

REVISION HISTORY BG3R CHASSIS

MODEL

KV-AR29M61

KV-AR29M86

KV-AR29N90

PART NO.: 9-872-343-01

[illegible]

SERVICE MANUAL

BG3R CHASSIS

<u>MODEL</u>	<u>COMMANDER</u>	<u>DEST.</u>	<u>CHASSIS NO.</u>	<u>MODEL</u>	<u>COMMANDER</u>	<u>DEST.</u>	<u>CHASSIS NO.</u>
<i>KV-AR29M61</i>	<i>RM-995</i>	<i>GE</i>	<i>SCC-U52L-A</i>				
<i>KV-AR29M86</i>	<i>RM-993</i>	<i>ME</i>	<i>SCC-U48W-A</i>				
<i>KV-AR29N90</i>	<i>RM-996</i>	<i>Philippines</i>	<i>SCC-U65F-A</i>				



RM-993



RM-995



RM-996

TRINITRON® COLOR TV
SONY®

SPECIFICATIONS

(KV-AR29M61/AR29M86)

		Note
Power requirements	110-240 V AC, 50/60Hz	
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	(KV-AR29M61)
Teletext language	English, Arabic, French English, Farsi (Persian), French	(KV-AR29M61) (KV-AR29M86)
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)	8W + 8W	
Number of terminal 📺 Video	Input: 4* Output: 1 * Three input lines available	Phono jacks; 1 Vp-p, 75 ohms
🎵 (Audio)	Input: 4* Output: 1 * Three input lines available	Phono jacks; 500 mVrms
📺 (S Video)	Input : 2	Y: 1 Vp-p, 75 ohms unbalanced, sync negative C: 0.286 Vp-p, 75 ohms
📺 (Component Video)	Input : 1	Phono jacks: Y: 1 Vp-p, 75 ohms sync negative C _B : 0.7 Vp-p, 75 ohms C _R : 0.7 Vp-p, 75 ohms Audio: 500mVrms
🎧 (Headphone)	Output: 1	Stereo minijack
Picture tube	29 in	
Tube size (cm)	72	measured diagonally
Screen size (cm)	68	measured diagonally
Dimension (w/h/d,mm)	765 × 578 × 502	
Mass (kg)	49	

Design and specifications are subject to change without notice.

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.

SPECIFICATIONS
(KV-AR29N90)

		Note
Power requirements	110-240 V AC, 50/60Hz	
Power consumption (W)	Indicated on the rear of the TV	
Television system	M	
Color system	NTSC3.58, PAL*, PAL 60*, SECAM*, NTSC4.43*	*AV IN only
Stereo/Bilingual System	MTS	
Channel coverage	VHF: 2 to 13 UHF: 14 to 69 CATV: 1 to 125	
㐁 (Antenna)	75-ohm external terminal	
Audio output (Speaker)	8W + 8W	
Number of terminal		
Video	Input: 4* Output: 1 * Three input lines available	Phono jacks; 1 Vp-p, 75 ohms
(Audio)	Input: 4* Output: 1 * Three input lines available	Phono jacks; 500 mVrms
(S Video)	Input : 2	Y: 1 Vp-p, 75 ohms unbalanced, sync negative C: 0.286 Vp-p, 75 ohms
(Component Video (DVD) IN)	Input : 1	Phono jacks: Y: 1 Vp-p, 75 ohms sync negative C _B : 0.7 Vp-p, 75 ohms C _R : 0.7 Vp-p, 75 ohms Audio: 500mVrms
㐂 (Headphone)	Output: 1	Stereo minijack
Picture tube	29 in	
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TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
SELF DIAGNOSTIC FUNCTION 5			5. DIAGRAMS		
1. DISASSEMBLY			5-1.	Block Diagram	34
1-1.	Rear Cover Removal	8	5-2.	Circuit Boards Location	38
1-2.	Speaker Removal	8	5-3.	Schematic Diagram	39
1-3.	Chassis Assy Removal (KV-AR29M61/AR29N90) ..	8	(1) A Board Schematic Diagram	40	
1-4.	Chassis Assy Removal (KV-AR29M86)	8	(2) B10 Board Schematic Diagram	44	
1-5.	Service Position	8	(3) V1 Board Schematic Diagram	46	
1-6.	F Board Removal (KV-AR29M61/AR29N90)	8	(4) C6 Board Schematic Diagram	48	
1-7.	F Board Removal (KV-AR29M86)	9	(5) H1 Board Schematic Diagram	50	
1-8.	Terminal Bracket and J Board Removal (KV-AR29M61/AR29N90)	9	(6) B8 Board Schematic Diagram	52	
1-9.	Terminal Bracket and J Board Removal (KV-AR29M86)	9	(7) P5 Board Schematic Diagram	54	
1-10.	B1 and V1 Boards Removal	9	(8) J and F Boards Schematic Diagrams	62	
1-11.	P5 and V1 Boards Removal	9	(9) H2 Board Schematic Diagram	63	
1-12.	D3 Board Removal	9	(10) B1 Board Schematic Diagram	64	
1-13.	H1 and H2 Boards Removal	10	(11) D3 Board Schematic Diagram	65	
1-14.	A and B10 Boards Removal	10	(12) VM1 Board Schematic Diagram	66	
1-15.	A and B8 Boards Removal	10	5-4.	Voltage List and Waveforms	69
1-16.	Picture Tube Removal	11	5-5.	Printed Wiring Boards and Parts Location	78
2. ADVANCE OPERATION			5-6.	Semiconductors	90
2-1.	"RESET" Function	12	6. EXPLODED VIEWS		
3. SET-UP ADJUSTMENTS			6-1.	Speaker Bracket	93
3-1.	Beam Landing	13	6-2.	Chassis	94
3-2.	Convergence	14	6-3.	Picture Tube	96
3-3.	Focus Adjustment	16	7. ELECTRICAL PARTS LIST 98		
3-4.	G2 (SCREEN) and White Balance Adjustment	17	OPERATING INSTRUCTIONS		
4. CIRCUIT ADJUSTMENTS					
4-1.	Adjustment With Commander	18			
4-2.	Adjustment Method	18			
4-3.	Adjustment for Non Digital Texture Enhancer (DTE) Model	30			
4-4.	Adjustment for Digital Texture Enhancer (DTE) Model	30			
4-5.	Display Position Adjustment	31			
4-6.	Deflection Adjustment	31			
4-7.	H-Trapezoid Adjustment	32			
4-8.	A Board Adjustment After IC003 (Memory) Replacement	32			
4-9.	Picture Distortion Adjustment (1)	33			

SELF DIAGNOSIS FUNCTION

The units in this manual contain a self-diagnosis function. If an error occurs, the STANDBY (⏻) indicator will automatically begin to flash. A description of the self diagnosis function is explained in the instruction manual.

The number of times the STANDBY (⏻) indicator 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. DIAGNOSIS TEST INDICATORS

When an errors occurs, the STANDBY (⏻) indicator will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the indicator will identify the first of the problem areas.

Result for all of the following diagnosis items are displayed on screen. No error has occurred if the screen displays a "0".

Diagnosis Item Description	No. of times STANDBY (⏻) indicator flashes	Self-diagnostic display/Diagnosis result	Probable Cause Location	Detected Symptoms
• Power does not turn on	Does not light	—	• Power cord is not plugged in. • Fuse is burned out F4601 (F)	• Power does not come on. • No power is supplied to the TV. • AC power supply is faulty.
• +B overcurrent (OCP) or overvoltage (OVP) • Vertical deflection stopped • Horizontal deflection overdrive	2 times	002:000 or 002:001~255 003:001~255 004:001~255 at the same time	• H.OUT Q511 is shorted. (A board) • Q701, Q702, Q703 is shorted (C6 board) • -13V is not supplied. (A board) • IC 503 faulty (A board)	• Power does not come on. • Load on power line is shorted. • Has entered standby state after horizontal raster. • Vertical deflection pulse is stopped. • Power line is shorted or power supply is stopped.
• White balance failure (no PICTURE)	5 times	005:000 or 005:001~225	• G2 is improperly adjusted. (Note 2) • CRT problem. • R(Q703), G(Q702) or B(Q701) out is faulty (C6 board) • IC301 is faulty. (A board) • No connection A board to C6 board.	• No raster is generated. • CRT cathode current detection reference pulse output is small.
• Micro reset	—	101:00 or 101:001~225	• Discharge CRT (C6 Board) • Static discharge • External noise	• Power is shut down shortly, after this return back to normal. • Detect Micro latch up.

Note 1: If a + B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously.

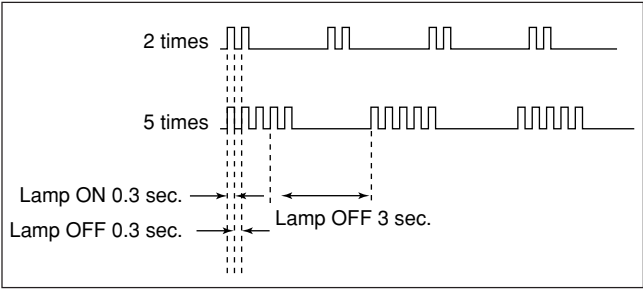
The symptom that is diagnosed first by the microcontroller is displayed on the screen.

Note 2: Refer to screen (G2) Adjustment in section 3-4 of this manual.

* R(Q703), G(Q702) or B(Q701) out is faulty (C6 board).

2. DISPLAY OF STANDBY (⏻) INDICATOR LIGHT

FLASH COUNT



Diagnosis Item	Flash Count*
+B overcurrent/overvoltage	2 times
Vertical deflection stopped	
White balance failure	5 times

* One flash count is not used for self-diagnosis.



STANDBY (⏻) indicator

3. STOPPING THE STANDBY (⏻) INDICATOR FLASH

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY (⏻) indicator from flashing.

4. SELF-DIAGNOSTIC SCREEN DIPLAY

For errors with symptoms such as “power sometimes shuts off” or “screen sometimes goes out” that cannot be confirmed, it is possible to bring up past occurrences of failure for confirmation on the screen:

[To Bring Up Screen Test]

In standby mode, press buttons on the remote commander sequentially in rapid succession as shown below:

Screen display ➡ channel 5 ➡ Sound volume - ➡ Power ON



Note that this differs from entering the service mode (volume +).

Self-Diagnostic screen display

SELF DIAGNOSTIC	
002 : 000	← Numeral "0" means that no fault has been detected.
003 : 000	
004 : 000	
005 : 001	← Numeral "1" means a fault has been detected.
101 : 000	

5. HANDLING OF SELF-DIAGNOSTIC SCREEN DISPLAY

Since the diagnosis results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to "0".

Unless the result display is cleared to "0", the self-diagnosis function will not be able to detect subsequent faults after completion of the repairs.

[Clearing the result display]

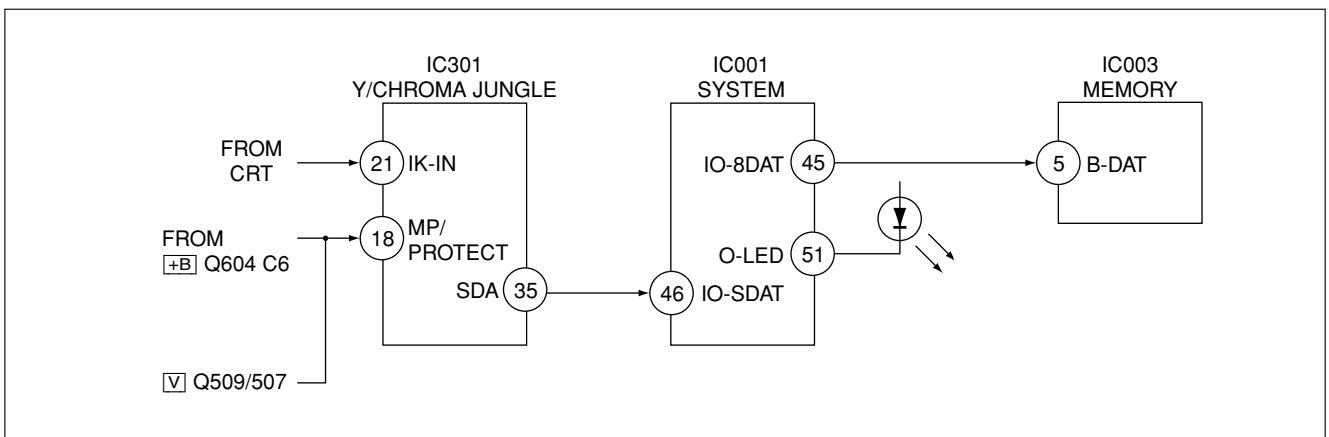
To clear the result display to "0", press buttons on the remote commander sequentially as shown below when the self-diagnostic screen is being displayed.

Channel [8] ➡ 0

[Quitting Self-diagnostic screen]

To quit the entire self-diagnostic screen, turn off the power switch on the remote commander or the main unit.

6. SELF-DIANOSIS CIRCUIT



[+B overcurrent (OCP)]

Occurs when an overcurrent on the +B(135) line is detected by Q604. If Q604 go to ON and the voltage to pin 18 of IC301 should go down when V.SYNC is more than seven verticals in a period, the unit will automatically turn off.

[Vertical deflection stopped]

Occurs when an absence of the vertical deflection pulse is detected by Q509 and IC001 shut down the power supply.

[Vertical deflection overcurrent]

Occurs when an overcurrent on V drive line is detected by Q507. Power supply will be shut down when detect this by IC001.

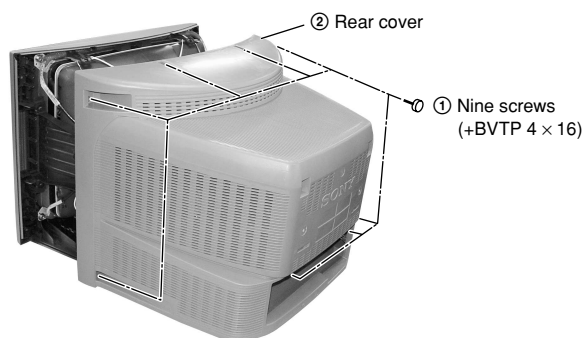
[White balance failure]

If the RGB levels* do not balance or become low level within 5 seconds, this error will be detected by IC301. TV will stay on, but there will be no picture.

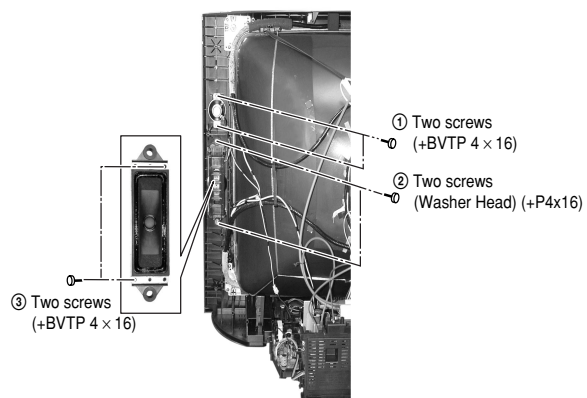
* (Refers to the RGB levels of the AKB detection Ref pulse that detects IK.)

SECTION 1 DISASSEMBLY

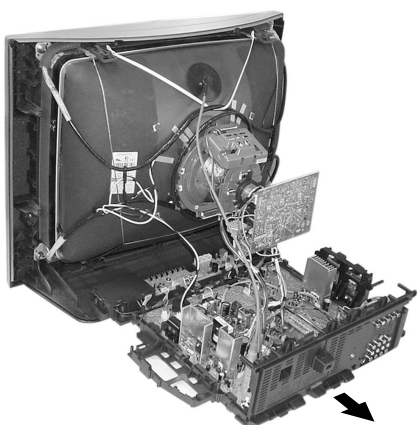
1-1. REAR COVER REMOVAL



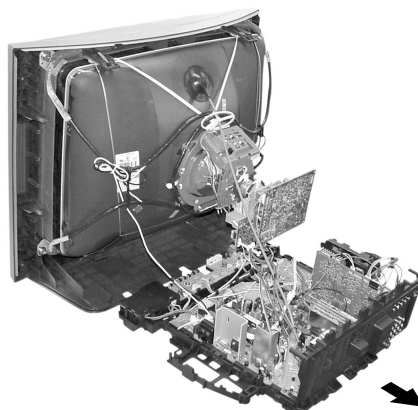
1-2. SPEAKER REMOVAL



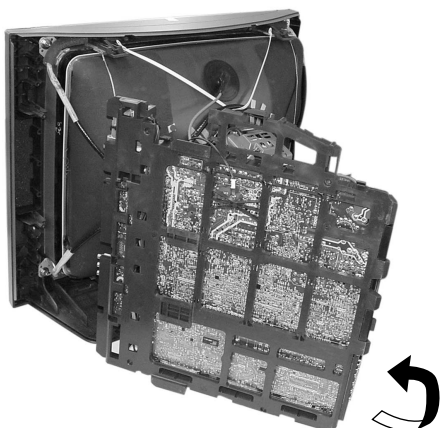
1-3. CHASSIS ASSY REMOVAL (KV-AR29M61/AR29N90)



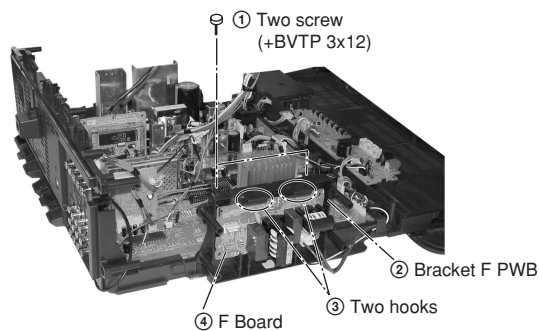
1-4. CHASSIS ASSY REMOVAL (KV-AR29M86)



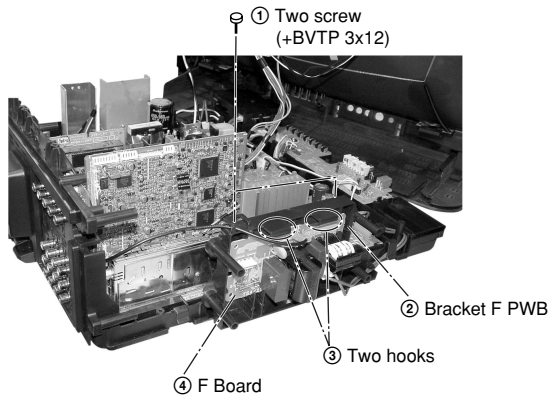
1-5. SERVICE POSITION



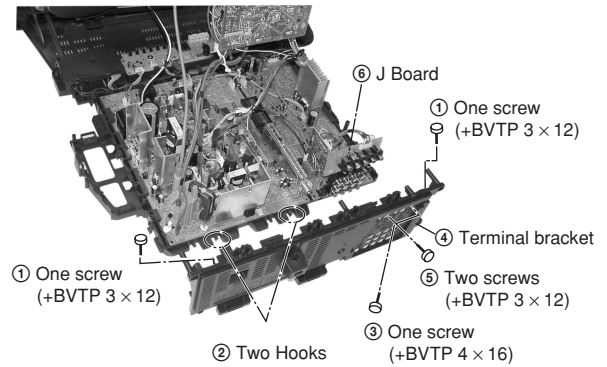
1-6. F BOARD REMOVAL (KV-AR29M61/AR29N90)



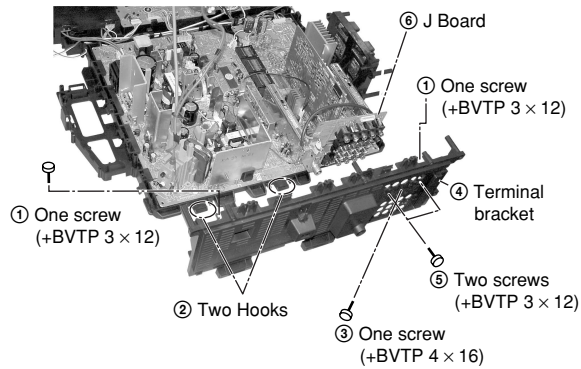
1-7. F BOARD REMOVAL (KV-AR29M86)



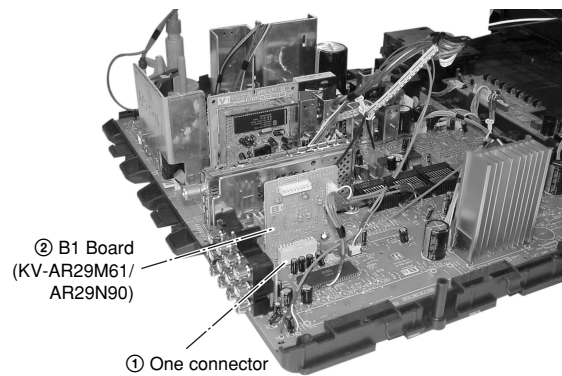
1-8. TERMINAL BRACKET AND J BOARD REMOVAL (KV-AR29M61/AR29N90)



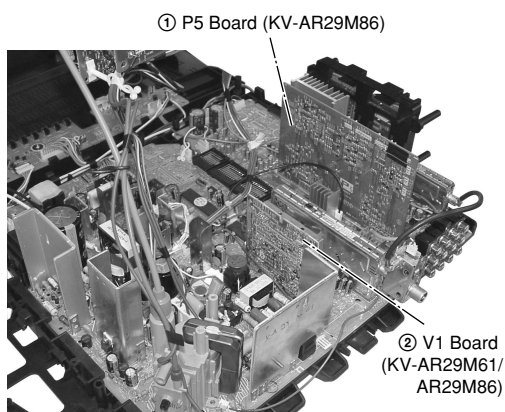
1-9. TERMINAL BRACKET AND J BOARD REMOVAL (KV-AR29M86)



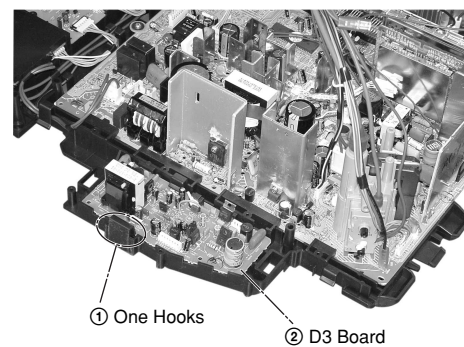
1-10. B1 BOARD

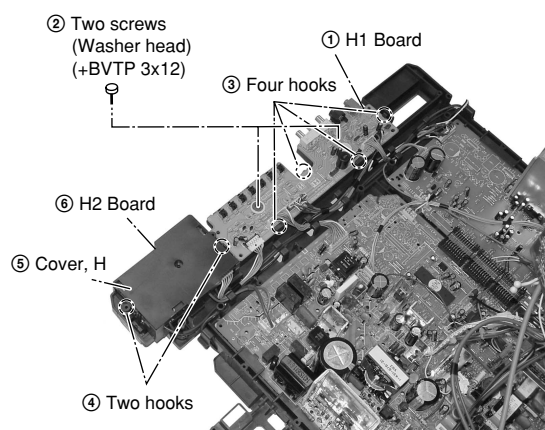
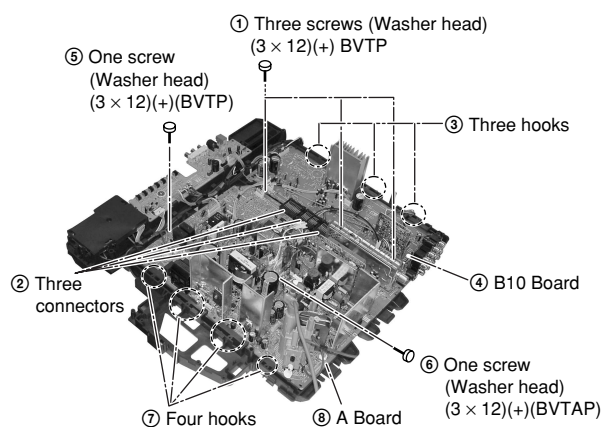
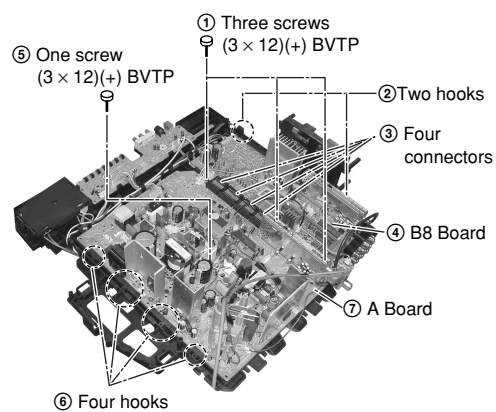


1-11. P5 AND V1 BOARDS REMOVAL



1-12. D3 BOARD REMOVAL

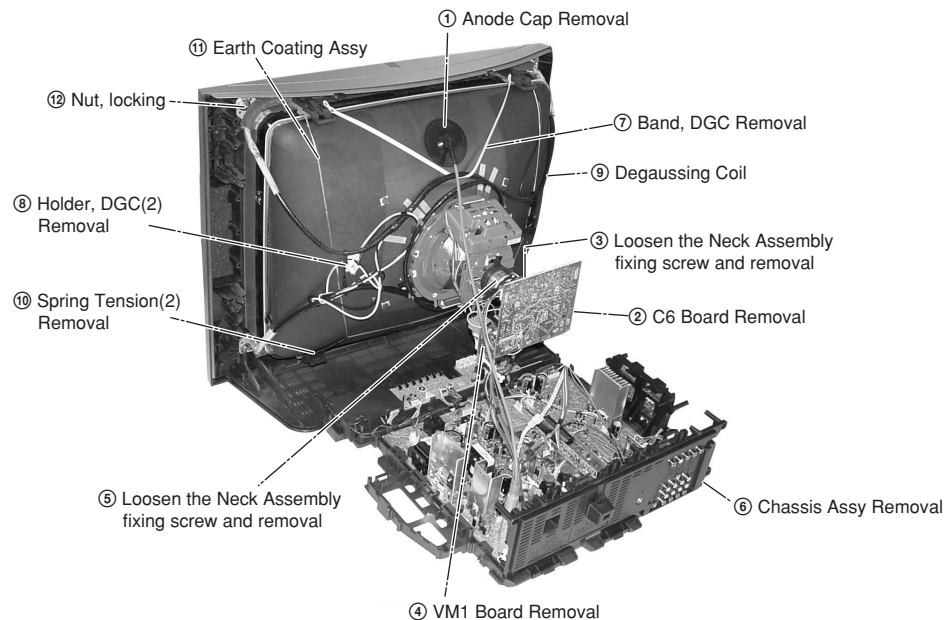


1-13. H1 AND H2 BOARDS REMOVAL**1-14. A AND B10 BOARDS REMOVAL
(KV-AR29M61/AR29N90)****1-15. A AND B8 BOARDS REMOVAL
(KV-AR29M86)**

1-16. PICTURE TUBE REMOVAL

Note:

- Please make sure the TV set is not in standing position before removing necessary CRT support located on bottom right and left.
- 1) Place the TV set with the CRT face down on a cushion jig.
- 2) Removal the rear cover.

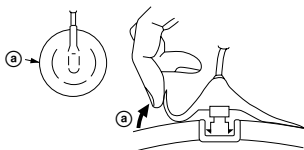


• REMOVAL OF ANODE-CAP

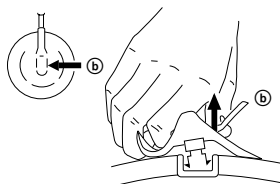
Note:

- 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.

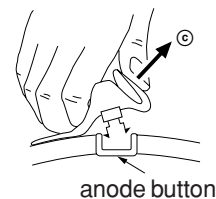
• REMOVING PROCEDURES



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



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

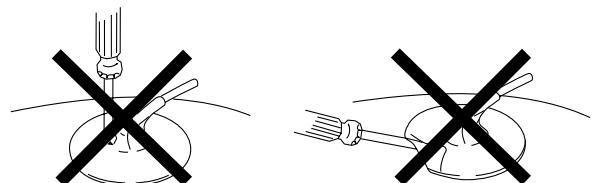


anode button

- 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 **c**.

• HOW TO HANDLE AN ANODE-CAP

- Do not damage the surface of anode-caps with sharp shaped objects.
- 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.
- Do not turn the foot of rubber over too hard. The shatter-hook terminal will stick out or damage the rubber.



SECTION 2 ADVANCE OPERATION

2-1. "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 (shipment condition)

2. How to Operate

The way to access to the "RESET" Function:-

- By pressing "MENU" button or "SELECT" button (for non-menu models) on the Front Key Input and hold it down for 5 seconds.

3. Subsequent of Operation

Sequential to the resetting operation (either methods being used in No. 2), TV set would shut down once and automatically turn on again. The power-off duration is expected to be about 500msec. An OSD message, "RESET" tentatively will be displayed for 10 sec after IK status gets stable.

As a result, some items will be reset to an initial condition (shipment condition) whereas some other remains at the last selection by user.

Items that remains at the last selection by user

Channel No., Favourite CH Setup,
PIC rotation, OSD Language, Fine tuning, TV System, Skip

Reset Items

Video input	RF	Stereo mode	STEREO/NICAM*
Volume	30		(except KV-AR29M86)
Picture mode	DYNAMIC	Bilingual mode	MAIN* (except KV-AR29M86)
DTE	ON	High-deviation mode	AUTO (except KV-AR29M86)
Sound mode	DYNAMIC	Child lock	OFF*
Surround mode	OFF	Wide mode	OFF
Multi Picture (PIP)	OFF	Game mode	OFF
PIP position	Bottom Right (KV-AR29M86)	Sleep timer	OFF
OSD recall	OFF	Wake-up timer	OFF
Antenna sensitivity	HIGH* (KV-AR29M86)	Sound muting	OFF
MTS* (NTSC)	STEREO (KV-AR29N90)	Teletext	OFF (except KV-AR29N90)

*= only when in RF mode

SECTION 3 SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switches should be set as follows unless otherwise noted:

PICTURE control normal
BRIGHTNESS control normal

.....

Preparation :

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input a white signal with the pattern generator.
Contrast } normal
Brightness }
2. Position neck assy as shown in Fig3-2.
3. Set the pattern generator raster signal to a green raster.
4. Move the deflection yoke to the rear and adjust with the purity control so that the green is at the center and the blue and the red take up equally sized areas on each side.
(See Figures 3-1 through 3-4.)
5. Move the deflection yoke forward and adjust so that the entire screen is green. (See Figure 3-2.)
6. Switch the raster signal to blue, then to red and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws and DY spacers.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.
(See Figure 3-5.)

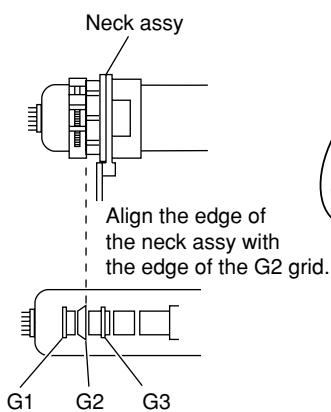


Fig. 3-1

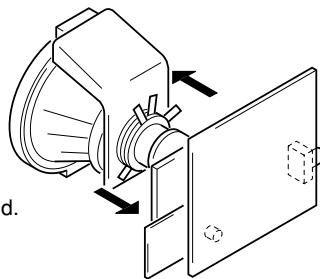


Fig. 3-2

Perform the adjustments in the following order :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

Note : Test Equipment Required.

1. Pattern Generator
2. Degausser
3. Oscilloscope

Purity control

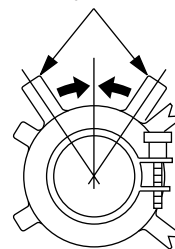


Fig. 3-3

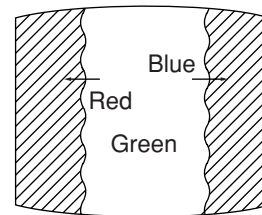


Fig. 3-4

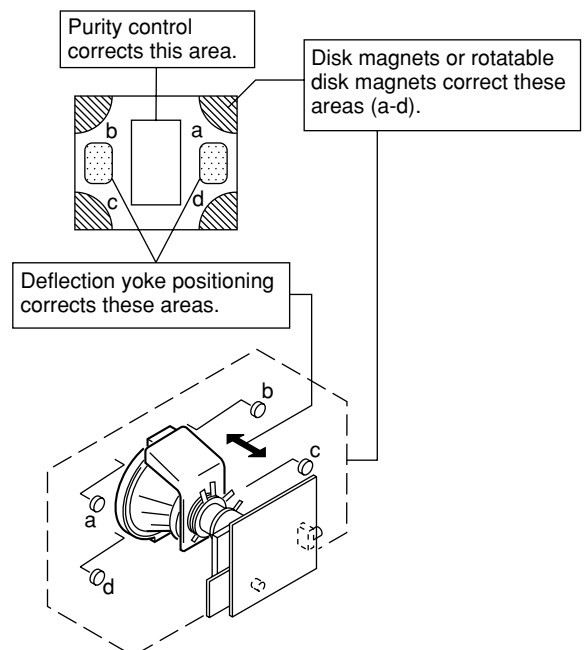


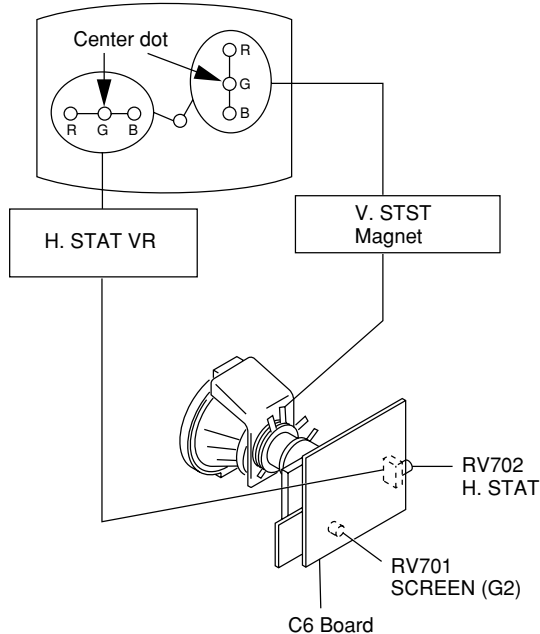
Fig. 3-5

3-2. CONVERGENCE

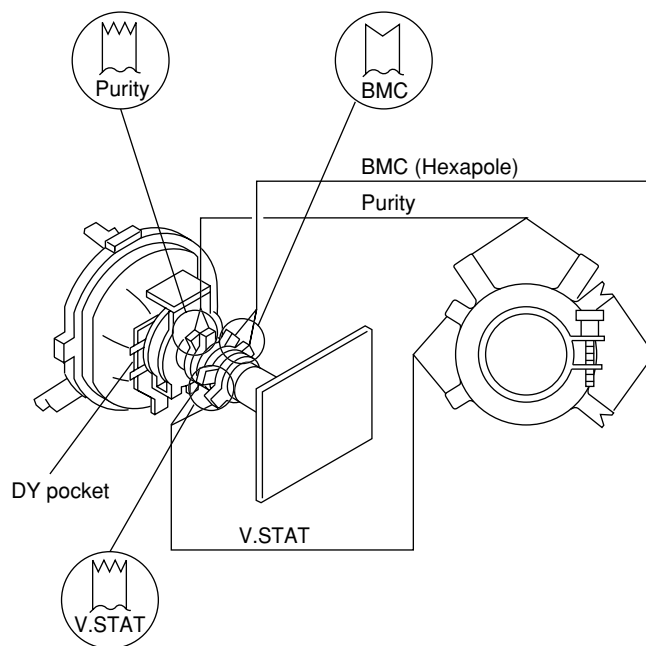
Preparation :

- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Receive dot/hatch signal.
- Pic mode: Personal (Pic 90%, Brightness 50%, Colour 50 %, Hue 50%, Sharpness 50%).

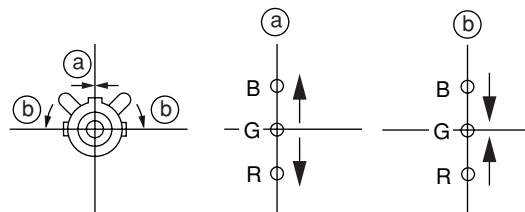
(1) Horizontal and Vertical Static Convergence



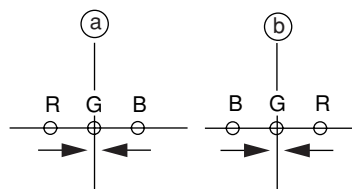
1. (Moving horizontally), adjust the H.STAT control so that the red, green and blue dots are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green and blue dots are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green and blue dots together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.
(In this case, the H.STAT variable resistor and the V.STAT magnet influence each other, so be sure to perform adjustments while tracking.)



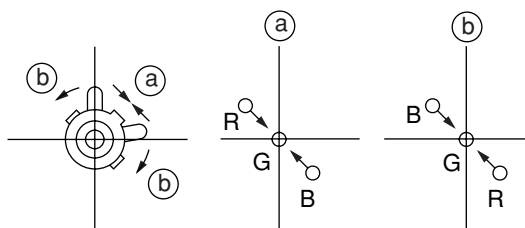
① V. STAT



② H. STAT VR

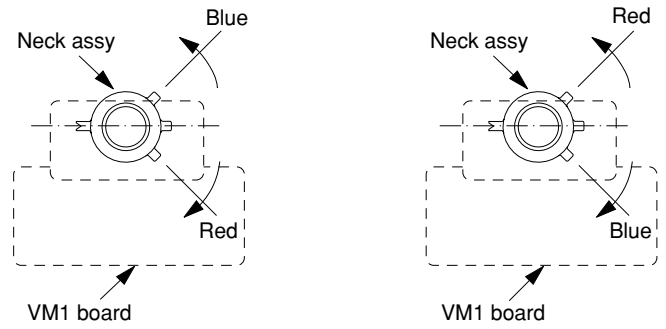
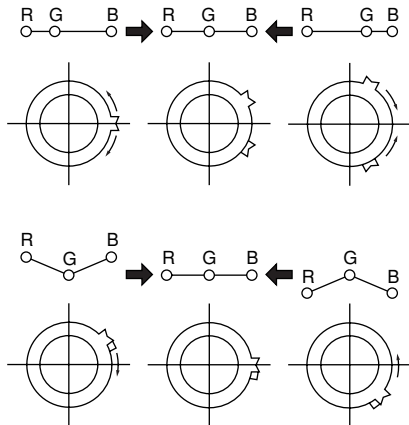


③



④ BMC (Hexapole) Magnet.

If the red, green and blue dots are not balanced or aligned, then use the BMC magnet to adjust in the manner described below.



Note

1. The Red and Blue magnets should be equally far from the horizontal center line.
2. Do not separate the Red and Blue magnets too far. (Less than 8 mm)

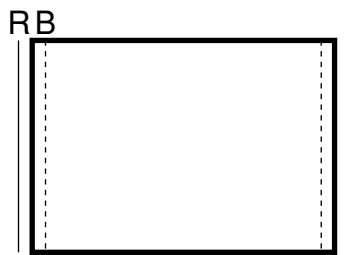
⑤ Y separation axis correction magnet adjustment.

1. Receive the cross-hatch signal and adjust [PICTURE] to [MIN] and [BRIGHTNESS] to [STANDARD] .
2. 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.

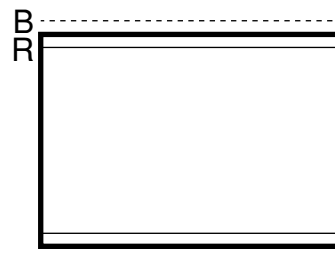
(2) Dynamic Convergence Adjustment

Preparation:

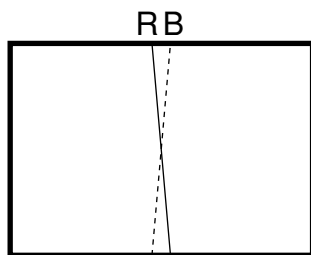
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence



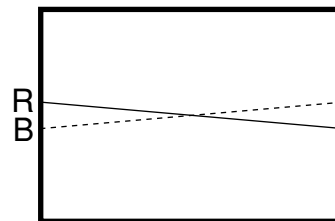
TLH



TLV



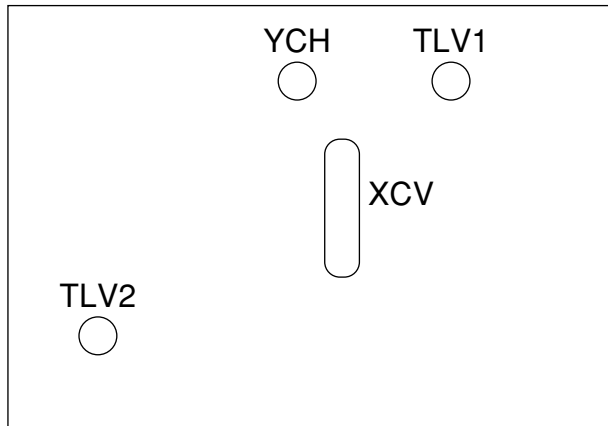
YCH



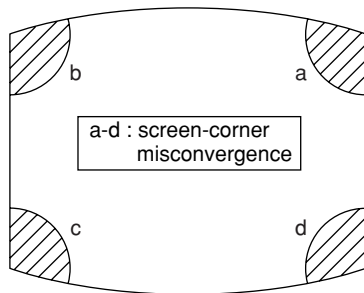
XCV

TLV	Rotate	TLV-2	VOL (29", 34") on DY
XCV	Rotate	XCV	Adj core on DY
YCH	Rotate	YCH	VOL on DY
TLH	Insert	TLH	Correction Plate to DY Pocket (Left or Right)

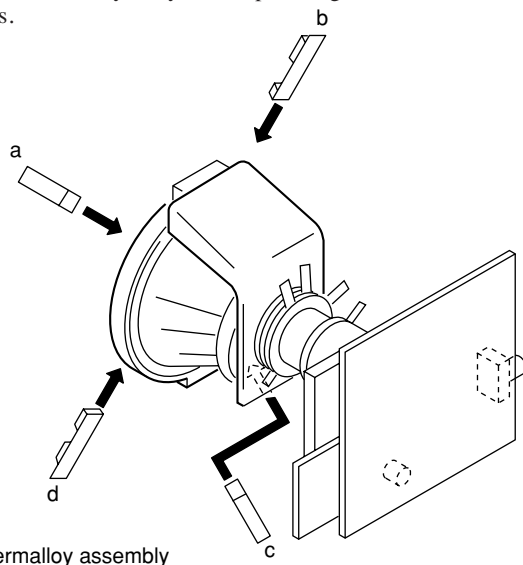
ON DY:



(3) Screen-corner Convergence

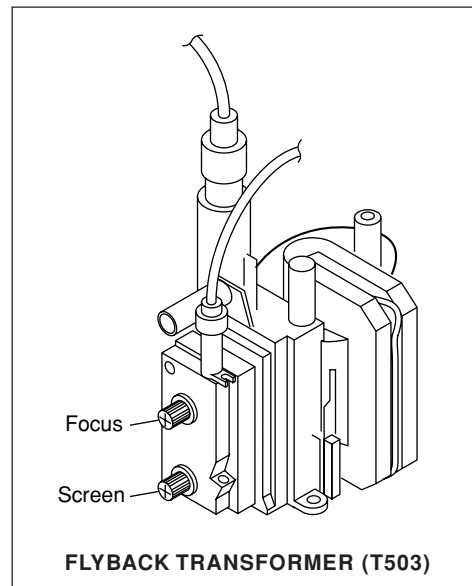


Fix a Permalloy assy corresponding to the misconverged areas.



3-3. FOCUS ADJUSTMENT

FOCUS adjustment should be completed before W/B adjustment.



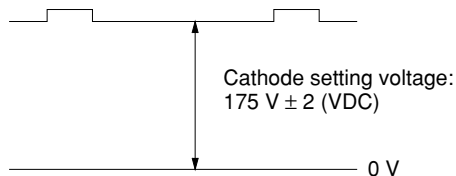
1. Receive digital monoscope pattern.
2. Set "Picture Mode" to "Standard".
3. Set S2801 to mechanical center position.
4. Adjust focus VR so that the center of the screen becomes just focus.
5. Adjust S2801 when corner focus is unbalance is right and left.
6. Change the receiving signal to white pattern blue back.
7. Confirm Magenta ring is not noticable. Incase magneta ring is obvious, reset S2801 to mechanical center position and then adjust FOCUS VR to balance between MAGENTA RING and FOCUS.

3-4. G2 (SCREEN) AND WHITE BALANCE

ADJUSTMENTS

1. G2 (SCREEN) ADJUSTMENT

- 1) Set the PICTURE to normal.
- 2) Put to VIDEO input mode without signals.
- 3) Connect R, G and B of the C6 board cathode to the oscilloscope.
- 4) Adjust BRIGHTNESS to obtain the cathode voltage to the value below.
- 5) Adjust G2 (screen) on the FBT until picture shows the point before cut off.

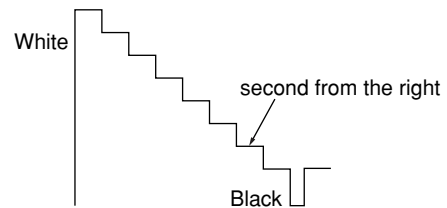


2. WHITE BALANCE ADJUSTMENT

- 1) Set to Service Mode (Refer Section 4-1: ADJUSTMENTS WITH COMMANDER).
- 2) Input white raster signal.
- 3) Set the PICTURE to minimum.
- 4) Select GCT (WHB 4) and BCT (WHB 5) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
- 5) Set the PICTURE to maximum.
- 6) Select GDR (WHB 1) and BDR (WHB 2) with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
- 7) Write into the memory by pressing [MUTING] then [0].

3. SUB BRIGHT ADJUSTMENT

- 1) Set to service mode.
- 2) Input a staircase signal of black to white from the pattern generator.
- 3) BRIGHTNESS 50%.
PICTURE MINIMUM
- 4) Select SBR (WHB7) with [1] and [4], and adjust SBR (WHB7) level with [3] and [6] so that the second stripe from the right is dimly lit.



SECTION 4

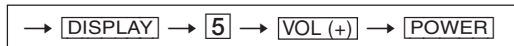
CIRCUIT ADJUSTMENTS

4-1. ADJUSTMENTS WITH COMMANDER

Service adjustments to this models can be performed using the supplied Remote Commander RM-993, RM-995 and RM-996.

a. ENTERING SERVICE MODE

With the unit on standby



This operation sequence puts the unit into service mode.

The screen display is :

Device Name	Item No	Item Name	Data	Marking of new NVM	Mode	
GEO	00	HPS	1C	■	SERVICE	50
604S (KV-AR29N90)	0.2N	59	7F	0	000A	↑
605S (KV-AR29M61/AR29M86)	1.1M				PAL,SECAM:50 NTSC :60	
Suffix No (OEM Code)	Software version				Total Power-On time (hours)	

b. METHOD OF CANCELLATION FROM SERVICE MODE

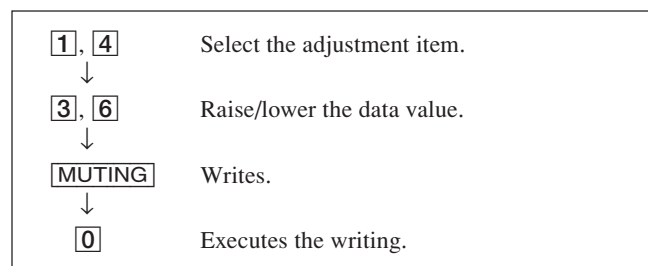
Set the standby condition (Press [POWER] button on the commander), then press [POWER] button again, hereupon it becomes TV mode.

c. METHOD OF WRITE INTO MEMORY

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

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.



