. Press ↑ or ↓ to select alphanumeric characters for the label, then press ⊕.
“Color System”	Select the color system. Press ↑ or ↓ to select either “Auto”, “PAL”, “SECAM”, “NTSC3.58” or “NTSC4.43”, then press ⊕. Normally, set this to “Auto”.
“Eco Mode”	Reduce power consumption of your TV to save energy. Press ↑ or ↓ to select “On”, then press ⊕. When you press ⓘ or turn on the TV, Eco Mode (ECO) symbol will appear on the screen for a while. To cancel, select “Off”, then press ⊕.

“Factory Settings”	Reset your TV to factory settings. Press ⊕ and press ↑ or ↓ to select “Yes”, then press ⊕. Your TV will go blank for a few seconds, then the “Initial Setup” menu will appear. To cancel, select “No”, then press ⊕.

✍: • You cannot adjust “Picture Rotation” and “Picture V-Position” when HD (1080i, 720p) signals are input.

• “Game Mode” is available only when receiving signals through the → (video input), → (S video input) or → (component video input) terminals.

• When HD or progressive signals are input, “Game Mode” does not function.

■ Troubleshooting

If you find any problem while viewing your TV, you can either use the "Factory Settings" function (see page 19) or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

Snowy picture, noisy sound

- Check the antenna setup and other connections.
- Preset the channel manually again (see page 17).
- Set the "Signal Booster" to "Auto" (see page 17) or try using an external booster.

Distorted picture, noisy sound

- Set the "Signal Booster" to "Off" (see page 17), or turn off or disconnect any external booster in use.

Good picture, noisy sound

- Select the appropriate "TV System" (see page 17).

No picture, no sound

- Check the power cord, antenna setup and other connections.
- Press I/⏻ (power) to turn on the TV.
- Press ⏻ (main power) on the TV to turn off the TV for about five seconds, then turn it on again.

Good picture, no sound

- Press + to increase the volume level or press 🔇 to cancel the muting.

Dotted lines or stripes

- Do not use a hair dryer or other equipment near the TV.
- Check the antenna setup.

Double images or "ghosts"

- Use the fine tuning ("Fine") function (see page 17).
- Check the antenna setup or use a highly directional antenna.
- Turn off or disconnect any external booster in use.

No color

- Adjust the "Color" level from "Picture Adjustment" (see page 13).
- Select the appropriate "Color System" (see page 18).
- Check the antenna setup.

Picture slant

- Keep external speakers or other electrical equipment away from the TV. The magnetic disturbance from these equipments or the direction of the earth's magnetic field may affect the TV.
- Adjust the "Picture Rotation" or "Picture V-Position" (see page 18).

Abnormal color patches

- Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ⏻ (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again to demagnetize the TV.

TV cannot receive stereo broadcast sound or stereo broadcast sound switches on and off or is distorted.

- Check the antenna setup and other connections.

Teletext display is incomplete (snowy picture or double images).

- Check the antenna setup and other connections.
- Set the "Signal Booster" to "Auto" (see page 17) or try using an external booster.
- Use the fine tuning ("Fine") function (see page 17).

The ⏻ (standby) indicator on your TV flashes red several times after every three seconds.

- Count the number of times the ⏻ (standby) indicator flashes. Press ⏻ (main power) to turn off your TV. Contact your nearest Sony service center.

The TV screen sometimes goes blank for slightly longer than usual during channel change.

- The "Signal Booster" is functioning to detect a weak signal. This does not indicate a malfunction.

Cannot play shooting games.

- Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with your TV. For details, see the instruction manual supplied with the video game software.

TV cabinet creaks.

- Changes in room temperature sometimes make the TV cabinet expand or contract, causing a noise. This does not indicate a malfunction.

A small "boom" sound is heard when the TV is turned on.

- The TV's demagnetizing function is working. This does not indicate a malfunction.

Horizontal thin lines appear on the TV screen.

- The visible lines that sometimes appear on your TV screen are shadows from the damper wires used to stabilize the aperture grille of the Trinitron picture tube. This does not indicate a malfunction.

■ Specifications

	KV-DZ29M61			Note
Power requirements	220-240 V AC, 50/60 Hz			
Power consumption (W)	Indicated on the rear of the TV			
Television system	B/G, I, D/K, M			
Color system	PAL, PAL 60, SECAM, NTSC3.58, NTSC4.43			
Stereo/Bilingual system	NICAM Stereo/Bilingual B/G, I; A2 Stereo/Bilingual B/G			
Teletext language	English, Farsi (Persian), French			
Channel coverage				
B/G	VHF : E2 to E12 /UHF : E21 to E69 / CATV : S01 to S03, S1 to S41			
I	UHF : B21 to B68 /CATV : S01 to S03, S1 to S41			
D/K	VHF : C1 to C12, R1 to R12 / UHF : C13 to C57, R21 to R60 / CATV : S01 to S03, S1 to S41, Z1 to Z39			
M	VHF : A2 to A13 /UHF : A14 to A79 / CATV : A-8 to A-2, A to W+4, W+6 to W+84			
(Antenna)	75-ohm external terminal			
Audio output (Speaker)	10 W + 10 W			
Number of terminal				
(Video)	Input: 3	Output: 1	Phono jacks; 1 Vp-p, 75 ohms	
(Audio)	Input: 5	Output: 1	Phono jacks; 500 mVrms	
(S Video)	Input: 1		Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms	
(Component Video)	Input: 2		Phono jacks; Y: 1 Vp-p, 75 ohms, sync negative P_B/C_B: 0.7 Vp-p, 75 ohms P_R/C_R: 0.7 Vp-p, 75 ohms	
(Headphone)	Output: 1		Stereo minijack	
Picture tube	29 in.			
Tube size (cm)	72			Measured diagonally
Screen size (cm)	68			Measured diagonally
Dimensions (w/h/d, mm)	794 × 590 × 507			
Mass (kg)	47			

Design and specifications are subject to change without notice.

Instruction Manual 2-890-313-11
will be inserted later