[7], [0]

All the data becomes the values in memory.

[8], [0]

All user control goes to the standard state.

[5], [0]

Service data initialization (Be sure not to use usually.)

[MUTING] + [0]

Write 50Hz adjustment data to 60Hz, or vice versa.

[2], [0]

Copy and write all data.

4-2. ADJUSTMENT METHOD

Item Number 00 of device GEO

This explanation uses H-Position as an example.

1. Select "GEO 00 HPS" with the [1] and [4] buttons.
2. Raise/lower the data with the [3] and [6] buttons.
3. Select the optimum state. (The standard is 1F for PAL reception.)
4. Write with the [MUTING] button. (The display changes to WRITE.)
5. Execute the writing with the [0] button. (The WRITE display will be changed to red color while excuting, and back to SERVICE.)

Example on screen display :-

GEO	00	HPS	1F	SERVICE	50	← GREEN
604S	0.2N	59	7F	0	000A	Adjusted with [3] and [6] buttons.
(KV-AR29N90)						
605S	1.1M					
(KV-AR29M61/AR29M86)						

GEO	00	HPS	1F	WRITE	50	← GREEN
604S	0.2N	59	7F	0	000A	
(KV-AR29N90)						
605S	1.1M					
(KV-AR29M61/AR29M86)						

Write with [MUTING]

GEO	00	HPS	1F	WRITE	50	← RED
604S	0.2N	59	7F	0	000A	The WRITE display then the display returns to green SERVICE.
(KV-AR29N90)						
605S	1.1M					
(KV-AR29M61/AR29M86)						

Write executed with [0]

Use the same method for all Items. Use [1] and [4] to select the adjustment item, use [3] and [6] to adjust, write with [MUTING], 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 (KV-AR29M61/AR29M86)

TVG	Functionality		Function	Table & Note	Device Name	Initial Value (Detailed)					
Category	No	Name				Common	50NC	60NC	50VC	60VC	Soft bsw
GEO	00	HPS	H Position	Normal (50/60)/Wide (50/60)	CXA2159S		12	0A	12	0A	
	01	HSZ	H Size	Normal (50/60)/Wide (50/60)			25	25	25	25	
	02	PAP	Pin Amp	Normal (50/60)/Wide (50/60)			1F	1F	1F	1F	
	03	TLT	Trapezium	Normal (50/60)/Wide (50/60)			07	07	07	07	
	04	VPS	V Position	Normal (50/60)/Wide (50/60)			1F	1F	1F	1F	
	05	VSZ	V Size	Normal (50/60)/Wide (50/60)			0F	0F	07	07	
	06	SCO	S Correction	Normal (50/60)/Wide (50/60)			07	07	07	07	
	07	VLN	V Linearity	Normal (50/60)/Wide (50/60)			07	07	07	07	
	08	BOW	AFC Bow	Normal (50/60)/Wide (50/60)			07	07	07	07	
	09	AGL	AFC Angle	Normal (50/60)/Wide (50/60)			07	07	07	07	
	0A	UPN	Upper Pin	Normal (50/60)/Wide (50/60)			1F	1F	1F	1F	
	0B	LPN	Lower Pin	Normal (50/60)/Wide (50/60)			1F	1F	1F	1F	
	0C	HBL	H Blanking on/off				01	01	01	01	
	0D	LBL	Left H Blanking	Normal (50/60)/Wide (50/60)			0A	0F	0A	0F	
	0E	RBL	Right H Blanking	Normal (50/60)/Wide (50/60)			02	02	02	02	

TVG	Functionality		Function	Table & Note	Device Name	Initial Value (Detailed)				
Category	No	Name				Common	SECAM	Others	Dynamic	Others
WHB	00	RDR	R Drive	DYNAMIC/others	CXA2159S				25	2A
	01	GDR	G Drive	DYNAMIC/others					25	25
	02	BDR	B Drive	DYNAMIC/others					25	25
	03	RCT	R Cutoff	SECAM/others			07	07		
	04	GCT	G Cutoff	SECAM/others			07	07		
	05	BCT	B Cutoff	SECAM/others			07	07		
	06	BMN	Brightness Minimum Data			15				
	07	SBR	Sub Brightness Control			25				
	08	APB	Sub Bright Control Switch for Intelligent Picture #3			03				(KV-AR29M61/N90)
	08	APB	Sub Bright Control Switch for Intelligent Picture #3			00				(KV-AR29M86)

TVG	Functionality		Function	Table & Note	Device Name	Initial Value (Detailed)								
	Category	No	Name			NC	VC	NTSCNC	OTHERSNC	NTSCVC	OTHERSVC	TV	Video	
SAJ		00	PMX	Picture Maximum Data	non-Wide/Wide	CXA2159S	36	31						(KV-AR29M61/N90)
		00	PMX	Picture Maximum Data	non-Wide/Wide	CXA2159S	38	33						(KV-AR29M86)
		01	SHU	Sub Hue Control	TV/Video							07	07	
		02	SSH	Sub Sharpness Control	TV/Wide							04	09	(KV-AR29M61/N90)
		02	SSH	Sub Sharpness Control	TV/Wide							04	0A	(KV-AR29M86)
		03	SCL	Sub Color Control	(NTSC/others)/WIDE(NTSC/others)			23	21	20	1E			

TVG	Functionality		Function	Table & Note	Device Name	Initial Value (Detailed)								
Category	No	Name				Common	50NC	60NC	50VC	60VC	NTSC NON-STD	OTHERS NON-STD	NTSC STD	OTHERS STD
VP	00	EHT	EHT Comp	Normal(50/60)/Wide(50/60)	CXA2159S		05	05	05	05				
	01	GMA	Gamma Correction (separated in STANDARD mode)	NON-STD.(NTSC/others)/STD.(NTSC/others)						02	02	01	01	
	02	APG	Gamma Control Switch for Intelligent Picture #3	NON-STD.(NTSC/others)/STD.(NTSC/others)						00	00	00	00	

TVG	Functionality		Function	Table & Note	Initial Value (Detailed)						
Category	No	Name			Common	SECAM	NTSC	PAL	DVD	TEXT	
VP	03	YDL	Y Delay	PAL/SECAM/NTSC/DVD		09	08	06	08		(KV-AR29M61/N90)
	03	YDL	Y Delay	PAL/SECAM/NTSC/DVD		00	00	00	00		(KV-AR29M86)
	04	SST	SECAM ID Start Position	SECAM&ATUTO/FORCED-PAL&NTSC		01		01			
	05	SSP	SECAM ID Stop Position	SECAM&ATUTO/FORCED-PAL&NTSC		01		01			
	06	RLM	RGB Limit		00						
	07	SLV	SECAM ID Level	SECAM&ATUTO/FORCED-PAL&NTSC		02		02			
	08	SBF	SECAM BELL for	SECAM&ATUTO/FORCED-PAL&NTSC		22		22			

TVG	Functionality		Function	Table & Note	Initial Value (Detailed)					
Category	No	Name			Common	NTSC	Others	TV	Video	TEXT
VP	09	DYC	Dynamic Color on/off		01					
	0A	ABL	ABL Mode Switching (except STANDARD mode)	except STANDARD	01					
	0B	VTH	ABL Detection Vth Switching		01					
	0C	SF0	FO Switching for Sharpness	NTSC/others		01	01			
	0D	DCX	DC Trans. Ratio Switching		01					
	0E	SHT	Pre-/Overshoot ratio Switch	NTSC/others		01	01			
	0F	HDW	H Drive Pulse Width Switch		00					
	10	AFC	AFC Gain Control	TV/Video/Text				01	00	01
	11	HOS	H Oscillation		07					
	12	HSS	Slice Level of H Sync Sep.		00					
	13	VSS	Slice Level of V Sync Sep.		00					

TVG	Functionality		Function	Table & Note	Initial Value (Detailed)								
Category	No	Name			Common	50NC	60NC	50VC	60VC	NTSCNC	OTHERSNC	NTSCVC	OTHERSVC
VP	14	HMS	Macro Vision C/m off/on	Normal(50/60)/Wide(50/60)		01	01	01	01				
	15	YUV	Y SEL		00								
	16	CDV	CD mode for Video and RF under no signal	video only	01								
	17	RON	R ON	not memorized	01								
	18	GON	G ON	not memorized	01								
	19	BON	B ON	not memorized	01								
	1A	PON	P ON	not memorized	01								
	1B	AXN	AXIS SW	(NTSC/others)/Wide(NTSC/others)[only DYNA]						01	01	01	01
	1C	RSL	RGB SEL		00								
	1D	VBW	VBLKW		00								
	1E	RFP	REFP		00								
	1F	VMC	VM Level		00								
	20	CBF	Chroma Bandpass Filter		01								
	21	CTO	Chroma Trap Off		01								

TVG	Functionality		Function	Table & Note	Initial Value (Detailed)						
Category	No	Name			Common	Dynamic	Standard/Drama	Hi-Fine/Soft	Dyna bsw	Drama bsw	Soft bsw
AP2	00	BBS	Bass Boost Level Setting		03						
	01	BCB	Boost cut select for Sub Bass Control		00						
	02	SBS	Sub Bass Level Setting		00						
	03	BCT	Boost cut select for Sub Treble Control		00						
	04	STS	Sub Treble Level Setting		00						
	05	AGL	AGC Level Setting		00						
	06	BSW	Bass Boost ON/OFF Switch		00						
	07	BAS	Bass sound mode Control	{BSW:1/0} * {dyna/drama/soft}		13	01	01	12	02	02
	08	TRE	Treble sound mode Control	{BSW:1/0} * {dyna/drama/soft}		01	01	07	14	14	02
	09	BBE	BBE Sound mode Control	{BSW:1/0} * {dyna/drama/soft}		90	7F	00	88	6B	00

TVG	Functionality		Function	Table & Note	Device Name	Initial Value (Detailed)
Category	No	Name				Common
MSP	00	WST	W/G Stereo Threshold		MSP3415D	15
	01	WBT	W/G Bilingual Threshold			EC
	02	WLL	W/G Monaural Threshold			05
	03	WAC	W/G Agreement Count			01
	04	WDL	W/G Search Delay			30
	05	NDL	NICAM Search Delay			20
	06	SDL	Stereo status Read Delay			10
	07	AGC	AGC Switch Auto/Constant			01
	08	REL	AGC Gain at Constant Mode			28
	09	CRM	Carrier muting on/off			00
	0A	ACO	Audio Clock out on/off			01
	0B	FP	FM Prescale for non-M system			1B
	0C	FPM	FM Prescale for M system			32
	0D	FH	FM Prescale for HDEV			36
	0E	FHM	FM Prescale for HDEV and M			65
	0F	WGP	W/G Prescale			1C
	10	NIP	NICAM Prescale			7F
	11	ERR	Auto FM switch Threshold			50
	12	VOL	Loud Speaker gain 7000h to 7ff0h			6D

TVG	Functionality		Function	Device Name	Initial Value (Detailed)
Category	No	Name			Common
PIP	00	PRO	Progressive Scan Mode Enable	SDA9288X	00
	01	RED	Read Double Mode		00
	02	FEI	Field Select		00
	03	HPS	Horizontal Picture Position		33
	04	VPS	Vertical Picture Position		1B
	05	HFP	Horizontal Fine Positioning		08
	06	VFP	Vertical Fine Positioning		00
	07	DIS	Display standard		00
	08	HOS	Horizontal Size		00
	09	VES	Vertical Size		00
	0A	FPS	Force Parent Standard		00
	0B	HZM	Horizontal Zoom		00
	0C	VSP	Vertical Sync Pulse Noise Reduction		01
	0D	VDL	Vertical Sync Pulse Delay		00
	0E	FRH	Frame Width Horizontal		05
	0F	FWV	Frame Width Vertical		02
	10	VRD	Reduction		00
	11	VBK	Vertical Blanking		00
	12	DLY	Select Delay		01
	13	PCR	Position Correction		00
	14	AGM	AGC Mode		03
	15	AGC	Automatic Gain Control Value		09
	16	CVB	CVBS Select		00
	17	CPD	CLAMPING Duration		01
	18	CPT	CLAMPING Pulse start		01
	19	LUM	Luminance offset		00

TVG	Functionality		Function	Table & Note	Initial Value (Detailed)					
Category	No	Name			SECAM	NTSC	PAL	TV	Video	DVD
PIP	1A	PLL	Insert PLL Time Constant	TV/Video				00	00	
	1B	YCD	Y/C Delay	PAL/SECAM/NTSC/DVD	08	08	08			08
	1C	NSR	Noise Reduction for inset PII	TV/Video				02	00	

TVG Category	Functionality		Function	Table & Note	Initial Value (Detailed)		
	No	Name			Common	50	60
PIP	1D	LSP	Standard Identification Speed		00		
	1E	KIL	Color Killer Threshold		02		
	1F	BGP	Burst Gate Position		01		
	20	SEC	SECAM Identification Level		01		
	21	DEM	Deemphasw selection		01		
	22	CMA	Chroma Bandwith		00		
	23	IFC	IF Compensation Filter		02		
	24	HUE	Hue		00		
	25	SCA	Color Subcarrier Adjustment		06		
	26	CON	Contrast Adjustment		00		
	27	BLR	Blanking Level Red Channel		00		
	28	BRT	Brightness Adjustment		03		
	29	BLG	Blanking Level Green Channel		00		
	2A	BIR	Blanking Inversion Red Channel		00		
	2B	BIB	Blanking Inversion Blue Channel		00		
	2C	BLB	Blanking Level Blue Channel		00		
	2D	INT	Refresh Interval		00		
	2E	PKR	Peak Level Red Channel		85		
	2F	PKG	Peak Level Green Channel		85		
	30	PKB	Peak Level Blue Channel		85		
	31	FRY	Frame Color Y		09		
	32	OUT	Output Format		01		
	33	FRU	Frame Color U		00		
	34	FRV	Frame Color V		00		
	35	SAT	Color Saturation Adjustment		09		
	36	YPK	Y Peak Adjustment		03		
	37	YCO	Y Coring Enable		01		
	38	PAL	PAL ID Level		03		
	39	POV	Position Offset Vertical		00		
	3A	POH	Position Offset Horizontal		00		
	3B	VSH	Vertical Shrink		00		
	3C	HSH	H Shrink		00		
	3D	CPL	CLAMPING Pulse Length		01		

TVG	Functionality		Function	Table & Note	Device Name	Initial Value (Detailed)			
Category	No	Name				COMMON	S-INPUT	TV	VIDEO
YCT	00	SHU	Sub Hue Adjustment	TV/Video	CXA2163AQ			0E	12
	01	PNG	PAL/NTSC Gate Width			01			
	02	PNI	PAL/NTSC Sensitivity SW			00			

TVG	Functionality		Function	Table & Note	Initial Value (Detailed)						
Category	No	Name			COMMON	50TV	50VIDEO	50DVD	60TV	60VIDEO	60DVD
YCT	03	SCL	Sub Color Control	50/60*TV/Video		05	07		05	07	
	04	SCT	Sub Contrast Control	50-60*TV/Video		05	08		05	08	
	05	SF0	Sharpness Center Frequency Changing		02						
	06	SEQ	Sharpness Equalizer Characteristic		00						
	07	SHG	Sharpness Gain Control	50/60*TV/Video/DVD		06	07	09	06	07	09
	08	YOL	Y-output Level Control		21						
	09	BSP	Black Stretch Start Point Changing		00						

TVG	Functionality		Function	Table & Note	Initial Value (Detailed)					
Category	No	Name			COMMON	S-INPUT	TV	VIDEO	DVD	OTHERS
YCT	0A	COL	Cb/Cr Output Level Control	DVD/others					27	1E
	0B	DCR	DC Restoration Ratio Adjustment		00					
	0C	BF0	BPF/TQF F0 Adjustment		01					
	0D	BFQ	BPF/TQF Q Adjustment		02					
	0E	FSW	BPF/TQF Switch		01					
	0F	SDT	SECAM Double Trap Switch		01					
	10	LPF	Y/Cb/Cr LPF Switch		01					
	11	YDL	Y-DL Time Adjustment	TV/Video/S-input/DVD		05	06	05	05	
	12	CMT	Cb/Cr Output Mute Switch		00					
	13	B01	Cb Offset1 Adjustment (main route)		07					
	14	RO1	Cr Offset1 Adjustment		07					
	15	CDF	V Count Down Frequency Switch	forced 50Hz for no signal	00					
	16	CDM	V Count Down Judge Switch		00					
	17	AFC	AFC Sensitivity Switch	(TV/)Video/DVD				00	00	
	18	MVM	Macrovision Mask + AFC Mask		01					
	19	SRY	SECAM R-Y Black Adjustment		07					
	1A	SBY	SECAM B-Y Black Adjustment		01					
	1B	BEL	SECAM BELL/HPF Switching		02					
	1C	BLF	BELL f0 Adjustment		00					
	1D	SVI	SECAM V-ID Switch		00					
	1E	SGP	SECAM Gate Position Adjustment		00					
	1F	SID	SECAM Sensitivity Switch	except SECAM	01					
	20	SIH	SECAM Inhibition Switch		00					
	21	STP	Y Black Level Setup for PAL plus		00					
	22	ASW	Auto Video Select Mode SW		01					
	23	WSH	Sharpness Gain Step for noise reduction		00					
	24	WCO	Cb/Cr Output Level Step for noise reduction		00					
	25	CB2	Cb2 offset adjustment (YCbCr2 input)		07					
	26	CR2	Cr2 offset adjustment (YCbCr2 input)		07					
	27	HPH	HS Output phase switch		00					
	28	VPH	Switch for VP output phase		00					
	29	NCM	NTSC COMB		00					

TVG	Functionality		Function	Table & Note	Device Name	Initial Value (Detailed)		
Category	No	Name				COMMON	NTSC	OTHERS
TE	00	NR0	NR	NTSC/Others	DTE		01	01
	01	TC0	TE Coring	NTSC/Others			05	05
	02	TG0	TE Gain	NTSC/Others			05	05
	03	STH	Forced TE bypass 1:TE bypass			00		
	04	COF	Color Component OFF 1:OFF (512)			00		
	05	YOF	Luminance Component OFF 1:OFF			00		
	06	VJR	V jitter control 0:ON 1:SP1 2:SP2 3:SP2			00		
	07	TOF	TE OFF 1:TE OFF			00		
	08	DOF	Dot NR OFF 1:Dot NR OFF			00		
	09	FOF	TE LPF OFF 1:LPF OFF			01		
	0A	CTH	Color TE OFF 1:OFF			00		
	0B	PSL	TE Parameter Selection			02		
	0C	CLP	Input Clamp Level			08		
	0D	CL2	Output Clamp Level			08		
	0E	LA1	Level depend Gain (+, White)			00		
	0F	LA2	Level depend Gain (+, Black)			01		
	10	LA3	Level depend Gain (-, White)			0F		
	11	LA4	Level depend Gain (-, Black)			01		
	12	CRW	TE Y/C compensation ratio			04		
	13	YCD	TE Y/C output delay adjustment			04		
	14	OSO	Off sharpness offset			00		
NR	00	DMO	NR Demo Mode ON/OFF (1=Demo Mode)		DTE	00		
	01	THV	Offset of Noise Threshold level for vertical direction			03		
	02	THH	Offset of level Threshold level for horizontal direction			11		
	03	BLL	Offset of Level detection for Black Level			07		
	04	CST	Offset of Level detection for Color Level			07		
	05	THC	Offset of Edge Detection Threshold			09		
	06	NRF	NR0 always Rank = 0			00		
	07	DIG	A/D In or Digital In (1=Digital In)			00		
TXT	00	TXH	Teletext Horizontal Position		SAA5261	00		
	01	TXV	Teletext Vertical Position			00		

TVG	Functionality		Function	Table & Note	Device Name	Initial Value (Detailed)			
Category	No	Name				COMMON	NTSC	Others	
OPM	00	OSH	OSD H Position	Option - Misc	CXP750097	0F			
	01	COM	Selection (0: None, 1:NTSC, 2:Multi, 3:3D) [NON-DTE]/(0:None, 1:Multi, 2:3D, 3: None)[DTE]			02			(KV-AR29M61/N90)
	01	COM	Selection (0: None, 1:NTSC, 2:Multi, 3:3D) [NON-DTE]/(0:None, 1:Multi, 2:3D, 3: None)[DTE]			01			(KV-AR29M86)
	02	APC	APC Switch			01			
	03	TSY	TV Sys at Auto TV Sys			00			
	04	MUT	No Signal Mute			00			
	05	AFM	Auto FM switch			01			
	06	RFB	C-BPF Control			00			
	07	TVO	Tilt to V-Angle offset			02			
	08	DBL	Disable Blueback Function			00			
	09	SSO	Speed Search Option (0: Off, 1: 4x, 2: 6x, 3:8x)			01			
	0A	SCH	CH Selection for Shipping Condition	NTSC Models only		01			
	0B	SCA	Cable/Air selection for shipping condition	NTSC Models only		01			
	0C	POR	Power On Reset Dectection From YCT			00			
	0D	NRC	N-Det Counter for PICS1			1F			
	0E	RUC	RF Signal Change Counter after Unlocked			04			
	0F	RLC	RF Signal Change Counter after Locked			01			
	10	BYP	DTE ON/OFF Blanking			00			
	11	PLP	PICSI ON/OFF BLANKING			00			
OPB	00	OP1	Optional Bits 1 (see page 28)	Option - Bits	CXP750097	EF			
	01	OP2	Optional Bits 2 (see page 28)			67			
	02	OP3	Optional Bits 3 (see page 28)			F1			
	03	OP4	Optional Bits 4 (see page 28)			97			

NOTE

- ■ shaded items are fixed data.
- Standard data listed on the Adjustment Item Table are reference values, therefore it may be different for each model and for each mode.
- Note for Different Data Those are the standard data values written on the microprocessor. Therefore, the data values of the modes and stored respectively in the memory. In case of a device replacement, adjustment by rewriting the data value is necessary for some items.

ITEM INFORMATION

No. OPB0 OP1

Item	XTAL 4.43	XTAL 3.58	SECAM	AR34/29*	B/G	I	D/K	M
KV-AR29M61	1	1	1	0	1	1	1	1
KV-AR29M86	1	1	1	0	1	1	1	1
KV-AR29N90	1	1	1	0	0	0	0	1

AV Input 00 = no AV Input 01 = 1 AV Input

AR34/29* SHG offset in YCT 0 = AR29/25, 1 = AR34

(APPLICABLE FOR XF-L(21" & 14") MODELS ONLY.

No. OPB1 OP2

Item	TOP	NICAM	HDEV	Thai Bil	PIP 4	DVD Input	AV Input	
KV-AR29M61	0	1	1	0	0	1	1	1
KV-AR29M86	0	1	1	0	1	1	1	1
KV-AR29N90	0	0	0	0	0	1	1	1

AV Input 00 = no AV Input 01 = 1 AV Input
10 = 2 AV Input 11 = 3 AV Input

DVD Input Effective only when "AV Input" is set to 3 AV Input

PIP 4 PIP 4 0 = disabled, 1 = enabled

No. OPB2 OP3

Item	Initial menu	AP2	Auto PIC	A-TVsys	US ST	DTE	Forced 50/60	Colour SW*2
KV-AR29M61	1	1	1	1	0	0	0	1
KV-AR29M86	1	1	1	1	0	1	0	1
KV-AR29N90	1	1	1	0	1	0	0	1

Initial Menu Initial Menu Setup 0 = disabled, 1 = enabled

AP2 Auto Processor Selection 0 = AP, 1 = AP2.

Auto PIC*3 Auto Picture Improvement 0 = off PNC1/PNC2
1 = activate PNC1/PNC2

A-TVsys Auto TV System in Auto Program 0 = disabled, 1 = enabled

US ST* USA Stereo 0 = disabled, 1 = enabled

DTE DTE Model Selection 0 = Non DTE, 1 = DTE

Forced 50/60 Forced to 50/60 Hz during no signal condition 0=60Hz, 1=50Hz

Color SW*2 Color Data Selection in Dynamic Mode 0 = 65 (No PIP), 1 = 57 (PIP)

Note: *1 - For XA21/XH29 Models Only

*2 - For XA34/29/25 Models Only

*3 - For PNC3, the enables are from service item APG and APB.

No. OPB3 *OP4

Item	PNC2	Korean ST	Vid NTSC3.58	Wide	Video3	Chinese(multi mdl)	Arabic/C.Chinese	Thai/Korean
KV-AR29M61	1	0	0	1	0	1	1	1
KV-AR29M86	0	0	0	1	0	1	1	1
KV-AR29N90	1	0	0	1	0	0	1	0

APPLICABLE TO XS ONLY - Sub Language Selection (Bit 0 - Bit 2)

Korean Stereo* Korean Stereo 0 = disabled, 1 = enabled

PNC2*2 Enable switch of PNC2 0 = disable, 1 = enable

Video NTSC3.58* Video Color System 0 = Multi System, 1 = Single System (NTSC3.58)

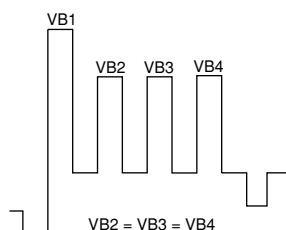
Wide Enable wide mode 0 = disable, 1 = enable

Note : *APPLICABLE FOR NTSC MODELS ONLY

4-3. ADJUSTMENT FOR NON DIGITAL TEXTURE ENHANCER (DTE) MODEL (KV-AR29M61/AR29N90)

SUB COLOR ADJUSTMENT

1. Select Video.
2. Input PAL Color Bar
3. Set to following condition PICTURE 100%, BRIGHTNESS 50%, Color 50%.
4. Connect an oscilloscope to pin ① (BOUT) of CN305, A Board.
5. Set the service mode and select SAJ 3 'SCL' with [1] and [4] of the commander then adjust the VB2=VB3=VB4 [3] and [6].
6. Press [MUTING] → [0] of the commander to write the data.
7. Input NTSC Color Bar to set and repeat items (3 to 7).
8. Select "WIDE" mode, write the "SAME DATA- 3 STEPS" for both PAL and NTSC Color Bar input.



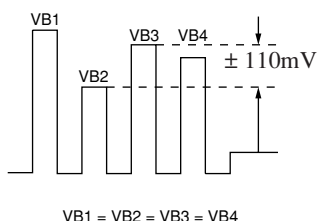
VB2 = VB3 = VB4 (Difference is within 70mV)

SUB COLOR ADJUSTMENT

1. Select Video.
2. Input PAL Color Bar
3. Set to following condition PICTURE 100%, BRIGHTNESS 50%, Color 50%.
4. Connect an oscilloscope to pin ① (BOUT) of CN305, A Board.
5. Set the service mode and select SAJ 3 'SCL' with [1] and [4] of the commander then adjust the VB2=VB3=VB4 [3] and [6].
6. Press [MUTING] → [0] of the commander to write the data.
7. Add 6 steps and save the data.
8. Input NTSC Color Bar to TV set and repeat items 3 to 7.
9. Select "WIDE" mode, write the "SAME DATA- 3 STEPS" for both PAL and NTSC Color Bar input.

SUB HUE ADJUSTMENT

1. Select Video 1.
2. Input a NTSC 3.58 color-bar, video into Video 1.
3. Set the following condition:
PICTURE 100%, BRIGHTNESS 50%, COLOR 50%
4. Connect an oscilloscope to pin ① (B OUT) of CN305, A board.
5. Select SAJ 1 "SHU" with [1] and [4] of the commander by setting to Service Mode and adjust to VB1=VB2=VB3=VB4 with [3] and [6].



The highest level of VB1,VB2,VB3,VB4 must be aligned at the same line. Ideal difference level between VB2 and VB3 should be within $\pm 110\text{mV}$.

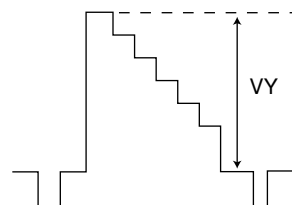
6. Press [MUTING] → [0] of the commander to write the data.
7. Adjust SAJ 1 "SHU" as step 3 to 6 when receiving TV mode.

4-4. ADJUSTMENT FOR DIGITAL TEXTURE ENHANCER (DTE) MODEL (KV-AR29M86)

Y LEVEL ADJUSTMENT

1. Select Video.
2. Input PAL Color Bar to TV set (white reference 100%).
3. Set the following condition:
DTE : ON
Picture Mode : Dynamic
4. Connect an oscilloscope to pin ① (CV/Y in) of CN106, A Board.
5. Set to Service Mode and YCT 08 'YOL' with [1] and [4] of the commander then adjust to VY within spec with [3] and [6].
6. Then press [MUTING] → [0] to write the data.
7. Select RF.
8. Repeat item [2] to [4].
9. Set to Service Mode and YCT 04 'SCT' with 1 and 4 of the commander then adjust to VY within spec with [3] to [6].
10. Copy SCT data to NTSC (RF).

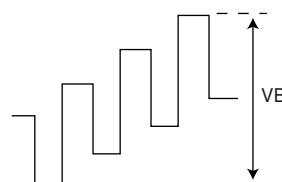
SCT Setting (Video Mode) : 07h (NTSC & PAL)



SPEC: VY : $1.2 \text{ Vpp} \pm 0.05\text{m Vpp}$

SUB COLOR (YCT) ADJUSTMENT

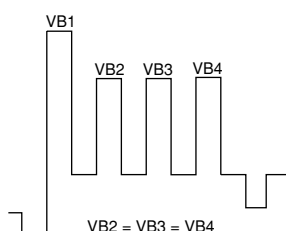
1. Select Video.
2. Input NTSC Color Bar.
3. Set the following condition:
DTE : ON
Picture Mode : Dynamic
NTSC 75% Color Bar
4. Connect an oscilloscope to pin ② (B-Y in) of CN303, A Board.
5. Set to Service Mode and YCT 0A 'COL' with [1] and [4] of the commander then adjust to VB within spec with [3] and [6].
6. Then press [MUTING] → [0] to write the data.
7. Select RF.
8. Repeat item no [2] to [4].
9. Set to Service Mode and YCT 03 'COL' with [1] and [4] of the commander then adjust the waveform within spec with [3] and [6].
10. Then press [MUTING] → [0] to write the data.
11. Input PAL Color Bar (75%) and repeat item no 8 to 10.



SPEC :
VIDEO : VB = $0.931 \text{ Vpp} \pm 50 \text{ mVpp}$
RF : VB = $0.931 \text{ Vpp} \pm 50 \text{ mVpp}$

SUB COLOR (YCJ) ADJUSTMENT

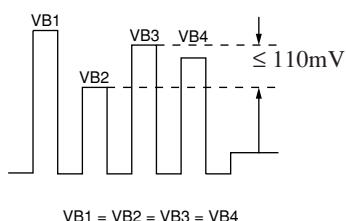
1. Select Video.
2. Input PAL Color Bar to TV set.
3. Set the following condition:
Pic: 100%, Col: 50%, Brightness: 50%, DTE: OFF
4. Connect an oscilloscope to pin ② (B output) of CN305, A Board.
5. Set to Service Mode and SAJ 03 'SCL' with [1] and [4] of the commander then adjust to VB2 = VB3 = VB4 = with [3] and [6].
6. Then press [MUTING] → [0] to write the data.
7. Add offset steps and save the data.
Offset: 25... 0
29... 0
34... 0
8. Input NTSC color bar to TV set and repeat item no 3 to 7.
10. Select "WIDE" mode, write the "SAME DATA - 3 STEPS" for both PAL and NTSC input.



VB2 = VB3 = VB4 (Difference is within 70mV)

SUB HUE ADJUSTMENT

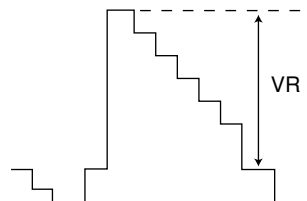
1. Select Video.
2. Input NTSC 3.58 Color Bar to TV Set.
3. Set the following condition:
Pic: 100%, Col: 50%, Brightness: 50%, DTE: OFF
4. Connect an oscilloscope to pin ① (B output) of CN305, A Board.
5. Set to Service Mode and YCT 00 'SHU' with [1] and [4] of the commander then adjust to VB1 = VB2 = VB3 = VB4 = with [3] and [6].
6. Then press [MUTING] → [0] to write the data.
7. Select RF.
8. Input NTSC 3.58 and repeat item no 3 and 6.



The highest level of VB1, VB2, VB3, VB4 must be aligned at the same time.
Ideal difference level between VB2 and VB3 should be within ± 110 mVpp.

PMX ADJUSTMENT

1. Select Video (Wide mode: OFF).
2. Input PAL Color Bar to TV set.
3. Set the following condition:
Pic: 100%, Col: 50%, Brightness: 50%, DTE: OFF
4. Connect an oscilloscope to pin ③ (R output) of CN305, A Board.
5. Set to Service Mode and SAJ 00 'PMX' with [1] and [4] of the commander then adjust to VR within spec with [3] and [6].
6. Then press [MUTING] → [0] to write the data.
7. Select "Wide" mode, write the "SAME DATA- 5 STEPS".



VR = 2.35 Vpp
(Difference is within 50 mVpp)

VP 06 RLM : 03H
17 R ON : 01H
18 G ON : 00H
19 B ON : 00H

After adjustment, these adjustment parameters must be recovered to the original condition.

4-5. DISPLAY POSITION ADJUSTMENT (KV-AR29M86)

PIP POSITION

1. Input a PAL color-bar.
2. Press PIP button of the remote commander to set the PIP picture.
3. Set to Service Mode.
4. Use [1] and [4] of the remote commander to select PIP 03 "HPS" and use [3] and [6] to set data "15".
5. Select PIP 04 "VPS" to set data "2E".
6. Press [MUTING] → [0] of the remote commander to write the data.
7. Use the screen display menu changing the PIP position to check the PIP position.

4-6. DEFLECTION ADJUSTMENT

NORMAL MODE (50Hz)

1. Set Video Mode.
2. Using the [1] and [4] button, select category GEO (Service Mode).
3. Raise/lower the data using the [3] and [6] buttons. Select and adjust the following items to obtain optimum image.

Service Item

GEO : 00	HPS	H POSITION
01	HSZ	H SIZE
02	PAP	PIN AMP
03	TLT	TILT
04	VPS	V POSITION
05	VSZ	V SIZE
06	SCO	S CORRECTION
07	VLN	V LINEARITY
08	BOW	AFC BOW
09	AGL	AFC ANGLE
0A	UPN	UPPER CORNER PIN
0B	LPN	LOWER CORNER PIN

WIDE MODE (50Hz)

4. Input PAL color bar.
5. Adjust condition change to WIDE MODE : ON.
6. Using the **[1]** and **[3]** button, select category GEO (Service Mode).
7. Copy (item from normal mode (50Hz)) adjusted data for the following item:

Service Item

GEO : 00	HPS	H POSITION
01	HSZ	H SIZE
05	VSZ	V SIZE
06	SCO	S CORRECTION
07	VLN	V LINEARITY

8. Raise/lower data using **[3]** and **[6]** buttons, select and adjust the following items to obtain optimum image.

Service Item

GEO : 02	PAP	PIN AMP
03	TLT	TILT
04	VPS	V POSITION
08	BOW	AFC BOW
09	AGL	AFC ANGLE
0A	UPN	UPPER CORNER PIN
0B	LPN	LOWER CORNER PIN

9. After confirm WIDE MODE : ON – OFF.

NORMAL MODE (60Hz)

1. Set to Service Mode.
2. Using the **[1]** and **[4]** buttons select category GEO (Service Mode).
3. Select and adjust the following items to obtain optimum image. Raise/lower the data with the **[3]** and **[6]** buttons.

Service Item

GEO : 00	HPS	H POSITION
01	HSZ	H SIZE
02	PAP	PIN AMP
03	TLT	TILT
04	VPS	V POSITION
05	VSZ	V SIZE
06	SCO	S CORRECTION
07	VLN	V LINEARITY
08	BOW	AFC BOW
09	AGL	AFC ANGLE
0A	UPN	UPPER CORNER PIN
0B	LPN	LOWER CORNER PIN

WIDE MODE (60Hz)

4. Input monoscope signal.
5. Adjust condition change to WIDE MODE: ON.
6. Using the **[1]** and **[4]** button select category GEO (Service Mode).
7. Copy (item from NORMAL MODE (60Hz)) adjusted data for the following items:

Service Item

GEO : 00	HPS	H POSITION
01	HSZ	H SIZE
05	VSZ	V SIZE
06	SCO	S CORRECTION
07	VLN	V LINEARITY

8. Raise/lower the data with the **[3]** and **[6]** buttons. Select and adjust the following items to obtain optimum image.

Service Item

GEO : 02	PAP	PIN AMP
03	TLT	TILT
04	VPS	V POSITION
08	BOW	AFC BOW
09	AGL	AFC ANGLE
0A	UPN	UPPER CORNER PIN
0B	LPN	LOWER CORNER PIN

9. After confirm WIDE MODE : ON – OFF.

Note:

For Deflection Adjustment, set PICTURE MODE to "SOFT".

4-7. H-TRAPEZOID ADJUSTMENT

1. Receive cross hatch/dot signal.
2. Adjust RV1801 on C6 board to make H-Trapezoid distortion best.

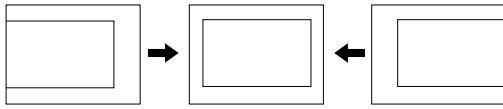
4-8. A BOARD ADJUSTMENT AFTER IC003 (MEMORY) REPLACEMENT

1. Enter to Service Mode.
2. Press commander buttons **[5]** and **[0]** (Data Initialize), and **[2]** and **[0]** (Data Copy) to initialize the data.
3. Call each item number and check if the respective screen shows the normal picture.
In cases where items are not well adjusted, rectify the fine adjustment.
Write the data per each item number (**[MUTING]** → **[0]**).
4. Select item numbers "OPB00" (OP1), "OPB01" (OP2), "OPB02" (OP3) and "OPB03" (OP4) respectively set the bit per model with command buttons **[3]** and **[6]**.
5. Press commander buttons **[8]** and **[0]** (Test Normal) to return to the data that was set on the shipment from the factory. (This will also cancel Service Mode.)

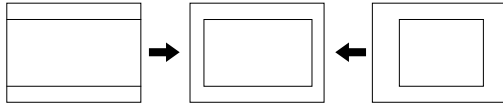
4-9. PICTURE DISTORTION ADJUSTMENT (1)

Item Number 00 – 0B

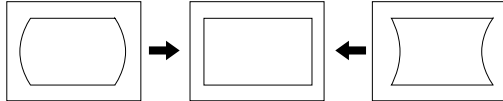
GEO 0 HPS (H POSITION)



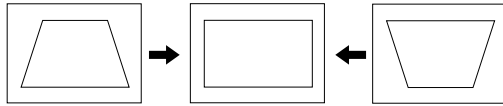
GEO 1 HSZ (H SIZE)



GEO 2 PAP (PIN AMP)



GEO 3 TLT (TRAPEZIUM)



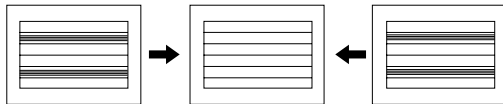
GEO 4 VPS (V POSITION)



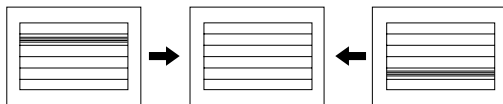
GEO 5 VSZ (V SIZE)



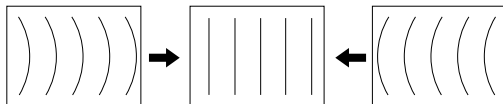
GEO 6 SCO (VERTICAL S-Correction)



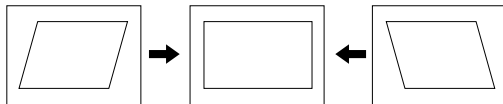
GEO 7 VLN (V LINEARITY)



GEO 8 BOW (AFC. BOW)

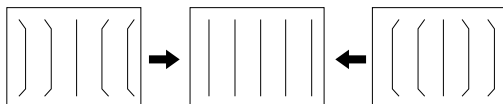


GEO 9 AGL (AFC. ANGLE)



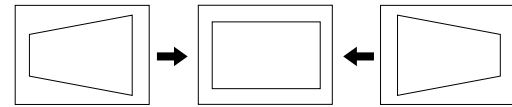
GEO 0A UPN (UPPER CORNER PIN)

GEO 0B LPN (LOWER CORNER PIN)



PICTURE DISTORTION ADJUSTMENT (2)

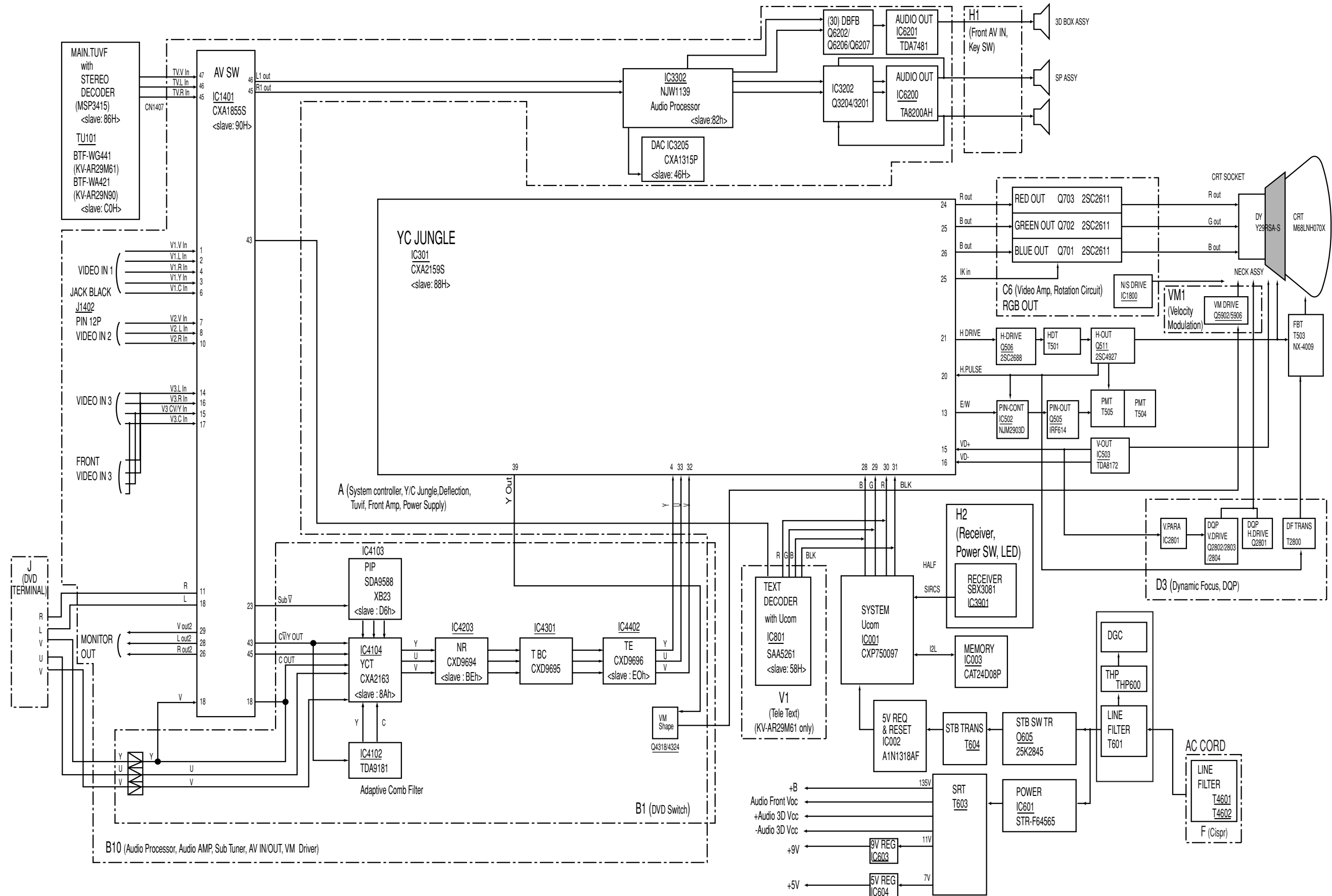
H-TRAPEZOID (DAC 4 HTR)



SECTION 5
DIAGRAMS

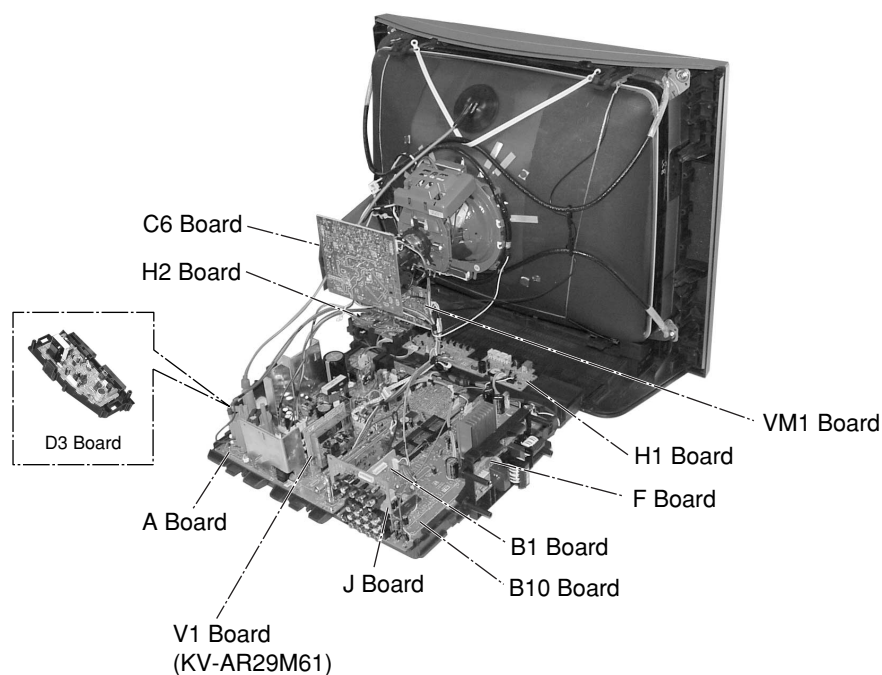
5-1. BLOCK DIAGRAM

(FOR KV-AR29M61/AR29N90)

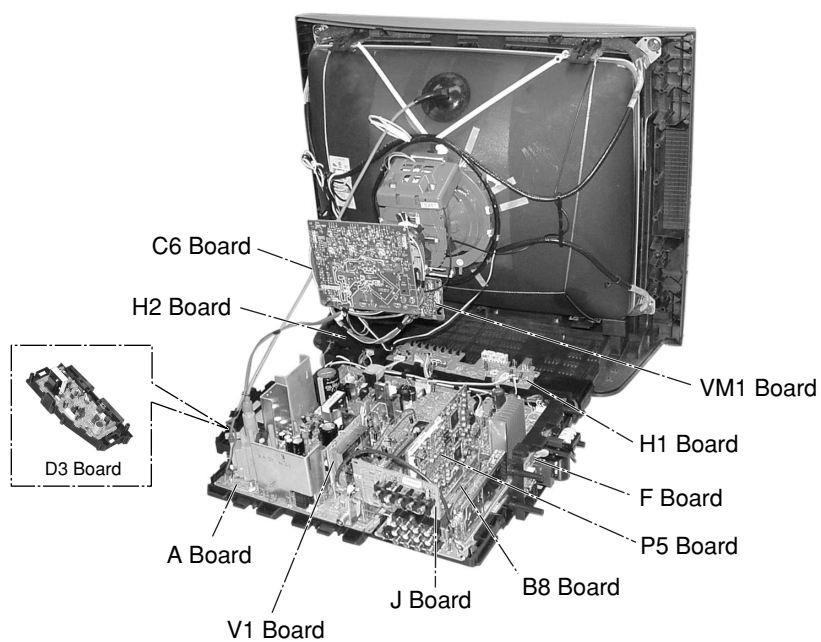


5-2. CIRCUIT BOARDS LOCATION

(FOR KV-AR29M61/AR29N90)



(FOR KV-AR29M86)



5-3. SCHEMATIC DIAGRAM

Note:

- All capacitors are in μF unless otherwise noted.
- All electrolytic capacitors are rated at 50V unless otherwise noted.
- All resistors are in ohms.
 $\text{k}\Omega = 1000\Omega$, $\text{M}\Omega = 1000\text{k}\Omega$
- Indication of resistance which does not have rating electrical power is as follows.

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

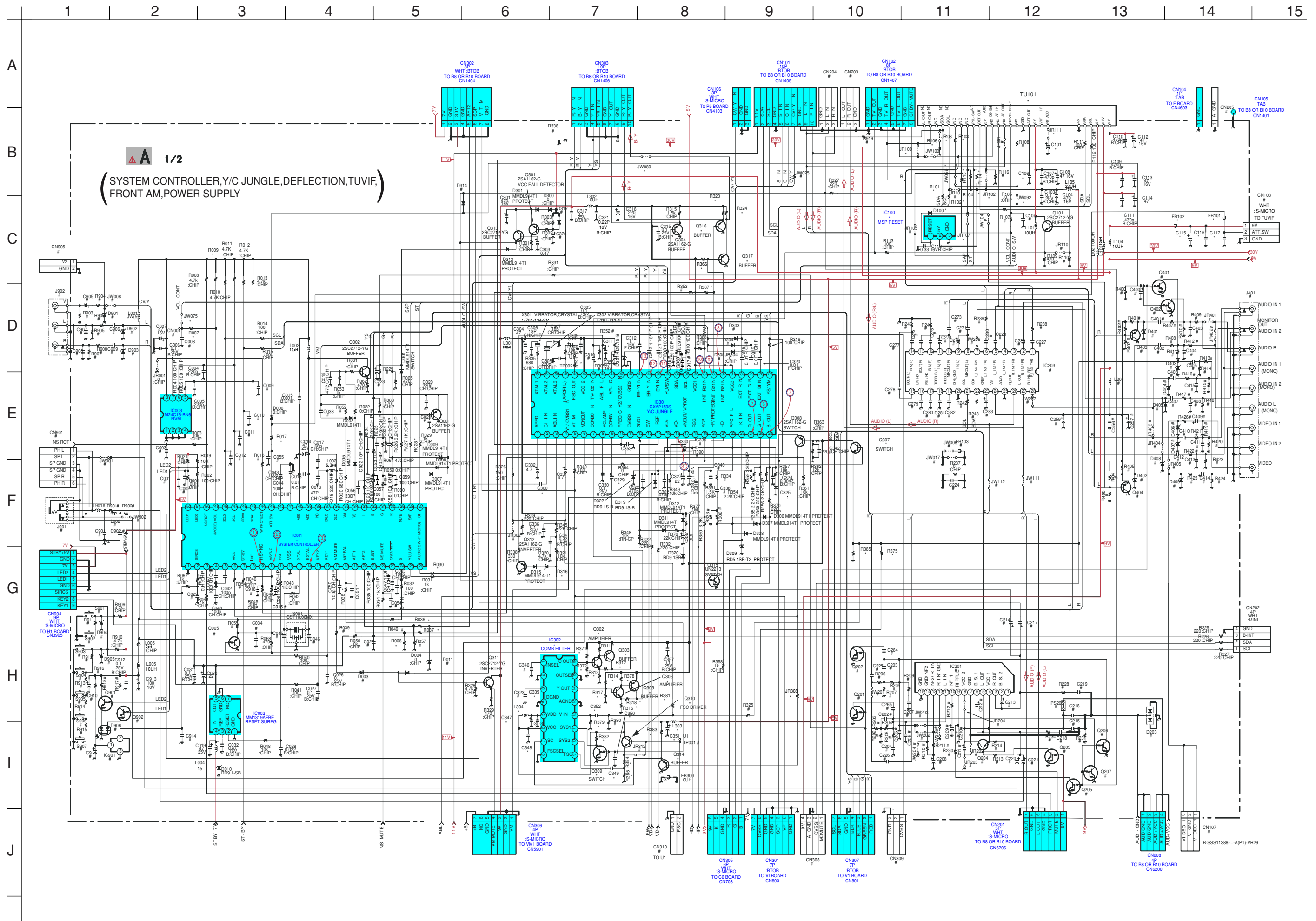
-  : nonflammable resistor.
- Δ : internal component.
-  : panel designation or adjustment for rrepair.
- All variable and adjustable resistors have characteristic curve B unless otherwise noted.
- **Readings are taken with a color-bar signal input.**
 no mark : Common
 () : PAL
 [] : NTSC 3.58
- **Readings are taken with a 10M Ω 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 V.**
- * : **Cannot be measured.**
- **Circled numbers are waveform references.**
-  : B +bus.
-  : B -bus.
-  : signal path.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
COIL	: *	ADJUSTMENT RESISTOR
	: 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

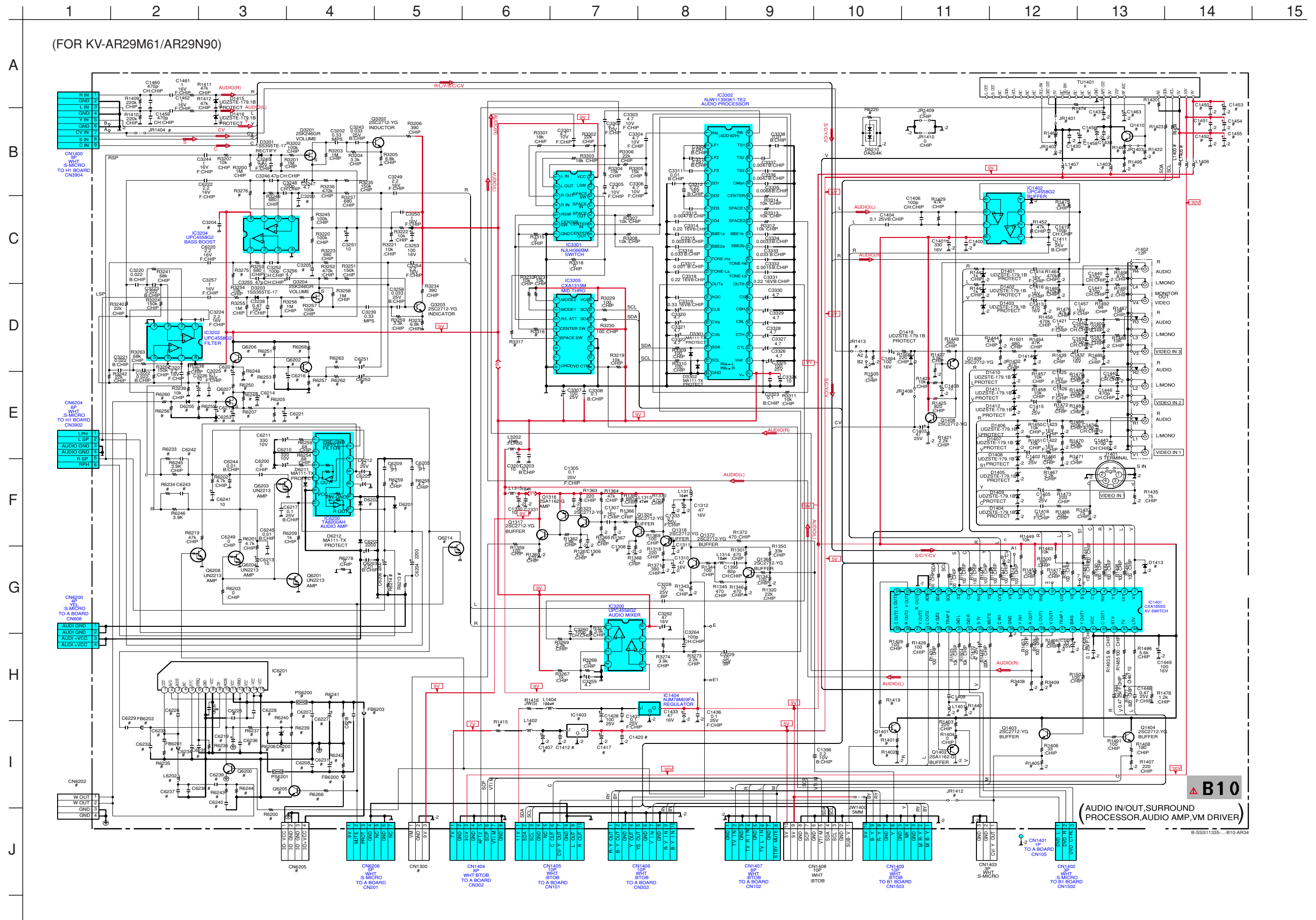
Note: The component identified by shading and mark Δ are critical for safety. Replace only with part number specified.

(1) A Board Schematic Diagram

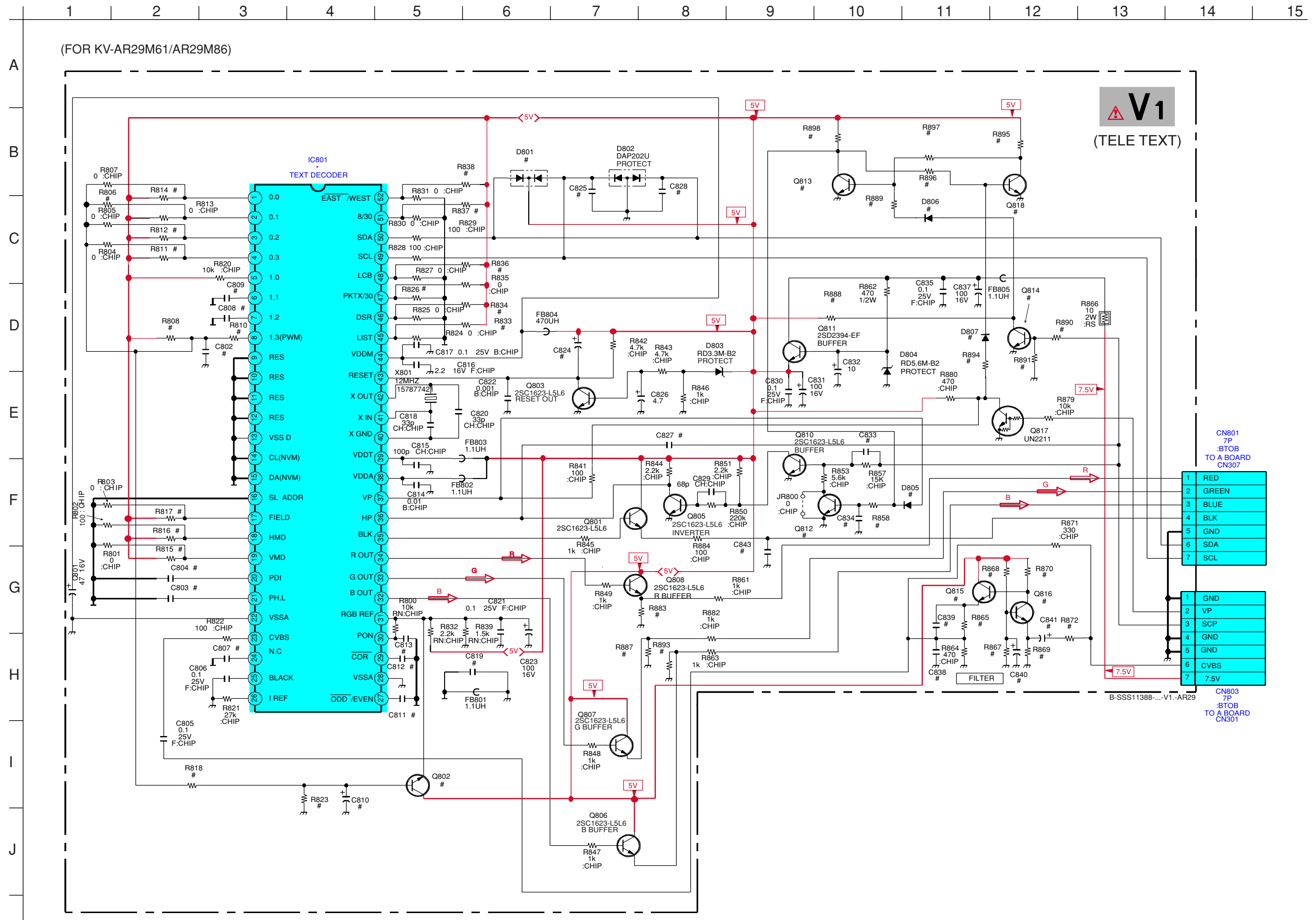




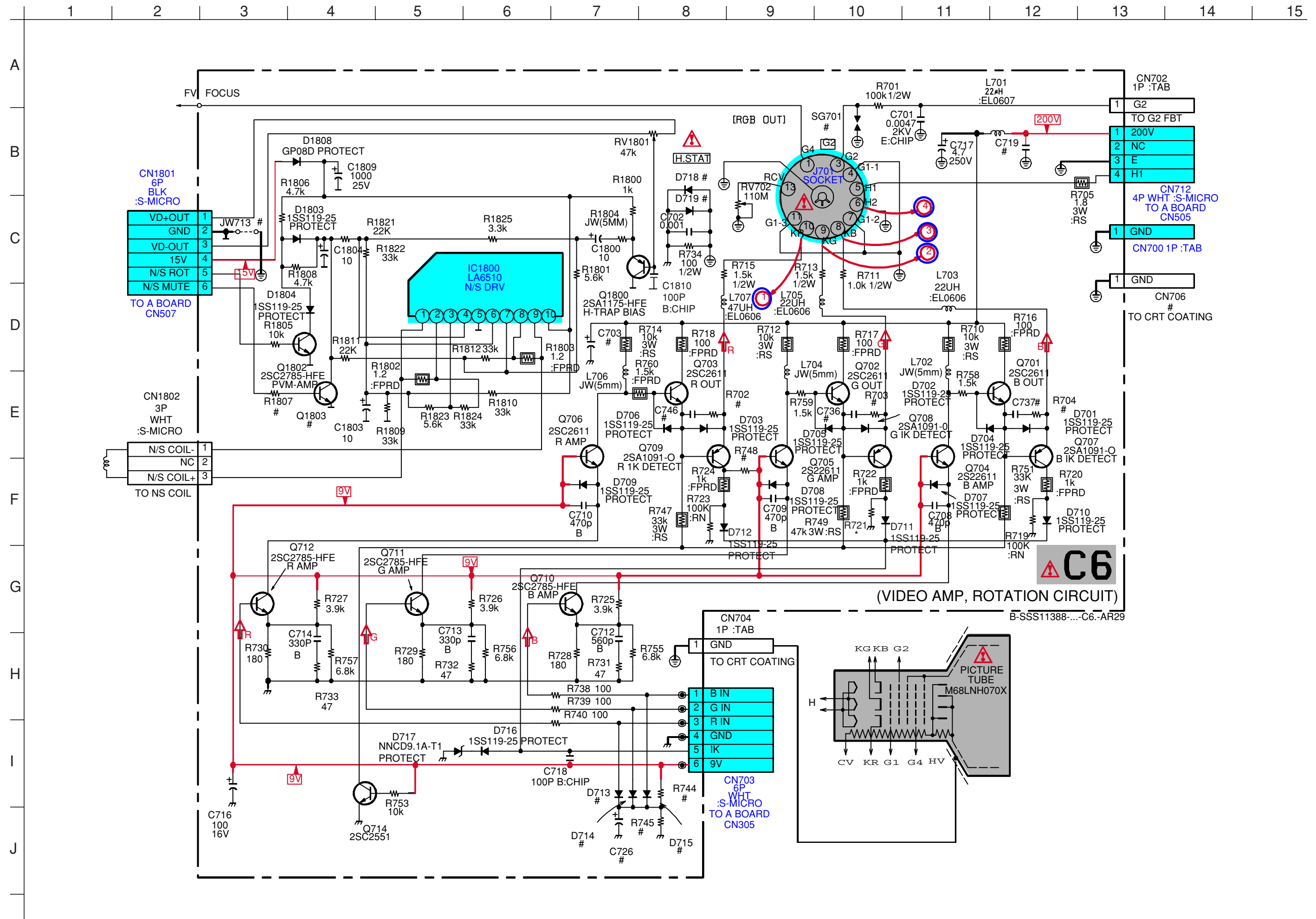
(2) B10 Board Schematic Diagram



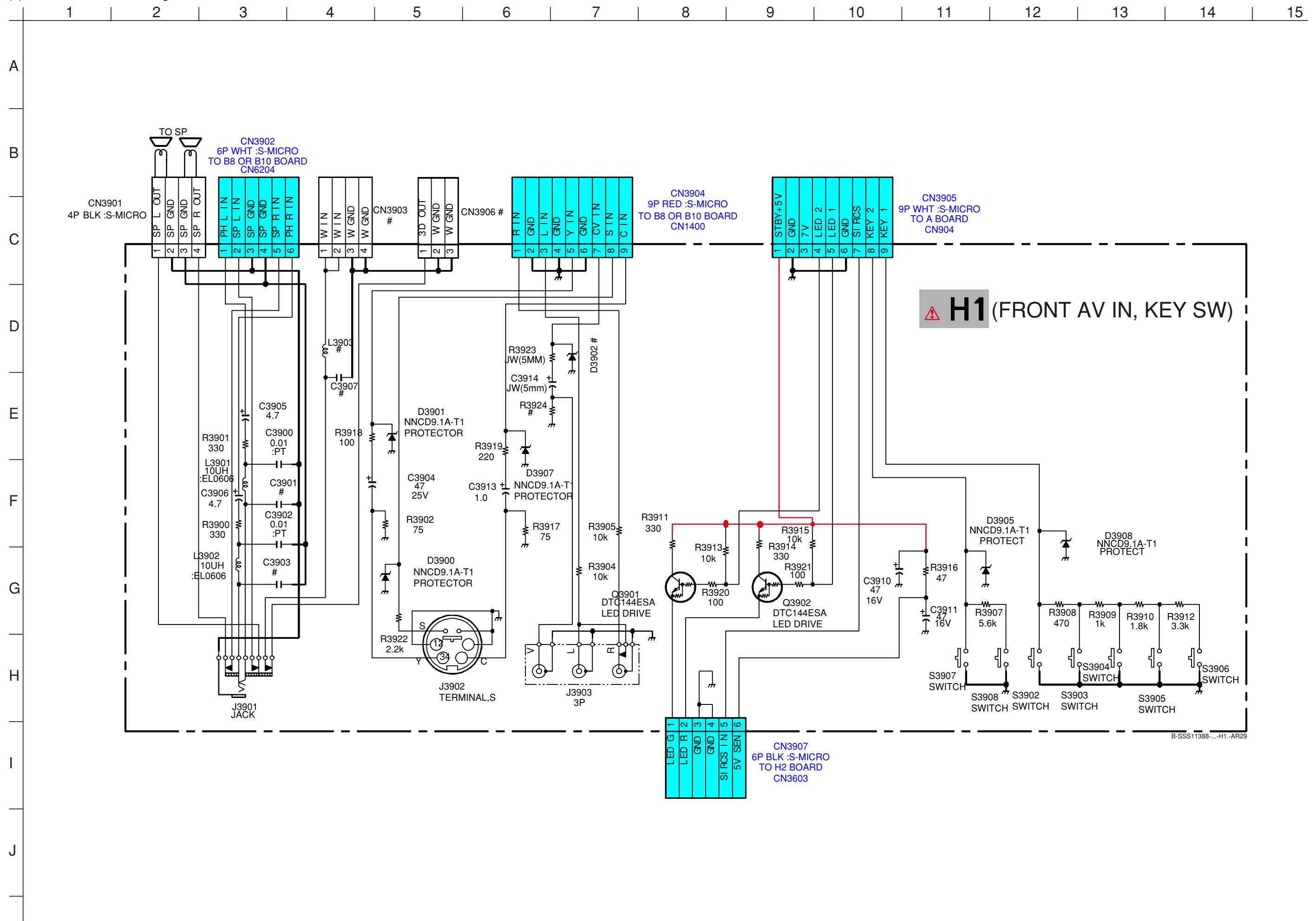
(3) V1 Board Schematic Diagram



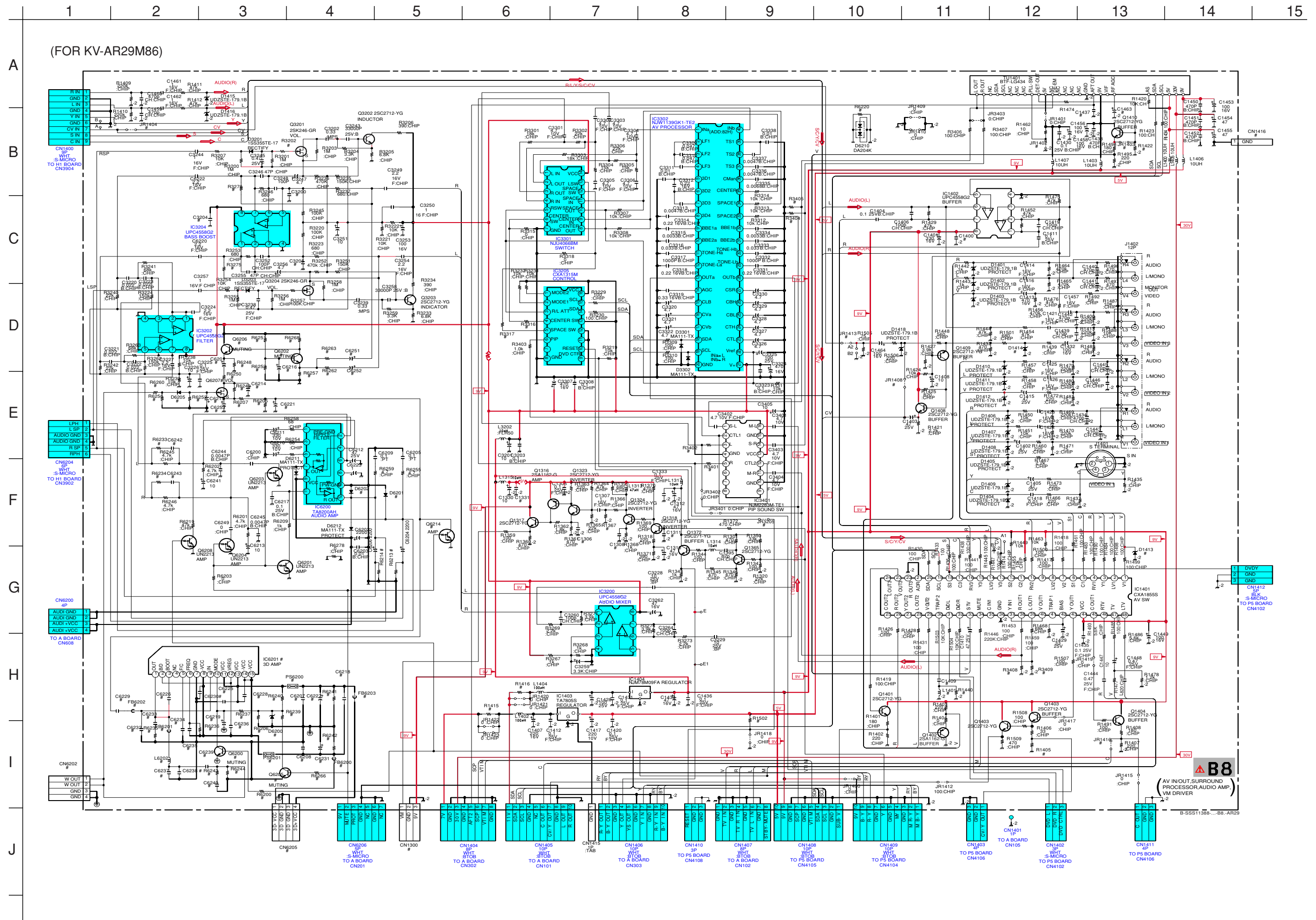
(4) C6 Board Schematic Diagram



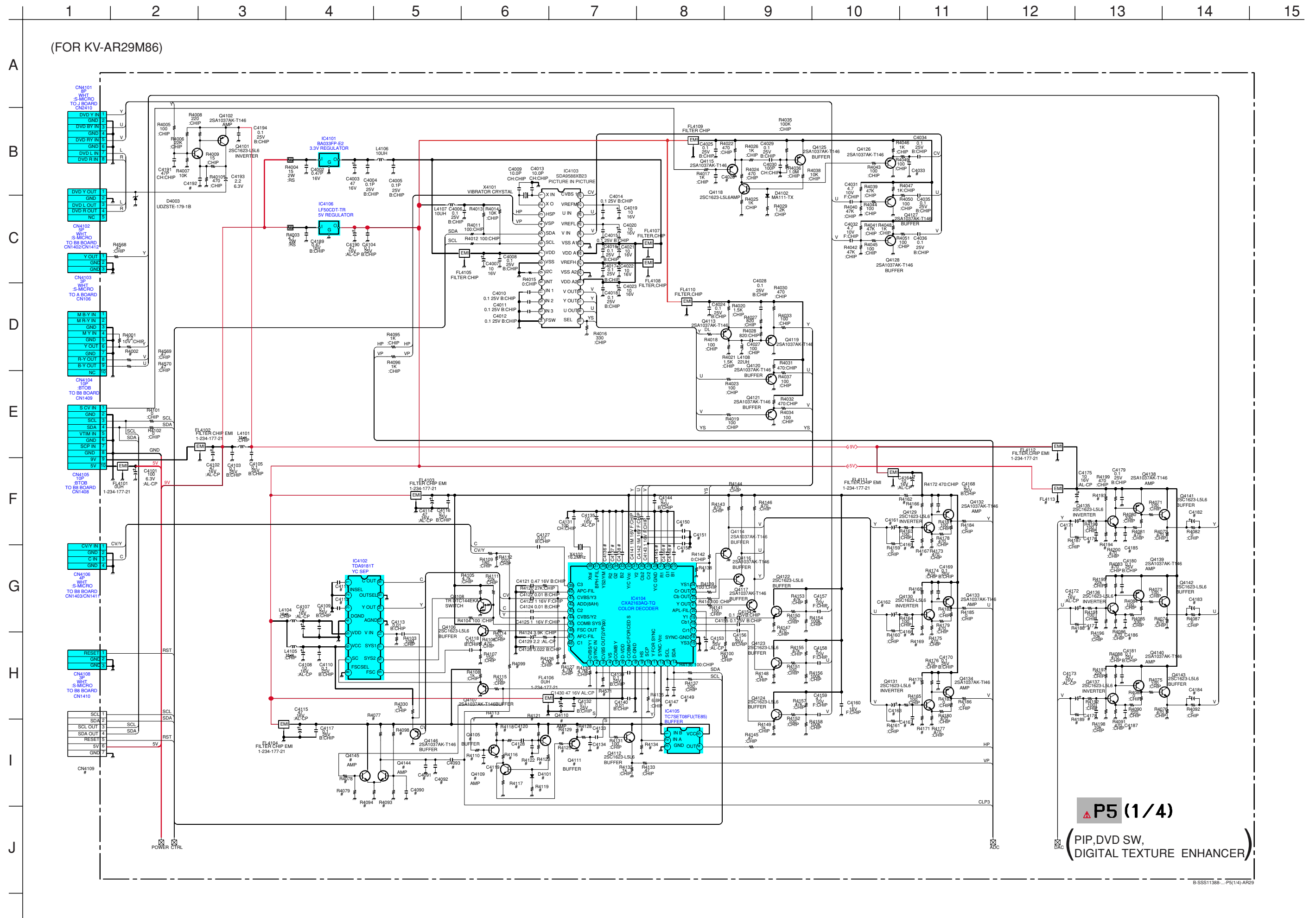
(5) H1 Board Schematic Diagram

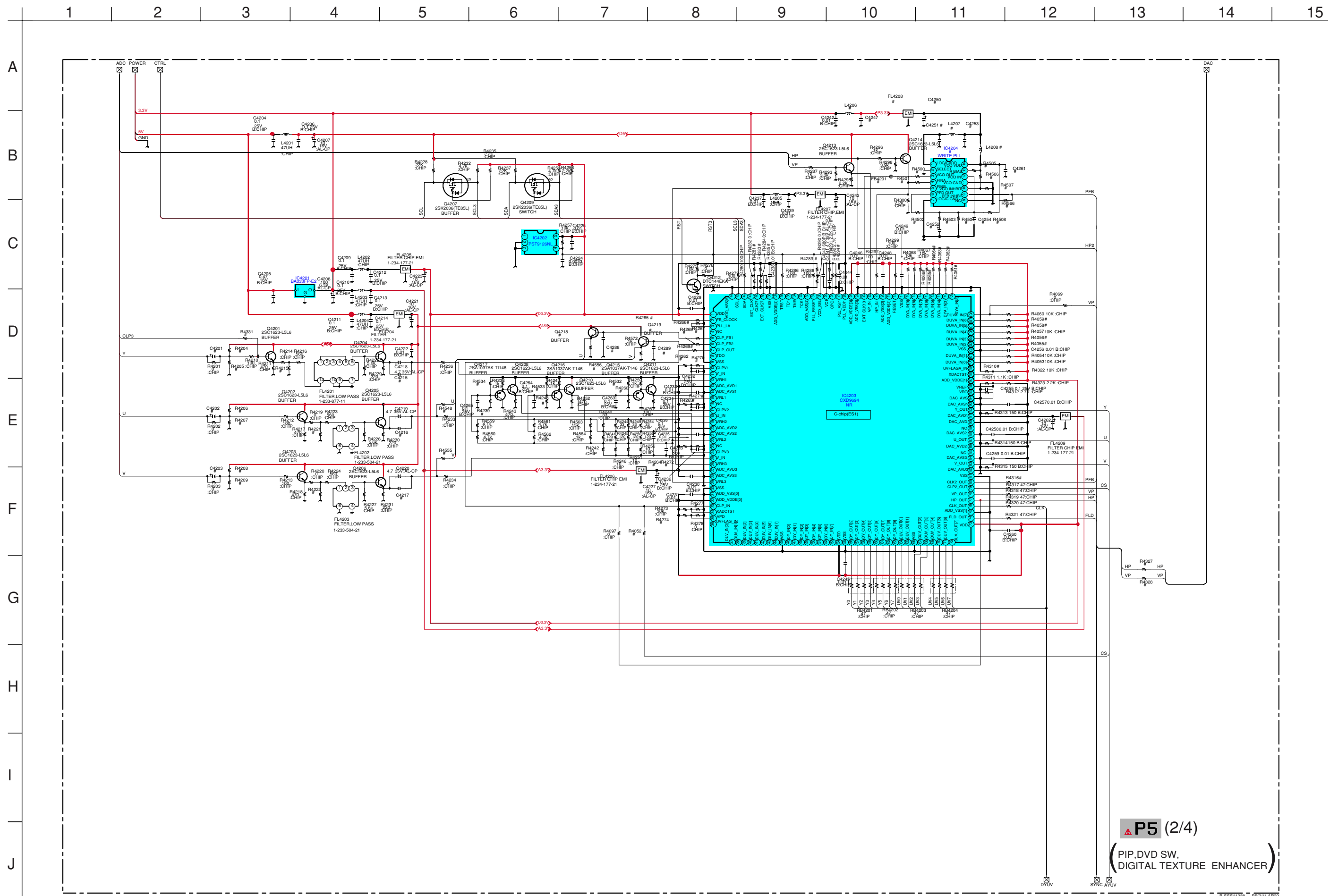


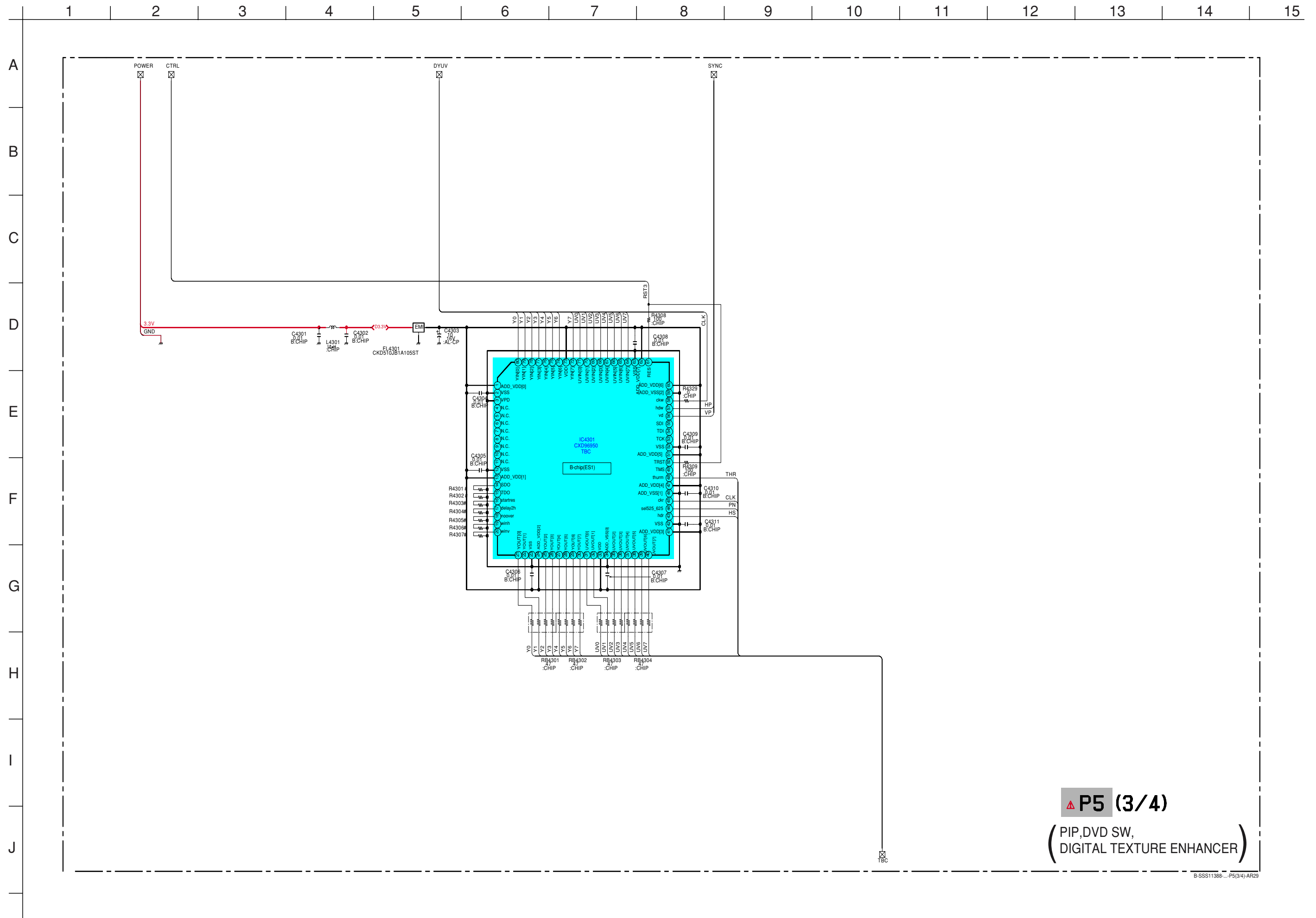
(6) B8 Board Schematic Diagram



(7) P5 Board Schematic Diagram



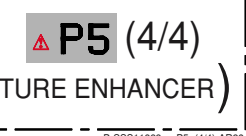




▲ P5 (3/4)

(PIP,DVD SW,
DIGITAL TEXTURE ENHANCER)

B-SSS11388-...P5(3/4)-AR29



1 2 3 4 5 6 7

A

B

C

D

E

F

G

H

I

J

J2410
5P

R2410 75

R2411 75

R2412 75

R2414 220k

R2417 220k

R2420 220

R2421 220

C2410 47

C2411 47

C2412 47

C2413 330p B

C2414 330p B

C2418 1

C2419 1

D2410 NNCD9.1A-T1 PROTECT

D2411 NNCD9.1A-T1 PROTECT

D2412 NNCD9.1A-T1 PROTECT

D2414 NNCD9.1A-T1 PROTECT

D2415 NNCD9.1A-T1 PROTECT

R2415 100

R2418 100

1 2 3 4 5 6 7 8

DVD Y

GND

DVD BY

GND

DVD RY

GND

DVD L

DVD R

CN2410
8P
WHT
:S-MICRO
TO B1 BOARD
CN1501
OR
TO P5 BOARD
CN4101

(DVD TERMINAL)

B-SSS11388-...J...-AR29

F (CISPR)

F4601
T5.0A
250V
:FUSE

VDR461 #

T4601 LFT

T4602 LFT

JW4603 #

JW4604 #

JW4601 #

JW4602 #

R4601 1M 1/2W

C4602 0.68 275V

C4601 0.47 275V

C654 0.0047 250V E

1 2

AC IN

AC IN

TO A BOARD
CN602

CN4601
2P
:VH

CN4603
1P
:TAB
GND
TO A BOARD
CN104

1 2

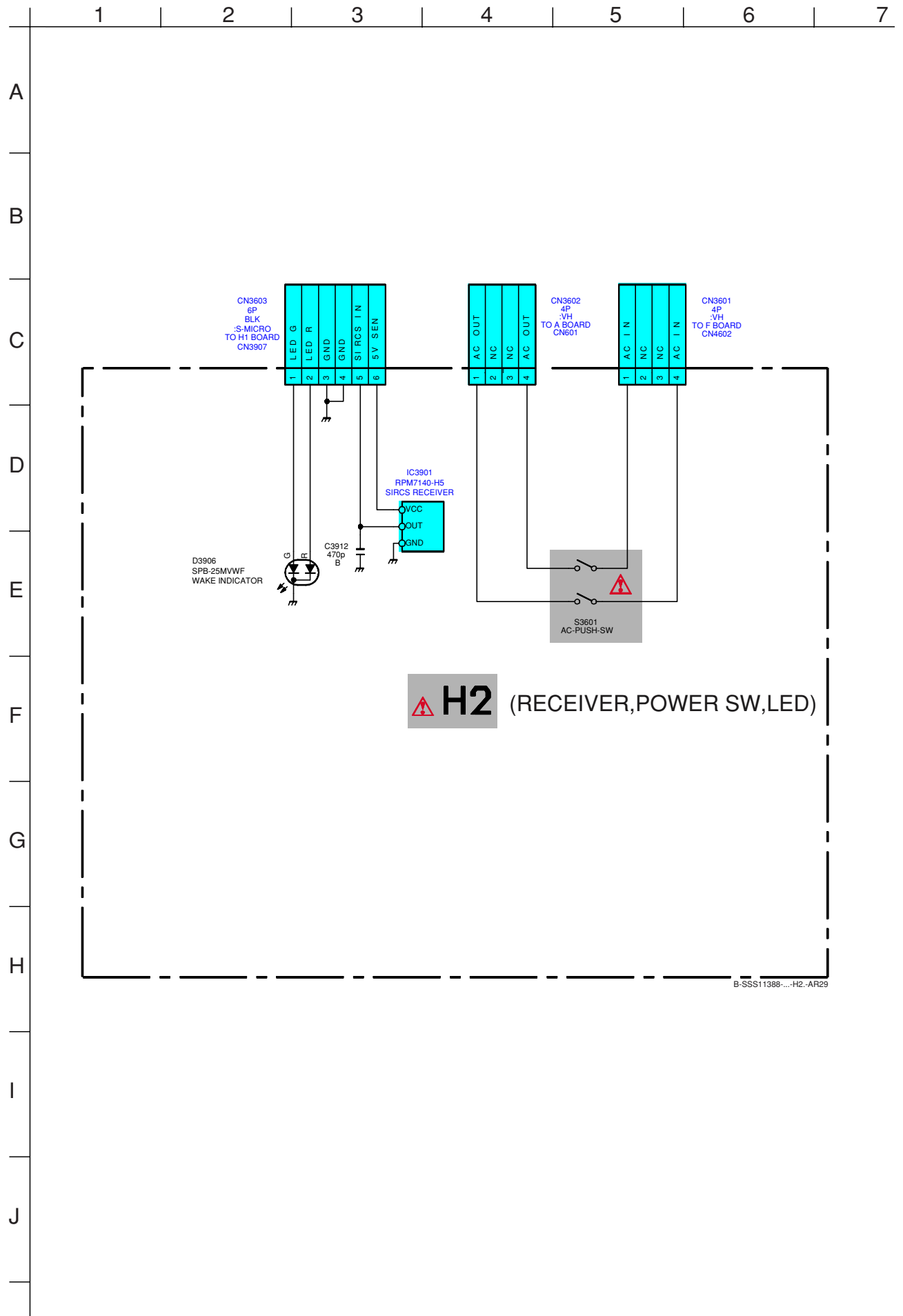
AC OUT

AC OUT

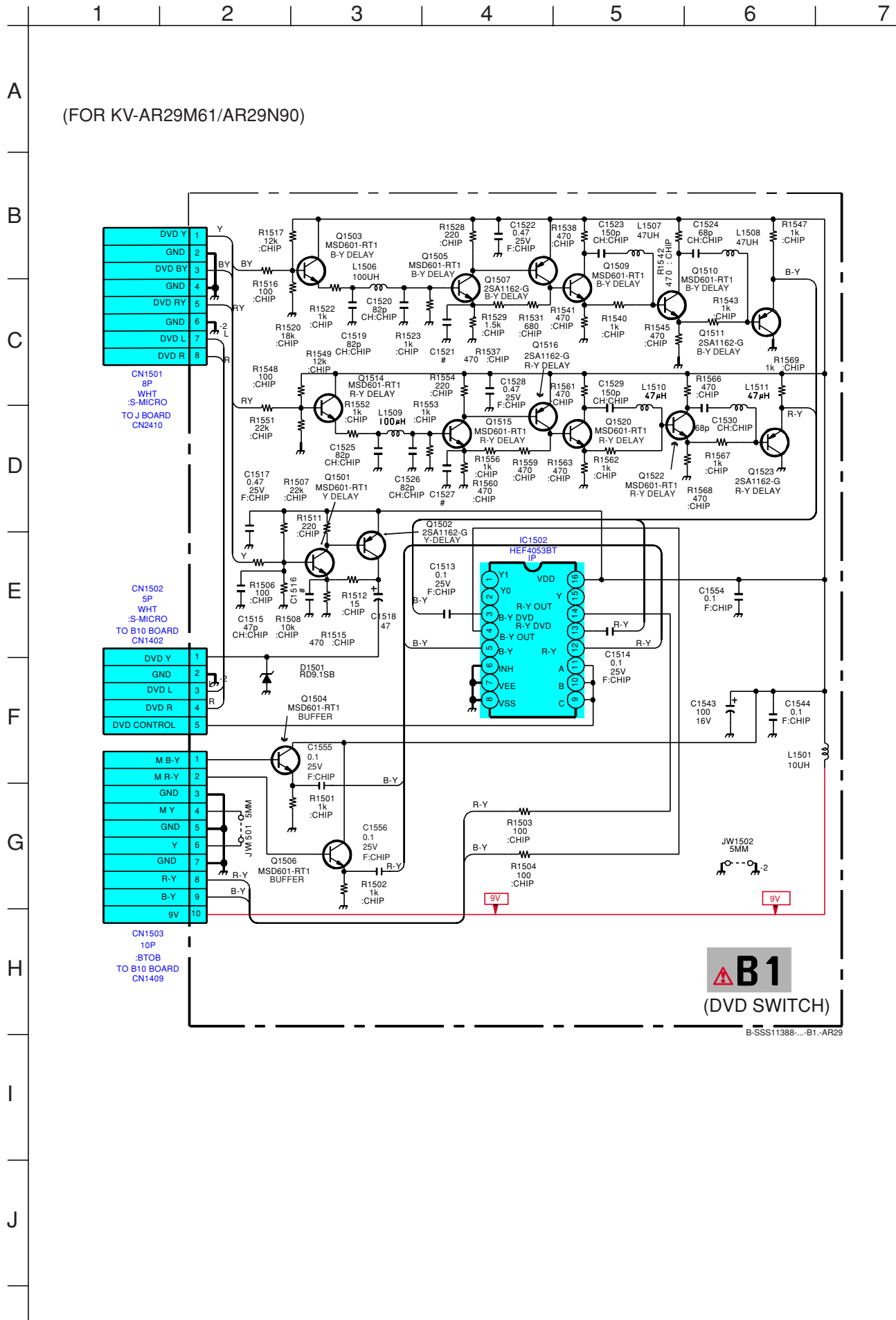
CN4602
2P
:VH
TO H2 BOARD
CN3601

B-SSS11388-...F...-AR29

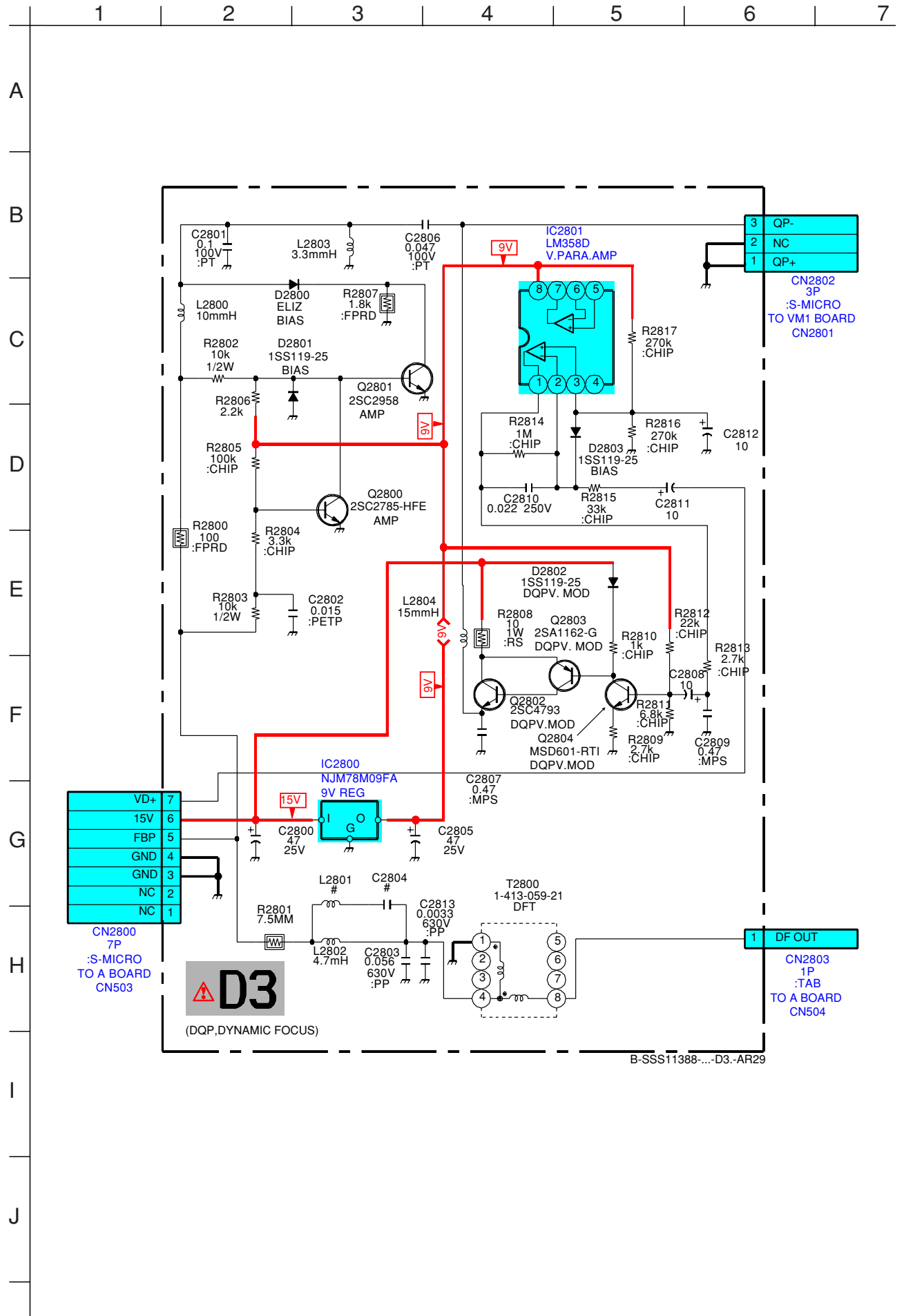
(9) H2 Board Schematic Diagram



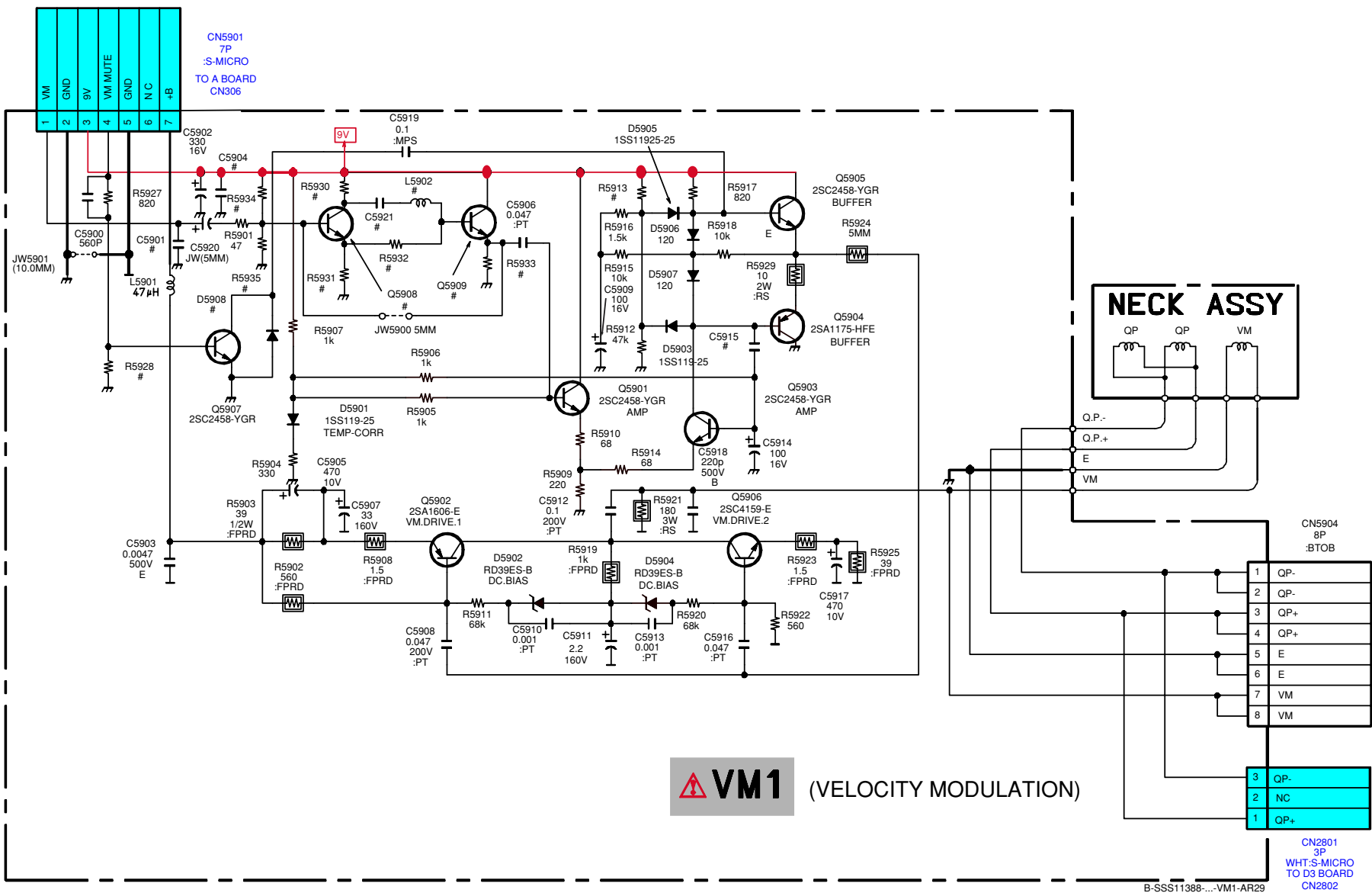
(10) B1 Board Schematic Diagram



(11) D3 Board Schematic Diagram



(12) VM1 Board Schematic Diagram



A Board * Mark List

	KV-AR29M61 (GE)	KV-AR29M86 (ME)	KV-AR29N90 (WA)
C051	100P CH:CHIP	100P CH:CHIP	#
C101	#	#	10
C106	#	#	0.47 F:CHIP
C115	#	47	#
C116	#	0.1 25V B:CHIP	#
C117	#	0.1 25V B:CHIP	#
C300	2.2 16V F:CHIP	#	2.2 16V F:CHIP
C311	10	4.7	10
C329	4.7	#	4.7
C335	0.1 25V B:CHIP	#	0.1 25V B:CHIP
C347	100 16V	#	100 16V
C348	0.1 25V B:CHIP	#	0.1 25V B:CHIP
C349	0.1 25V B:CHIP	#	0.1 25V B:CHIP
C350	0.01 F:CHIP	#	#
C351	10	#	10
C352	0.1 25V B:CHIP	#	0.1 25V B:CHIP
C603	47 25V	47 25V	10K :CHIP
CN301	7P :BTOB	7P :BTOB	#
CN302	#	8P	#
CN307	7P :BTOB	7P :BTOB	#
CN508	Tab (Contact)	Tab (Contact)	#
D100	MMDL914T1	#	#
D316	RD7.5SB1-T1	RD11SB2-T1	RD7.5SB1-T1
D517	BY228/A52A/	RS3FS	RD3FS
FB101	#	0 :CHIP	#
FB102	#	0 :CHIP	#
IC001	CXP700597-605S	CXP700597-605S	CXP700597-604S
IC100	S-80743AL-A7-S	#	#
IC302	TDA9181T	#	TDA9183T
JR102	0 :CHIP	#	#
JR107	0 :CHIP	#	0 :CHIP
JR108	#	#	0 :CHIP
JR109	#	0:CHIP	#
JR111	#	#	0 :CHIP
JR308	0 :CHIP	#	0 CHIP
L303	100UH	#	100UH
L304	100UH	#	100UH
Q302	2SC2712-YG	#	2SC2712-YG
Q303	2SA1162-G	#	2SA1162-G
Q305	2SA1162-G	#	2SA1162-G
Q306	2SC2712-YG	#	2SC2712-YG
Q307	2SC2712-YG	#	2SC2712-YG
Q309	UN2213	#	#
Q310	2SC2712-YG	#	2SC2712-YG
Q314	2SA1162-G	#	2SA1162-G
Q316	2SA1162-G	#	2SA1162-G
Q317	2SA1162-G	#	2SA1162-G
R006	#	#	39K :CHIP
R007	#	#	220 :CHIP
R009	#	#	4.7K :CHIP
R017	#	1.0K :CHIP	#
R028	10K :CHIP	#	1.0K :CHIP
R030	#	#	100 :CHIP
R036	100 :CHIP	100 :CHIP	#
R037	100 :CHIP	100: CHIP	15K :CHIP
R038	1.0K :CHIP	1K:CHIP	#
R101	100 :CHIP	#	#
R102	100 :CHIP	#	#
R103	#	#	100 :CHIP
R104	#	#	100 :CHIP
R106	#	#	1K :CHIP
R114	#	#	4.7K :CHIP
R115	#	#	4.7K :CHIP
R311	470 :CHIP	#	470 :CHIP
R312	390 :CHIP	#	390 :CHIP
R313	330 :CHIP	#	330 :CHIP
R314	27K :CHIP	#	56K :CHIP
R316	330 :CHIP	#	330 :CHIP
R317	56K :CHIP	#	56K :CHIP
R318	390 :CHIP	#	390 :CHIP
R323	1.5K :CHIP	#	1.5K :CHIP

KV-AR29M61/AR29M86/AR29N90

RM-995

RM-993

RM-996

A Board * Mark List

	KV-AR29M61 (GE)	KV-AR29M86 (ME)	KV-AR29N90 (WA)
R324	1.5K :CHIP	#	1.5K :CHIP
R365	220 :CHIP	#	220 :CHIP
R366	10K :CHIP	#	10K :CHIP
R367	10K :CHIP	#	10K :CHIP
R371	27K :CHIP	#	27K :CHIP
R372	56K :CHIP	#	56K :CHIP
R375	100 :CHIP	100 :CHIP	#
R378	1.5K :CHIP	#	1.5K :CHIP
R379	10M :CHIP	#	10M :CHIP
R381	0 :CHIP	#	0 :CHIP
R382	4.7K :CHIP	#	#
R383	1.0K :CHIP	#	1.0K :CHIP
R384	470 :CHIP	#	470 :CHIP
R385	150 :CHIP	#	150 :CHIP
R391	0 :CHIP	#	0 :CHIP
R636	15K 3W :RS	15K 3W :RS	4.7K 3W
R646	15K 3W :RS	15K 3W :RS	4.7K 3W
R682	5A 90V	5A 90V	0.1 :FUSE
TU101	BTF-WG441	BTF-LG434	BTF-WA421

V1 Board * Mark List

	KV-AR29M61 (GE)	KV-AR29M86 (ME)	KV-AR29N90 (WA)
IC801	SAA5261	SAA5261PS/110	#

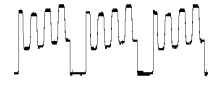
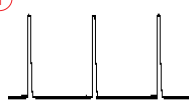
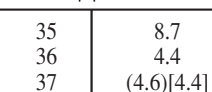
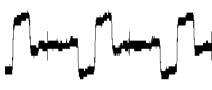
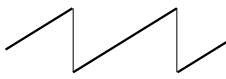
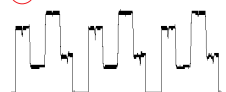
C6 Board * Mark List

	KV-AR29M61 (GE)	KV-AR29M86 (ME)	KV-AR29N90 (WA)
R721	#	100K :RN	#

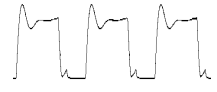
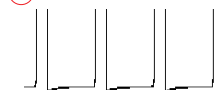
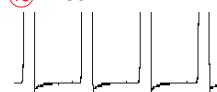
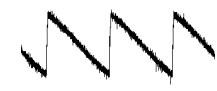
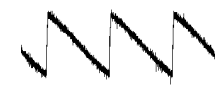
Note: The parts indicated as "#" in this circuit diagram are not listed here, as they are not used for these models.

5-4. VOLTAGE LIST AND WAVEFORM

A BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	
IC001	1	0		49	0		26	1.9	
	2	0		50	(1.6)[2.2]		⑦  4.080Vp-p		
	3	0.3		51	0				
	4	0.3		52	(4.7)[0]				
	5	4.9		IC002	1		0	27	0
	6	4.9			2		4.9	28	4.4
	7	3.8			3		4.9	29	4.4
	8	4.7	4		7.2		30	4.4	
	9	0	5		4.9		31	8.7	
	①  5.120Vp-p		IC003	6	0		32	4.1	
				7	0		⑧  0.2Vp-p		
	10	4.7		8	4.9				
	②  4.880Vp-p			IC100	1		4.8	33	4.1
					2		4.8	⑨  1.1Vp-p	
			3		0				
	11	(0)[4.9]	IC301	1	3.3		34	3.5	
	12	0		2	5.0		⑩  880.0mVp-p		
	13	(0)[2.1]		3	(0)[1.2]				
	14	2.1		4	5.0				
	③ PAL  3.760Vp-p			5	4.8				
				6	4.3		⑪  920.0mVp-p		
				7	0				
	③ NTSC  3.520Vp-p			8	3.8				
				9	5.0				
				10	3.7				
	15	4.9		11	5.0		35	8.7	
	16	4.9		12	0		36	4.4	
	17	0		13	3.6		37	(4.6)[4.4]	
	18	4.4		14	2.4		38	4.6	
	19	(1.9)[2.5]		15	3.5		39	4.6	
	20	1.6		16	3.4		⑫  1.160Vp-p		
	21	4.9	④  1.3Vp-p		17	5.4			
	22	0	⑤ PAL  4.000Vp-p	18	7.6				
	23	4.9		19	0.7				
	24	0.3		20	3.5				
	25	4.8		21	*				
	26	4.9		22	3.8				
	27	4.8		23	3.5				
	28	4.9		24	1.9				
	29	4.8	⑤ NTSC  4.160Vp-p						
	30	0	⑥  3.760Vp-p						
	31	0							
	32	0							
	33	4.9							
	34	0							
	35	0							
	36	(2.3)[2.5]							
	37	2.5							
	38	4.8							
	39	4.9							
	40	0							
	41	0							
	42	0.3							
	43	0							
	44	4.9							
	45	4.9							
	46	(4.3)[4.6]							
	47	4.9							
	48	4.4							

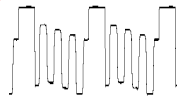
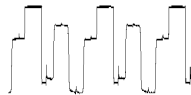
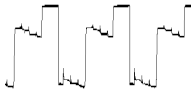
A BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
	42	0	Q301	B	12.0	Q511	B	0.8
	43	5.0		C	0		C	0
	44	4.7		E	11.8		E	0
	45	6.6	Q302	B	0.5	Q600	B	0
	46	5.0		C	8.7		C	12.2
	47	8.8		E	0		E	0
	48	0	Q303	B	8.7	Q601	B	0.7
	49	4.3		C	0		C	0.3
	50	0		E	8.8		E	0.3
	51	(0)[2.7]	Q304	B	3.5	Q602	B	0.1
	52	(3.1)[0]		C	0		C	16.8
IC302	1	(0.3)[0.6]		E	4.2		E	0.1
	2	0	Q305	B	8.7	Q603	B	16.8
	3	0.5		C	0		C	3.3
	4	0		E	8.8		E	16.9
	5	0.1	Q306	B	0.5	Q604	B	133.8
	6	0		C	8.6		C	0
	7	2.9		E	0		E	134.0
	8	0	Q308	B	3.6	Q605	S	0.6
	9	0		C	0.3		G	0.2
	10	(0)[2.2]		E	0.8		D	(266.3)[257]
	11	2.1	Q309	B	2.9	Q606	B	0.1
	12	(0)[2.2]		C	0		C	0.2
	13	0		E	0		E	0.6
	14	0.2	Q310	B	0.4	Q607	B	1.4
	15	0		C	2.2		C	(0.8)[1.1]
	16	0		E	0		E	1.1
IC502	1	0.9	Q311	B	0	Q608	B	0
	2	3.5		C	8.9		C	0.8
	3	(0)[1.8]		E	0		E	0
	4	0	Q312	B	5.1	⑭  170.0Vp-p		
	5	2.9		C	0			
	6	2.4		E	6.6			
	7	6.9	Q313	B	0			
	8	8.9		C	11.8	⑮ PAL  326.0Vp-p		
IC503	1	1.5		E	0			
	2	13.1	Q314	B	0.17			
	3	13.3		C	0			
	4	14.7		E	2.2	⑮ NTSC  358.0Vp-p		
	5	0.5	Q315	B	0			
	6	13.2		C	3.5			
	7	1.5		E	0			
IC601	1	1.9	Q316	B	4.1	⑮  2.440Vp-p		
	2	0		C	0			
	3	187.7		E	4.7			
	4	16.9	Q317	B	4.1			
	5	0		C	0	⑮  2.280Vp-p		
IC602	1	76.3		E	4.7			
	2	68.5	Q501	B	3.4			
	3	(*)[0]		C	0			
IC603	I	12.0		E	4.0	⑮  2.440Vp-p		
	G	0	Q502	B	4.2			
	O	8.9		C	2.3			
IC604	I	7.8		E	4.0			
	G	0	Q503	B	0	⑮  2.280Vp-p		
	O	0		C	3.6			
PH600	1	72.5		E	0			
	2	71.6	Q505	S	0			
	3	3.3		G	*	⑮  2.280Vp-p		
	4	16.9		D	*			
Q001	B	4.9	Q506	B	0.5			
	C	0		C	*			
	E	(0.8)[1.1]		E	0			
Q002	B	0	Q507	B	12.5	⑮  2.280Vp-p		
	C	4.9		C	0.3			
	E	0		E	13.1			
Q101	B	2.5	Q509	B	0.6			
	C	8.8		C	0	⑮  2.280Vp-p		
	E	1.9		E	0			

B10 BOARD VOLTAGE LIST (KV-AR29M61/AR29N90)

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
IC1401	1	3.8	IC3204	1	4.5	IC6200	39	4.4
	2	3.9		2	4.5		40	4.4
	3	3.8		3	4.4		1	1.5
	4	3.9		4	0		2	0
	5	3.8		5	4.4		3	0
	6	8.2		6	4.5		4	0
	7	3.8		7	4.5		5	1.6
	8	3.9		8	8.8		6	8.7
	9	3.8	IC3205	1	8.8		7	12.3
	10	3.9		2	0.1		8	5.0
	11	3.8		3	0.4		9	25.8
	12	8.2		4	0.4		10	0
	13	3.9		5	0.4		11	4.2
	14	3.9		6	0.4		12	12.0
	15	3.8		7	0.3	Q1316	B	8.8
	16	3.9		8	0		C	4.6
	17	3.8		9	0.1		E	8.2
	18	8.1		10	2.4	Q1317	B	3.9
	19	4.3		11	0		C	8.7
	20	4.4		12	0		E	4.6
	21	0		13	8.7	Q1318	B	3.5
	22	3.9		14	4.4		C	6.1
	23	3.8		15	4.4		E	4.2
	24	3.9		16	8.8	Q1323	B	2.0
	25	3.8	IC3301	1	2.7		C	8.2
	26	3.9		2	2.6		E	2.7
	27	3.8		3	3.0	Q1324	B	5.4
	28	3.9		4	3.0		C	8.8
	29	3.8		5	0.4		E	6.1
	30	3.8		6	0	Q1365	B	3.5
	31	3.9		7	0		C	5.3
	32	3.9		8	0		E	4.2
	33	3.8		9	4.5	Q1372	B	2.8
	34	0		10	4.5		C	8.8
	35	3.8		11	4.5		E	3.5
	36	0		12	0	Q1401	B	0
	37	3.8		13	0.4		C	8.8
	38	3.9		14	8.8		E	0
	39	3.9	IC3302	1	4.4	Q1402	B	4.5
	40	3.8		2	4.5		C	0
	41	3.8		3	4.5		E	3.8
	42	3.9		4	4.5	Q1403	B	3.1
	43	3.7		5	4.5		C	8.8
	44	8.8		6	4.5		E	3.7
	45	3.8		7	4.5	Q1404	B	3.2
	46	3.9		8	4.5		C	8.8
	47	3.9		9	4.5		E	3.8
	48	3.8		10	4.4	Q1408	B	5.2
IC1402	1	4.9		11	4.4		C	8.8
	2	2.5		12	4.5		E	5.8
	3	2.5		13	4.5	Q1409	B	1.8
	4	0		14	1.5		C	5.8
	5	8.8		15	1.7		E	2.5
	6	5.0		16	2.7	Q3201	S	4.4
	7	2.5		17	2.7		G	4.2
	8	2.5		18	4.4		D	4.3
IC1404	I	12.1		19	*	Q3202	B	3.6
	G	0		20	0		C	8.6
	O	8.8		21	8.9		E	4.1
IC3200	1	4.4		22	4.5	Q3203	B	3.6
	2	4.4		23	2.5		C	8.6
	3	4.4		24	2.1		E	4.1
	4	0		25	2.1	Q3204	B	3.6
	5	4.4		26	2.1		C	8.6
	6	4.4		27	2.0		E	4.1
	7	4.4		28	4.5	Q6201	S	3.6
	8	8.9		29	4.4		G	4.0
IC3202	1	4.4		30	4.3		D	4.4
	2	4.4		31	4.4	Q6206	B	0
	3	4.4		32	4.5		C	8.8
	4	0		33	4.4		E	0
	5	4.4		34	4.5	Q6208	B	0
	6	4.4		35	4.5		C	8.6
	7	4.4		36	4.4		E	0
	8	8.9		37	4.4			
				38	4.5			

C6 BOARD VOLTAGE LIST AND WAVEFORM

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]		
IC1800	1	6.4		KB	(136)[*]	Q705	B	8.9		
	2	6.4		③  170.0Vp-p	C	E	Q706	B	8.9	
	3	6.4						C	*	
	4	6.4						E	8.4	
	5	0						Q707	B	*
	6	6.4			C	5.6				
	7	6.4		E	*					
	8	6.3		H2	(*)[0.2]	Q708	B	*		
	9	6.3		④  24.80Vp-p	C		E	Q709	B	*
	10	12.7							(*)[132]	(5.7)[6.1]
J701	KR	(135)[132]	Q701			G2			(266)[263]	Q710
	①  164.0Vp-p	B		*	C	E	Q711	B	1.9	
		KG		(135)[*]				204	8.3	
		②  160.0Vp-p		E	*	Q712	B	1.9		
	Q702			B	136		C	E	Q714	B
			C	204	C					8.3
	Q703	E	*	Q714	E	1.5	B	0.2		
		B	(*)[131]		Q714	C	0.01	C	0.2	
		C	204			E	0.01	E	0.01	
	Q704	E	*	Q714		B	0.6	B	0.2	
B		8.9	C		0.2	C	0.01			
C		(*)[129]	E		0.01	E	0.01			
Q704	E	8.3	Q714	B	0.6	B	0.2			
	B	(*)[129]		C	0.2	C	0.01			
	E	8.3		E	0.01	E	0.01			

B1 BOARD VOLTAGE LIST (KV-AR29M61/AR29N90)

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
IC1502	1	3.1	Q1502	B	2.3	Q1514	B	0.6
	2	3.0		C	2.3		C	0.6
	3	3.2		E	2.5		E	0.6
	4	4.6	Q1503	B	0.6	Q1515	B	0.6
	5	4.6		C	0.6		C	0.6
	6	0		E	0.6		E	0.6
	7	0	Q1505	B	0.6	Q1516	B	0.5
	8	0		C	0.8		C	0.5
	9	8.1		E	0		E	0.5
	10	7.9	Q1507	B	0.7	Q1520	B	0.5
	11	7.9		C	0.8		C	0.4
	12	7.6		E	0.7		E	0
	13	7.6	Q1509	B	0.8	Q1522	B	0.4
	14	7.3		C	0.8		C	0
	15	7.6		E	0		E	0.5
	16	7.6	Q1510	B	0.7	Q1523	B	0.4
Q1501	B	2.5		C	0.7		C	0
	C	2.4		E	0		E	0.5
	E	2.4	Q1511	B	0.7			
				C	0.7			
				E	0			

H1 AND H2 BOARDS VOLTAGE LIST

Ref	Pin No.	Voltage[v]
IC3901	1	(4.9)[4.8]
	2	(0)[4.9]
	3	(4.8)[0]
Q3901	B	0.1
	C	4.9
	E	0.2
Q3902	B	(4.7)[0]
	C	(2.4)[4.9]
	E	(2.0)[0.1]

V1 BOARD VOLTAGE LIST (KV-AR29M61/AR29M86)

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
IC801	1	0.5		30	2.0	Q803	B	0
	2	4.8		31	2.0		C	0.01
	3	(0.4)[0.7]		32	0.02		E	0.6
	4	(0.4)[0.7]		33	0.02	Q805	B	0
	5	4.8		34	0.02		C	1.0
	6	(0.3)[0.9]		35	0		E	0.3
	7	(0.3)[0.9]		36	1.0	Q806	B	0
	8	(0.3)[0.9]		37	0.2		C	4.8
	9	0		38	4.8		E	0.02
	10	0		39	4.8	Q807	B	0
	11	0		40	0.02		C	4.8
	12	0		41	2.2		E	0.02
	13	0		42	2.2	Q808	B	0
	14	0		43	0.02		C	4.8
	15	0		44	4.6		E	0.02
	16	0		45	0	Q810	B	0
	17	0		46	0		C	4.0
	18	0		47	4.8		E	0.2
	19	0		48	0	Q811	B	4.8
	20	1.1		49	4.3		C	6.5
	21	1.1		50	4.5		E	5.5
	22	0		51	0	Q815	B	0
	23	2.1		52	0		C	4.8
	24	1.2	Q801	B	0		E	0.03
	25	2.0		C	4.8	Q817	B	0
	26	2.4		E	0.02		C	0.2
	27	0.02	Q802	B	2.0		E	2.8
	28	0		C	4.9			
	29	0.9		E	0			

VM1 BOARD VOLTAGE LIST

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
Q5901	B	2.6	Q5904	B	4.5	Q5907	B	0
	C	8.8		C	0		C	0
	E	(0)[2.0]		E	5.0		E	0
Q5902	B	135	Q5905	B	5.5	Q5908	B	3.3
	C	135		C	8.8		C	0
	E	(70)[64]		E	5.0		E	0
Q5903	B	2.6	Q5906	B	(0.27)[0.22]	Q5909	B	0
	C	4.5		C	(0)[64.7]		C	8.8
	E	1.9		E	0		E	3.3

D3 BOARD VOLTAGE LIST

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
IC2800	I	13.2	Q2801	B	(*)[0.3]
	G	0		C	(3.1)[*]
	O	9.0		E	0
IC2801	1	4.4	Q2802	B	2.4
	2	4.5		C	12.7
	3	4.4		E	1.7
	4	0	Q2803	B	12.1
	5	(1.2)[1.4]		C	2.3
	6	1.2		E	12.7
	7	7.9	Q2804	B	2.0
	8	8.9		C	12.1
Q2800	B	(0.41)[*]		E	1.5
	C	*			
	E	0			

P5 BOARD VOLTAGE LIST (KV-AR29M86)

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
IC4101	1	3.3	IC4202	1	0		75	0
	2	0		2	0		76	1.4
	3	7.9		3	0		77	0.2
IC4102	1	0.9		4	3.3		78	0.1
	2	0		5	3.3		79	1.8
	3	1.3	IC4203	1	3.3		80	0
	4	0		2	1.7		81	0
	5	4.9		3	3.3		82	3.3
	6	5.0		4	0		83	(0.1)[0]
	7	1.4		5	3.3		84	0
	8	0		6	3.3		85	(0)[3.3]
	9	0.7		7	0.1		86	3.3
	10	(3.6)[0]		8	0.5		87	0.4
	11	(0)[4.9]		9	0		88	0
	12	1.5		10	0.4		89	(0.1)[0]
	13	0		11	1.3		90	3.3
	14	1.5		12	2.5		91	3.3
	15	0		13	3.3		92	0.3
	16	1.5		14	0		93	0
IC4104	1	2.0		15	0.2		94	0
	2	1.9		16	0		95	1.1
	3	1.4		17	1.3		96	1.1
	4	0.2		18	1.3		97	3.3
	5	2.1		19	2.4		98	3.3
	6	5.0		20	3.3		99	0
	7	2.5		21	0		100	2.7
	8	0		22	0.2		101	2.7
	9	0.3		23	0		102	0
	10	0.8		24	1.3		103	0
	11	2.3		25	1.5		104	0
	12	5.0		26	2.5		105	2.7
	13	4.4		27	3.2		106	0
	14	4.6		28	0		107	0
	15	0		29	0.2		108	0.1
	16	0		30	0		109	0
	17	2.5		31	0		110	0
	18	2.5		32	3.3		111	0
	19	1.4		33	0		112	0
	20	2.3		34	3.3		113	0
	21	1.6		35	0		114	0
	22	1.8		36	3.3		115	2.7
	23	1.8		37	3.3		116	2.7
	24	0.1		38	3.3		117	0
	25	2.2		39	3.3		118	3.3
	26	2.1		40	3.3		119	3.3
	27	2.1		41	3.3		120	0
	28	0		42	3.3		121	0.4
	29	2.3		43	3.3		122	0.2
	30	2.2		44	3.3		123	0.7
	31	1.4		45	0		124	0
	32	5.0		46	3.3		125	3.3
	33	2.2		47	3.3		126	3.3
	34	2.3		48	3.3		127	0
	35	2.3		49	3.3		128	1.5
	36	0		50	3.3		129	1.5
	37	1.1		51	3.3		130	0
	38	4.0		52	3.3		131	3.3
	39	1.7		53	3.3		132	0
	40	3.5		54	(0)[3.3]		133	3.3
	41	2.3		55	0		134	3.3
	42	2.5		56	0		135	3.3
	43	1.7		57	2		136	3.3
	44	2.2		58	1.3		137	3.3
	45	(3.6)[0]		59	1.3		138	0
	46	(2.2)[3.1]		60	2.4		139	0.7
	47	3.7		61	2.3		140	0
	48	1.7		62	(2.0)[1.9]		141	0
IC4105	1	5.0		63	1.4		142	3
	2	0.3		64	1.5		143	3
	3	0		65	1.5		144	0
	4	0.3		66	0	IC4204	1	3.3
	5	5.0		67	(2.0)[1.9]		2	0
IC4106	I	5.1		68	0.1		3	1.5
	G	0		69	1.5		4	0.4
	O	7.9		70	1.5		5	1.7
IC4201	I	3.3		71	1.6		6	1.6
	G	0		72	1.8		7	0
	O	4.9		73	3.4		8	0
				74	0		9	0

P5 BOARD VOLTAGE LIST (KV-AR29M86)

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
	10	0		76	1.4		73	1.8
	11	0		77	2.2		74	3.3
	12	1.6		78	1.3		75	0
	13	2.1		79	1.9		76	0
	14	3.3		80	(2.1)[1.9]		77	1.8
IC4301	1	3.3	IC4401	I	1.8		78	0
	2	0		G	0		79	0.5
	3	0		O	3.3		80	0
	4	0	IC4402	1	1.7		81	0
	5	0		2	3.1		82	0
	6	0		3	3		83	0
	7	0		4	3.3		84	3.3
	8	0		5	3.3		85	2.2
	9	0		6	1.7		86	0
	10	0		7	0.2		87	1.7
	11	0		8	0		88	1.7
	12	0		9	0		89	0
	13	3.3		10	1.7		90	3.3
	14	2.5		11	1.6		91	0
	15	0.7		12	1.7		92	0
	16	3.3		13	(2.1)[1.8]		93	0.7
	17	3.3		14	1.8		94	0
	18	0		15	1.7		95	1.7
	19	0.2		16	1.7		96	0
	20	0		17	1.5		97	0
	21	1.5		18	3.4		98	3.3
	22	(1.8)[2.0]		19	0		99	3.3
	23	0		20	0		100	0
	24	3.3		21	0		101	3.3
	25	1.3		22	1.5		102	0
	26	(2.1)[1.9]		23	1.6		103	0.3
	27	1.3		24	1.9		104	0
	28	1.5		25	1.7		105	3.3
	29	2.4		26	1.8		106	0
	30	1.5		27	1.7		107	0.1
	31	1.7		28	1.6		108	0
	32	1.9		29	1.5		109	1.7
	33	3.3		30	0		110	3.3
	34	0		31	1.0		111	0
	35	(2.0)[1.9]		32	1.4		112	0
	36	(2.0)[1.9]		33	1.8		113	1.4
	37	(2.0)[1.9]		34	3.4		114	(3.3)[0]
	38	2.0		35	1.5		115	(0.2)[0.3]
	39	(2.1)[1.8]		36	0		116	1.7
	40	1.3		37	#		117	0
	41	3.3		38	#		118	3.3
	42	0		39	#		119	1.2
	43	0.3		40	#		120	(2.2)[1.8]
	44	(3.3)[0]		41	#		121	2.1
	45	1.5		42	#		122	(2.0)[1.8]
	46	0		43	#		123	(2.1)[1.8]
	47	3.3		44	#		124	(2.1)[1.8]
	48	0		45	#		125	(2.0)[1.7]
	49	3.3		46	#		126	3.4
	50	3.3		47	#		127	0
	51	3.3		48	#		128	1.7
	52	0		49	#		129	1.4
	53	3.3		50	#		130	2.1
	54	3.3		51	#		131	2.3
	55	3.3		52	#		132	1.4
	56	0.1		53	#		133	2.1
	57	0.3		54	#		134	2.1
	58	1.5		55	#		135	1.8
	59	0		56	#		136	1.7
	60	3.3		57	#		137	1.8
	61	3.3		58	#		138	0
	62	3.3		59	#		139	0
	63	0		60	#		140	0
	64	1.3		61	#		141	0
	65	(2.2)[1.8]		62	#		142	0
	66	2.1		63	#		143	3.4
	67	(2.1)[1.8]		64	#		144	0
	68	(2.1)[1.8]		65	#	IC4403	1	4.3
	69	(2)[1.8]		66	#		2	0
	70	1.9		67	#		3	2.1
	71	1.7		68	#		4	0.3
	72	1.6		69	#		5	1.7
	73	3.4		70	#		6	2.0
	74	2.5		71	#		7	0
	75	1.2		72	#		8	0

P5 BOARD VOLTAGE LIST (KV-AR29M86)

Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
	9	0	Q4135	B	1.5	Q4214	B	0.4
	10	0		C	8.2		C	5.0
	11	0		E	2.2		E	0.3
	12	2.1	Q4136	B	2.1	Q4215	B	1.3
	13	2.3		C	8.2		C	0
	14	4.3		E	2.7		E	0.4
IC4404	1	0.3	Q4137	B	2.1	Q4216	B	2.0
	2	0		C	8.2		C	0
	3	0		E	2.7		E	1.4
	4	3	Q4138	B	8.8	Q4217	B	1.9
	5	3.3		C	3.2		C	0
IC4405	1	5.0		E	8.2		E	1.4
	2	0	Q4139	B	8.9	Q4218	B	2.7
	3	8.8		C	3.9		C	4.9
Q4105	B	5.0		E	8.2		E	3.3
	C	0	Q4140	B	8.9	Q4219	B	2.7
	E	4.4		C	3.3		C	4.9
Q4106	B	(1.4)[2.3]		E	8.2		E	3.3
	C	4.9	Q4141	B	2.5	Q4401	B	1.7
	E	(2.2)[3.0]		C	8.8		C	0
Q4107	B	1.4		E	3.2		E	1.0
	C	0	Q4142	B	3.3	Q4402	B	1.1
	E	1		C	8.8		C	0
Q4108	B	0		E	4.0		E	0.4
	C	(0)[4.9]	Q4143	B	2.7	Q4403	B	1.1
	E	0		C	8.9		C	0
Q4109	B	0		E	3.3		E	0.4
	C	4.9	Q4144	B	4.9	Q4404	B	1.6
	E	0.3		C	0		C	0
Q4110	B	5.0		E	4.9		E	1.0
	C	0.4	Q4145	B	0	Q4405	B	1.6
	E	4.5		C	4.9		C	0
Q4111	B	4.9		E	0.2		E	1.0
	C	0	Q4201	B	2.3	Q4406	B	2.2
	E	4.9		C	4.9		C	0
Q4112	B	0.1		E	2.9		E	1.5
	C	4.9	Q4202	B	2.4	Q4407	B	3.7
	E	0.2		C	4.9		C	0
Q4114	B	2.5		E	3.0		E	3.1
	C	0	Q4203	B	2.4	Q4408	B	0
	E	1.8		C	4.9		C	4.9
Q4116	B	2.5		E	3.0		E	0.5
	C	0	Q4204	B	1.3	Q4409	B	2.1
	E	1.8		C	4.9		C	0
Q4117	B	2.3		E	2.0		E	3.3
	C	0	Q4205	B	1.5	Q4410	B	4.3
	E	1.7		C	4.9		C	5.0
Q4122	B	2.4		E	2.1		E	5.0
	C	4.9	Q4206	B	1.5	Q4413	B	3.6
	E	3.0		C	4.9		C	0
Q4123	B	2.4		E	2.1		E	3.0
	C	5.0	Q4207	B	3.0	Q4414	B	1.6
	E	3.0		C	4.5		C	2.9
Q4124	B	2.4		E	3.3		E	0
	C	5.0	Q4208	B	1.3	Q4415	B	0.1
	E	3.0		C	3.3		C	1.6
Q4129	B	1.7		E	2.0		E	0.7
	C	8.2	Q4209	B	3.0	Q4416	B	0.7
	E	2.3		C	4.5		C	0
Q4130	B	1.8		E	3.3		E	0.1
	C	8.2	Q4210	B	1.3	Q4417	B	2.8
	E	2.4		C	3.3		C	5
Q4131	B	1.8		E	2.0		E	3.5
	C	8.2	Q4211	B	0.4	Q4418	B	0.1
	E	0		C	3.3		C	1.7
Q4132	B	8.8		E	1.0		E	0.7
	C	2.9	Q4212	B	0	Q4419	B	2.2
	E	8.2		C	3.3		C	0
Q4133	B	8.8		E	0		E	1.6
	C	3.0	Q4213	B	0.2	Q4420	B	1.0
	E	8.2		C	4.9		C	0
Q4134	B	8.8		E	0.1		E	0.4
	C	3.0						
	E	8.2						

B8 BOARD VOLTAGE LIST (KV-AR29M86)

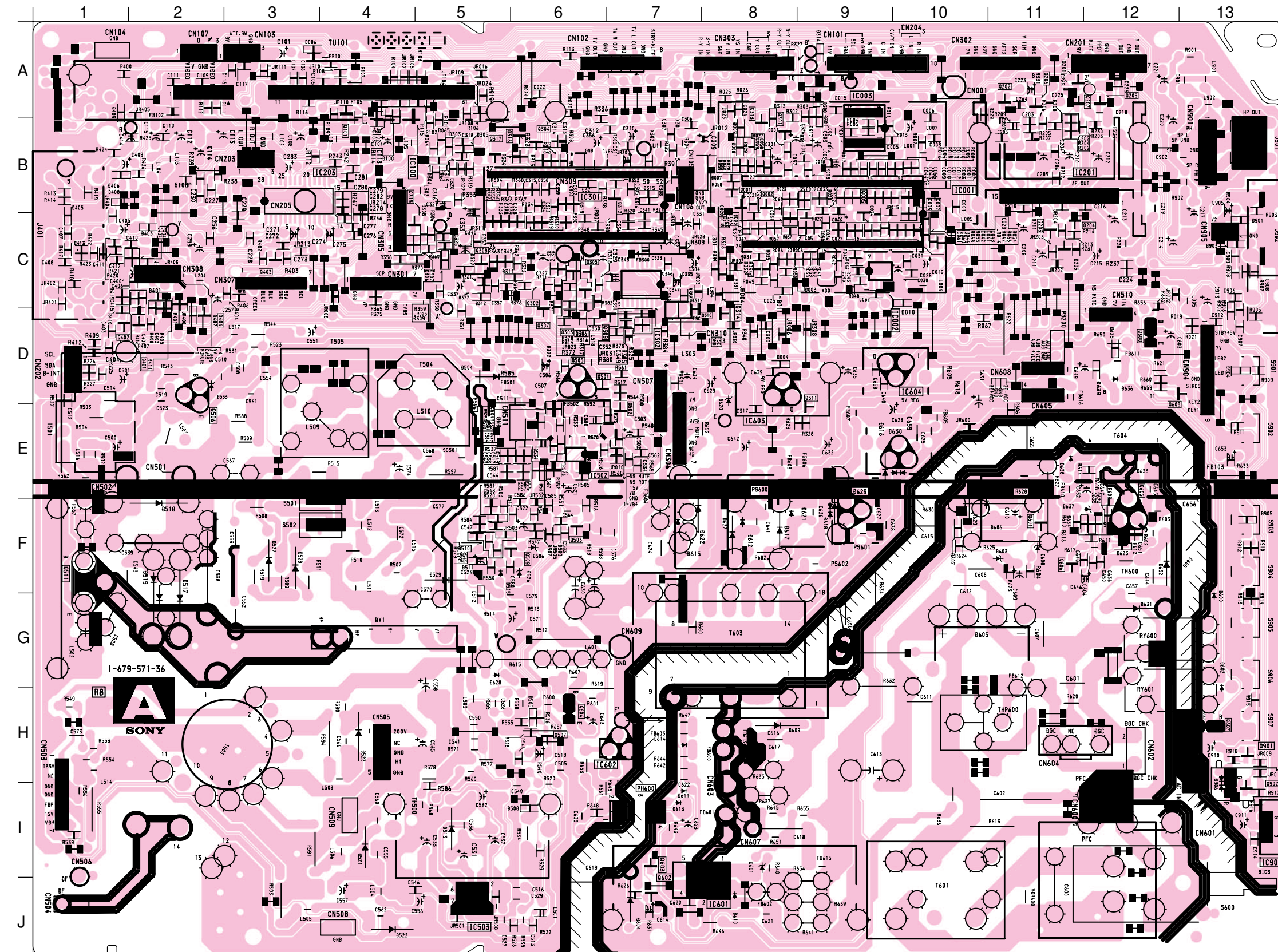
Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]	Ref	Pin No.	Voltage[v]
IC3200	1	4.4	IC3302	1	4.4	Q1317	B	3.5
	2	4.4		2	4.4		C	8.9
	3	4.4		3	4.4		E	4.2
	4	0		4	4.5	Q1318	B	3.4
	5	4.4		5	4.5		C	6.3
	6	4.4		6	4.4		E	4.1
	7	4.4		7	4.5	Q1323	B	2.0
	8	8.8		8	4.4		C	8.2
IC3202	1	4.5		9	4.4		E	2.6
	2	4.5		10	4.4	Q1324	B	5.6
	3	4.4		11	4.4		C	8.8
	4	0		12	4.5		E	6.3
	5	4.4		13	4.4	Q1365	B	3.4
	6	4.5		14	0.6		C	5.5
	7	4.5		15	2.0		E	4.1
	8	8.8		16	3.5	Q1372	B	2.8
IC3204	1	4.4		17	3.5		C	8.9
	2	4.4		18	4.5		E	3.4
	3	4.4		19	4.4	Q1402	B	4.5
	4	0		20	0		C	0
	5	4.4		21	8.8		E	3.8
	6	4.4		22	4.4	Q1403	B	3.1
	7	4.4		23	4.1		C	8.8
	8	8.8		24	3.8		E	3.8
IC3205	1	0.1		25	3.8	Q1404	B	3.2
	2	0.1		26	3.7		C	8.8
	3	8.7		27	0.6		E	3.8
	4	0.4		28	4.4	Q1408	B	5.1
	5	0.4		29	4.5		C	8.9
	6	0.4		30	4.4		E	5.7
	7	0.4		31	4.4	Q1409	B	1.8
	8	0		32	4.4		C	5.8
	9	0.1		33	4.4		E	2.4
	10	2.4		34	4.5	Q1410	B	3.2
	11	0		35	4.5		C	8.8
	12	0		36	4.4		E	3.0
	13	8.8		37	4.4	Q3201	B	4.3
	14	4.5		38	4.5		C	4.3
	15	4.4		39	4.5		E	3.0
	16	8.8		40	4.4	Q3202	B	3.4
IC3301	1	3.0	IC6200	1	1.6		C	8.8
	2	2.9		2	0		E	4.0
	3	3.1		3	0	Q3203	B	3.3
	4	3.0		4	0		C	8.7
	5	8.7		5	1.6		E	3.9
	6	0		6	8.7	Q3204	B	4.3
	7	0		7	12		C	1.7
	8	4.5		8	5		E	4.3
	9	4.4		9	26	Q6201	B	0
	10	4.5		10	0		C	4.1
	11	4.4		11	4.1		E	0
	12	0	Q1316	12	12			
	13	8.7		B	8.9			
	14	8.8		C	4.2			
				E	8.2			

5-5. PRINTED WIRING BOARDS AND PARTS LOCATION

PRINTED WIRING BOARDS

A [SYSTEM CONTROLLER, Y/C JUNGLE, DEFLECTION, TUVIF, FRONT AMP, POWER SUPPLY]

- A Board -



PRINTED WIRING BOARDS

B10

[AUDIO PROCESSOR, AUDIO AMP, SUB TUNER, AV IN/OUT, VM DRIVER]

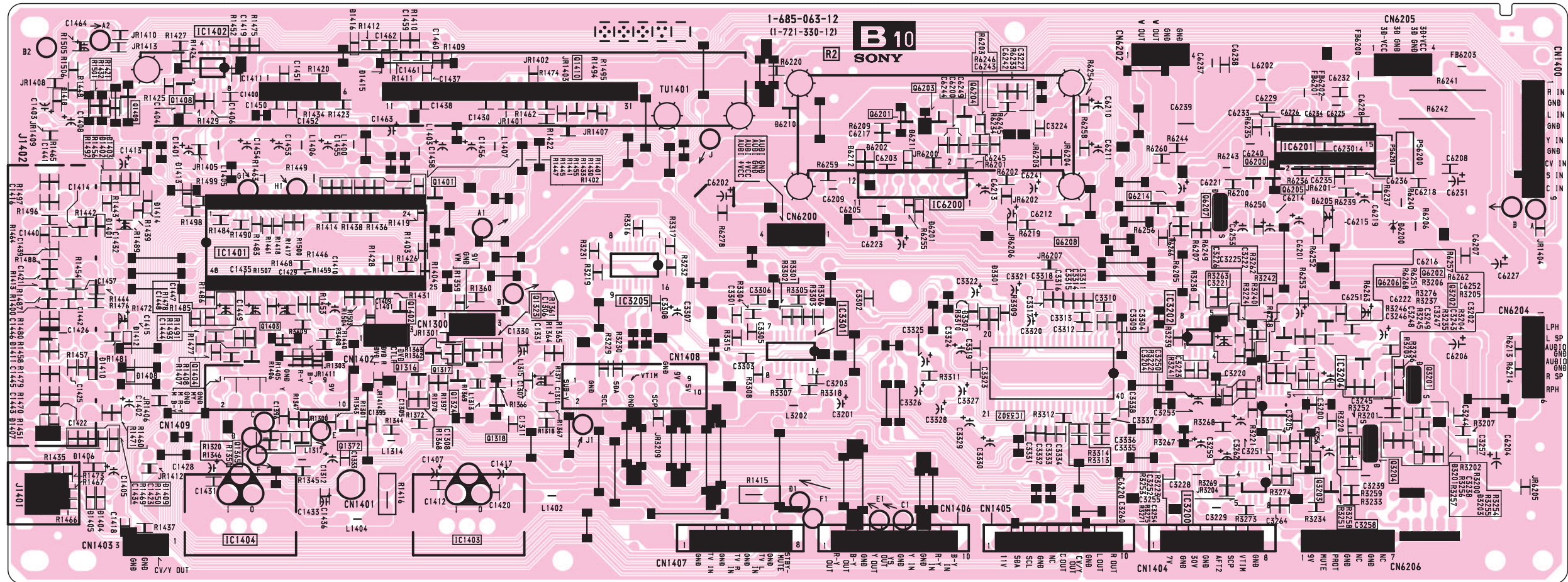
H1

[FRONT AV IN, KEY SW]

J

[DVD TERMINAL]

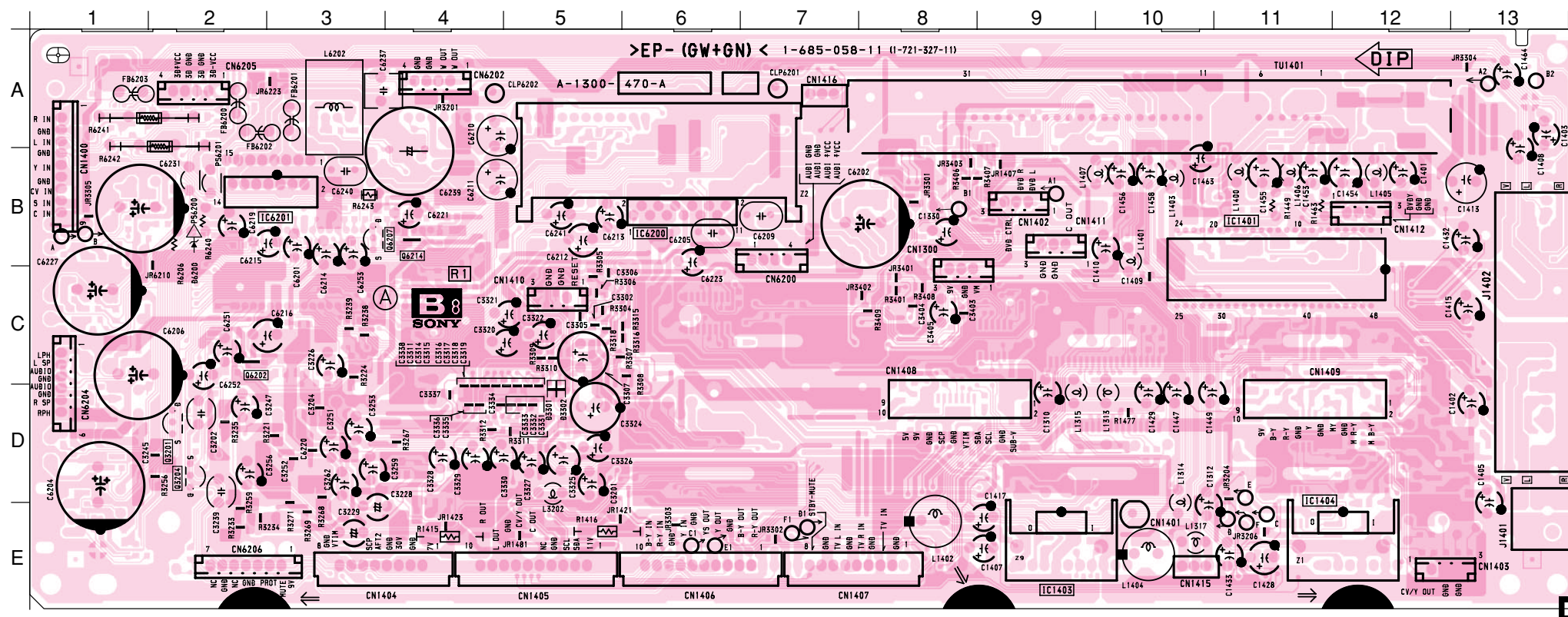
– B10 Board – (FOR KV-AR29M61/AR29N90)



PRINTED WIRING BOARDS

B8 [AV IN/OUT, SURROUND PROCESSOR, AUDIO AMP, VM DRIVER]

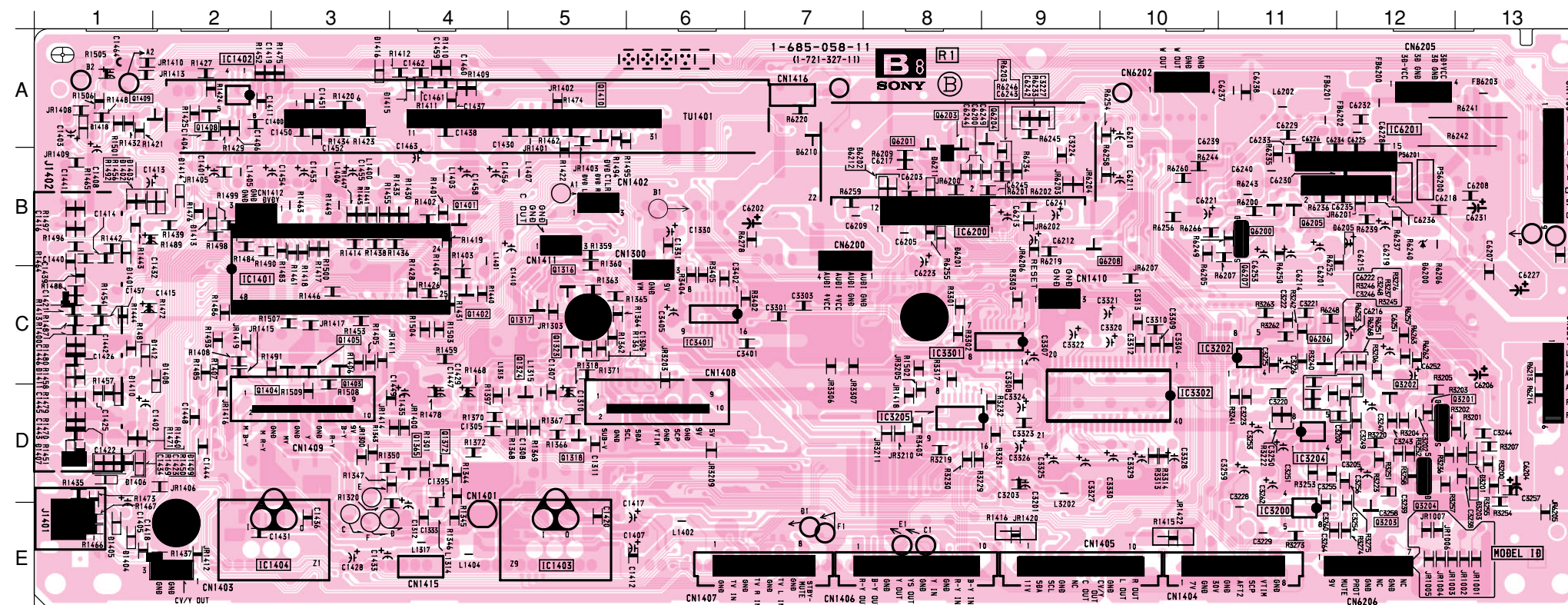
– B8 Board – (Component Side) (KV-AR29M86)



B8 BOARD (Component Side)

IC	
IC1401	B-1
IC1403	E-9
IC1404	E-11
IC6200	B-6
IC6201	B-3
TRANSISTOR	
Q3201	D-2
Q3204	D-2
Q6202	C-2
Q6207	B-4
Q6214	B-4
DIODE	
D3301	D-5
D3302	D-5
D6200	C-2

– B8 Board – (Conductor Side) (KV-AR29M86)



B8 BOARD (Conductor Side)

IC	TRANSISTOR	DIODE
IC1401	C-2	Q1316 C-5
IC1402	A-2	Q1317 C-5
IC1403	E-5	Q1318 D-5
IC1404	E-3	Q1323 C-5
IC3200	E-11	Q1324 C-5
IC3202	C-10	Q1365 D-4
IC3204	D-11	Q1372 D-4
IC3205	D-8	Q1401 B-4
IC3301	C-8	Q1402 C-4
IC3302	D-10	Q1403 C-3
IC3401	C-6	Q1404 D-2
IC6200	B-8	Q1405 C-3
IC6201	A-12	Q1408 A-2
		Q1409 A-1
		Q1410 A-5
		Q3201 D-13
		Q3202 C-12
		Q3203 E-12
		Q3204 E-12
		Q6200 B-11
		Q6201 A-8
		Q6203 A-8
		Q6204 A-9
		Q6205 B-11
		Q6206 C-11
		Q6207 C-11
		Q6208 B-10

- :Pattern from the side which enables seeing.
- :Pattern from the rear side.

B1 [DVD SWITCH] **F** [CISPR] **P5** [PIP, DVD SW, DIGITAL TEXTURE ENHANCER]

IC		Q4114	A-2	Q4210	B-5
IC4102	A-1	Q4115	C-4	Q4211	A-5
IC4103	C-2	Q4116	A-2	Q4212	A-3
IC4104	B-2	Q4117	A-3	Q4215	B-5
IC4105	C-3	Q4118	C-3	Q4216	B-5
IC4106	D-1	Q4119	D-1	Q4217	B-4
IC4201	B-7	Q4120	D-2	Q4218	A-4
IC4202	A-4	Q4121	D-2	Q4219	A-4
IC4203	B-5	Q4122	B-3	Q4401	C-4
IC4204	A-6	Q4123	B-3	Q4402	D-4
IC4301	B-5	Q4124	B-2	Q4403	D-4
IC4401	B-7	Q4125	C-3	Q4404	D-3
IC4402	C-5	Q4127	C-3	Q4405	D-3
IC4403	D-6	Q4128	C-3	Q4406	D-4
IC4404	C-4	Q4138	D-2	Q4407	D-4
IC4405	C-7	Q4139	D-2	Q4408	C-3
		Q4140	D-2	Q4409	D-7
		Q4141	D-2	Q4410	C-6
		Q4142	D-2	Q4420	C-4
		Q4143	E-2		
TRANSISTOR		Q4201	A-3	DIODE	
Q4105	B-2	Q4202	B-4	D4101	B-2
Q4107	B-1	Q4203	B-4	D4400	D-6
Q4109	B-2	Q4207	A-5		
Q4110	B-2	Q4208	B-5		
Q4111	C-1	Q4209	A-5		
Q4113	D-2				

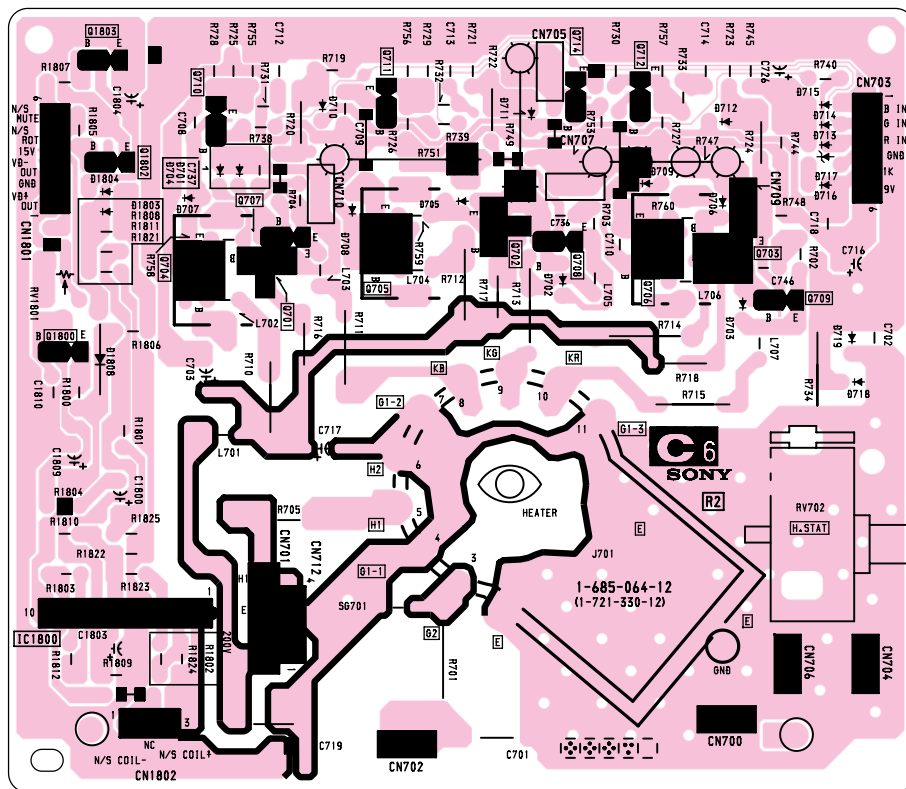
[illegible]

IC		Q4134	B-4
IC4101	C-4	Q4135	D-5
		Q4136	D-5
TRANSISTOR		Q4137	D-5
		Q4144	C-6
		Q4145	B-7
Q4101	A-6	Q4146	C-6
Q4102	A-6	Q4204	A-4
Q4106	B-6	Q4205	B-3
Q4108	B-6	Q4206	B-3
Q4112	B-6	Q4213	A-2
Q4126	C-5	DIODE	
Q4129	A-5		
Q4130	B-5	D4003	A-5
Q4131	B-5	D4404	D-1
Q4132	A-4	D4405	D-1
Q4133	B-4		

-

C6

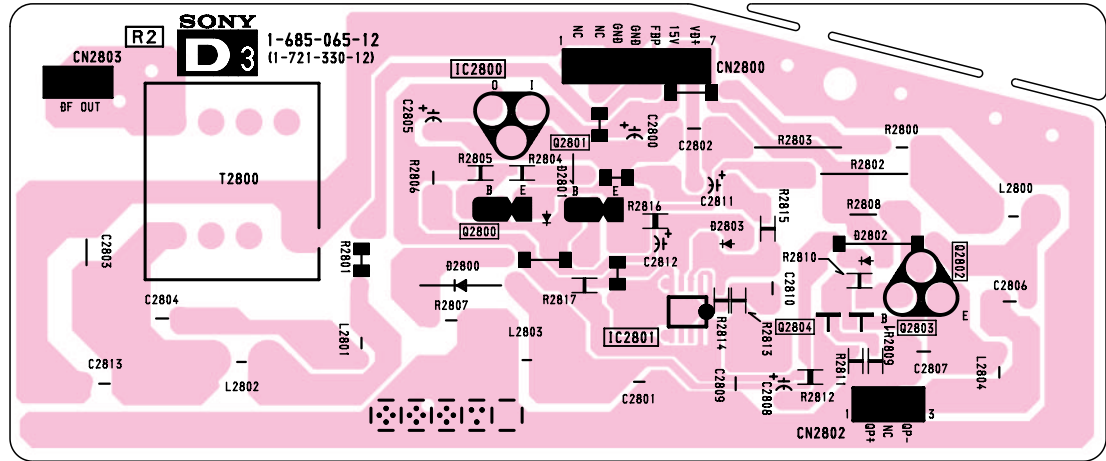
– C6 Board – (KV-AR29M61/AR29N90)



PRINTED WIRING BOARDS

D3 [DYNAMIC FOCUS, DQP]

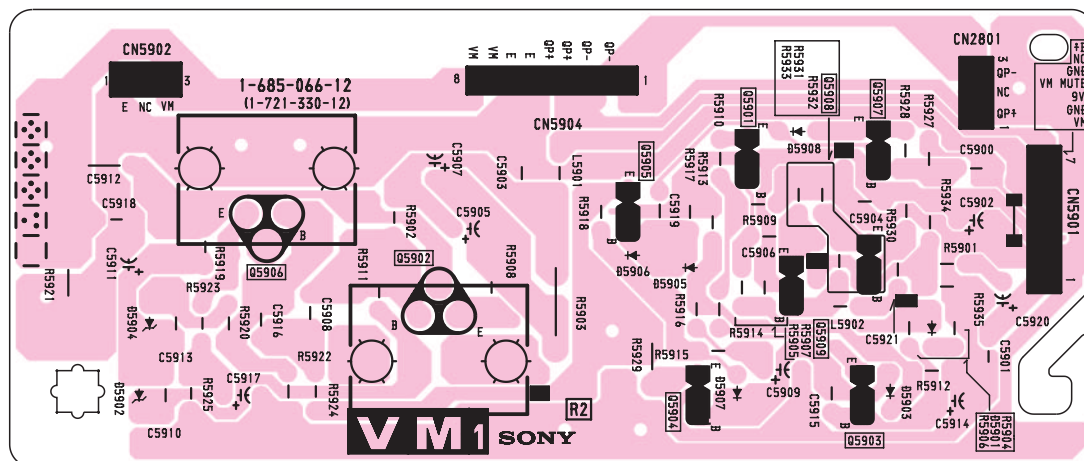
– D3 Board – (KV-AR29M61/AR29N90)



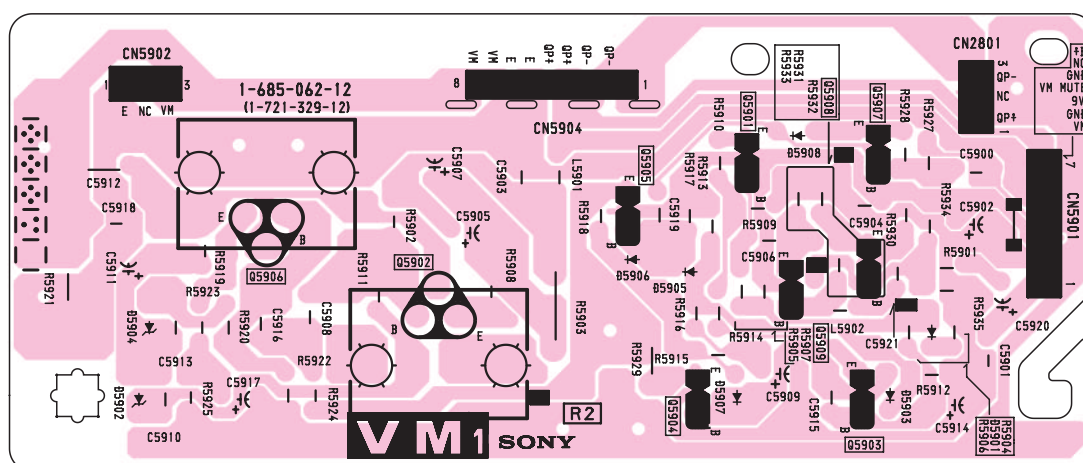
PRINTED WIRING BOARDS

VM1 [DYNAMIC FOCUS, DQP]

– VM1 Board – (KV-AR29M61/AR29N90)



– VM1 Board – (KV-AR29M86)

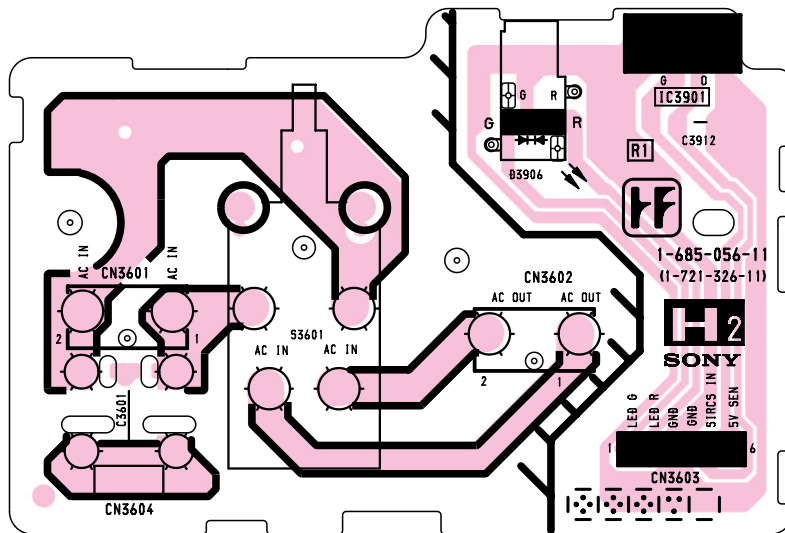


PRINTED WIRING BOARDS

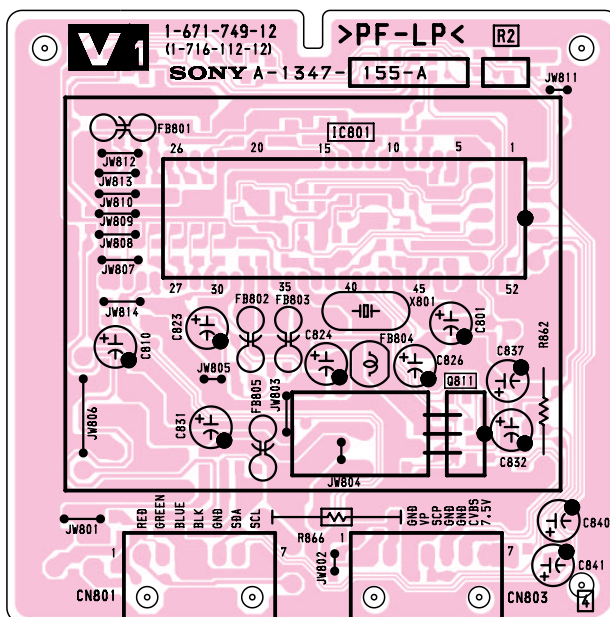
H2 [RECEIVER, POWER SW, LED]

V1 [TELETEXT]

– H2 Board –

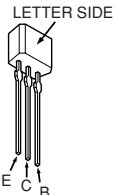
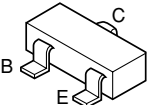
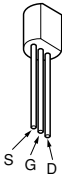
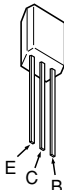
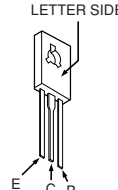


– V1 Board – (KV-AR29M61/AR29M86)



5-6. SEMICONDUCTORS

TRANSISTOR

					
DTC144ESA 2SA1175-HFE 2SC2785-HFE	DTC144EKA MSD601-RT1 UN2111 UN2213 2SA1037AK-T146 2SA1162-G 2SC1623-L5L6	UN2211 2SC2712-YG 2SD2114K	2SK246-GR	2SC2458-YGR 2SC3576	2SC2611 2SC2688-LK

2SC2958	IRF614	2SD2578-CA	2SA1606-E 2SC4159-E 2SC4793 2SD2394-EF	2SA1091-0 2SC2551-0	2SK2036 (TE85L)

DIODE

2SK2845-LB102	D1N20R D1NS4 RD6.8ES-B1 RD11SB2-T1 RD20ES-B2 RD30ES-B2 RD39ES-B 1SS119-25	DTZ10B MA111-TX RD5.1SB-T2 RD7.5SB1-T1 RD9.1S-B UDZS-TE179.1B 1SS355TE-17	RU-1P

D5S6M	5P-6M	D3SB60	ERC04-06SE RS3FS	ON3171-R	BY228

DIODE

30DF2N-FC5	MMDL914T1 MM3Z15VT1	DA204K	RD3.3M-B2 RD5.6M-B2	DAP202U	F5KQ60

LED

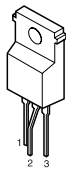
IC

D5L60	AK04V0 AU-01Z-V1 D2L20U EL1Z ERA22-08 FR104-A5 GP08D HZS9.1NB2 NNCD9.1A-T1	RD33EB3T RGP02-17EL-6433 RU4AM-T4	SPB-25MVWF	CXA1855S CXA2159S CXP750097-604S CXP750097-605S M24C08-BN6(A) SAA5261 TDA9181T	

TDA8172	TA8200AH	STR-F6456S	S-80743AL-A7-S	CXA1315M HEF4053BT LM358D MM1319AFBE NJM2903M NJU4066BM SDA9588XB23 TLC29331-PWR TDA9183T	UPC4558G2 NJM2283M-TE1 NJW1139GKI-TE2

NJM78M09FA TA7805S	LA6510	CXA2163AQ-T6	BA033FP-E2 BA18BC0FP-E2 LF50CDT-TR	CXD9694Q CXD9695Q CXD9696Q	TC7SO2FU (TE85R) TC7SET08FU (TE85R)

IC



SE-135N

SECTION 6 EXPLODED VIEWS

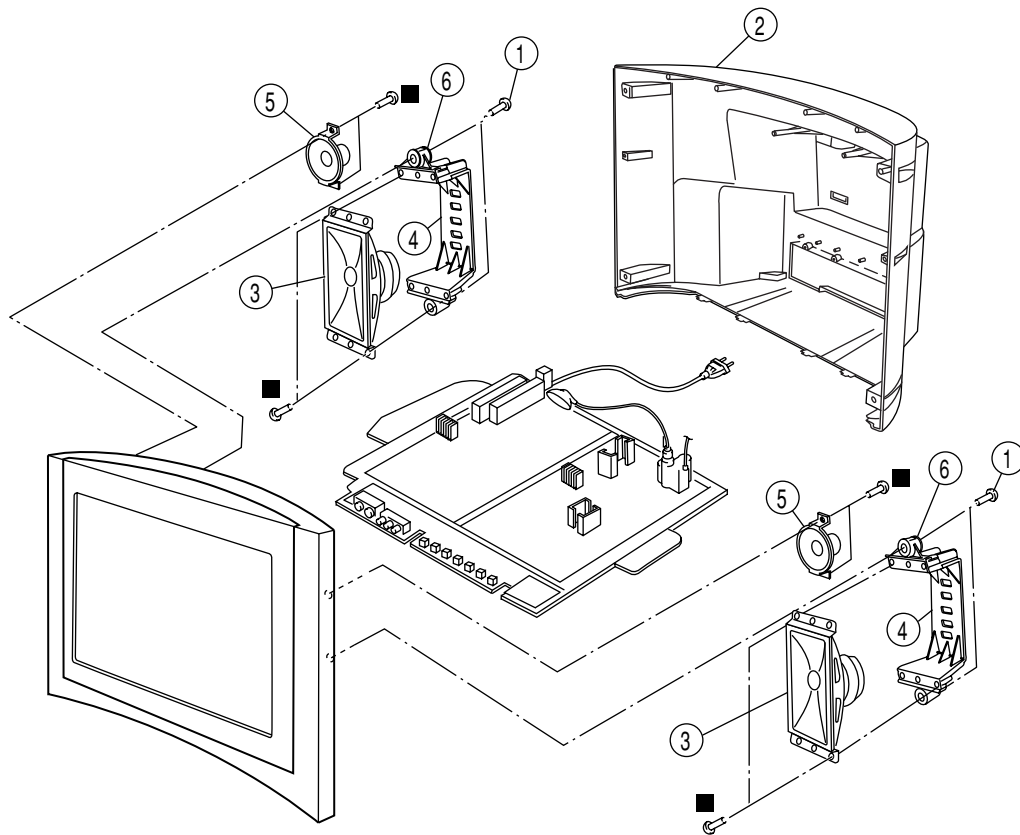
NOTE:

- 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 $\triangle$ are critical for safety.
Replace only with part number specified.

6-1. SPEAKER BRACKET

■ : 7-685-663-71 SCREW +BVTP 4 × 16

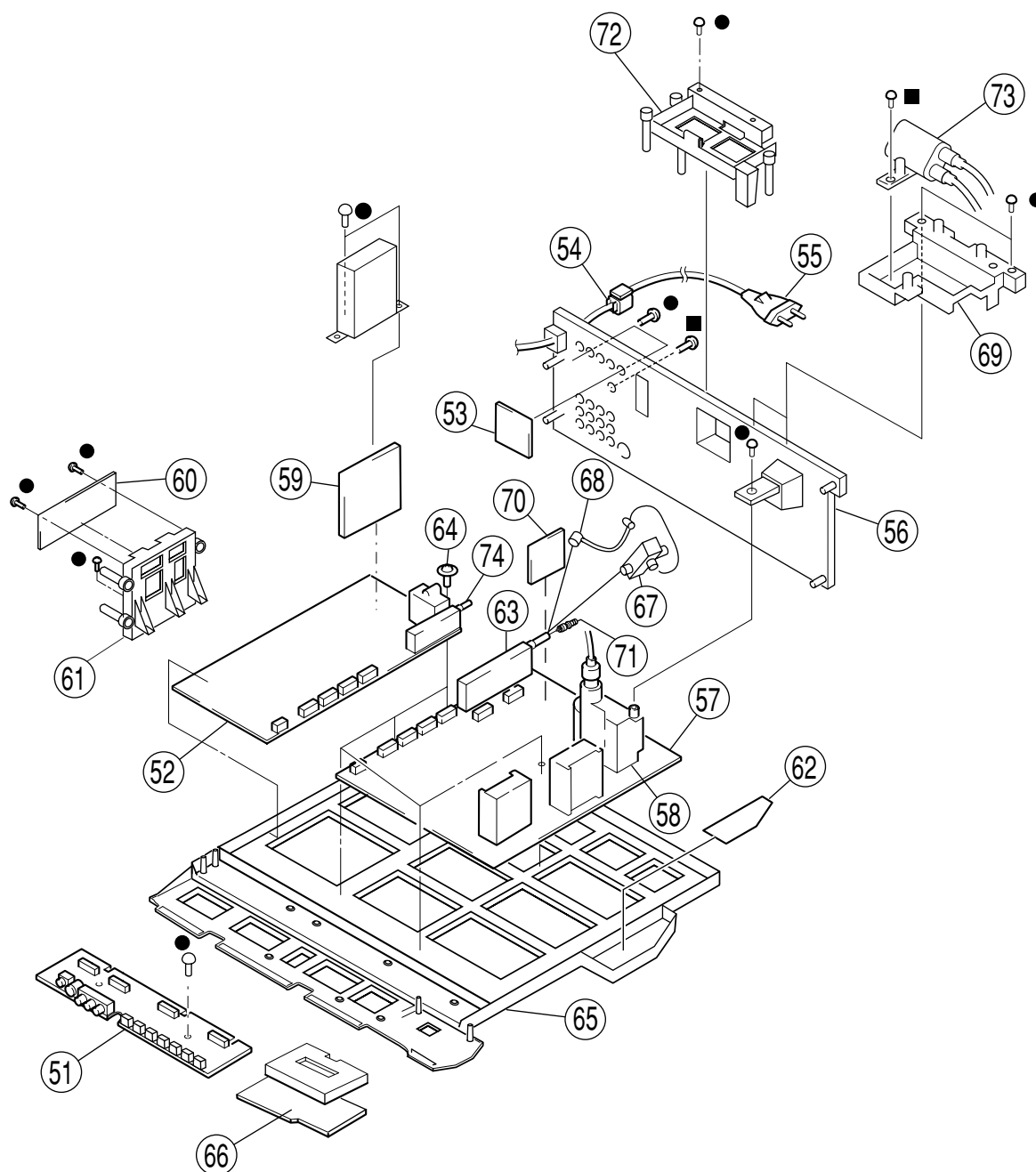


REF. NO.	PART NO.	DESCRIPTION	REMARK
1	4-302-404-03	SCREW (WASHER HEAD)(+P4 x 16)	
2	4-090-010-01	COVER REAR	
3	1-825-099-11	SPEAKER (13 x 5.5 CM)	
4	* 4-086-708-11	BRACKET, SPEAKER	
5	1-825-163-11	SPEAKER (5 CM)	
6	4-374-745-21	CUSHION (A)	

6-2. CHASSIS

● : 7-685-648-79 SCREW +BVTP 3 × 12

■ : 7-685-663-71 SCREW +BVTP 4 × 16

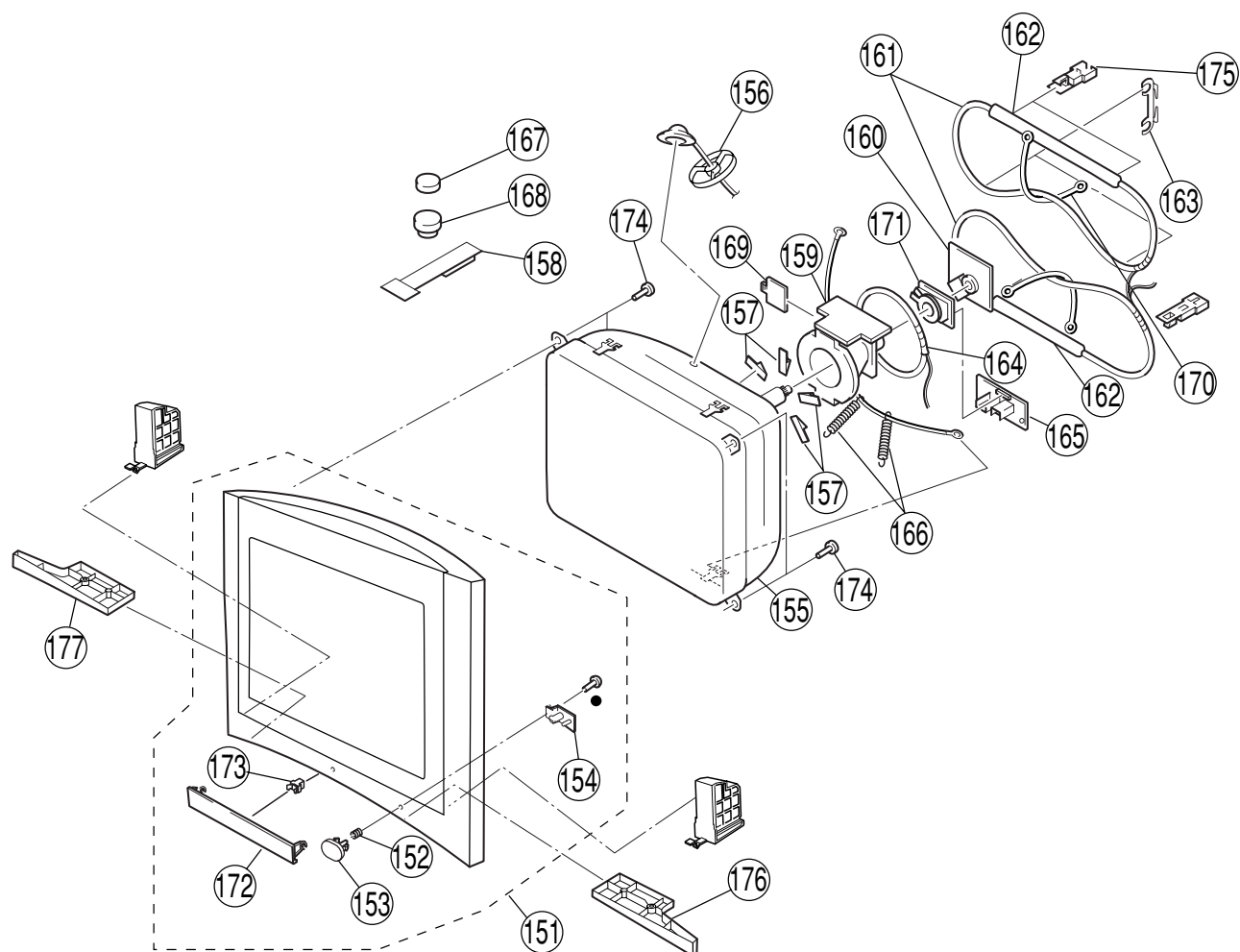


REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
51	* A-1400-972-A	H1 BOARD MOUNTED		61	* 4-066-682-01	BRACKET, F PWB	
52	* A-1300-895-A	B10 BOARD COMPLETE (KV-AR29M61/AR29N90)		62	* A-1401-875-A	D3 BOARD MOUNTED (KV-AR29M61/AR29N90)	
	* A-1300-764-A	B8 BOARD COMPLETE (KV-AR29M86)			* A-1401-674-A	D3 BOARD MOUNTED (KV-AR29M86)	
53	* A-1400-975-A	J BOARD, MOUNTED		63	8-598-451-00	TUNER,FSS BTF-WG441 (KV-AR29M61)	
54	4-022-115-00	HOLDER, AC CORD			8-598-450-10	TUNER,FSS BTF-LG434 (KV-AR29M86)	
55	△ 1-823-479-11	CORD, AC POWER (WITH CONNECTOR) (KV-AR29M61)			8-598-593-20	TUNER,FSS BTF-WA421 (KV-AR29N90)	
	△ 1-823-551-11	CORD, AC POWER (WITH CONNECTOR) (KV-AR29M86)		64	4-046-797-01	SCREW (3 x 12) (+) BVTAP	
	△ 1-790-130-31	CORD, AC POWER (WITH CONNECTOR) (KV-AR29N90)		65	* 4-088-700-02	BRACKET MAIN	
56	* 4-081-023-03	BRACKET, TERMINAL (KV-AR29M61)		66	* A-1400-973-A	H2 BOARD MOUNTED	
	* 4-066-684-02	BRACKET, TERMINAL (KV-AR29M86)		67	1-251-658-21	SPLITTER RF (KV-AR29M86)	
	* 4-081-023-23	BRACKET, TERMINAL (KV-AR29N90)		68	1-555-110-00	P-P CABLE (KV-AR29M86)	
57	* A-1300-951-A	A BOARD COMPLETE (KV-AR29M61)		69	4-066-680-02	BRACKET, HVC (KV-AR29M86)	
	* A-1300-982-A	A BOARD COMPLETE (KV-AR29M86)		70	* A-1347-164-A	V1 BOARD COMPLETE (KV-AR29M61)	
	* A-1300-941-A	A BOARD COMPLETE (KV-AR29N90)			* A-1300-668-A	V1 BOARD COMPLETE (KV-AR29M86)	
58	△ 1-453-284-11	TRANSFORMER ASSY, FLYBACK (NX-4009//M314) (KV-AR29M61/AR29N90)		71	1-573-657-21	PLUG, F-PIN (KV-AR29N90)	
	△ 1-453-305-11	TRANSFORMER ASSY, FLYBACK (NX-4009//C6P4) (KV-AR29M86)		72	* 4-070-963-01	HOLDER, PWB (KV-AR29M61)	
59	* A-1131-652-A	B1 BOARD MOUNTED (KV-AR29M61/AR29N90)		73	1-467-525-41	CAP BLOCK, HIGH VOLTAGE (KV-AR29M86)	
	* A-1401-241-A	P5 BOARD MOUNTED (KV-AR29M86)		74	8-598-450-10	TUNER, FSS BTF-LG434 (KV-AR29M86 only)	
60	* A-1401-812-A	F BOARD MOUNTED					

6-3. PICTURE TUBE

● : 7-685-648-79 SCREW +BVTP 3 × 12

■ : 7-685-663-71 SCREW +BVTP 4 × 16



REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
151	X-4040-722-1	BEZNET ASSY (KV-AR29M61)	152-154, 172, 173	161	△ 1-419-294-11	COIL, DEGAUSSING	
	X-4041-163-1	BEZNET ASSY (KV-AR29M86)		162	* 4-063-935-21	CUSHION (50 X 550), DGC	
	X-4040-791-1	BEZNET ASSY (KV-AR29N90)		163	4-064-883-03	HOLDER, DGC	
152	4-036-405-11	SPRING, COMPRESSION		164	1-452-896-11	COIL, NA ROTATION (RT200) (KV-AR29M61/AR29M86)	
153	4-086-448-01	BUTTON, POWER			1-452-896-61	COIL, NA ROTATION (RT200) (KV-AR29N90)	
154	* 4-086-707-01	GUIDE, LIGHT		165	* A-1401-877-A	VM1 BOARD MOUNTED (KV-AR29M61/AR29N90)	
155	△ 8-735-056-05	PICTURE TUBE (M68LNH070X) (KV-AR29M61)			* A-1401-675-A	VM1 BOARD MOUNTED (KV-AR29M86)	
	△ 8-735-057-05	PICTURE TUBE (M68LNH070X) (KV-AR29N90)/(KV-AR29M86)		166	4-369-318-61	SPRING, TENSION	
156	* 3-704-372-11	HOLDER, HV CABLE		167	1-452-032-00	MAGNET, DISC	
157	4-046-600-11	SPACER, DY		168	1-452-094-00	CIRCULAR DISC MAGNET B	
158	X-4387-214-3	PERMALOY ASSY, CORRECTION		169	4-077-228-02	PIECE, TLH CONVERGENCE	
159	△ 8-451-494-31	DEFLECTION YOKE (Y29RSA-S)		170	4-079-376-01	BAND, DGC	
160	* A-1401-876-A	C6 BOARD MOUNTED (KV-AR29M61/AR29N90)		171	8-453-011-41	NA299-C	
	* A-1401-676-A	C6 BOARD MOUNTED (KV-AR29M86)		172	4-088-697-01	DOOR	
				173	4-087-491-11	SPRING (DOOR)	
				174	4-046-765-12	SCREW TAPPING 7+ CROWN WASHER	
				175	* 4-062-970-12	CLIP (29RSN), DGC	
				176	* 4-088-699-01	COVER, BOTTOM (R)	
				177	* 4-088-698-01	COVER, BOTTOM (L)	



SECTION 7 ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark Δ 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 : μ F, PF : μ F

COILS

• MMH : mH, UH : μ H

REF NO.	PART NO.	DESCRIPTION	REMARK
	* A-1300-951-A	A BOARD COMPLETE (KV-AR29M61)	
	* A-1300-982-A	A BOARD COMPLETE (KV-AR29M86)	
	* A-1300-941-A	A BOARD COMPLETE (KV-AR29N90)	

	4-382-854-11	SCREW (M3X10), P, SW (+)	
	4-382-854-21	SCREW (M3X14), P, SW (+)	
		<CAPACITOR>	
C004	1-163-001-11	CERAMIC CHIP 220PF	10.00% 50V
C005	1-163-001-11	CERAMIC CHIP 220PF	10.00% 50V
C006	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C007	1-126-947-11	ELECT 47UF	20.00% 16V
C013	1-162-970-11	CERAMIC CHIP 0.01UF	10.00% 25V
C014	1-126-947-11	ELECT 47UF	20.00% 25V
C015	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C016	1-163-243-11	CERAMIC CHIP 47PF	5.00% 50V
C017	1-163-247-91	CERAMIC CHIP 68PF	5.00% 50V
C018	1-163-243-11	CERAMIC CHIP 47PF	5.00% 50V
C019	1-126-947-11	ELECT 47UF	20.00% 25V
C020	1-163-259-91	CERAMIC CHIP 220PF	5.00% 50V
C022	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
C023	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
C024	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
C026	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C027	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C028	1-163-037-11	CERAMIC CHIP 0.022UF	10.00% 50V
C030	1-126-965-91	ELECT 22UF	20.00% 50V
C031	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C032	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C041	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C042	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C043	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C044	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C047	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C048	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C050	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C051	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
		(KV-AR29M61/AR29M86)	
C053	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C056	1-163-263-11	CERAMIC CHIP 330PF	5.00% 50V
C061	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C101	1-126-964-11	ELECT 10UF	20.00% 50V
		(KV-AR29N90 ONLY)	
C106	1-163-035-00	CERAMIC CHIP 0.047UF	50V
		(KV-AR29N90 ONLY)	
C103	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C104	1-126-935-11	ELECT 470UF	20.00% 16V
C107	1-163-005-91	CERAMIC CHIP 470PF	10.00% 50V
C108	1-126-947-11	ELECT 47UF	20.00% 16V
C109	1-163-005-91	CERAMIC CHIP 470PF	10.00% 50V
C110	1-163-005-91	CERAMIC CHIP 470PF	10.00% 50V

REF NO.	PART NO.	DESCRIPTION	REMARK
C111	1-163-005-91	CERAMIC CHIP 470PF	10.00% 50V
C112	1-126-947-11	ELECT 47UF	20.00% 16V
C113	1-126-935-11	ELECT 470UF	20.00% 16V
C114	1-126-967-11	ELECT 47UF	20.00% 50V
C115	1-126-967-11	ELECT 47UF	20.00% 50V
		(KV-AR29M86 ONLY)	
C116	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
		(KV-AR29M86 ONLY)	
C117	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
		(KV-AR29M86 ONLY)	
C118	1-110-501-11	CERAMIC CHIP 0.33UF	10.00% 16V
C300	1-164-505-11	CERAMIC CHIP 2.2UF	16V
		(KV-AR29M61/AR29N90)	
C301	1-126-935-11	ELECT 470UF	20.00% 16V
C302	1-163-005-91	CERAMIC CHIP 470PF	10.00% 50V
C303	1-126-959-11	ELECT 0.47UF	20.00% 50V
C304	1-126-967-11	ELECT 47UF	20.00% 50V
C305	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C306	1-163-233-91	CERAMIC CHIP 18PF	5.00% 50V
C307	1-163-233-91	CERAMIC CHIP 18PF	5.00% 50V
C308	1-163-259-91	CERAMIC CHIP 220PF	5.00% 50V
C309	1-137-378-11	MYLAR 0.22UF	5.00% 50V
C311	1-126-964-11	ELECT 10UF	20.00% 50V
		(KV-AR29M61/AR29N90)	
C311	1-126-963-11	ELECT 4.7UF	20.00% 50V
		(KV-AR29M86)	
C312	1-164-346-11	CERAMIC CHIP 1UF	16V
C313	1-164-346-11	CERAMIC CHIP 1UF	16V
C314	1-164-346-11	CERAMIC CHIP 1UF	16V
C315	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C316	1-126-934-11	ELECT 220UF	20.00% 16V
C317	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C318	1-163-031-91	CERAMIC CHIP 0.01UF	50V
C319	1-163-031-91	CERAMIC CHIP 0.01UF	50V
C320	1-163-031-91	CERAMIC CHIP 0.01UF	50V
C321	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C322	1-163-005-91	CERAMIC CHIP 470PF	10.00% 50V
C324	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C325	1-126-960-11	ELECT 1UF	20.00% 50V
C327	1-126-965-91	ELECT 22UF	20.00% 50V
C328	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C329	1-126-963-11	ELECT 4.7UF	20.00% 50V
		(KV-AR29M61/AR29N90)	
C330	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C331	1-126-963-11	ELECT 4.7UF	20.00% 50V
C332	1-126-963-11	ELECT 4.7UF	20.00% 50V
C335	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
		(KV-AR29M61/AR29N90)	
C336	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C337	1-126-961-11	ELECT 2.2UF	20.00% 50V
C341	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
C342	1-163-259-91	CERAMIC CHIP 220PF	5.00% 50V
C347	1-126-933-11	ELECT 100UF	20.00% 16V
		(KV-AR29M61/AR29N90)	

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

A

REF NO.	PART NO.	DESCRIPTION	REMARK
C348	1-164-004-11	CERAMIC CHIP 0.1UF (KV-AR29M61/AR29N90)	10.00% 25V
C349	1-164-004-11	CERAMIC CHIP 0.1UF (KV-AR29M61/AR29N90)	10.00% 25V
C350	1-163-031-91	CERAMIC CHIP 0.01UF (KV-AR29M61 ONLY)	50V
C351	1-126-964-11	ELECT 10UF (KV-AR29M61/AR29N90)	20.00% 50V
C352	1-164-004-11	CERAMIC CHIP 0.1UF (KV-AR29M61/AR29N90)	10.00% 25V
C353	1-126-960-11	ELECT 1UF	20.00% 50V
C356	1-126-947-11	ELECT 47UF	20.00% 16V
C357	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C358	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C359	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C502	1-163-145-00	CERAMIC CHIP 0.0015UF	5.00% 50V
C503	1-126-964-11	ELECT 10UF	20.00% 50V
C506	1-107-638-11	ELECT 33UF	20.00% 160V
C507	1-161-830-00	CERAMIC 0.0047UF	500V
C510	1-102-112-00	CERAMIC 330PF	10.00% 50V
C512	1-163-989-11	CERAMIC CHIP 0.033UF	10.00% 25V
C513	1-163-263-11	CERAMIC CHIP 330PF	5.00% 50V
C514	1-106-383-00	MYLAR 0.047UF	10.00% 200V
C517	1-164-182-11	CERAMIC CHIP 0.0033UF	10.00% 50V
C518	1-104-665-11	ELECT 100UF	20.00% 10V
C519	1-102-212-00	CERAMIC 820PF	10.00% 500V
C521	1-126-934-11	ELECT 220UF	20.00% 16V
C522	1-126-933-11	ELECT 100UF	20.00% 16V
C523	1-102-002-00	CERAMIC 680PF	10.00% 500V
C524	1-126-967-11	ELECT 47UF	20.00% 50V
C526	1-130-495-00	MYLAR 0.1UF	5.00% 50V
C527	1-102-820-00	CERAMIC 330PF	5.00% 50V
C528	1-162-116-00	CERAMIC 680PF	10.00% 2KV
C530	1-137-372-11	MYLAR 0.022UF	5.00% 50V
C531	1-107-903-11	ELECT 2.2UF	20.00% 50V
C532	1-126-941-11	ELECT 470UF	20.00% 25V
C533	1-126-941-11	ELECT 470UF	20.00% 25V
C534	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C536	1-130-495-00	MYLAR 0.1UF	5.00% 50V
C537	1-126-969-11	ELECT 220UF	20.00% 50V
C538	1-127-717-11	FILM 19000PF	3% 1.2KV
C539	$\triangle$ 1-110-541-91	FILM 0.056UF	5.00% 630V
C540	1-136-171-00	FILM 0.33UF	5.00% 50V
C546	1-165-319-11	CERAMIC CHIP 0.1UF	50V
C549	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C550	1-106-220-00	MYLAR 0.1UF	10.00% 100V
C551	1-126-960-11	ELECT 1UF	20.00% 50V
C552	1-162-116-00	CERAMIC 680PF	10.00% 2KV
C553	1-162-116-00	CERAMIC 680PF	10.00% 2KV
C554	1-137-417-11	MYLAR 0.0047UF	10.00% 200V
C556	1-126-941-11	ELECT 470UF	20.00% 25V
C557	1-126-941-11	ELECT 470UF	20.00% 25V
C558	1-123-024-21	ELECT 33UF	160V
C560	1-102-228-00	CERAMIC 470PF	10.00% 500V
C561	1-129-898-00	FILM 0.0022UF	5.00% 630V
C562	1-102-228-00	CERAMIC 470PF	10.00% 500V
C564	1-163-038-91	CERAMIC CHIP 0.1UF	25V
C565	1-107-655-11	ELECT 47UF	20.00% 250V
C566	1-102-244-00	CERAMIC 220PF	10.00% 500V
C567	$\triangle$ 1-115-520-21	FILM 0.68UF	5.00% 250V
C568	1-102-228-00	CERAMIC 470PF	10.00% 500V
C570	1-115-522-11	FILM 1UF	5.00% 250V
C572	1-117-661-21	FILM 0.15UF	5.00% 250V

REF NO.	PART NO.	DESCRIPTION	REMARK
C573	1-106-387-00	MYLAR 0.068UF	10.00% 200V
C574	1-104-709-11	ELECT 4.7UF	160V
C576	1-130-495-00	MYLAR 0.1UF	5.00% 50V
C577	1-106-395-00	MYLAR 0.15UF	10.00% 200V
C582	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C584	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C586	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C600	$\triangle$ 1-115-165-11	MYLAR 0.1UF	20.00% 250V
C602	$\triangle$ 1-115-165-11	MYLAR 0.1UF	20.00% 250V
C603	1-126-947-11	ELECT 47UF (KV-AR29M61/AR29M86)	20.00% 25V
C603	1-249-429-11	CARBON 10K (KV-AR29N90)	5% 1/4W
C604	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C605	$\triangle$ 1-119-886-51	CERAMIC 470PF	10.00% 250V
C606	$\triangle$ 1-119-886-51	CERAMIC 470PF	10.00% 250V
C607	1-161-830-00	CERAMIC 0.0047UF	99% 500V
C608	1-161-830-00	CERAMIC 0.0047UF	99% 500V
C609	1-126-968-11	ELECT 100UF	20.00% 50V
C610	1-126-964-11	ELECT 10UF	20.00% 50V
C611	1-161-830-00	CERAMIC 0.0047UF	99% 500V
C612	1-161-830-00	CERAMIC 0.0047UF	99% 500V
C613	1-125-906-11	ELECT 560UF	20.00% 450V
C614	1-126-964-11	ELECT 10UF	20.00% 50V
C615	$\triangle$ 1-119-886-51	CERAMIC 470PF	10.00% 250V
C616	1-130-202-00	FILM 0.022UF	5.00% 400V
C617	1-107-792-11	CERAMIC 100PF	5.00% 1KV
C618	1-125-893-11	FILM 680PF	3.00% 1.5KV
C619	$\triangle$ 1-119-886-51	CERAMIC 470PF	10.00% 250V
C620	1-163-133-00	CERAMIC CHIP 470PF	5.00% 50V
C621	1-102-114-00	CERAMIC 470PF	10.00% 50V
C622	1-102-074-00	CERAMIC 0.001UF	10.00% 50V
C623	1-104-665-11	ELECT 100UF	20.00% 25V
C624	1-104-331-11	CERAMIC 0.0022UF	10.00% 1KV
C626	1-102-002-00	CERAMIC 680PF	10.00% 500V
C629	1-107-906-11	ELECT 10UF	20.00% 50V
C630	1-125-494-11	ELECT(BLOCK) 560UF	20% 160V
C631	1-128-550-11	ELECT 2200UF	20.00% 50V
C632	1-126-936-11	ELECT 3300UF	20.00% 16V
C633	1-104-999-11	MYLAR 0.1UF	10.00% 200V
C634	1-126-933-11	ELECT 100UF	20.00% 16V
C635	1-126-934-11	ELECT 220UF	20.00% 16V
C636	1-104-760-11	CERAMIC CHIP 0.047UF	10.00% 50V
C638	1-161-830-00	CERAMIC 0.0047UF	500V
C641	1-102-002-00	CERAMIC 680PF	10.00% 500V
C642	1-126-943-11	ELECT 2200UF	20.00% 25V
C643	1-104-665-11	ELECT 100UF	20.00% 10V
C644	1-104-331-11	CERAMIC 0.0022UF	10.00% 1KV
C645	1-137-605-11	MYLAR 0.01UF	10.00% 250V
C646	1-107-679-91	ELECT 10UF	20.00% 450V
C647	1-163-275-11	CERAMIC CHIP 0.001UF	5.00% 50V
C649	1-126-940-11	ELECT 330UF	20.00% 25V
C650	1-163-275-11	CERAMIC CHIP 0.001UF	5.00% 50V
C651	1-163-133-00	CERAMIC CHIP 470PF	5.00% 50V
C652	1-126-965-91	ELECT 22UF	20.00% 50V
C653	1-126-947-11	ELECT 47UF	20.00% 25V
C655	$\triangle$ 1-119-886-51	CERAMIC 470PF	10.00% 250V
C657	1-101-821-00	CERAMIC 0.0022UF	500V
C659	1-162-116-00	CERAMIC 680PF	10.00% 2KV
C912	1-107-826-11	CERAMIC CHIP 0.1UF	10.00% 16V
C913	1-104-665-11	ELECT 100UF	20.00% 10V

KV-AR29M61/AR29M86/AR29N90

RM-995

RM-993

RM-996



REF NO.	PART NO.	DESCRIPTION	REMARK
<CONNECTOR>			
CN101	* 1-779-890-11	CONNECTOR, BOARD TO BOARD 10P	
CN102	* 1-779-889-11	CONNECTOR, BOARD TO BOARD 8P	
CN104	1-695-915-11	TAB (CONTACT)	
CN105	1-695-915-11	TAB (CONTACT)	
CN106	1-564-506-11	PLUG, CONNECTOR 3P	
CN201	* 1-564-508-11	PLUG, CONNECTOR 5P	
CN202	* 1-508-847-00	PIN, CONNECTOR 4P	
CN301	* 1-774-813-11	CONNECTOR, BOARD TO BOARD 7P (KV-AR29M61/AR29M86)	
CN302	* 1-779-889-11	CONNECTOR, BOARD TO BOARD 8P (KV-AR29M86 ONLY)	
CN303	* 1-779-890-11	CONNECTOR, BOARD TO BOARD 10P	
CN305	1-564-509-11	PLUG, CONNECTOR 6P	
CN307	* 1-774-813-11	CONNECTOR, BOARD TO BOARD 7P (KV-AR29M61/AR29M86)	
CN501	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P	
CN502	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P	
CN503	* 1-564-510-11	PLUG, CONNECTOR 7P	
CN504	1-695-915-11	TAB (CONTACT)	
CN505	* 1-564-508-11	PLUG, CONNECTOR 5P	
CN507	* 1-564-509-11	PLUG, CONNECTOR 6P	
CN508	1-695-915-11	TAB (CONTACT) (KV-AR29M61/AR29M86)	
CN601	* 1-580-843-11	PIN, CONNECTOR (POWER)	
CN602	* 1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
CN603	* 1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P	
CN604	* 1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P	
CN608	1-564-507-41	PLUG, CONNECTOR 4P	
CN904	* 1-564-512-11	PLUG, CONNECTOR 9P	
<DIODE>			
D001	8-719-081-97	MMDL914T1	
D002	8-719-081-97	MMDL914T1	
D004	1-216-295-91	SHORT CHIP	0
D005	8-719-081-97	MMDL914T1	
D006	1-216-295-91	SHORT CHIP	0
D007	8-719-081-97	MMDL914T1	
D008	8-719-081-97	MMDL914T1	
D009	8-719-081-97	MMDL914T1	
D010	8-719-158-35	RD9.1S-B	
D100	8-719-081-97	MMDL914T1 (KV-AR29M61 ONLY)	
D300	1-216-295-91	SHORT CHIP	0
D301	8-719-081-97	MMDL914T1	
D306	8-719-081-97	MMDL914T1	
D307	8-719-081-97	MMDL914T1	
D308	8-719-081-97	MMDL914T1	
D309	8-719-159-10	RD5.1SB-T2	
D311	8-719-081-97	MMDL914T1	
D312	8-719-081-97	MMDL914T1	
D313	8-719-081-97	MMDL914T1	
D315	8-719-081-97	MMDL914T1	
D316	8-719-037-06	RD7.5SB1-T1 (KV-AR29M61/AR29N90)	
D316	8-719-037-20	DIODE RD11SB2-T1 (KV-AR29M86)	
D319	8-719-158-35	RD9.1S-B	
D320	8-719-158-35	RD9.1S-B	
D321	8-719-158-35	RD9.1S-B	
D322	8-719-158-35	RD9.1S-B	
D504	8-719-075-05	DIODE FR104-A5	
D505	8-719-081-97	MMDL914T1	
D506	8-719-911-19	1SS119-25	
D507	8-719-081-97	MMDL914T1	

REF NO.	PART NO.	DESCRIPTION	REMARK
D508	8-719-081-97	MMDL914T1	
D509	1-216-073-91	RES-CHIP	10K 5% 1/10W
D510	8-719-081-97	MMDL914T1	
D511	8-719-081-97	MMDL914T1	
D512	8-719-081-97	MMDL914T1	
D513	8-719-908-03	GP08D	
D517	8-719-081-00	DIODE BY228/A52A (KV-AR29M61)	
D517	8-719-312-71	RS3FS (KV-AR29M86/AR29N90)	
D518	8-719-074-35	RU4AM-T4	
D519	8-719-312-71	RS3FS	
D521	8-719-302-43	EL1Z	
D522	8-719-028-45	D2L20U	
D523	8-719-302-43	EL1Z	
D527	8-719-908-03	GP08D	
D528	8-719-908-03	GP08D	
D532	8-719-081-97	MMDL914T1	
D532	8-719-988-61	1SS355TE-17	
D534	8-719-081-97	MMDL914T1	
D600	8-719-911-19	1SS119-25	
D602	8-719-911-19	1SS119-25	
D603	8-719-150-92	RD33EB3T	
D604	8-719-028-72	RGP02-17EL-6433	
D605	8-719-510-22	D3SB60	
D606	8-719-108-18	5P-6M	
D607	8-719-081-97	MMDL914T1	
D608	8-719-110-53	RD20ES-B2	
D609	8-719-311-31	RU-1P	
D610	8-719-043-76	AK04V0	
D611	8-719-046-74	AU-01Z-V1	
D612	8-719-043-52	F5KQ60	
D613	8-719-046-74	AU-01Z-V1	
D614	8-719-046-74	AU-01Z-V1	
D616	8-719-083-56	DIODE 30DF2N-FC5	
D620	8-719-110-72	RD30ESB2	
D621	8-719-071-38	D5S6M	
D622	8-719-029-04	D5L60	
D623	8-719-082-03	DIODE MM3Z15VT1	
D624	8-719-081-97	MMDL914T1	
D625	8-719-977-28	DTZ10B	
D628	8-719-911-19	1SS119-25	
D631	8-719-068-00	ERC04-06SE	
D632	8-719-068-00	ERC04-06SE	
D633	8-719-948-45	ERA22-08	
D634	8-719-081-97	MMDL914T1	
D635	8-719-081-97	MMDL914T1	
D636	8-719-510-02	D1NS4	
D637	8-719-109-96	RD6.8ES-B1	
D638	8-719-510-48	D1N20R	
<CONNECTOR>			
DY1	* 1-580-798-11	CONNECTOR PIN (DY) 6P	
<FERRITE BEAD>			
FB101	1-216-295-91	SHORT CHIP	0 (KV-AR29M86 ONLY)
FB102	1-216-295-91	SHORT CHIP	0 (KV-AR29M86 ONLY)
FB300	1-412-911-31	FERRITE	0UH
FB501	1-410-397-21	FERRITE	1.1UH
FB502	1-410-397-21	FERRITE	1.1UH
FB600	1-410-397-21	FERRITE	1.1UH
FB601	1-410-397-21	FERRITE	1.1UH

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

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REF NO.	PART NO.	DESCRIPTION	REMARK	REF NO.	PART NO.	DESCRIPTION	REMARK
FB602	1-410-397-21	FERRITE	1.1UH	JR501	1-216-295-91	SHORT CHIP	0
FB603	1-410-397-21	FERRITE	1.1UH	JR502	1-216-295-91	SHORT CHIP	0
FB604	1-412-911-31	FERRITE	0UH	JR503	1-216-295-91	SHORT CHIP	0
FB605	1-412-911-31	FERRITE	0UH	JR600	1-216-295-91	SHORT CHIP	0
FB606	1-412-911-31	FERRITE	0UH			<COIL>	
FB608	1-412-911-31	FERRITE	0UH	L002	1-414-856-11	INDUCTOR	10UH
FB611	1-410-397-21	FERRITE	1.1UH	L003	1-414-180-11	INDUCTOR	3.3UH
FB612	1-410-397-21	FERRITE	1.1UH	L004	1-249-395-11	CARBON	15
FB613	1-410-397-21	FERRITE	1.1UH	L005	1-414-233-22	FERRITE	0UH
FB615	1-410-397-21	FERRITE	1.1UH	L101	1-414-856-11	INDUCTOR	10UH
		<IC>		L102	1-414-189-31	INDUCTOR	100UH
IC001	8-752-933-33	IC CXP750097-605S (KV-AR29M61/AR29M86)		L103	1-414-856-11	INDUCTOR	10UH
IC001	8-752-932-96	IC CXP750097-604S (KV-AR29N90)		L104	1-414-856-11	INDUCTOR	10UH
IC002	8-759-371-21	MM1319AFBE		L105	1-414-185-41	INDUCTOR	22UH
IC003	8-759-672-78	M24C08-BN6(A)		L301	1-414-189-31	INDUCTOR	100UH
IC100	8-759-042-02	S-80743AL-A7-S (KV-AR29M61 ONLY)		L302	1-414-185-41	INDUCTOR	22UH
IC301	8-752-095-72	CXA2159S		L303	1-414-189-31	INDUCTOR	100UH
IC302	8-759-666-90	IC TDA9181T (KV-AR29M61)				(KV-AR29M61/AR29N90)	
IC302	8-759-672-27	TDA9183T (KV-AR29N90)		L304	1-414-189-31	INDUCTOR	100UH
IC502	8-759-700-07	NJM2903M				(KV-AR29M61/AR29N90)	
IC503	8-759-980-58	TDA8172		L501	1-412-525-31	INDUCTOR	10UH
IC601	8-749-019-09	IC STR-F6456S		L502	1-416-947-11	COIL, AIR-CORE	
IC602	8-749-920-61	SE-135N		L503	1-412-525-31	INDUCTOR	10UH
IC603	8-759-701-59	NJM78M09FA		L504	1-412-525-31	INDUCTOR	10UH
IC604	8-759-231-53	TA7805S		L507	1-419-633-21	INDUCTOR	10MH
		<CHIP CONDUCTOR>		L511	1-406-977-71	INDUCTOR	0UH
JR001	1-216-295-91	SHORT CHIP	0	L513	1-412-551-31	INDUCTOR	1.5MH
JR002	1-216-295-91	SHORT CHIP	0	L515	1-459-104-00	COIL, WITH CORE	
JR003	1-216-295-91	SHORT CHIP	0	L518	1-414-187-11	INDUCTOR	47UH
JR004	1-216-295-91	SHORT CHIP	0	L601	1-412-527-11	INDUCTOR	15UH
JR006	1-216-295-91	SHORT CHIP	0	L905	1-414-856-11	INDUCTOR	10UH
JR007	1-216-295-91	SHORT CHIP	0			<PHOTO COUPLER>	
JR008	1-216-295-91	SHORT CHIP	0	PH600 $\triangle$ 8-749-924-35	ON3171-R		
JR010	1-216-295-91	SHORT CHIP	0			<IC LINK>	
JR012	1-216-295-91	SHORT CHIP	0	PS600	1-533-597-41	IC LINK	5A 90V
JR014	1-216-295-91	SHORT CHIP	0	PS601	1-533-597-41	IC LINK	5A 90V
JR015	1-216-295-91	SHORT CHIP	0			<TRANSISTOR>	
JR016	1-216-295-91	SHORT CHIP	0	Q001	8-729-216-22	2SA1162-G	
JR020	1-216-295-91	SHORT CHIP	0	Q002	8-729-230-49	2SC2712-YG	
JR022	1-216-295-91	SHORT CHIP	0	Q101	8-729-230-49	2SC2712-YG	
JR023	1-216-295-91	SHORT CHIP	0	Q301	8-729-216-22	2SA1162-G	
JR024	1-216-295-91	SHORT CHIP	0	Q302	8-729-230-49	2SC2712-YG (KV-AR29M61/AR29N90)	
JR025	1-216-295-91	SHORT CHIP	0	Q303	8-729-216-22	2SA1162-G (KV-AR29M61/AR29N90)	
JR028	1-216-295-91	SHORT CHIP	0	Q304	8-729-216-22	2SA1162-G	
JR030	1-216-295-91	SHORT CHIP	0	Q305	8-729-216-22	2SA1162-G (KV-AR29M61/AR29N90)	
JR031	1-216-295-91	SHORT CHIP	0	Q306	8-729-230-49	2SC2712-YG (KV-AR29M61/AR29N90)	
JR102	1-216-295-91	SHORT CHIP	0 (KV-AR29M61 ONLY)	Q307	8-729-230-49	2SC2712-YG (KV-AR29M61/AR29N90)	
JR107	1-216-295-91	SHORT CHIP	0 (KV-AR29M61/AR29N90)	Q308	8-729-216-22	2SA1162-G	
JR108	1-216-295-91	SHORT CHIP	0 (KV-AR29N90 ONLY)	Q309	8-729-421-19	UN2213 (KV-AR29M61 ONLY)	
JR109	1-216-295-91	SHORT CHIP	0 (KV-AR29M86 ONLY)	Q310	8-729-230-49	2SC2712-YG (KV-AR29M61/AR29N90)	
JR111	1-216-295-91	SHORT CHIP	0 (KV-AR29N90 ONLY)	Q311	8-729-230-49	2SC2712-YG	
JR214	1-216-295-91	SHORT CHIP	0	Q312	8-729-216-22	2SA1162-G	
JR304	1-216-295-91	SHORT CHIP	0	Q313	8-729-230-49	2SC2712-YG	
JR308	1-216-295-91	SHORT CHIP	0 (KV-AR29M61/AR29N90)	Q314	8-729-216-22	2SA1162-G (KV-AR29M61/AR29N90)	
JR309	1-216-295-91	SHORT CHIP	0				
JR310	1-216-295-91	SHORT CHIP	0				
JR311	1-216-295-91	SHORT CHIP	0				
JR500	1-216-295-91	SHORT CHIP	0				

KV-AR29M61/AR29M86/AR29N90

RM-995

RM-993

RM-996

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REF NO.	PART NO.	DESCRIPTION	REMARK
Q315	8-729-421-19	UN2213	
Q316	8-729-216-22	2SA1162-G (KV-AR29M61/AR29N90)	
Q317	8-729-216-22	2SA1162-G (KV-AR29M61/AR29N90)	
Q501	8-729-216-22	2SA1162-G	
Q502	8-729-216-22	2SA1162-G	
Q503	8-729-230-49	2SC2712-YG	
Q505	8-729-931-45	IRF614	
Q506	8-729-119-80	2SC2688-LK	
Q507	8-729-216-22	2SA1162-G	
Q509	8-729-230-49	2SC2712-YG	
Q511	8-729-048-07	2SD2578-CA	
Q600	8-729-119-78	2SC2785-HFE	
Q601	8-729-023-22	2SD2114K	
Q602	8-729-230-49	2SC2712-YG	
Q603	8-729-424-08	UN2111	
Q604	8-729-200-17	2SA1091-O	
Q605	8-729-044-30	2SK2845-LB102	
Q606	8-729-230-49	2SC2712-YG	
Q607	8-729-823-22	2SC3576	
Q608	8-729-230-49	2SC2712-YG	
<RESISTOR>			
R001	1-414-233-22	FERRITE 0UH	
R002	1-216-025-11	RES-CHIP 100	5% 1/10W
R003	1-216-073-91	RES-CHIP 10K	5% 1/10W
R004	1-216-025-11	RES-CHIP 100	5% 1/10W
R005	1-216-025-11	RES-CHIP 100	5% 1/10W
R006	1-216-689-11	RES-CHIP 39K (KV-AR29N90 ONLY)	5% 1/10W
R007	1-216-033-00	RES-CHIP 220 (KV-AR29N90 ONLY)	5% 1/10W
R008	1-216-065-91	RES-CHIP 4.7K	5% 1/10W
R009	1-216-065-91	RES-CHIP 4.7K (KV-AR29N90 ONLY)	5% 1/10W
R010	1-216-065-91	RES-CHIP 4.7K	5% 1/10W
R011	1-216-065-91	RES-CHIP 4.7K	5% 1/10W
R012	1-216-065-91	RES-CHIP 4.7K	5% 1/10W
R013	1-216-065-91	RES-CHIP 4.7K	5% 1/10W
R014	1-216-025-11	RES-CHIP 100	5% 1/10W
R015	1-216-025-11	RES-CHIP 100	5% 1/10W
R017	1-216-049-11	RES-CHIP 1K (KV-AR29M86 ONLY)	5% 1/10W
R018	1-216-033-00	RES-CHIP 220	5% 1/10W
R019	1-216-073-91	RES-CHIP 10K	5% 1/10W
R020	1-216-045-00	RES-CHIP 680	5% 1/10W
R021	1-216-073-91	RES-CHIP 10K	5% 1/10W
R022	1-216-295-91	SHORT CHIP 0	
R023	1-216-049-11	RES-CHIP 1K	5% 1/10W
R024	1-216-063-91	RES-CHIP 3.9K	5% 1/10W
R025	1-216-063-91	RES-CHIP 3.9K	5% 1/10W
R026	1-216-063-91	RES-CHIP 3.9K	5% 1/10W
R027	1-216-049-11	RES-CHIP 1K	5% 1/10W
R028	1-216-073-91	RES-CHIP 10K (KV-AR29M61/AR29N90)	5% 1/10W
R029	1-216-049-11	RES-CHIP 1K	5% 1/10W
R030	1-216-025-11	RES-CHIP 100 (KV-AR29N90 ONLY)	5% 1/10W
R031	1-216-049-11	RES-CHIP 1K	5% 1/10W
R032	1-216-025-11	RES-CHIP 100	5% 1/10W
R034	1-216-049-11	RES-CHIP 1K	5% 1/10W

REF NO.	PART NO.	DESCRIPTION	REMARK
R035	1-216-025-11	RES-CHIP 100	5% 1/10W
R036	1-216-025-11	RES-CHIP 100 (KV-AR29M61/AR2M86)	5% 1/10W
R037	1-216-025-11	RES-CHIP 100 (KV-AR29M61/AR2M86)	5% 1/10W
R037	1-216-077-91	RES-CHIP 15K (KV-AR29N90)	5% 1/10W
R038	1-216-049-11	RES-CHIP 1K (KV-AR29M61/AR2M86)	5% 1/10W
R040	1-216-025-11	RES-CHIP 100	5% 1/10W
R041	1-216-025-11	RES-CHIP 100	5% 1/10W
R042	1-216-295-91	SHORT CHIP 0	
R043	1-216-049-11	RES-CHIP 1K	5% 1/10W
R044	1-216-025-11	RES-CHIP 100	5% 1/10W
R045	1-414-233-22	FERRITE 0UH	
R046	1-216-049-11	RES-CHIP 1K	5% 1/10W
R047	1-414-233-22	FERRITE 0UH	
R048	1-216-073-91	RES-CHIP 10K	5% 1/10W
R050	1-216-073-91	RES-CHIP 10K	5% 1/10W
R053	1-216-049-11	RES-CHIP 1K	5% 1/10W
R058	1-216-295-91	SHORT CHIP 0	
R059	1-216-295-91	SHORT CHIP 0	
R060	1-216-295-91	SHORT CHIP 0	
R061	1-216-295-91	SHORT CHIP 0	
R062	1-216-041-00	RES-CHIP 470	5% 1/10W
R063	1-216-041-00	RES-CHIP 470	5% 1/10W
R064	1-216-041-00	RES-CHIP 470	5% 1/10W
R065	1-216-041-00	RES-CHIP 470	5% 1/10W
R066	1-216-049-11	RES-CHIP 1K	5% 1/10W
R067	1-216-049-11	RES-CHIP 1K	5% 1/10W
R068	1-216-041-00	RES-CHIP 470	5% 1/10W
R101	1-216-025-11	RES-CHIP 100 (KV-AR29M61)	5% 1/10W
R102	1-216-025-11	RES-CHIP 100 (KV-AR29M61)	5% 1/10W
R103	1-216-025-11	RES-CHIP 100 (KV-AR29N90 ONLY)	5% 1/10W
R104	1-216-025-11	RES-CHIP 100 (KV-AR29N90 ONLY)	5% 1/10W
R105	1-216-295-91	SHORT CHIP 0	
R106	1-216-049-11	RES-CHIP 1K (KV-AR29N90 ONLY)	5% 1/10W
R109	1-216-041-00	RES-CHIP 470	5% 1/10W
R111	1-216-025-11	RES-CHIP 100	5% 1/10W
R112	1-216-025-11	RES-CHIP 100	5% 1/10W
R113	1-216-025-11	RES-CHIP 100	5% 1/10W
R114	1-216-065-91	RES-CHIP 4.7K (KV-AR29N90 ONLY)	5% 1/10W
R115	1-216-065-91	RES-CHIP 4.7K (KV-AR29N90 ONLY)	5% 1/10W
R225	1-216-033-00	RES-CHIP 220	5% 1/10W
R226	1-216-033-00	RES-CHIP 220	5% 1/10W
R227	1-216-033-00	RES-CHIP 220	5% 1/10W
R237	1-216-295-91	SHORT CHIP 0	
R301	1-216-113-00	RES-CHIP 470K	5% 1/10W
R302	1-216-295-91	SHORT CHIP 0	
R303	1-216-049-11	RES-CHIP 1K	5% 1/10W
R304	1-216-073-91	RES-CHIP 10K	5% 1/10W
R308	1-216-025-11	RES-CHIP 100	5% 1/10W
R309	1-216-025-11	RES-CHIP 100	5% 1/10W
R310	1-216-025-11	RES-CHIP 100	5% 1/10W
R311	1-216-041-00	RES-CHIP 470 (KV-AR29M61/AR29N90)	5% 1/10W

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REF NO.	PART NO.	DESCRIPTION	REMARK	REF NO.	PART NO.	DESCRIPTION	REMARK
R312	1-216-039-00	RES-CHIP 390 (KV-AR29M61/AR29N90)	5% 1/10W	R378	1-216-053-00	RES-CHIP 1.5K (KV-AR29M61/AR29N90)	5% 1/10W
R313	1-216-037-00	RES-CHIP 330 (KV-AR29M61/AR29N90)	5% 1/10W	R379	1-218-179-11	RES-CHIP 10M (KV-AR29M61/AR29N90)	5% 1/10W
R314	1-216-083-00	RES-CHIP 27K (KV-AR29M61/AR29N90)	5% 1/10W	R381	1-216-295-91	SHORT CHIP 0 (KV-AR29M61/AR29N90)	
R315	1-216-053-00	RES-CHIP 1.5K	5% 1/10W	R382	1-216-065-91	RES-CHIP 4.7K (KV-AR29M61 ONLY)	5% 1/10W
R316	1-216-037-00	RES-CHIP 330 (KV-AR29M61/AR29N90)	5% 1/10W	R383	1-216-049-11	RES-CHIP 1K (KV-AR29M61/AR29N90)	5% 1/10W
R317	1-216-091-00	RES-CHIP 56K (KV-AR29M61/AR29N90)	5% 1/10W	R384	1-216-041-00	RES-CHIP 470 (KV-AR29M61/AR29N90)	5% 1/10W
R318	1-216-039-00	RES-CHIP 390 (KV-AR29M61/AR29N90)	5% 1/10W	R385	1-216-029-00	RES-CHIP 150 (KV-AR29M61/AR29N90)	5% 1/10W
R319	1-216-025-11	RES-CHIP 100	5% 1/10W	R391	1-216-295-91	SHORT CHIP 0 (KV-AR29M61/AR29N90)	
R320	1-216-065-91	RES-CHIP 4.7K	5% 1/10W	R500	1-249-417-11	CARBON 1K	5% 1/4W
R321	1-216-073-91	RES-CHIP 10K	5% 1/10W	R501	1-216-049-11	RES-CHIP 1K	5% 1/10W
R322	1-216-033-00	RES-CHIP 220	5% 1/10W	R505	1-208-830-11	METAL CHIP 100K	0.5% 1/10W
R323	1-216-053-00	RES-CHIP 1.5K (KV-AR29M61/AR29N90)	5% 1/10W	R506	1-216-081-00	RES-CHIP 22K	5% 1/10W
R324	1-216-053-00	RES-CHIP 1.5K (KV-AR29M61/AR29N90)	5% 1/10W	R507	1-249-389-11	CARBON 4.7	5% 1/4W
R326	1-216-029-00	RES-CHIP 150	5% 1/10W	R508	1-216-471-11	METAL OXIDE 27	5% 3W
R327	1-216-033-00	RES-CHIP 220	5% 1/10W	R509	1-216-473-11	METAL OXIDE 56	5% 3W
R328	1-216-065-91	RES-CHIP 4.7K	5% 1/10W	R510	1-216-449-11	METAL OXIDE 56	5% 2W
R329	1-216-041-00	RES-CHIP 470	5% 1/10W	R511	1-215-908-00	METAL OXIDE 33	5% 3W
R331	1-216-295-91	SHORT CHIP 0		R515	1-215-911-11	METAL OXIDE 100	5% 3W
R332	1-216-033-00	RES-CHIP 220	5% 1/10W	R517	1-208-798-11	METAL CHIP 4.7K	0.5% 1/10W
R335	1-216-045-00	RES-CHIP 680	5% 1/10W	R518	1-247-807-31	CARBON 100	5% 1/4W
R338	1-216-037-00	RES-CHIP 330	5% 1/10W	R519	1-215-913-11	METAL OXIDE 220	5% 3W
R339	1-216-033-00	RES-CHIP 220	5% 1/10W	R520	1-215-445-00	METAL 10K	1% 1/4W
R340	1-216-025-11	RES-CHIP 100	5% 1/10W	R522	1-208-806-11	METAL CHIP 10K	0.5% 1/10W
R345	1-216-081-00	RES-CHIP 22K	5% 1/10W	R523	1-249-411-11	CARBON 330	5% 1/4W
R348	1-208-806-11	METAL CHIP 10K	0.5% 1/10W	R525	1-208-846-11	METAL CHIP 470K	0.5% 1/10W
R349	1-216-073-91	RES-CHIP 10K	5% 1/10W	R526	1-208-804-11	METAL CHIP 8.2K	0.5% 1/10W
R350	1-216-061-91	RES-CHIP 3.3K	5% 1/10W	R527	1-216-001-00	RES-CHIP 10	5% 1/10W
R351	1-216-053-00	RES-CHIP 1.5K	5% 1/10W	R528	1-208-814-91	METAL CHIP 22K	0.5% 1/10W
R354	1-216-057-00	RES-CHIP 2.2K	5% 1/10W	R529	1-216-635-11	METAL CHIP 220	0.5% 1/10W
R355	1-216-057-00	RES-CHIP 2.2K	5% 1/10W	R531	1-247-843-11	CARBON 3.3K	5% 1/4W
R356	1-216-057-00	RES-CHIP 2.2K	5% 1/10W	R533	1-249-417-11	CARBON 1K	5% 1/4W
R357	1-216-079-00	RES-CHIP 18K	5% 1/10W	R534	1-216-364-21	METAL OXIDE 0.39	5% 2W
R358	1-216-049-11	RES-CHIP 1K	5% 1/10W	R535	1-216-067-00	RES-CHIP 5.6K	5% 1/10W
R359	1-216-033-00	RES-CHIP 220	5% 1/10W	R536	1-216-067-00	RES-CHIP 5.6K	5% 1/10W
R360	1-216-033-00	RES-CHIP 220	5% 1/10W	R537	1-208-804-11	METAL CHIP 8.2K	0.5% 1/10W
R361	1-216-073-91	RES-CHIP 10K	5% 1/10W	R539	1-216-049-11	RES-CHIP 1K	5% 1/10W
R362	1-216-075-00	RES-CHIP 12K	5% 1/10W	R540	1-216-065-91	RES-CHIP 4.7K	5% 1/10W
R363	1-216-079-00	RES-CHIP 18K	5% 1/10W	R541	1-216-065-91	RES-CHIP 4.7K	5% 1/10W
R364	1-216-295-91	SHORT CHIP 0		R542	1-216-073-91	RES-CHIP 10K	5% 1/10W
R365	1-216-033-00	RES-CHIP 220 (KV-AR29M61/AR29N90)	5% 1/10W	R543	1-216-437-00	METAL OXIDE 5.6K	5% 1W
R366	1-216-073-91	RES-CHIP 10K (KV-AR29M61/AR29N90)	5% 1/10W	R544	1-215-917-11	METAL OXIDE 1K	5% 3W
R367	1-216-073-91	RES-CHIP 10K (KV-AR29M61/AR29N90)	5% 1/10W	R545	1-216-077-91	RES-CHIP 15K	5% 1/10W
R368	1-216-073-91	RES-CHIP 10K	5% 1/10W	R546	1-216-077-91	RES-CHIP 15K	5% 1/10W
R370	1-216-033-00	RES-CHIP 220	5% 1/10W	R547	1-216-085-91	RES-CHIP 33K	5% 1/10W
R371	1-216-083-00	RES-CHIP 27K (KV-AR29M61/AR29N90)	5% 1/10W	R548	1-216-665-11	METAL CHIP 3.9K	0.5% 1/10W
R372	1-216-091-00	RES-CHIP 56K (KV-AR29M61/AR29N90)	5% 1/10W	R549	1-215-452-00	METAL 20K	1% 1/4W
R375	1-216-025-11	RES-CHIP 100 (KV-AR29M61/AR29M86)	5% 1/10W	R550	1-216-097-11	RES-CHIP 100K	5% 1/10W
R376	1-216-081-00	RES-CHIP 22K	5% 1/10W	R551	1-249-441-11	CARBON 100K	5% 1/4W
R377	1-216-121-11	RES-CHIP 1M	5% 1/10W	R552	1-216-057-00	RES-CHIP 2.2K	5% 1/10W
				R553	1-215-453-00	METAL 22K	1% 1/4W
				R554	1-215-453-00	METAL 22K	1% 1/4W
				R556	1-215-437-00	METAL 4.7K	1% 1/4W
				R558	1-247-843-11	CARBON 3.3K	5% 1/4W
				R559	1-249-429-11	CARBON 10K	5% 1/4W
				R560	1-216-073-91	RES-CHIP 10K	5% 1/10W
				R561	1-216-049-11	RES-CHIP 1K	5% 1/10W

KV-AR29M61/AR29M86/AR29N90

RM-995

RM-993

RM-996

A

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

REF NO.	PART NO.	DESCRIPTION	REMARK
R562	1-249-401-11	CARBON	47 5% 1/4W
R564	1-208-820-11	METAL CHIP	39K 0.5% 1/10W
R565	1-216-073-91	RES-CHIP	10K 5% 1/10W
R567	1-216-105-91	RES-CHIP	220K 5% 1/10W
R568	1-249-383-11	CARBON	1.5 5% 1/4W
R570	1-216-069-00	RES-CHIP	6.8K 5% 1/10W
R571	1-215-443-00	METAL	8.2K 1% 1/4W
R573	1-216-083-00	RES-CHIP	27K 5% 1/10W
R575	1-216-665-11	METAL CHIP	3.9K 0.5% 1/10W
R577	1-215-913-11	METAL OXIDE	220 5% 3W
R578	1-216-369-00	METAL OXIDE	1 5% 2W
R579	1-216-295-91	SHORT CHIP	0
R580	1-208-830-11	METAL CHIP	100K 0.5% 1/10W
R581	1-208-790-11	METAL CHIP	2.2K 0.5% 1/10W
R582	1-218-760-11	METAL CHIP	220K 0.5% 1/10W
R584	1-208-822-11	METAL CHIP	47K 0.5% 1/10W
R585	1-249-385-11	CARBON	2.2 5% 1/4W
R586	1-211-973-11	METAL CHIP	15 0.5% 1/10W
R587	1-208-842-11	METAL CHIP	330K 0.5% 1/10W
R588	1-215-888-00	METAL OXIDE	220 5% 2W
R589	1-215-888-00	METAL OXIDE	220 5% 2W
R590	1-215-465-00	METAL	68K 1% 1/4W
R591	1-260-288-11	CARBON	0.47 5% 1/2W
R592	1-208-820-11	METAL CHIP	39K 0.5% 1/10W
R593	1-260-288-11	CARBON	0.47 5% 1/2W
R594	1-260-288-11	CARBON	0.47 5% 1/2W
R595	1-216-073-91	RES-CHIP	10K 5% 1/10W
R596	1-215-916-00	METAL OXIDE	680 5% 3W
R597	1-247-750-11	CARBON	680 5% 1/2W
R598	1-249-438-11	CARBON	56K 5% 1/4W
R599	1-249-389-11	CARBON	4.7 5% 1/4W
R600	1-249-438-11	CARBON	56K 5% 1/4W
R601	1-249-420-11	CARBON	1.8K 5% 1/4W
R602	1-249-389-11	CARBON	4.7 5% 1/4W
R603	1-215-485-00	METAL	470K 1% 1/4W
R604	1-216-097-11	RES-CHIP	100K 5% 1/10W
R607	1-249-425-11	CARBON	4.7K 5% 1/4W
R608	1-240-205-91	METAL	22M 5% 1/2W
R609	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R610	1-216-073-91	RES-CHIP	10K 5% 1/10W
R611	1-216-089-91	RES-CHIP	47K 5% 1/10W
R612	1-216-045-00	RES-CHIP	680 5% 1/10W
R614	1-216-041-00	RES-CHIP	470 5% 1/10W
R615	1-216-369-00	METAL OXIDE	1 5% 2W
R616	1-260-302-51	CARBON	6.8 5% 1/2W
R617	1-247-791-91	CARBON	22 5% 1/4W
R619	1-260-128-11	CARBON	270K 5% 1/2W
R620	$\triangle$ 1-129-720-61	FILM (KV-AR29M61)	0.033UF 5.00% 630V
R620	$\triangle$ 1-129-720-91	FILM (KV-AR29M86/AR29N90)	0.033MF 5.00% 630V
R621	1-215-864-00	METAL OXIDE	150 5% 1W
R623	1-216-095-00	RES-CHIP	82K 5% 1/10W
R624	1-216-089-91	RES-CHIP	47K 5% 1/10W
R626	1-216-049-11	RES-CHIP	1K 5% 1/10W
R627	1-240-251-11	CEMENTED	6.8 5% 10W
R629	1-247-747-11	CARBON	470 5% 1/2W
R630	1-249-429-11	CARBON	10K 5% 1/4W
R631	1-216-089-91	RES-CHIP	47K 5% 1/10W
R632	1-220-886-11	FUSIBLE	0.1 10% 1W
R634	$\triangle$ 1-240-917-91	METAL	8.2M 5% 1W

REF NO.	PART NO.	DESCRIPTION	REMARK
R635	1-216-492-11	METAL OXIDE	82K 5% 3W
R636	1-215-924-00	METAL OXIDE (KV-AR29M61/AR29M86)	15K 5% 3W
R636	1-215-921-11	METAL OXIDE (KV-AR29N90)	4.7K 5% 3W
R637	1-216-492-11	METAL OXIDE	82K 5% 3W
R639	1-216-361-21	METAL OXIDE	0.22 5% 2W
R640	1-249-415-11	CARBON	680 5% 1/4W
R641	1-216-361-21	METAL OXIDE	0.22 5% 2W
R642	1-249-419-11	CARBON	1.5K 5% 1/4W
R643	1-247-843-11	CARBON	3.3K 5% 1/4W
R644	1-249-419-11	CARBON	1.5K 5% 1/4W
R646	1-215-924-00	METAL OXIDE (KV-AR29M61/AR29M86)	15K 5% 3W
R646	1-215-921-11	METAL OXIDE (KV-AR29N90)	4.7K 5% 3W
R647	1-249-387-11	CARBON	3.3 5% 1/4W
R648	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R649	1-249-417-11	CARBON	1K 5% 1/4W
R650	1-215-882-00	METAL OXIDE	22 5% 2W
R652	1-215-900-11	METAL OXIDE	22K 5% 2W
R653	1-215-873-00	METAL OXIDE	4.7K 5% 1W
R656	1-249-417-11	CARBON	1K 5% 1/4W
R657	1-260-127-11	CARBON	220K 5% 1/2W
R659	1-216-049-11	RES-CHIP	1K 5% 1/10W
R660	1-216-073-91	RES-CHIP	10K 5% 1/10W
R661	1-215-873-00	METAL OXIDE	4.7K 5% 1W
R682	1-533-597-41	IC LINK (KV-AR29M61/AR29M86)	5A 90V
R682	1-219-134-11	FUSIBLE (KV-AR29N90)	0.1 10% 1/4W
R909	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
R910	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
<RELAY>			
RY600	$\triangle$ 1-755-299-11	RELAY, AC POWER	
RY601	$\triangle$ 1-755-299-11	RELAY, AC POWER	
<SWITCH>			
S501	1-572-707-11	SWITCH, LEVER	
S502	1-572-707-11	SWITCH, LEVER	
<TRANSFORMER>			
T501	1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE	
T503	$\triangle$ 1-453-284-11	TRANSFORMER ASSY FLY BACK (NX-4009//M314)(KV-AR29M61/AR29N90)	
T503	$\triangle$ 1-453-305-11	TRANSFORMER ASSY FLY BACK (NX-4009//C6P4)(KV-AR29M86)	
T504	1-433-850-11	TRANSFORMER, HORIZONTAL LINEAR	
T505	1-435-869-11	TRANSFORMER, FERRITE (PMT)	
T601	$\triangle$ 1-437-825-11	TRANSFORMER, LINE FILTER (KV-AR29M61/AR29M86)	
T601	$\triangle$ 1-429-707-12	TRANSFORMER, LINE FILTER (KV-AR29N90)	
T603	$\triangle$ 1-431-976-41	TRANSFORMER, CONVERTER	
T604	$\triangle$ 1-431-852-11	TRANSFORMER, CONVERTER (SRT)	
<THERMISTOR>			
TH500	1-800-193-00	THERMISTOR	
TH600	1-803-586-11	THERMISTOR, NTC	

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

A**B1** (KV-AR29M61/AR29N90)

REF NO.	PART NO.	DESCRIPTION	REMARK
<THERMISTOR>			

THP600 $\triangle$	1-803-541-11	THERMISTOR	
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<TUNER>

TU101	8-598-451-00	TUNER, FSS BTF-WG441 (KV-AR29M61)	
TU101	8-598-450-10	TUNER, FSS BTF-LG434 (KV-AR29M86)	
TU101	8-598-593-20	TUNER, FSS BTF-WA421 (KV-AR29N90)	

<VARISTOR>

VDR600	1-803-830-11	VARISTOR (ERZV14D621)	
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<CRYSTAL>

X001	1-781-174-21	VIBRATOR, CERAMIC	
X301	1-781-134-21	VINRATOR, CRYSTAL	
X302	1-781-132-21	VIBRATOR, CRYSTAL	

* A-1131-652-A B1 BOARD MOUNTED
(KV-AR29M61/AR29N90)

<CAPACITOR>

C1513	1-163-038-91	CERAMIC CHIP	0.1UF	25V
C1514	1-163-038-91	CERAMIC CHIP	0.1UF	25V
C1515	1-163-243-11	CERAMIC CHIP	47PF	5.00% 50V
C1517	1-164-005-11	CERAMIC CHIP	0.47UF	25V
C1518	1-126-967-11	ELECT	47UF	20.00% 50V
C1519	1-163-249-11	CERAMIC CHIP	82PF	5.00% 50V
C1520	1-163-249-11	CERAMIC CHIP	82PF	5.00% 50V
C1522	1-164-005-11	CERAMIC CHIP	0.47UF	25V
C1523	1-163-255-11	CERAMIC CHIP	150PF	5.00% 50V
C1524	1-163-247-91	CERAMIC CHIP	68PF	5.00% 50V
C1525	1-163-249-11	CERAMIC CHIP	82PF	5.00% 50V
C1526	1-163-249-11	CERAMIC CHIP	82PF	5.00% 50V
C1528	1-164-005-11	CERAMIC CHIP	0.47UF	25V
C1529	1-163-255-11	CERAMIC CHIP	150PF	5.00% 50V
C1530	1-163-247-91	CERAMIC CHIP	68PF	5.00% 50V
C1543	1-126-933-11	ELECT	100UF	20.00% 16V
C1544	1-165-319-11	CERAMIC CHIP	0.1UF	50V
C1554	1-165-319-11	CERAMIC CHIP	0.1UF	50V
C1555	1-163-038-91	CERAMIC CHIP	0.1UF	25V
C1556	1-163-038-91	CERAMIC CHIP	0.1UF	25V

<CONNECTOR>

CN1501 *	1-564-511-11	PLUG, CONNECTOR 8P	
CN1502 *	1-564-508-11	PLUG, CONNECTOR 5P	
CN1503	1-764-811-11	CONNECTOR, BOARD TO BOARD 10P	

<DIODE>

D1501	8-719-158-35	RD9.1S-B	
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<IC>

IC1502	8-759-439-64	HEF4053BT	
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REF NO.	PART NO.	DESCRIPTION	REMARK
<COIL>			

L1501	1-414-856-11	INDUCTOR	10UH
L1506	1-414-857-11	INDUCTOR	100UH
L1507	1-414-187-11	INDUCTOR	47UH
L1508	1-414-187-11	INDUCTOR	47UH
L1509	1-414-857-11	INDUCTOR	100UH

L1510	1-414-187-11	INDUCTOR	47UH
L1511	1-414-187-11	INDUCTOR	47UH

<TRANSISTOR>

Q1501	8-729-010-25	MSD601-RT1	
Q1502	8-729-216-22	2SA1162-G	
Q1503	8-729-010-25	MSD601-RT1	
Q1504	8-729-010-25	MSD601-RT1	
Q1505	8-729-010-25	MSD601-RT1	

Q1506	8-729-010-25	MSD601-RT1	
Q1507	8-729-216-22	2SA1162-G	
Q1509	8-729-010-25	MSD601-RT1	
Q1510	8-729-010-25	MSD601-RT1	
Q1511	8-729-216-22	2SA1162-G	

Q1514	8-729-010-25	MSD601-RT1	
Q1515	8-729-010-25	MSD601-RT1	
Q1516	8-729-216-22	2SA1162-G	
Q1520	8-729-010-25	MSD601-RT1	
Q1522	8-729-010-25	MSD601-RT1	

Q1523	8-729-216-22	2SA1162-G	
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<RESISTOR>

R1501	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1502	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1503	1-216-025-11	RES-CHIP	100	5%	1/10W
R1504	1-216-025-11	RES-CHIP	100	5%	1/10W
R1506	1-216-025-11	RES-CHIP	100	5%	1/10W

R1507	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1508	1-216-073-91	RES-CHIP	10K	5%	1/10W
R1511	1-216-033-00	RES-CHIP	220	5%	1/10W
R1512	1-216-005-00	RES-CHIP	15	5%	1/10W
R1515	1-216-041-00	RES-CHIP	470	5%	1/10W

R1516	1-216-025-11	RES-CHIP	100	5%	1/10W
R1517	1-216-075-00	RES-CHIP	12K	5%	1/10W
R1520	1-216-079-00	RES-CHIP	18K	5%	1/10W
R1522	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1523	1-216-049-11	RES-CHIP	1K	5%	1/10W

R1528	1-216-033-00	RES-CHIP	220	5%	1/10W
R1529	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R1531	1-216-045-00	RES-CHIP	680	5%	1/10W
R1537	1-216-041-00	RES-CHIP	470	5%	1/10W
R1538	1-216-041-00	RES-CHIP	470	5%	1/10W

R1540	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1541	1-216-041-00	RES-CHIP	470	5%	1/10W
R1542	1-216-041-00	RES-CHIP	470	5%	1/10W
R1543	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1545	1-216-041-00	RES-CHIP	470	5%	1/10W

R1547	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1548	1-216-025-11	RES-CHIP	100	5%	1/10W
R1549	1-216-075-00	RES-CHIP	12K	5%	1/10W
R1551	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1552	1-216-049-11	RES-CHIP	1K	5%	1/10W

B1 (KV-AR29M61/AR29N90)**B8** (KV-AR29M86)

REF NO.	PART NO.	DESCRIPTION	REMARK		
R1553	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1554	1-216-033-00	RES-CHIP	220	5%	1/10W
R1556	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1559	1-216-041-00	RES-CHIP	470	5%	1/10W
R1560	1-216-041-00	RES-CHIP	470	5%	1/10W
R1561	1-216-041-00	RES-CHIP	470	5%	1/10W
R1562	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1563	1-216-041-00	RES-CHIP	470	5%	1/10W
R1566	1-216-041-00	RES-CHIP	470	5%	1/10W
R1567	1-216-049-11	RES-CHIP	1K	5%	1/10W
R1568	1-216-041-00	RES-CHIP	470	5%	1/10W
R1569	1-216-049-11	RES-CHIP	1K	5%	1/10W

* A-1300-764-A	B8 BOARD COMPLETE (KV-AR29M86) *****				
4-382-854-11	SCREW (M3X10), P, SW (+)				
	<CAPACITOR>				
C1305	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1307	1-164-346-11	CERAMIC CHIP	1UF		16V
C1310	1-126-786-11	ELECT	47UF	20.00%	16V
C1312	1-126-947-11	ELECT	47UF	20.00%	16V
C1330	1-126-964-11	ELECT	10UF	20.00%	50V
C1333	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1395	1-163-249-11	CERAMIC CHIP	82PF	5.00%	50V
C1401	1-104-661-91	ELECT	330UF	20.00%	16V
C1402	1-126-947-11	ELECT	47UF	20.00%	25V
C1403	1-126-947-11	ELECT	47UF	20.00%	25V
C1404	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1405	1-126-947-11	ELECT	47UF	20.00%	25V
C1406	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C1407	1-126-934-11	ELECT	220UF	20.00%	16V
C1408	1-126-964-11	ELECT	10UF	20.00%	50V
C1410	1-126-947-11	ELECT	47UF	20.00%	25V
C1411	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1412	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1413	1-126-935-11	ELECT	470UF	20.00%	16V
C1414	1-164-346-11	CERAMIC CHIP	1UF		16V
C1415	1-126-947-11	ELECT	47UF	20.00%	25V
C1416	1-164-346-11	CERAMIC CHIP	1UF		16V
C1417	1-126-934-11	ELECT	220UF	20.00%	10V
C1418	1-163-031-91	CERAMIC CHIP	0.01UF		50V
C1419	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C1420	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1421	1-164-346-11	CERAMIC CHIP	1UF		16V
C1422	1-164-346-11	CERAMIC CHIP	1UF		16V
C1423	1-164-346-11	CERAMIC CHIP	1UF		16V
C1425	1-164-346-11	CERAMIC CHIP	1UF		16V
C1426	1-164-346-11	CERAMIC CHIP	1UF		16V
C1428	1-104-665-11	ELECT	100UF	20.00%	25V
C1429	1-126-789-11	ELECT	33UF	20.00%	25V
C1430	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1431	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1432	1-126-933-11	ELECT	100UF	20.00%	16V
C1433	1-126-947-11	ELECT	47UF	20.00%	16V
C1434	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1435	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C1436	1-163-038-91	CERAMIC CHIP	0.1UF		25V

REF NO.	PART NO.	DESCRIPTION	REMARK		
C1438	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C1439	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1440	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1441	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1442	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1443	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1444	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C1445	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1446	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1447	1-126-795-11	ELECT	10UF	20.00%	50V
C1448	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C1449	1-126-933-11	ELECT	100UF	20.00%	16V
C1450	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C1451	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C1452	1-163-005-91	CERAMIC CHIP	470PF	10.00%	50V
C1453	1-126-933-11	ELECT	100UF	20.00%	16V
C1454	1-126-967-11	ELECT	47UF	20.00%	50V
C1455	1-126-967-11	ELECT	47UF	20.00%	50V
C1456	1-126-933-11	ELECT	100UF	20.00%	16V
C1457	1-164-346-11	CERAMIC CHIP	1UF		16V
C1458	1-126-933-11	ELECT	100UF	20.00%	16V
C1459	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1460	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C1461	1-164-346-11	CERAMIC CHIP	1UF		16V
C1462	1-164-346-11	CERAMIC CHIP	1UF		16V
C1464	1-126-933-11	ELECT	100UF	20.00%	16V
C3201	1-126-964-11	ELECT	10UF	20.00%	50V
C3202	1-136-171-00	FILM	0.33UF	5.00%	50V
C3203	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C3220	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3221	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3222	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3223	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3224	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3225	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C3226	1-126-964-11	ELECT	10UF	20.00%	50V
C3227	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3228	1-107-698-11	ELECT	10UF	20.00%	25V
C3229	1-107-698-11	ELECT	10UF	20.00%	25V
C3238	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C3239	1-136-171-00	FILM	0.33UF	5.00%	50V
C3243	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C3244	1-164-346-11	CERAMIC CHIP	1UF		16V
C3245	1-164-005-11	CERAMIC CHIP	0.47UF		25V
C3246	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C3247	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3248	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3249	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3250	1-164-346-11	CERAMIC CHIP	1UF		16V
C3251	1-126-964-11	ELECT	10UF	20.00%	50V
C3252	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3253	1-126-933-11	ELECT	100UF	20.00%	16V
C3254	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C3255	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C3256	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3257	1-164-346-11	CERAMIC CHIP	1UF		16V
C3258	1-163-989-11	CERAMIC CHIP	0.033UF	10.00%	25V
C3259	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3260	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3262	1-126-947-11	ELECT	47UF	20.00%	16V
C3264	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C3301	1-117-720-11	CERAMIC CHIP	4.7UF		10V

B8 (KV-AR29M86)

REF NO.	PART NO.	DESCRIPTION	REMARK
C3302	1-117-720-11	CERAMIC CHIP 4.7UF	10V
C3303	1-117-720-11	CERAMIC CHIP 4.7UF	10V
C3304	1-117-720-11	CERAMIC CHIP 4.7UF	10V
C3305	1-117-720-11	CERAMIC CHIP 4.7UF	10V
C3306	1-117-720-11	CERAMIC CHIP 4.7UF	10V
C3307	1-126-935-11	ELECT 470UF	20.00% 16V
C3308	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C3309	1-104-760-11	CERAMIC CHIP 0.047UF	10.00% 50V
C3310	1-104-760-11	CERAMIC CHIP 0.047UF	10.00% 50V
C3311	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C3312	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3313	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C3314	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3315	1-164-182-11	CERAMIC CHIP 0.0033UF	10.00% 50V
C3316	1-115-185-11	CERAMIC CHIP 0.033UF	10.00% 50V
C3317	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C3318	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3319	1-110-501-11	CERAMIC CHIP 0.33UF	10.00% 16V
C3320	1-126-963-11	ELECT 4.7UF	20.00% 50V
C3321	1-126-963-11	ELECT 4.7UF	20.00% 50V
C3322	1-126-963-11	ELECT 4.7UF	20.00% 50V
C3323	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C3324	1-126-935-11	ELECT 470UF	20.00% 16V
C3325	1-104-665-11	ELECT 100UF	20.00% 25V
C3326	1-126-963-11	ELECT 4.7UF	20.00% 50V
C3327	1-126-963-11	ELECT 4.7UF	20.00% 50V
C3328	1-126-963-11	ELECT 4.7UF	20.00% 50V
C3329	1-126-963-11	ELECT 4.7UF	20.00% 50V
C3330	1-126-963-11	ELECT 4.7UF	20.00% 50V
C3331	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C3332	1-163-009-91	CERAMIC CHIP 0.001UF	10.00% 50V
C3333	1-115-185-11	CERAMIC CHIP 0.033UF	10.00% 50V
C3334	1-164-182-11	CERAMIC CHIP 0.0033UF	10.00% 50V
C3335	1-163-019-00	CERAMIC CHIP 0.0068UF	10.00% 50V
C3336	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C3337	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C3338	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C3401	1-117-720-11	CERAMIC CHIP 4.7UF	10V
C3402	1-117-720-11	CERAMIC CHIP 4.7UF	10V
C3403	1-117-720-11	CERAMIC CHIP 4.7UF	10V
C3404	1-117-720-11	CERAMIC CHIP 4.7UF	10V
C3405	1-126-964-11	ELECT 10UF	20.00% 50V
C6200	1-216-295-91	SHORT CHIP 0	
C6202	1-128-550-11	ELECT 2200UF	20.00% 50V
C6203	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C6204	1-128-550-11	ELECT 2200UF	20.00% 50V
C6205	1-130-495-00	MYLAR 0.1UF	5.00% 50V
C6206	1-128-550-11	ELECT 2200UF	20.00% 50V
C6209	1-130-495-00	MYLAR 0.1UF	5.00% 50V
C6210	1-126-924-11	ELECT 330UF	20.00% 10V
C6211	1-126-924-11	ELECT 330UF	20.00% 10V
C6212	1-126-947-11	ELECT 47UF	20.00% 25V
C6213	1-126-964-11	ELECT 10UF	20.00% 50V
C6217	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C6220	1-164-505-11	CERAMIC CHIP 2.2UF	16V
C6222	1-164-505-11	CERAMIC CHIP 2.2UF	16V
C6223	1-126-960-11	ELECT 1UF	20.00% 50V
C6241	1-126-964-11	ELECT 10UF	20.00% 50V
C6244	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C6245	1-163-017-00	CERAMIC CHIP 0.0047UF	10.00% 50V
C6249	1-216-295-91	SHORT CHIP 0	

REF NO.	PART NO.	DESCRIPTION	REMARK
		<CONNECTOR>	
CN1300 *	1-564-506-11	PLUG, CONNECTOR 3P	
CN1400 *	1-564-512-11	PLUG, CONNECTOR 9P	
CN1401 *	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P	
CN1404 *	1-779-891-11	CONNECTOR, BOARD TO BOARD 8P	
CN1405 *	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P	
CN1406 *	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P	
CN1407 *	1-779-891-11	CONNECTOR, BOARD TO BOARD 8P	
CN1408	1-764-818-11	CONNECTOR, BOARD TO BOARD 10P	
CN1409	1-764-818-11	CONNECTOR, BOARD TO BOARD 10P	
CN1415	1-695-915-11	TAB (CONTACT)	
CN6200 *	1-564-507-11	PLUG, CONNECTOR 4P	
CN6204 *	1-564-509-11	PLUG, CONNECTOR 6P	
CN6206 *	1-564-508-11	PLUG, CONNECTOR 5P	
		<DIODE>	
D1401	8-719-069-60	UDZSTE-179.1B	
D1402	8-719-069-60	UDZSTE-179.1B	
D1403	8-719-069-60	UDZSTE-179.1B	
D1404	8-719-069-60	UDZSTE-179.1B	
D1405	8-719-069-60	UDZSTE-179.1B	
D1406	8-719-069-60	UDZSTE-179.1B	
D1407	8-719-069-60	UDZSTE-179.1B	
D1408	8-719-069-60	UDZSTE-179.1B	
D1409	8-719-069-60	UDZSTE-179.1B	
D1410	8-719-069-60	UDZSTE-179.1B	
D1411	8-719-069-60	UDZSTE-179.1B	
D1412	8-719-069-60	UDZSTE-179.1B	
D1415	8-719-069-60	UDZSTE-179.1B	
D1416	8-719-069-60	UDZSTE-179.1B	
D1418	8-719-069-60	UDZSTE-179.1B	
D3201	8-719-988-61	1SS355TE-17	
D3203	8-719-988-61	1SS355TE-17	
D3301	8-719-404-50	MA111-TX	
D3302	8-719-404-50	MA111-TX	
D6210	8-719-914-42	DA204K	
D6211	8-719-404-50	MA111-TX	
D6212	8-719-404-50	MA111-TX	
		<IC>	
IC1401	8-752-068-46	CXA1855S	
IC1402	8-759-100-96	UPC4558G2	
IC1403	8-759-231-53	TA7805S	
IC1404	8-759-701-59	NJM78M09FA	
IC3200	8-759-100-96	UPC4558G2	
IC3202	8-759-100-96	UPC4558G2	
IC3204	8-759-100-96	UPC4558G2	
IC3205	8-752-058-68	CXA1315M	
IC3301	8-759-711-10	NJU4066BM	
IC3302	6-702-145-01	IC NJW1139GK1-TE2	
IC3401	8-759-443-11	NJM2283M-TE1	
IC6200	8-759-168-24	TA8200AH	
		<JACK>	
J1401	1-784-646-11	TERMINAL, S	
J1402	1-778-387-11	JACK BLOCK, PIN 12P	

B8 (KV-AR29M86)

REF NO.	PART NO.	DESCRIPTION	REMARK	REF NO.	PART NO.	DESCRIPTION	REMARK
R1420	1-216-073-91	RES-CHIP	10K 5% 1/10W	R1485	1-216-025-11	RES-CHIP	100 5% 1/10W
R1421	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	R1486	1-216-067-00	RES-CHIP	5.6K 5% 1/10W
R1423	1-216-025-11	RES-CHIP	100 5% 1/10W	R1487	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1424	1-216-073-91	RES-CHIP	10K 5% 1/10W				
R1425	1-216-047-91	RES-CHIP	820 5% 1/10W	R1488	1-216-073-91	RES-CHIP	10K 5% 1/10W
				R1489	1-216-022-00	RES-CHIP	75 5% 1/10W
R1426	1-216-025-11	RES-CHIP	100 5% 1/10W	R1490	1-216-025-11	RES-CHIP	100 5% 1/10W
R1427	1-216-063-91	RES-CHIP	3.9K 5% 1/10W	R1491	1-216-025-11	RES-CHIP	100 5% 1/10W
R1428	1-216-025-11	RES-CHIP	100 5% 1/10W	R1492	1-216-021-00	RES-CHIP	68 5% 1/10W
R1429	1-216-089-91	RES-CHIP	47K 5% 1/10W				
R1430	1-216-025-11	RES-CHIP	100 5% 1/10W	R1493	1-216-067-00	RES-CHIP	5.6K 5% 1/10W
				R1494	1-216-031-00	RES-CHIP	180 5% 1/10W
R1431	1-216-025-11	RES-CHIP	100 5% 1/10W	R1495	1-216-033-00	RES-CHIP	220 5% 1/10W
R1432	1-216-041-00	RES-CHIP	470 5% 1/10W	R1496	1-216-041-00	RES-CHIP	470 5% 1/10W
R1433	1-216-025-11	RES-CHIP	100 5% 1/10W	R1497	1-216-041-00	RES-CHIP	470 5% 1/10W
R1434	1-216-025-11	RES-CHIP	100 5% 1/10W				
R1435	1-216-022-00	RES-CHIP	75 5% 1/10W	R1498	1-216-025-11	RES-CHIP	100 5% 1/10W
				R1499	1-216-025-11	RES-CHIP	100 5% 1/10W
R1436	1-216-025-11	RES-CHIP	100 5% 1/10W	R1500	1-216-025-11	RES-CHIP	100 5% 1/10W
R1437	1-216-022-00	RES-CHIP	75 5% 1/10W	R1501	1-216-045-00	RES-CHIP	680 5% 1/10W
R1438	1-216-025-11	RES-CHIP	100 5% 1/10W	R1503	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1439	1-216-017-91	RES-CHIP	47 5% 1/10W				
R1441	1-216-025-11	RES-CHIP	100 5% 1/10W	R1504	1-216-073-91	RES-CHIP	10K 5% 1/10W
				R1505	1-216-022-00	RES-CHIP	75 5% 1/10W
R1442	1-216-049-11	RES-CHIP	1K 5% 1/10W	R1506	1-216-033-00	RES-CHIP	220 5% 1/10W
R1443	1-216-049-11	RES-CHIP	1K 5% 1/10W	R1507	1-216-025-11	RES-CHIP	100 5% 1/10W
R1444	1-216-089-91	RES-CHIP	47K 5% 1/10W	R1508	1-216-025-11	RES-CHIP	100 5% 1/10W
R1445	1-216-025-11	RES-CHIP	100 5% 1/10W				
R1446	1-216-105-91	RES-CHIP	220K 5% 1/10W	R1509	1-216-041-00	RES-CHIP	470 5% 1/10W
				R3200	1-216-121-11	RES-CHIP	1M 5% 1/10W
R1447	1-216-025-11	RES-CHIP	100 5% 1/10W	R3201	1-216-121-11	RES-CHIP	1M 5% 1/10W
R1448	1-216-043-91	RES-CHIP	560 5% 1/10W	R3202	1-216-097-11	RES-CHIP	100K 5% 1/10W
R1449	1-249-429-11	CARBON	10K 5% 1/4W	R3203	1-216-121-11	RES-CHIP	1M 5% 1/10W
R1450	1-216-073-91	RES-CHIP	10K 5% 1/10W				
R1451	1-216-073-91	RES-CHIP	10K 5% 1/10W	R3204	1-216-061-91	RES-CHIP	3.3K 5% 1/10W
				R3205	1-216-069-00	RES-CHIP	6.8K 5% 1/10W
R1452	1-216-089-91	RES-CHIP	47K 5% 1/10W	R3206	1-216-039-00	RES-CHIP	390 5% 1/10W
R1453	1-216-025-11	RES-CHIP	100 5% 1/10W	R3207	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1454	1-216-089-91	RES-CHIP	47K 5% 1/10W	R3219	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1455	1-216-073-91	RES-CHIP	10K 5% 1/10W				
R1456	1-216-113-00	RES-CHIP	470K 5% 1/10W	R3220	1-216-097-11	RES-CHIP	100K 5% 1/10W
				R3221	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1457	1-216-073-91	RES-CHIP	10K 5% 1/10W	R3222	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1458	1-216-073-91	RES-CHIP	10K 5% 1/10W	R3223	1-216-045-00	RES-CHIP	680 5% 1/10W
R1459	1-216-025-11	RES-CHIP	100 5% 1/10W	R3224	1-216-101-00	RES-CHIP	150K 5% 1/10W
R1460	1-216-033-00	RES-CHIP	220 5% 1/10W				
R1461	1-216-025-11	RES-CHIP	100 5% 1/10W	R3229	1-216-025-11	RES-CHIP	100 5% 1/10W
				R3230	1-216-025-11	RES-CHIP	100 5% 1/10W
R1462	1-216-025-11	RES-CHIP	100 5% 1/10W	R3231	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1463	1-249-429-11	CARBON	10K 5% 1/4W	R3232	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1464	1-216-113-00	RES-CHIP	470K 5% 1/10W	R3233	1-216-069-00	RES-CHIP	6.8K 5% 1/10W
R1465	1-216-113-00	RES-CHIP	470K 5% 1/10W				
R1466	1-216-033-00	RES-CHIP	220 5% 1/10W	R3234	1-216-039-00	RES-CHIP	390 5% 1/10W
				R3235	1-216-101-00	RES-CHIP	150K 5% 1/10W
R1467	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	R3236	1-216-113-00	RES-CHIP	470K 5% 1/10W
R1468	1-216-093-91	RES-CHIP	68K 5% 1/10W	R3237	1-216-045-00	RES-CHIP	680 5% 1/10W
R1469	1-216-105-91	RES-CHIP	220K 5% 1/10W	R3238	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1470	1-216-105-91	RES-CHIP	220K 5% 1/10W				
R1471	1-216-022-00	RES-CHIP	75 5% 1/10W	R3239	1-216-073-91	RES-CHIP	10K 5% 1/10W
				R3240	1-216-081-00	RES-CHIP	22K 5% 1/10W
R1472	1-216-033-00	RES-CHIP	220 5% 1/10W	R3241	1-216-093-91	RES-CHIP	68K 5% 1/10W
R1473	1-216-033-00	RES-CHIP	220 5% 1/10W	R3242	1-216-081-00	RES-CHIP	22K 5% 1/10W
R1474	1-216-295-91	SHORT CHIP	0	R3245	1-216-097-11	RES-CHIP	100K 5% 1/10W
R1475	1-216-089-91	RES-CHIP	47K 5% 1/10W				
R1476	1-216-089-91	RES-CHIP	47K 5% 1/10W	R3246	1-216-045-00	RES-CHIP	680 5% 1/10W
				R3251	1-216-101-00	RES-CHIP	150K 5% 1/10W
R1477	1-216-047-91	RES-CHIP	820 5% 1/10W	R3252	1-216-113-00	RES-CHIP	470K 5% 1/10W
R1478	1-216-051-00	RES-CHIP	1.2K 5% 1/10W	R3253	1-216-045-00	RES-CHIP	680 5% 1/10W
R1479	1-216-105-91	RES-CHIP	220K 5% 1/10W	R3254	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1480	1-216-105-91	RES-CHIP	220K 5% 1/10W				
R1481	1-216-022-00	RES-CHIP	75 5% 1/10W	R3255	1-216-121-11	RES-CHIP	1M 5% 1/10W
				R3256	1-216-121-11	RES-CHIP	1M 5% 1/10W
R1483	1-216-025-11	RES-CHIP	100 5% 1/10W	R3257	1-216-097-11	RES-CHIP	100K 5% 1/10W
R1484	1-216-025-11	RES-CHIP	100 5% 1/10W	R3258	1-216-121-11	RES-CHIP	1M 5% 1/10W
				R3259	1-216-061-91	RES-CHIP	3.3K 5% 1/10W

B10 (KV-AR29M61/AR29N90)

REF NO.	PART NO.	DESCRIPTION	REMARK
C3229	1-107-698-11	ELECT	10UF 20.00% 25V
C3238	1-164-005-11	CERAMIC CHIP	0.47UF 25V
C3239	1-136-171-00	FILM	0.33UF 5.00% 50V
C3243	1-163-989-11	CERAMIC CHIP	0.033UF 10.00% 25V
C3244	1-164-346-11	CERAMIC CHIP	1UF 16V
C3245	1-164-005-11	CERAMIC CHIP	0.47UF 25V
C3246	1-163-243-11	CERAMIC CHIP	47PF 5.00% 50V
C3247	1-126-963-11	ELECT	4.7UF 20.00% 50V
C3248	1-163-251-11	CERAMIC CHIP	100PF 5.00% 50V
C3249	1-164-505-11	CERAMIC CHIP	2.2UF 16V
C3250	1-164-346-11	CERAMIC CHIP	1UF 16V
C3251	1-126-964-11	ELECT	10UF 20.00% 50V
C3252	1-163-251-11	CERAMIC CHIP	100PF 5.00% 50V
C3253	1-126-933-11	ELECT	100UF 20.00% 16V
C3254	1-164-505-11	CERAMIC CHIP	2.2UF 16V
C3255	1-163-243-11	CERAMIC CHIP	47PF 5.00% 50V
C3256	1-126-963-11	ELECT	4.7UF 20.00% 50V
C3257	1-164-346-11	CERAMIC CHIP	1UF 16V
C3258	1-163-989-11	CERAMIC CHIP	0.033UF 10.00% 25V
C3259	1-126-963-11	ELECT	4.7UF 20.00% 50V
C3260	1-163-251-11	CERAMIC CHIP	100PF 5.00% 50V
C3262	1-126-947-11	ELECT	47UF 20.00% 16V
C3264	1-163-251-11	CERAMIC CHIP	100PF 5.00% 50V
C3301	1-117-720-11	CERAMIC CHIP	4.7UF 10V
C3302	1-117-720-11	CERAMIC CHIP	4.7UF 10V
C3303	1-117-720-11	CERAMIC CHIP	4.7UF 10V
C3304	1-117-720-11	CERAMIC CHIP	4.7UF 10V
C3305	1-117-720-11	CERAMIC CHIP	4.7UF 10V
C3306	1-117-720-11	CERAMIC CHIP	4.7UF 10V
C3307	1-104-665-11	ELECT	100UF 20.00% 25V
C3308	1-115-339-11	CERAMIC CHIP	0.1UF 10.00% 50V
C3309	1-104-760-11	CERAMIC CHIP	0.047UF 10.00% 50V
C3310	1-104-760-11	CERAMIC CHIP	0.047UF 10.00% 50V
C3311	1-163-021-91	CERAMIC CHIP	0.01UF 10.00% 50V
C3312	1-164-489-11	CERAMIC CHIP	0.22UF 10.00% 16V
C3313	1-163-017-00	CERAMIC CHIP	0.0047UF 10.00% 50V
C3314	1-164-489-11	CERAMIC CHIP	0.22UF 10.00% 16V
C3315	1-164-182-11	CERAMIC CHIP	0.0033UF 10.00% 50V
C3316	1-115-185-11	CERAMIC CHIP	0.033UF 10.00% 50V
C3317	1-163-009-91	CERAMIC CHIP	0.001UF 10.00% 50V
C3318	1-164-489-11	CERAMIC CHIP	0.22UF 10.00% 16V
C3319	1-110-501-11	CERAMIC CHIP	0.33UF 10.00% 16V
C3320	1-126-963-11	ELECT	4.7UF 20.00% 50V
C3321	1-126-963-11	ELECT	4.7UF 20.00% 50V
C3322	1-126-963-11	ELECT	4.7UF 20.00% 50V
C3323	1-115-339-11	CERAMIC CHIP	0.1UF 10.00% 50V
C3324	1-126-964-11	ELECT	10UF 20.00% 50V
C3325	1-104-665-11	ELECT	100UF 20.00% 25V
C3326	1-126-963-11	ELECT	4.7UF 20.00% 50V
C3327	1-126-963-11	ELECT	4.7UF 20.00% 50V
C3328	1-126-963-11	ELECT	4.7UF 20.00% 50V
C3329	1-126-963-11	ELECT	4.7UF 20.00% 50V
C3330	1-126-963-11	ELECT	4.7UF 20.00% 50V
C3331	1-164-489-11	CERAMIC CHIP	0.22UF 10.00% 16V
C3332	1-163-009-91	CERAMIC CHIP	0.001UF 10.00% 50V
C3333	1-115-185-11	CERAMIC CHIP	0.033UF 10.00% 50V
C3334	1-164-182-11	CERAMIC CHIP	0.0033UF 10.00% 50V
C3335	1-163-019-00	CERAMIC CHIP	0.0068UF 10.00% 50V
C3336	1-163-017-00	CERAMIC CHIP	0.0047UF 10.00% 50V
C3337	1-163-017-00	CERAMIC CHIP	0.0047UF 10.00% 50V
C3338	1-163-021-91	CERAMIC CHIP	0.01UF 10.00% 50V
C6200	1-216-295-91	SHORT CHIP	0

REF NO.	PART NO.	DESCRIPTION	REMARK
C6202	1-128-550-11	ELECT	2200UF 20.00% 50V
C6203	1-163-021-91	CERAMIC CHIP	0.01UF 10.00% 50V
C6204	1-128-550-11	ELECT	2200UF 20.00% 50V
C6205	1-130-495-00	MYLAR	0.1UF 5.00% 50V
C6206	1-128-550-11	ELECT	2200UF 20.00% 50V
C6209	1-130-495-00	MYLAR	0.1UF 5.00% 50V
C6210	1-126-924-11	ELECT	330UF 20.00% 10V
C6211	1-126-924-11	ELECT	330UF 20.00% 10V
C6212	1-126-947-11	ELECT	47UF 20.00% 25V
C6213	1-126-964-11	ELECT	10UF 20.00% 50V
C6217	1-164-004-11	CERAMIC CHIP	0.1UF 10.00% 25V
C6220	1-164-505-11	CERAMIC CHIP	2.2UF 16V
C6222	1-164-505-11	CERAMIC CHIP	2.2UF 16V
C6223	1-126-960-11	ELECT	1UF 20.00% 50V
C6241	1-126-964-11	ELECT	10UF 20.00% 50V
C6244	1-163-017-00	CERAMIC CHIP	0.0047UF 10.00% 50V
C6245	1-163-017-00	CERAMIC CHIP	0.0047UF 10.00% 50V
C6249	1-216-295-91	SHORT CHIP	0
<CONNECTOR>			
CN1300 *	1-564-506-11	PLUG, CONNECTOR 3P	
CN1400 *	1-564-512-11	PLUG, CONNECTOR 9P	
CN1401 *	1-508-784-21	PIN, CONNECTOR (5MM PITCH) 1P	
CN1403 *	1-564-506-11	PLUG, CONNECTOR 3P	
CN1405 *	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P	
CN1406 *	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P	
CN1407 *	1-779-891-11	CONNECTOR, BOARD TO BOARD 8P	
CN1409	1-764-818-11	CONNECTOR, BOARD TO BOARD 10P	
CN6200 *	1-564-507-11	PLUG, CONNECTOR 4P	
CN6204 *	1-564-509-11	PLUG, CONNECTOR 6P	
CN6206 *	1-564-508-11	PLUG, CONNECTOR 5P	
<DIODE>			
D1401	8-719-069-60	UDZSTE-179.1B	
D1402	8-719-069-60	UDZSTE-179.1B	
D1403	8-719-069-60	UDZSTE-179.1B	
D1404	8-719-069-60	UDZSTE-179.1B	
D1405	8-719-069-60	UDZSTE-179.1B	
D1406	8-719-069-60	UDZSTE-179.1B	
D1407	8-719-069-60	UDZSTE-179.1B	
D1408	8-719-069-60	UDZSTE-179.1B	
D1409	8-719-069-60	UDZSTE-179.1B	
D1410	8-719-069-60	UDZSTE-179.1B	
D1411	8-719-069-60	UDZSTE-179.1B	
D1412	8-719-069-60	UDZSTE-179.1B	
D1415	8-719-069-60	UDZSTE-179.1B	
D1416	8-719-069-60	UDZSTE-179.1B	
D1418	8-719-069-60	UDZSTE-179.1B	
D3201	8-719-988-61	1SS355TE-17	
D3203	8-719-988-61	1SS355TE-17	
D3301	8-719-404-50	MA111-TX	
D3302	8-719-404-50	MA111-TX	
D6210	8-719-914-42	DA204K	
D6211	8-719-404-50	MA111-TX	
D6212	8-719-404-50	MA111-TX	
<IC>			
IC1401	8-752-068-46	CXA1855S	
IC1402	8-759-100-96	UPC4558G2	

B10

(KV-AR29M61/AR29N90)

REF NO.	PART NO.	DESCRIPTION	REMARK	REF NO.	PART NO.	DESCRIPTION	REMARK
IC1404	8-759-701-59	NJM78M09FA		<RESISTOR>			
IC3200	8-759-100-96	UPC4558G2		R1301	1-216-041-00	RES-CHIP 470	5% 1/10W
IC3202	8-759-100-96	UPC4558G2		R1318	1-216-033-00	RES-CHIP 220	5% 1/10W
IC3204	8-759-100-96	UPC4558G2		R1320	1-216-081-00	RES-CHIP 22K	5% 1/10W
IC3205	8-752-058-68	CXA1315M		R1343	1-216-049-11	RES-CHIP 1K	5% 1/10W
IC3301	8-759-711-10	NJU4066BM		R1344	1-216-025-11	RES-CHIP 100	5% 1/10W
IC3302	6-702-145-01	IC NJW1139GK1-TE2		R1345	1-216-041-00	RES-CHIP 470	5% 1/10W
IC6200	8-759-168-24	TA8200AH		R1346	1-216-041-00	RES-CHIP 470	5% 1/10W
		<JACK>		R1347	1-216-025-11	RES-CHIP 100	5% 1/10W
J1401	1-784-646-11	TERMINAL, S		R1350	1-216-085-91	RES-CHIP 33K	5% 1/10W
J1402	1-778-387-11	JACK BLOCK, PIN 12P		R1359	1-216-025-11	RES-CHIP 100	5% 1/10W
		<CHIP CONDUCTOR>		R1360	1-216-041-00	RES-CHIP 470	5% 1/10W
JR1301	1-216-295-91	SHORT CHIP	0	R1361	1-216-041-00	RES-CHIP 470	5% 1/10W
JR1405	1-216-295-91	SHORT CHIP	0	R1362	1-216-055-00	RES-CHIP 1.8K	5% 1/10W
JR1406	1-216-295-91	SHORT CHIP	0	R1363	1-216-033-00	RES-CHIP 220	5% 1/10W
JR1407	1-216-295-91	SHORT CHIP	0	R1364	1-216-089-91	RES-CHIP 47K	5% 1/10W
JR1409	1-216-295-91	SHORT CHIP	0	R1365	1-216-081-00	RES-CHIP 22K	5% 1/10W
JR1410	1-216-295-91	SHORT CHIP	0	R1366	1-216-295-91	SHORT CHIP 0	
JR1411	1-216-295-91	SHORT CHIP	0	R1368	1-216-049-11	RES-CHIP 1K	5% 1/10W
JR3204	1-216-295-91	SHORT CHIP	0	R1369	1-216-025-11	RES-CHIP 100	5% 1/10W
JR3209	1-216-295-91	SHORT CHIP	0	R1370	1-216-041-00	RES-CHIP 470	5% 1/10W
JR6200	1-216-295-91	SHORT CHIP	0	R1371	1-216-039-00	RES-CHIP 390	5% 1/10W
JR6202	1-216-295-91	SHORT CHIP	0	R1372	1-216-041-00	RES-CHIP 470	5% 1/10W
JR6203	1-216-295-91	SHORT CHIP	0	R1397	1-216-045-00	RES-CHIP 680	5% 1/10W
JR6204	1-216-295-91	SHORT CHIP	0	R1400	1-216-105-91	RES-CHIP 220K	5% 1/10W
JR6206	1-216-295-91	SHORT CHIP	0	R1403	1-216-033-00	RES-CHIP 220	5% 1/10W
		<COIL>		R1404	1-216-295-91	SHORT CHIP 0	
L1313	1-414-187-11	INDUCTOR	47UH	R1406	1-216-013-00	RES-CHIP 33	5% 1/10W
L1314	1-414-856-11	INDUCTOR	10UH	R1407	1-216-033-00	RES-CHIP 220	5% 1/10W
L1315	1-414-856-11	INDUCTOR	10UH	R1408	1-216-031-00	RES-CHIP 180	5% 1/10W
L1317	1-414-856-11	INDUCTOR	10UH	R1409	1-216-105-91	RES-CHIP 220K	5% 1/10W
L1404	1-412-537-31	INDUCTOR	100UH	R1410	1-216-105-91	RES-CHIP 220K	5% 1/10W
L3202	1-414-856-11	INDUCTOR	10UH	R1411	1-216-089-91	RES-CHIP 47K	5% 1/10W
		<TRANSISTOR>		R1412	1-216-089-91	RES-CHIP 47K	5% 1/10W
Q1316	8-729-216-22	2SA1162-G		R1413	1-216-105-91	RES-CHIP 220K	5% 1/10W
Q1317	8-729-230-49	2SC2712-YG		R1414	1-216-025-11	RES-CHIP 100	5% 1/10W
Q1318	8-729-230-49	2SC2712-YG		R1417	1-216-025-11	RES-CHIP 100	5% 1/10W
Q1323	8-729-230-49	2SC2712-YG		R1418	1-216-025-11	RES-CHIP 100	5% 1/10W
Q1324	8-729-230-49	2SC2712-YG		R1421	1-216-057-00	RES-CHIP 2.2K	5% 1/10W
Q1365	8-729-230-49	2SC2712-YG		R1424	1-216-073-91	RES-CHIP 10K	5% 1/10W
Q1372	8-729-230-49	2SC2712-YG		R1425	1-216-047-91	RES-CHIP 820	5% 1/10W
Q1402	8-729-216-22	2SA1162-G		R1426	1-216-025-11	RES-CHIP 100	5% 1/10W
Q1403	8-729-230-49	2SC2712-YG		R1427	1-216-063-91	RES-CHIP 3.9K	5% 1/10W
Q1404	8-729-230-49	2SC2712-YG		R1428	1-216-025-11	RES-CHIP 100	5% 1/10W
Q1408	8-729-230-49	2SC2712-YG		R1429	1-216-089-91	RES-CHIP 47K	5% 1/10W
Q1409	8-729-230-49	2SC2712-YG		R1430	1-216-025-11	RES-CHIP 100	5% 1/10W
Q3201	8-729-224-62	2SK246-GR		R1431	1-216-025-11	RES-CHIP 100	5% 1/10W
Q3202	8-729-230-49	2SC2712-YG		R1432	1-216-041-00	RES-CHIP 470	5% 1/10W
Q3203	8-729-230-49	2SC2712-YG		R1433	1-216-025-11	RES-CHIP 100	5% 1/10W
Q3204	8-729-224-62	2SK246-GR		R1435	1-216-022-00	RES-CHIP 75	5% 1/10W
Q6201	8-729-421-19	UN2213		R1436	1-216-025-11	RES-CHIP 100	5% 1/10W
Q6203	8-729-421-19	UN2213		R1437	1-216-022-00	RES-CHIP 75	5% 1/10W
Q6204	8-729-421-19	UN2213		R1438	1-216-025-11	RES-CHIP 100	5% 1/10W
Q6208	8-729-421-19	UN2213		R1439	1-216-017-91	RES-CHIP 47	5% 1/10W
				R1441	1-216-025-11	RES-CHIP 100	5% 1/10W
				R1442	1-216-049-11	RES-CHIP 1K	5% 1/10W
				R1443	1-216-049-11	RES-CHIP 1K	5% 1/10W
				R1444	1-216-089-91	RES-CHIP 47K	5% 1/10W
				R1445	1-216-025-11	RES-CHIP 100	5% 1/10W
				R1446	1-216-105-91	RES-CHIP 220K	5% 1/10W
				R1447	1-216-025-11	RES-CHIP 100	5% 1/10W

B10 (KV-AR29M61/AR29N90)

REF NO.	PART NO.	DESCRIPTION	REMARK	REF NO.	PART NO.	DESCRIPTION	REMARK
R1448	1-216-043-91	RES-CHIP	560 5% 1/10W	R3219	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1449	1-249-429-11	CARBON	10K 5% 1/4W	R3220	1-216-097-11	RES-CHIP	100K 5% 1/10W
R1450	1-216-073-91	RES-CHIP	10K 5% 1/10W	R3221	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1451	1-216-073-91	RES-CHIP	10K 5% 1/10W	R3222	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1452	1-216-089-91	RES-CHIP	47K 5% 1/10W	R3223	1-216-045-00	RES-CHIP	680 5% 1/10W
R1453	1-216-025-11	RES-CHIP	100 5% 1/10W	R3224	1-216-101-00	RES-CHIP	150K 5% 1/10W
R1454	1-216-089-91	RES-CHIP	47K 5% 1/10W	R3229	1-216-025-11	RES-CHIP	100 5% 1/10W
R1455	1-216-073-91	RES-CHIP	10K 5% 1/10W	R3230	1-216-025-11	RES-CHIP	100 5% 1/10W
R1456	1-216-113-00	RES-CHIP	470K 5% 1/10W	R3231	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1457	1-216-073-91	RES-CHIP	10K 5% 1/10W	R3232	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1458	1-216-073-91	RES-CHIP	10K 5% 1/10W	R3233	1-216-069-00	RES-CHIP	6.8K 5% 1/10W
R1459	1-216-025-11	RES-CHIP	100 5% 1/10W	R3234	1-216-039-00	RES-CHIP	390 5% 1/10W
R1460	1-216-033-00	RES-CHIP	220 5% 1/10W	R3235	1-216-101-00	RES-CHIP	150K 5% 1/10W
R1461	1-216-025-11	RES-CHIP	100 5% 1/10W	R3236	1-216-113-00	RES-CHIP	470K 5% 1/10W
R1463	1-249-429-11	CARBON	10K 5% 1/4W	R3237	1-216-045-00	RES-CHIP	680 5% 1/10W
R1464	1-216-113-00	RES-CHIP	470K 5% 1/10W	R3238	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1465	1-216-113-00	RES-CHIP	470K 5% 1/10W	R3239	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1466	1-216-033-00	RES-CHIP	220 5% 1/10W	R3240	1-216-081-00	RES-CHIP	22K 5% 1/10W
R1467	1-216-057-00	RES-CHIP	2.2K 5% 1/10W	R3241	1-216-093-91	RES-CHIP	68K 5% 1/10W
R1468	1-216-093-91	RES-CHIP	68K 5% 1/10W	R3242	1-216-081-00	RES-CHIP	22K 5% 1/10W
R1469	1-216-105-91	RES-CHIP	220K 5% 1/10W	R3245	1-216-097-11	RES-CHIP	100K 5% 1/10W
R1470	1-216-105-91	RES-CHIP	220K 5% 1/10W	R3246	1-216-045-00	RES-CHIP	680 5% 1/10W
R1471	1-216-022-00	RES-CHIP	75 5% 1/10W	R3251	1-216-101-00	RES-CHIP	150K 5% 1/10W
R1472	1-216-033-00	RES-CHIP	220 5% 1/10W	R3252	1-216-113-00	RES-CHIP	470K 5% 1/10W
R1473	1-216-033-00	RES-CHIP	220 5% 1/10W	R3253	1-216-045-00	RES-CHIP	680 5% 1/10W
R1475	1-216-089-91	RES-CHIP	47K 5% 1/10W	R3254	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1476	1-216-089-91	RES-CHIP	47K 5% 1/10W	R3255	1-216-121-11	RES-CHIP	1M 5% 1/10W
R1477	1-216-047-91	RES-CHIP	820 5% 1/10W	R3256	1-216-121-11	RES-CHIP	1M 5% 1/10W
R1478	1-216-051-00	RES-CHIP	1.2K 5% 1/10W	R3257	1-216-097-11	RES-CHIP	100K 5% 1/10W
R1479	1-216-105-91	RES-CHIP	220K 5% 1/10W	R3258	1-216-121-11	RES-CHIP	1M 5% 1/10W
R1480	1-216-105-91	RES-CHIP	220K 5% 1/10W	R3259	1-216-061-91	RES-CHIP	3.3K 5% 1/10W
R1481	1-216-022-00	RES-CHIP	75 5% 1/10W	R3262	1-216-101-00	RES-CHIP	150K 5% 1/10W
R1483	1-216-025-11	RES-CHIP	100 5% 1/10W	R3263	1-216-093-91	RES-CHIP	68K 5% 1/10W
R1484	1-216-025-11	RES-CHIP	100 5% 1/10W	R3267	1-216-049-11	RES-CHIP	1K 5% 1/10W
R1485	1-216-025-11	RES-CHIP	100 5% 1/10W	R3268	1-216-049-11	RES-CHIP	1K 5% 1/10W
R1486	1-216-067-00	RES-CHIP	5.6K 5% 1/10W	R3269	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R1487	1-216-073-91	RES-CHIP	10K 5% 1/10W	R3271	1-216-063-91	RES-CHIP	3.9K 5% 1/10W
R1488	1-216-073-91	RES-CHIP	10K 5% 1/10W	R3273	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R1489	1-216-022-00	RES-CHIP	75 5% 1/10W	R3274	1-216-063-91	RES-CHIP	3.9K 5% 1/10W
R1490	1-216-025-11	RES-CHIP	100 5% 1/10W	R3301	1-216-079-00	RES-CHIP	18K 5% 1/10W
R1491	1-216-025-11	RES-CHIP	100 5% 1/10W	R3302	1-216-081-00	RES-CHIP	22K 5% 1/10W
R1492	1-216-021-00	RES-CHIP	68 5% 1/10W	R3303	1-216-079-00	RES-CHIP	18K 5% 1/10W
R1493	1-216-067-00	RES-CHIP	5.6K 5% 1/10W	R3304	1-216-077-91	RES-CHIP	15K 5% 1/10W
R1496	1-216-041-00	RES-CHIP	470 5% 1/10W	R3305	1-216-077-91	RES-CHIP	15K 5% 1/10W
R1497	1-216-041-00	RES-CHIP	470 5% 1/10W	R3306	1-216-081-00	RES-CHIP	22K 5% 1/10W
R1498	1-216-025-11	RES-CHIP	100 5% 1/10W	R3307	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1499	1-216-025-11	RES-CHIP	100 5% 1/10W	R3308	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1500	1-216-025-11	RES-CHIP	100 5% 1/10W	R3309	1-216-025-11	RES-CHIP	100 5% 1/10W
R1501	1-216-045-00	RES-CHIP	680 5% 1/10W	R3310	1-216-025-11	RES-CHIP	100 5% 1/10W
R1503	1-216-073-91	RES-CHIP	10K 5% 1/10W	R3311	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1504	1-216-073-91	RES-CHIP	10K 5% 1/10W	R3312	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1505	1-216-022-00	RES-CHIP	75 5% 1/10W	R3313	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1506	1-216-033-00	RES-CHIP	220 5% 1/10W	R3314	1-216-073-91	RES-CHIP	10K 5% 1/10W
R1507	1-216-025-11	RES-CHIP	100 5% 1/10W	R3315	1-216-295-91	SHORT CHIP	0
R3200	1-216-121-11	RES-CHIP	1M 5% 1/10W	R3318	1-216-295-91	SHORT CHIP	0
R3201	1-216-121-11	RES-CHIP	1M 5% 1/10W	R6201	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
R3202	1-216-097-11	RES-CHIP	100K 5% 1/10W	R6202	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
R3203	1-216-121-11	RES-CHIP	1M 5% 1/10W	R6203	1-216-295-91	SHORT CHIP	0
R3204	1-216-061-91	RES-CHIP	3.3K 5% 1/10W	R6209	1-216-049-11	RES-CHIP	1K 5% 1/10W
R3205	1-216-069-00	RES-CHIP	6.8K 5% 1/10W	R6219	1-216-089-91	RES-CHIP	47K 5% 1/10W
R3206	1-216-039-00	RES-CHIP	390 5% 1/10W	R6245	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
R3207	1-216-073-91	RES-CHIP	10K 5% 1/10W				

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

B10 (KV-AR29M61/AR29N90)

C6

REF NO.	PART NO.	DESCRIPTION	REMARK		
R6246	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R6254	1-216-021-00	RES-CHIP	68	5%	1/10W
R6255	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R6258	1-216-021-00	RES-CHIP	68	5%	1/10W
R6259	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R6278	1-216-295-91	SHORT CHIP	0		

* A-1401-876-A C6 BOARD MOUNTED (KV-AR29M61/AR29N90)					
* A-1401-676-A C6 BOARD MOUNTED (KV-AR29M86)					

4-382-854-11	SCREW (M3X10), P, SW (+)				
<CAPACITOR>					
C701	1-115-350-51	CERAMIC	0.0047UF		2KV
C702	1-102-074-00	CERAMIC	0.001UF	10.00%	50V
C708	1-102-114-00	CERAMIC	470PF	10.00%	50V
C709	1-102-114-00	CERAMIC	470PF	10.00%	50V
C710	1-102-114-00	CERAMIC	470PF	10.00%	50V
C712	1-102-115-00	CERAMIC	560PF	10.00%	50V
C713	1-102-112-00	CERAMIC	330PF	10.00%	50V
C714	1-102-112-00	CERAMIC	330PF	10.00%	50V
C716	1-126-933-11	ELECT	100UF	20.00%	16V
C717	1-107-651-11	ELECT	4.7UF	20.00%	250V
C718	1-102-106-00	CERAMIC	100PF	10.00%	50V
C1800	1-126-964-11	ELECT	10UF	20.00%	50V
C1803	1-126-964-11	ELECT	10UF	20.00%	50V
C1804	1-126-964-11	ELECT	10UF	20.00%	50V
C1809	1-126-942-61	ELECT	1000UF	20.00%	25V
C1810	1-102-106-00	CERAMIC	100PF	10.00%	50V
<CONNECTOR>					
CN700	1-695-915-11	TAB (CONTACT)			
CN702	1-695-915-11	TAB (CONTACT)			
CN703	* 1-564-509-11	PLUG, CONNECTOR 6P			
CN704	1-695-915-11	TAB (CONTACT)			
CN712	1-564-507-11	PLUG, CONNECTOR 4P			
CN1801	* 1-564-509-11	PLUG, CONNECTOR 6P			
CN1802	* 1-564-506-11	PLUG, CONNECTOR 3P			
<DIODE>					
D701	8-719-911-19	ISS119-25			
D702	8-719-911-19	ISS119-25			
D703	8-719-911-19	ISS119-25			
D704	8-719-911-19	ISS119-25			
D705	8-719-911-19	ISS119-25			
D706	8-719-911-19	ISS119-25			
D707	8-719-911-19	ISS119-25			
D708	8-719-911-19	ISS119-25			
D709	8-719-911-19	ISS119-25			
D710	8-719-911-19	ISS119-25			
D711	8-719-911-19	ISS119-25			
D712	8-719-911-19	ISS119-25			
D716	8-719-911-19	ISS119-25			
D717	8-719-070-16	NNCD9.1A-T1			
D1803	8-719-911-19	ISS119-25			

REF NO.	PART NO.	DESCRIPTION	REMARK		
D1804	8-719-911-19	ISS119-25			
D1808	8-719-908-03	GP08D			
		<IC>			
IC1800	8-759-822-38	LA6510			
		<JACK>			
J701	$\triangle$ 1-540-071-22	SOCKET, CRT			
		<COIL>			
L701	1-410-667-31	INDUCTOR	22UH		
L703	1-414-186-31	INDUCTOR	33UH		
L705	1-414-186-31	INDUCTOR	33UH		
L707	1-414-187-11	INDUCTOR	47UH		
		<TRANSISTOR>			
Q701	8-729-326-11	2SC2611			
Q702	8-729-326-11	2SC2611			
Q703	8-729-326-11	2SC2611			
Q704	8-729-326-11	2SC2611			
Q705	8-729-326-11	2SC2611			
Q706	8-729-326-11	2SC2611			
Q707	8-729-200-17	2SA1091-O			
Q708	8-729-200-17	2SA1091-O			
Q709	8-729-200-17	2SA1091-O			
Q710	8-729-119-78	2SC2785-HFE			
Q711	8-729-119-78	2SC2785-HFE			
Q712	8-729-119-78	2SC2785-HFE			
Q714	8-729-255-12	2SC2551-O			
Q1800	8-729-119-76	2SA1175-HFE			
Q1802	8-729-119-78	2SC2785-HFE			
		<RESISTOR>			
R701	1-219-752-11	METAL	100K	5%	1/2W
R705	1-243-510-21	METAL OXIDE	1.8	5%	3W
R710	1-243-618-21	METAL OXIDE	10K	5%	3W
R711	1-260-328-11	CARBON	1K	5%	1/2W
R712	1-243-618-21	METAL OXIDE	10K	5%	3W
R713	1-260-330-11	CARBON	1.5K	5%	1/2W
R714	1-243-618-21	METAL OXIDE	10K	5%	3W
R715	1-260-330-11	CARBON	1.5K	5%	1/2W
R716	1-249-405-11	CARBON	100	5%	1/4W
R717	1-249-405-11	CARBON	100	5%	1/4W
R718	1-249-405-11	CARBON	100	5%	1/4W
R719	1-215-469-00	METAL	100K	1%	1/4W
R720	1-249-923-11	CARBON	1K	5%	1/4W
R721	1-215-469-00	METAL	100K	1%	1/4W
		(KV-AR29M86 ONLY)			
R722	1-249-923-11	CARBON	1K	5%	1/4W
R723	1-215-469-00	METAL	100K	1%	1/4W
R724	1-249-923-11	CARBON	1K	5%	1/4W
R725	1-249-424-11	CARBON	3.9K	5%	1/4W
R726	1-249-424-11	CARBON	3.9K	5%	1/4W
R727	1-249-424-11	CARBON	3.9K	5%	1/4W
R728	1-249-408-11	CARBON	180	5%	1/4W
R729	1-249-408-11	CARBON	180	5%	1/4W
R730	1-249-408-11	CARBON	180	5%	1/4W

C6 **D3**

REF NO.	PART NO.	DESCRIPTION	REMARK				REF NO.	PART NO.	DESCRIPTION	REMARK			
R731	1-249-401-11	CARBON	47	5%	1/4W		C2813	1-129-708-91	FILM	0.0033UF	5.00%	630V	
R732	1-249-401-11	CARBON	47	5%	1/4W				<CONNECTOR>				
R733	1-249-401-11	CARBON	47	5%	1/4W								
R734	1-219-743-11	METAL	100	5%	1/2W		CN2800	* 1-564-510-11	PLUG, CONNECTOR 7P				
R738	1-247-807-31	CARBON	100	5%	1/4W		CN2802	* 1-564-506-11	PLUG, CONNECTOR 3P				
R739	1-247-807-31	CARBON	100	5%	1/4W		CN2803	1-695-915-11	TAB (CONTACT)				
R740	1-247-807-31	CARBON	100	5%	1/4W								
R747	1-215-926-00	METAL OXIDE	33K	5%	3W				<DIODE>				
R749	1-215-927-00	METAL OXIDE	47K	5%	3W		D2800	8-719-302-43	EL1Z				
R751	1-215-926-00	METAL OXIDE	33K	5%	3W		D2801	8-719-911-19	ISS119-25				
R753	1-249-429-11	CARBON	10K	5%	1/4W		D2802	8-719-911-19	ISS119-25				
R755	1-249-427-11	CARBON	6.8K	5%	1/4W		D2803	8-719-911-19	ISS119-25				
R756	1-249-427-11	CARBON	6.8K	5%	1/4W				<IC>				
R757	1-249-427-11	CARBON	6.8K	5%	1/4W		IC2800	8-759-701-59	NJM78M09FA				
R758	1-249-419-11	CARBON	1.5K	5%	1/4W		IC2801	8-759-998-98	LM358D				
R759	1-249-419-11	CARBON	1.5K	5%	1/4W				<COIL>				
R760	1-249-419-11	CARBON	1.5K	5%	1/4W								
R1800	1-249-417-11	CARBON	1K	5%	1/4W		L2800	1-406-989-71	INDUCTOR	0UH			
R1801	1-249-426-11	CARBON	5.6K	5%	1/4W		L2802	1-406-987-21	INDUCTOR	4.7MH			
R1802	1-249-382-11	CARBON	1.2	5%	1/4W		L2803	1-406-986-21	INDUCTOR	3.3UH			
R1803	1-249-382-11	CARBON	1.2	5%	1/4W		L2804	1-406-678-11	INDUCTOR	15MH			
R1805	1-249-429-11	CARBON	10K	5%	1/4W				<TRANSISTOR>				
R1806	1-249-425-11	CARBON	4.7K	5%	1/4W		Q2800	8-729-119-78	2SC2785-HFE				
R1808	1-249-425-11	CARBON	4.7K	5%	1/4W		Q2801	8-729-195-82	2SC2958				
R1809	1-249-435-11	CARBON	33K	5%	1/4W		Q2802	8-729-017-06	2SC4793				
R1810	1-249-435-11	CARBON	33K	5%	1/4W		Q2803	8-729-216-22	2SA1162-G				
R1811	1-249-433-11	CARBON	22K	5%	1/4W		Q2804	8-729-010-25	MSD601-RT1				
R1812	1-249-435-11	CARBON	33K	5%	1/4W				<RESISTOR>				
R1821	1-249-433-11	CARBON	22K	5%	1/4W		R2800	1-249-405-11	CARBON	100	5%	1/4W	
R1822	1-249-435-11	CARBON	33K	5%	1/4W		R2802	1-260-111-11	CARBON	10K	5%	1/2W	
R1823	1-249-426-11	CARBON	5.6K	5%	1/4W		R2803	1-260-111-11	CARBON	10K	5%	1/2W	
R1824	1-249-435-11	CARBON	33K	5%	1/4W		R2804	1-216-061-91	RES-CHIP	3.3K	5%	1/10W	
R1825	1-247-843-11	CARBON	3.3K	5%	1/4W		R2805	1-216-097-11	RES-CHIP	100K	5%	1/10W	
		<VARIABLE RESISTOR>					R2806	1-249-421-11	CARBON	2.2K	5%	1/4W	
RV702	1-241-656-11	RES, ADJ, METAL FILM 110M					R2807	1-249-420-11	CARBON	1.8K	5%	1/4W	
RV1801	1-238-019-11	RES, ADJ, CARBON 47K					R2808	1-215-857-71	METAL OXIDE	10	5%	1W	
							R2809	1-216-059-00	RES-CHIP	2.7K	5%	1/10W	
							R2810	1-216-049-11	RES-CHIP	1K	5%	1/10W	
							R2811	1-216-069-00	RES-CHIP	6.8K	5%	1/10W	
							R2812	1-216-081-00	RES-CHIP	22K	5%	1/10W	
							R2813	1-216-059-00	RES-CHIP	2.7K	5%	1/10W	
							R2814	1-216-121-11	RES-CHIP	1M	5%	1/10W	
							R2815	1-216-085-91	RES-CHIP	33K	5%	1/10W	
							R2816	1-216-107-00	RES-CHIP	270K	5%	1/10W	
							R2817	1-216-107-00	RES-CHIP	270K	5%	1/10W	
									<TRANSFORMER>				
							T2800	1-413-059-00	TRANSFORMER, FERRITE (DFT)				



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

REF NO.	PART NO.	DESCRIPTION	REMARK			
	* A-1401-812-A	F BOARD MOUNTED	*****			
	1-533-223-11	FUSE HOLDER	0A	0V		
		<CAPACITOR>				
C654	$\triangle$ 1-117-703-51	CERAMIC	0.0047UF	99%	250V	
C4601	$\triangle$ 1-113-511-11	MYLAR	0.47UF	20.00%	250V	
C4602	$\triangle$ 1-113-512-11	MYLAR	0.68UF	20.00%	250V	
		<CONNECTOR>				
CN4601	* 1-580-843-11	PIN, CONNECTOR (POWER)				
CN4602	* 1-580-843-11	PIN, CONNECTOR (POWER)				
CN4603	1-695-915-11	TAB (CONTACT)				
		<FUSE>				
F4601	$\triangle$ 1-576-334-11	FUSE	5A	250V	5A/	
		<RESISTOR>				
R4601	$\triangle$ 1-219-759-91	METAL	1M	5%	1/2W	
		<TRANSFORMER>				
T4601	$\triangle$ 1-437-825-11	TRANSFORMER, LINE FILTER				
T4602	$\triangle$ 1-435-214-11	TRANSFORMER, LINE FILTER				

	* A-1400-972-A	H1 BOARD MOUNTED	*****			
		<CAPACITOR>				
C3900	1-136-153-00	FILM	0.01UF	5.00%	50V	
C3902	1-136-153-00	FILM	0.01UF	5.00%	50V	
C3904	1-126-947-11	ELECT	47UF	20.00%	25V	
C3905	1-126-963-11	ELECT	4.7UF	20.00%	50V	
C3906	1-126-963-11	ELECT	4.7UF	20.00%	50V	
C3910	1-126-947-11	ELECT	47UF	20.00%	16V	
C3911	1-126-947-11	ELECT	47UF	20.00%	16V	
C3913	1-126-960-11	ELECT	1UF	20.00%	50V	
		<CONNECTOR>				
CN3901	* 1-564-507-11	PLUG, CONNECTOR 4P				
CN3902	1-564-509-11	PLUG, CONNECTOR 6P				
CN3904	* 1-564-512-11	PLUG, CONNECTOR 9P				
CN3905	* 1-564-512-11	PLUG, CONNECTOR 9P				
CN3907	* 1-564-521-11	PLUG, CONNECTOR 6P				
		<DIODE>				
D3900	8-719-070-16	NNCD9.1A-T1				
D3901	8-719-070-16	NNCD9.1A-T1				
D3905	8-719-070-16	NNCD9.1A-T1				
D3907	8-719-070-16	NNCD9.1A-T1				
D3908	8-719-070-16	NNCD9.1A-T1				

REF NO.	PART NO.	DESCRIPTION	REMARK			
		<JACK>				
J3901	1-750-264-11	JACK				
J3902	1-784-646-11	TERMINAL, S				
J3903	1-770-329-13	JACK, PIN 3P				
		<COIL>				
L3901	1-414-183-41	INDUCTOR	10UH			
L3902	1-414-183-41	INDUCTOR	10UH			
		<TRANSISTOR>				
Q3901	8-729-030-02	DTC144ESA				
Q3902	8-729-030-02	DTC144ESA				
		<RESISTOR>				
R3900	1-249-411-11	CARBON	330	5%	1/4W	
R3901	1-249-411-11	CARBON	330	5%	1/4W	
R3902	1-247-804-11	CARBON	75	5%	1/4W	
R3904	1-249-429-11	CARBON	10K	5%	1/4W	
R3905	1-249-429-11	CARBON	10K	5%	1/4W	
R3907	1-249-426-11	CARBON	5.6K	5%	1/4W	
R3908	1-249-413-11	CARBON	470	5%	1/4W	
R3909	1-249-417-11	CARBON	1K	5%	1/4W	
R3910	1-249-420-11	CARBON	1.8K	5%	1/4W	
R3911	1-249-411-11	CARBON	330	5%	1/4W	
R3912	1-247-843-11	CARBON	3.3K	5%	1/4W	
R3913	1-249-429-11	CARBON	10K	5%	1/4W	
R3914	1-249-411-11	CARBON	330	5%	1/4W	
R3915	1-249-429-11	CARBON	10K	5%	1/4W	
R3916	1-249-401-11	CARBON	47	5%	1/4W	
R3917	1-247-804-11	CARBON	75	5%	1/4W	
R3918	1-247-807-31	CARBON	100	5%	1/4W	
R3919	1-249-409-11	CARBON	220	5%	1/4W	
R3920	1-247-807-31	CARBON	100	5%	1/4W	
R3921	1-247-807-31	CARBON	100	5%	1/4W	
R3922	1-249-421-11	CARBON	2.2K	5%	1/4W	
		<SWITCH>				
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				
S3906	1-692-431-21	SWITCH, TACTILE				
S3907	1-692-431-21	SWITCH, TACTILE				
S3908	1-692-431-21	SWITCH, TACTILE				

	* A-1400-973-A	H2 BOARD MOUNTED	*****			
	* 4-055-304-01	HOLDER, LED				
		<CAPACITOR>				
C3912	1-102-114-00	CERAMIC	470PF	10.00%	50V	

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

H2 **J** **P5** (KV-AR29M86)

REF NO.	PART NO.	DESCRIPTION	REMARK
<CONNECTOR>			
CN3601	* 1-580-844-11	PIN, CONNECTOR (POWER)	
CN3602	* 1-580-844-11	PIN, CONNECTOR (POWER)	
CN3603	* 1-564-521-11	PLUG, CONNECTOR 6P	
<DIODE>			
D3906	8-719-083-18	DIODE SPB-25MVWF	
<IC>			
IC3901	6-600-129-01	IC RPM7140-H5	
<SWITCH>			
S3601	$\triangle$ 1-571-433-31	SWITCH, PUSH (AC POWER)	

* A-1400-975-A J BOARD MOUNTED *****			
<CAPACITOR>			
C2410	1-126-967-11	ELECT 47UF 20.00% 50V	
C2411	1-126-967-11	ELECT 47UF 20.00% 50V	
C2412	1-126-967-11	ELECT 47UF 20.00% 50V	
C2413	1-102-112-00	CERAMIC 330PF 10.00% 50V	
C2414	1-102-112-00	CERAMIC 330PF 10.00% 50V	
C2418	1-126-960-11	ELECT 1UF 20.00% 50V	
C2419	1-126-960-11	ELECT 1UF 20.00% 50V	
<CONNECTOR>			
CN2410	* 1-564-523-11	PLUG, CONNECTOR 8P	
<DIODE>			
D2410	8-719-070-16	NNCD9.1A-T1	
D2411	8-719-070-16	NNCD9.1A-T1	
D2412	8-719-070-16	NNCD9.1A-T1	
D2414	8-719-070-16	NNCD9.1A-T1	
D2415	8-719-070-16	NNCD9.1A-T1	
<JACK>			
J2410	1-784-623-11	BLOCK, PIN JACK 5P	
<RESISTOR>			
R2410	1-247-804-11	CARBON 75 5% 1/4W	
R2411	1-247-804-11	CARBON 75 5% 1/4W	
R2412	1-247-804-11	CARBON 75 5% 1/4W	
R2414	1-247-887-00	CARBON 220K 5% 1/4W	
R2415	1-247-807-31	CARBON 100 5% 1/4W	
R2417	1-247-887-00	CARBON 220K 5% 1/4W	
R2418	1-247-807-31	CARBON 100 5% 1/4W	
R2419	1-249-409-11	CARBON 220 5% 1/4W	

REF NO.	PART NO.	DESCRIPTION	REMARK
R2420	1-249-409-11	CARBON 220 5% 1/4W	
R2421	1-249-409-11	CARBON 220 5% 1/4W	

* A-1401-241-A P5 BOARD MOUNTED (KV-AR29M86 ONLY) *****			
<CAPACITOR>			
C4002	1-107-823-11	CERAMIC CHIP 0.47UF 10.00% 16V	
C4003	1-126-204-11	ELECT CHIP 47UF 20.00% 16V	
C4004	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4005	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4006	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4007	1-126-394-11	ELECT CHIP 10UF 20.00% 16V	
C4008	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4009	1-163-227-11	CERAMIC CHIP 10PF 0.50PF 50V	
C4010	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4011	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4012	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4013	1-163-227-11	CERAMIC CHIP 10PF 0.50PF 50V	
C4014	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4015	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4016	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4017	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4018	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4019	1-126-394-11	ELECT CHIP 10UF 20.00% 16V	
C4020	1-126-394-11	ELECT CHIP 10UF 20.00% 16V	
C4021	1-126-394-11	ELECT CHIP 10UF 20.00% 16V	
C4022	1-126-394-11	ELECT CHIP 10UF 20.00% 16V	
C4023	1-126-394-11	ELECT CHIP 10UF 20.00% 16V	
C4024	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4025	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4027	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C4028	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4029	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4030	1-163-251-11	CERAMIC CHIP 100PF 5.00% 50V	
C4031	1-117-720-11	CERAMIC CHIP 4.7UF 10V	
C4032	1-117-720-11	CERAMIC CHIP 4.7UF 10V	
C4034	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4035	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4036	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4101	1-126-206-11	ELECT CHIP 100UF 20.00% 6.3V	
C4102	1-126-204-11	ELECT CHIP 47UF 20.00% 16V	
C4103	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4104	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4105	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4107	1-126-394-11	ELECT CHIP 10UF 20.00% 16V	
C4108	1-126-394-11	ELECT CHIP 10UF 20.00% 16V	
C4109	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4110	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4113	1-163-021-91	CERAMIC CHIP 0.01UF 10.00% 50V	
C4114	1-126-396-11	ELECT CHIP 47UF 20.00% 16V	
C4115	1-126-396-11	ELECT CHIP 47UF 20.00% 16V	
C4116	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4117	1-164-004-11	CERAMIC CHIP 0.1UF 10.00% 25V	
C4118	1-163-021-91	CERAMIC CHIP 0.01UF 10.00% 50V	
C4121	1-107-823-11	CERAMIC CHIP 0.47UF 10.00% 16V	
C4122	1-163-021-91	CERAMIC CHIP 0.01UF 10.00% 50V	

P5 (KV-AR29M86)

REF NO.	PART NO.	DESCRIPTION	REMARK		
C4123	1-164-346-11	CERAMIC CHIP	1UF		16V
C4124	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4125	1-164-346-11	CERAMIC CHIP	1UF		16V
C4126	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C4127	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4129	1-126-601-11	ELECT CHIP	2.2UF	20.00%	50V
C4130	1-126-204-11	ELECT CHIP	47UF	20.00%	16V
C4131	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C4132	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4135	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C4139	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4140	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4141	1-164-346-11	CERAMIC CHIP	1UF		16V
C4142	1-164-346-11	CERAMIC CHIP	1UF		16V
C4143	1-164-346-11	CERAMIC CHIP	1UF		16V
C4144	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4153	1-126-398-11	ELECT CHIP	4.7UF	20.00%	35V
C4154	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4155	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4156	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4157	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C4158	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C4159	1-117-720-11	CERAMIC CHIP	4.7UF		10V
C4160	1-164-346-11	CERAMIC CHIP	1UF		16V
C4164	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C4168	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4169	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4170	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4172	1-126-204-11	ELECT CHIP	47UF	20.00%	16V
C4173	1-126-204-11	ELECT CHIP	47UF	20.00%	16V
C4175	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C4179	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4180	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4181	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4189	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C4190	1-126-396-11	ELECT CHIP	47UF	20.00%	16V
C4191	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C4193	1-124-778-00	ELECT CHIP	22UF	20.00%	6.3V
C4194	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4204	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4205	1-107-823-11	CERAMIC CHIP	0.47UF	10.00%	16V
C4206	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4207	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C4208	1-126-392-11	ELECT CHIP	100UF	20.00%	6.3V
C4209	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4210	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4211	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4212	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4213	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4214	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4218	1-126-398-11	ELECT CHIP	4.7UF	20.00%	35V
C4219	1-126-398-11	ELECT CHIP	4.7UF	20.00%	35V
C4220	1-126-398-11	ELECT CHIP	4.7UF	20.00%	35V
C4221	1-124-779-00	ELECT CHIP	10UF	20.00%	16V
C4222	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4223	1-126-394-11	ELECT CHIP	10UF	20.00%	16V
C4224	1-164-182-11	CERAMIC CHIP	0.0033UF	10.00%	50V
C4225	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C4226	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C4227	1-126-394-11	ELECT CHIP	10UF	20.00%	16V

REF NO.	PART NO.	DESCRIPTION	REMARK		
C4228	1-				

P5 (KV-AR29M86)

REF NO.	PART NO.	DESCRIPTION	REMARK
C4419	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4420	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4421	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4422	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C4423	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4424	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4425	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4426	1-124-779-00	ELECT CHIP 10UF	20.00% 16V
C4427	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4428	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4429	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4430	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4431	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4432	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C4433	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4434	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4438	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4439	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4442	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4444	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4445	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4446	1-126-206-11	ELECT CHIP 100UF	20.00% 6.3V
C4448	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C4449	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C4450	1-124-779-00	ELECT CHIP 10UF	20.00% 16V
C4451	1-126-396-11	ELECT CHIP 47UF	20.00% 16V
C4452	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4453	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C4454	1-126-206-11	ELECT CHIP 100UF	20.00% 6.3V
C4455	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C4465	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C4466	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C4467	1-126-204-11	ELECT CHIP 47UF	20.00% 16V
<CONNECTOR>			
CN4101 *	1-564-523-11	PLUG, CONNECTOR 8P	
CN4102 *	1-564-520-11	PLUG, CONNECTOR 5P	
CN4103 *	1-564-518-11	PLUG, CONNECTOR 3P	
CN4104	1-764-811-11	CONNECTOR, BOARD TO BOARD 10P	
CN4105	1-764-811-11	CONNECTOR, BOARD TO BOARD 10P	
CN4106 *	1-564-519-11	PLUG, CONNECTOR 4P	
CN4108 *	1-564-518-11	PLUG, CONNECTOR 3P	
<DIODE>			
D4003	8-719-069-60	UDZSTE-179.1B	
D4102	8-719-404-50	MA111-TX	
D4400	8-719-404-50	MA111-TX	
D4403	8-719-404-50	MA111-TX	
D4404	8-719-404-50	MA111-TX	
D4405	8-719-404-50	MA111-TX	
<FERRITE BEAD>			
FB4401	1-234-330-21	FILTER, EMI	
<FILTER>			
FL4101	1-234-177-21	FERRITE	0UH
FL4102	1-234-177-21	FERRITE	0UH
FL4103	1-234-177-21	FERRITE	0UH

REF NO.	PART NO.	DESCRIPTION	REMARK
FL4104	1-234-177-21	FERRITE	0UH
FL4105	1-234-177-21	FERRITE	0UH
FL4106	1-234-177-21	FERRITE	0UH
FL4107	1-234-177-21	FERRITE	0UH
FL4108	1-234-177-21	FERRITE	0UH
FL4109	1-234-177-21	FERRITE	0UH
FL4110	1-234-177-21	FERRITE	0UH
FL4111	1-234-177-21	FERRITE	0UH
FL4112	1-234-177-21	FERRITE	0UH
FL4201	1-233-877-11	FILTER, LOW PASS	
FL4202	1-233-504-21	FILTER, LOW PASS	
FL4203	1-233-504-21	FILTER, LOW PASS	
FL4204	1-234-177-21	FERRITE	0UH
FL4205	1-234-177-21	FERRITE	0UH
FL4206	1-234-177-21	FERRITE	0UH
FL4207	1-234-177-21	FERRITE	0UH
FL4209	1-234-177-21	FERRITE	0UH
FL4301	1-234-177-21	FERRITE	0UH
FL4401	1-234-177-21	FERRITE	0UH
FL4402	1-234-177-21	FERRITE	0UH
FL4403	1-234-177-21	FERRITE	0UH
FL4404	1-234-177-21	FERRITE	0UH
FL4405	1-233-877-11	FILTER, LOW PASS	
FL4406	1-233-504-21	FILTER, LOW PASS	
FL4407	1-233-504-21	FILTER, LOW PASS	
FL4409	1-234-177-21	FERRITE	0UH
<IC>			
IC4101	8-759-460-72	BA033FP-E2	
IC4102	8-759-666-90	IC TDA9181T	
IC4103	8-759-830-24	SDA9588XB23	
IC4104	8-752-099-05	IC CXA2163AQ-T6	
IC4105	8-759-485-79	TC7SET08FU(Te85L	
IC4106	8-759-576-72	LF50CDT-TR	
IC4201	8-759-460-72	BA033FP-E2	
IC4202	8-759-427-92	PST9126NL	
IC4203	6-702-548-01	IC CXD9694Q	
IC4301	6-702-550-01	IC CXD9695Q	
IC4401	8-759-832-05	IC BA18BC0FP-E2	
IC4402	6-702-549-01	IC CXD9696Q	
IC4403	8-759-669-78	TLC2933IPWR-12	
IC4404	8-759-058-56	TC7S02FU(Te85R)	
IC4405	8-759-576-72	LF50CDT-TR	
<CHIP CONDUCTOR>			
JR5001	1-216-295-91	SHORT CHIP	0
JR5002	1-216-295-91	SHORT CHIP	0
JR5003	1-216-295-91	SHORT CHIP	0
<COIL>			
L4101	1-412-029-11	INDUCTOR	10UH
L4104	1-412-029-11	INDUCTOR	10UH
L4105	1-412-029-11	INDUCTOR	10UH
L4106	1-412-029-11	INDUCTOR	10UH
L4107	1-412-029-11	INDUCTOR	10UH
L4108	1-412-030-11	INDUCTOR	22UH
L4201	1-412-031-11	INDUCTOR	47UH
L4202	1-412-031-11	INDUCTOR	47UH
L4203	1-412-031-11	INDUCTOR	47UH
L4204	1-412-031-11	INDUCTOR	47UH

P5 (KV-AR29M86)

REF NO.	PART NO.	DESCRIPTION	REMARK
L4205	1-412-029-11	INDUCTOR	10UH
L4301	1-412-029-11	INDUCTOR	10UH
L4401	1-412-029-11	INDUCTOR	10UH
L4402	1-412-031-11	INDUCTOR	47UH
L4403	1-412-031-11	INDUCTOR	47UH
L4404	1-412-031-11	INDUCTOR	47UH
L4406	1-412-029-11	INDUCTOR	10UH
L4407	1-412-029-11	INDUCTOR	10UH
L4408	1-412-029-11	INDUCTOR	10UH
<TRANSISTOR>			
Q4101	8-729-120-28	2SC1623-L5L6	
Q4102	8-729-026-49	2SA1037AK-T146-R	
Q4106	8-729-120-28	2SC1623-L5L6	
Q4107	8-729-026-49	2SA1037AK-T146-R	
Q4108	1-801-806-11	TR DTC144EKA	
Q4112	8-729-120-28	2SC1623-L5L6	
Q4113	8-729-026-49	2SA1037AK-T146-R	
Q4114	8-729-026-49	2SA1037AK-T146-R	
Q4115	8-729-026-49	2SA1037AK-T146-R	
Q4116	8-729-026-49	2SA1037AK-T146-R	
Q4117	8-729-026-49	2SA1037AK-T146-R	
Q4118	8-729-120-28	2SC1623-L5L6	
Q4119	8-729-026-49	2SA1037AK-T146-R	
Q4120	8-729-026-49	2SA1037AK-T146-R	
Q4121	8-729-026-49	2SA1037AK-T146-R	
Q4122	8-729-120-28	2SC1623-L5L6	
Q4123	8-729-120-28	2SC1623-L5L6	
Q4124	8-729-120-28	2SC1623-L5L6	
Q4125	8-729-026-49	2SA1037AK-T146-R	
Q4126	8-729-026-49	2SA1037AK-T146-R	
Q4127	8-729-026-49	2SA1037AK-T146-R	
Q4128	8-729-026-49	2SA1037AK-T146-R	
Q4129	8-729-120-28	2SC1623-L5L6	
Q4130	8-729-120-28	2SC1623-L5L6	
Q4131	8-729-120-28	2SC1623-L5L6	
Q4132	8-729-026-49	2SA1037AK-T146-R	
Q4133	8-729-026-49	2SA1037AK-T146-R	
Q4134	8-729-026-49	2SA1037AK-T146-R	
Q4135	8-729-120-28	2SC1623-L5L6	
Q4136	8-729-120-28	2SC1623-L5L6	
Q4137	8-729-120-28	2SC1623-L5L6	
Q4138	8-729-026-49	2SA1037AK-T146-R	
Q4139	8-729-026-49	2SA1037AK-T146-R	
Q4140	8-729-026-49	2SA1037AK-T146-R	
Q4141	8-729-120-28	2SC1623-L5L6	
Q4142	8-729-120-28	2SC1623-L5L6	
Q4143	8-729-120-28	2SC1623-L5L6	
Q4146	8-729-026-49	2SA1037AK-T146-R	
Q4201	8-729-120-28	2SC1623-L5L6	
Q4202	8-729-120-28	2SC1623-L5L6	
Q4203	8-729-120-28	2SC1623-L5L6	
Q4204	8-729-120-28	2SC1623-L5L6	
Q4205	8-729-120-28	2SC1623-L5L6	
Q4206	8-729-120-28	2SC1623-L5L6	
Q4207	8-729-028-28	2SK2036(TE85L)	
Q4208	8-729-120-28	2SC1623-L5L6	
Q4209	8-729-028-28	2SK2036(TE85L)	
Q4210	8-729-120-28	2SC1623-L5L6	
Q4211	8-729-120-28	2SC1623-L5L6	
Q4212	1-801-806-11	TR DTC144EKA	

REF NO.	PART NO.	DESCRIPTION	REMARK
Q4213	8-729-120-28	2SC1623-L5L6	
Q4214	8-729-120-28	2SC1623-L5L6	
Q4215	8-729-026-49	2SA1037AK-T146-R	
Q4216	8-729-026-49	2SA1037AK-T146-R	
Q4217	8-729-026-49	2SA1037AK-T146-R	
Q4401	8-729-026-49	2SA1037AK-T146-R	
Q4402	8-729-026-49	2SA1037AK-T146-R	
Q4403	8-729-026-49	2SA1037AK-T146-R	
Q4404	8-729-026-49	2SA1037AK-T146-R	
Q4405	8-729-026-49	2SA1037AK-T146-R	
Q4406	8-729-026-49	2SA1037AK-T146-R	
Q4407	8-729-026-49	2SA1037AK-T146-R	
Q4408	8-729-120-28	2SC1623-L5L6	
Q4409	8-729-026-49	2SA1037AK-T146-R	
Q4410	8-729-120-28	2SC1623-L5L6	
Q4420	8-729-026-49	2SA1037AK-T146-R	
<RESISTOR>			
R4001	1-125-889-91	CERAMIC CHIP	2.2UF 10% 10V
R4003	1-216-377-11	METAL OXIDE	4.7 5% 2W
R4004	1-215-881-11	METAL OXIDE	15 5% 2W
R4005	1-216-025-11	RES-CHIP	100 5% 1/10W
R4006	1-216-081-00	RES-CHIP	22K 5% 1/10W
R4007	1-216-073-91	RES-CHIP	10K 5% 1/10W
R4008	1-216-033-00	RES-CHIP	220 5% 1/10W
R4009	1-216-005-00	RES-CHIP	15 5% 1/10W
R4010	1-216-041-00	RES-CHIP	470 5% 1/10W
R4011	1-216-025-11	RES-CHIP	100 5% 1/10W
R4012	1-216-025-11	RES-CHIP	100 5% 1/10W
R4013	1-216-073-91	RES-CHIP	10K 5% 1/10W
R4014	1-216-073-91	RES-CHIP	10K 5% 1/10W
R4015	1-216-295-91	SHORT CHIP	0 5% 1/10W
R4016	1-216-639-11	METAL CHIP	330 0.5% 1/10W
R4017	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4018	1-216-025-11	RES-CHIP	100 5% 1/10W
R4019	1-216-025-11	RES-CHIP	100 5% 1/10W
R4020	1-216-053-00	RES-CHIP	1.5K 5% 1/10W
R4021	1-216-053-00	RES-CHIP	1.5K 5% 1/10W
R4022	1-216-041-00	RES-CHIP	470 5% 1/10W
R4023	1-216-025-11	RES-CHIP	100 5% 1/10W
R4024	1-216-041-00	RES-CHIP	470 5% 1/10W
R4025	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4026	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4027	1-216-649-11	METAL CHIP	820 0.5% 1/10W
R4028	1-216-649-11	METAL CHIP	820 0.5% 1/10W
R4029	1-216-051-00	RES-CHIP	1.2K 5% 1/10W
R4030	1-216-041-00	RES-CHIP	470 5% 1/10W
R4031	1-216-041-00	RES-CHIP	470 5% 1/10W
R4032	1-216-041-00	RES-CHIP	470 5% 1/10W
R4033	1-216-025-11	RES-CHIP	100 5% 1/10W
R4034	1-216-025-11	RES-CHIP	100 5% 1/10W
R4035	1-216-097-11	RES-CHIP	100K 5% 1/10W
R4036	1-216-121-11	RES-CHIP	1M 5% 1/10W
R4037	1-216-025-11	RES-CHIP	100 5% 1/10W
R4038	1-216-073-91	RES-CHIP	10K 5% 1/10W
R4039	1-216-089-91	RES-CHIP	47K 5% 1/10W
R4040	1-216-089-91	RES-CHIP	47K 5% 1/10W
R4041	1-216-089-91	RES-CHIP	47K 5% 1/10W
R4042	1-216-089-91	RES-CHIP	47K 5% 1/10W
R4043	1-216-025-11	RES-CHIP	100 5% 1/10W

P5 (KV-AR29M86)

REF NO.	PART NO.	DESCRIPTION		REMARK		REF NO.	PART NO.	DESCRIPTION		REMARK	
R4044	1-216-025-11	RES-CHIP	100	5%	1/10W	R4137	1-216-025-11	RES-CHIP	100	5%	1/10W
R4045	1-216-025-11	RES-CHIP	100	5%	1/10W	R4139	1-216-025-11	RES-CHIP	100	5%	1/10W
R4046	1-216-049-11	RES-CHIP	1K	5%	1/10W						
R4047	1-216-049-11	RES-CHIP	1K	5%	1/10W	R4140	1-216-025-11	RES-CHIP	100	5%	1/10W
R4048	1-216-049-11	RES-CHIP	1K	5%	1/10W	R4141	1-216-025-11	RES-CHIP	100	5%	1/10W
R4049	1-216-025-11	RES-CHIP	100	5%	1/10W	R4142	1-216-295-91	SHORT CHIP	0		
R4050	1-216-025-11	RES-CHIP	100	5%	1/10W	R4143	1-216-041-00	RES-CHIP	470	5%	1/10W
R4051	1-216-025-11	RES-CHIP	100	5%	1/10W	R4144	1-216-041-00	RES-CHIP	470	5%	1/10W
R4053	1-216-073-91	RES-CHIP	10K	5%	1/10W	R4145	1-216-017-91	RES-CHIP	47	5%	1/10W
R4054	1-216-073-91	RES-CHIP	10K	5%	1/10W	R4146	1-216-041-00	RES-CHIP	470	5%	1/10W
R4057	1-216-073-91	RES-CHIP	10K	5%	1/10W	R4147	1-216-041-00	RES-CHIP	470	5%	1/10W
R4060	1-216-073-91	RES-CHIP	10K	5%	1/10W	R4148	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4067	1-216-073-91	RES-CHIP	10K	5%	1/10W	R4149	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4068	1-216-073-91	RES-CHIP	10K	5%	1/10W	R4150	1-216-025-11	RES-CHIP	100	5%	1/10W
R4069	1-216-295-91	SHORT CHIP	0			R4151	1-216-025-11	RES-CHIP	100	5%	1/10W
R4071	1-216-025-11	RES-CHIP	100	5%	1/10W	R4152	1-216-025-11	RES-CHIP	100	5%	1/10W
R4072	1-216-041-00	RES-CHIP	470	5%	1/10W	R4153	1-216-089-91	RES-CHIP	47K	5%	1/10W
R4073	1-216-025-11	RES-CHIP	100	5%	1/10W	R4154	1-216-097-11	RES-CHIP	100K	5%	1/10W
R4074	1-216-041-00	RES-CHIP	470	5%	1/10W	R4155	1-216-089-91	RES-CHIP	47K	5%	1/10W
R4075	1-216-025-11	RES-CHIP	100	5%	1/10W	R4156	1-216-097-11	RES-CHIP	100K	5%	1/10W
R4076	1-216-041-00	RES-CHIP	470	5%	1/10W	R4157	1-216-089-91	RES-CHIP	47K	5%	1/10W
R4080	1-216-037-00	RES-CHIP	330	5%	1/10W	R4158	1-216-097-11	RES-CHIP	100K	5%	1/10W
R4081	1-216-041-00	RES-CHIP	470	5%	1/10W	R4159	1-216-295-91	SHORT CHIP	0		
R4082	1-216-295-91	SHORT CHIP	0			R4160	1-216-295-91	SHORT CHIP	0		
R4083	1-216-041-00	RES-CHIP	470	5%	1/10W	R4161	1-216-295-91	SHORT CHIP	0		
R4084	1-216-025-11	RES-CHIP	100	5%	1/10W	R4163	1-216-025-11	RES-CHIP	100	5%	1/10W
R4085	1-216-037-00	RES-CHIP	330	5%	1/10W	R4164	1-216-025-11	RES-CHIP	100	5%	1/10W
R4086	1-216-041-00	RES-CHIP	470	5%	1/10W	R4165	1-216-025-11	RES-CHIP	100	5%	1/10W
R4087	1-216-295-91	SHORT CHIP	0			R4172	1-216-041-00	RES-CHIP	470	5%	1/10W
R4088	1-216-041-00	RES-CHIP	470	5%	1/10W	R4173	1-216-041-00	RES-CHIP	470	5%	1/10W
R4089	1-216-295-91	SHORT CHIP	0			R4174	1-216-041-00	RES-CHIP	470	5%	1/10W
R4090	1-216-033-00	RES-CHIP	220	5%	1/10W	R4175	1-216-041-00	RES-CHIP	470	5%	1/10W
R4091	1-216-041-00	RES-CHIP	470	5%	1/10W	R4176	1-216-041-00	RES-CHIP	470	5%	1/10W
R4092	1-216-295-91	SHORT CHIP	0			R4177	1-216-041-00	RES-CHIP	470	5%	1/10W
R4095	1-216-049-11	RES-CHIP	1K	5%	1/10W	R4178	1-216-041-00	RES-CHIP	470	5%	1/10W
R4096	1-216-049-11	RES-CHIP	1K	5%	1/10W	R4179	1-216-041-00	RES-CHIP	470	5%	1/10W
R4097	1-216-295-91	SHORT CHIP	0			R4180	1-216-041-00	RES-CHIP	470	5%	1/10W
R4100	1-216-121-11	RES-CHIP	1M	5%	1/10W	R4181	1-216-025-11	RES-CHIP	100	5%	1/10W
R4101	1-216-295-91	SHORT CHIP	0			R4182	1-216-295-91	SHORT CHIP	0		
R4102	1-216-295-91	SHORT CHIP	0			R4183	1-216-295-91	SHORT CHIP	0		
R4103	1-218-179-11	RES-CHIP	10M	5%	1/10W	R4184	1-216-295-91	SHORT CHIP	0		
R4104	1-216-025-11	RES-CHIP	100	5%	1/10W	R4185	1-216-295-91	SHORT CHIP	0		
R4105	1-216-065-91	RES-CHIP	4.7K	5%	1/10W	R4186	1-216-295-91	SHORT CHIP	0		
R4106	1-216-041-00	RES-CHIP	470	5%	1/10W	R4187	1-216-295-91	SHORT CHIP	0		
R4107	1-216-029-00	RES-CHIP	150	5%	1/10W	R4190	1-216-025-11	RES-CHIP	100	5%	1/10W
R4108	1-216-049-11	RES-CHIP	1K	5%	1/10W	R4191	1-216-025-11	RES-CHIP	100	5%	1/10W
R4109	1-216-031-00	RES-CHIP	180	5%	1/10W	R4192	1-216-025-11	RES-CHIP	100	5%	1/10W
R4111	1-216-081-00	RES-CHIP	22K	5%	1/10W	R4195	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4112	1-216-033-00	RES-CHIP	220	5%	1/10W	R4196	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4114	1-216-025-11	RES-CHIP	100	5%	1/10W	R4197	1-216-081-00	RES-CHIP	22K	5%	1/10W
R4115	1-216-025-11	RES-CHIP	100	5%	1/10W	R4198	1-216-073-91	RES-CHIP	10K	5%	1/10W
R4120	1-216-083-00	RES-CHIP	27K	5%	1/10W	R4199	1-216-041-00	RES-CHIP	470	5%	1/10W
R4124	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W	R4200	1-216-041-00	RES-CHIP	470	5%	1/10W
R4126	1-208-291-11	RES-CHIP	4.7M	5%	1/10W	R4201	1-216-295-91	SHORT CHIP	0		
R4127	1-208-291-11	RES-CHIP	4.7M	5%	1/10W	R4202	1-216-295-91	SHORT CHIP	0		
R4130	1-208-291-11	RES-CHIP	4.7M	5%	1/10W	R4203	1-216-295-91	SHORT CHIP	0		
R4131	1-216-025-11	RES-CHIP	100	5%	1/10W	R4210	1-216-025-11	RES-CHIP	100	5%	1/10W
R4132	1-216-049-11	RES-CHIP	1K	5%	1/10W	R4211	1-216-041-00	RES-CHIP	470	5%	1/10W
R4133	1-216-017-91	RES-CHIP	47	5%	1/10W	R4212	1-216-025-11	RES-CHIP	100	5%	1/10W
R4135	1-216-069-00	RES-CHIP	6.8K	5%	1/10W	R4213	1-216-025-11	RES-CHIP	100	5%	1/10W
R4136	1-216-025-11	RES-CHIP	100	5%	1/10W	R4214	1-216-295-91	SHORT CHIP	0		
						R4216	1-208-776-11	METAL CHIP	560	0.5%	1/10W
						R4217	1-216-041-00	RES-CHIP	470	5%	1/10W

P5 (KV-AR29M86)

REF NO.	PART NO.	DESCRIPTION	REMARK
R4218	1-216-041-00	RES-CHIP	470 5% 1/10W
R4219	1-216-295-91	SHORT CHIP	0
R4220	1-216-295-91	SHORT CHIP	0
R4223	1-208-776-11	METAL CHIP	560 0.5% 1/10W
R4224	1-208-776-11	METAL CHIP	560 0.5% 1/10W
R4225	1-208-800-11	METAL CHIP	5.6K 0.5% 1/10W
R4226	1-208-800-11	METAL CHIP	5.6K 0.5% 1/10W
R4227	1-208-800-11	METAL CHIP	5.6K 0.5% 1/10W
R4228	1-216-081-00	RES-CHIP	22K 5% 1/10W
R4229	1-216-033-00	RES-CHIP	220 5% 1/10W
R4230	1-216-033-00	RES-CHIP	220 5% 1/10W
R4231	1-216-033-00	RES-CHIP	220 5% 1/10W
R4232	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
R4233	1-216-295-91	SHORT CHIP	0
R4234	1-216-295-91	SHORT CHIP	0
R4235	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R4236	1-216-295-91	SHORT CHIP	0
R4237	1-216-081-00	RES-CHIP	22K 5% 1/10W
R4238	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4240	1-216-615-11	METAL CHIP	33 0.5% 1/10W
R4241	1-208-760-11	METAL CHIP	120 0.5% 1/10W
R4242	1-216-603-11	METAL CHIP	10 0.5% 1/10W
R4243	1-216-041-00	RES-CHIP	470 5% 1/10W
R4244	1-216-615-11	METAL CHIP	33 0.5% 1/10W
R4245	1-208-760-11	METAL CHIP	120 0.5% 1/10W
R4246	1-216-603-11	METAL CHIP	10 0.5% 1/10W
R4247	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4249	1-216-615-11	METAL CHIP	33 0.5% 1/10W
R4250	1-208-760-11	METAL CHIP	120 0.5% 1/10W
R4251	1-216-603-11	METAL CHIP	10 0.5% 1/10W
R4252	1-216-041-00	RES-CHIP	470 5% 1/10W
R4253	1-216-065-91	RES-CHIP	4.7K 5% 1/10W
R4254	1-216-615-11	METAL CHIP	33 0.5% 1/10W
R4255	1-208-760-11	METAL CHIP	120 0.5% 1/10W
R4256	1-216-603-11	METAL CHIP	10 0.5% 1/10W
R4257	1-216-073-91	RES-CHIP	10K 5% 1/10W
R4258	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R4259	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4261	1-216-025-11	RES-CHIP	100 5% 1/10W
R4273	1-216-073-91	RES-CHIP	10K 5% 1/10W
R4275	1-216-073-91	RES-CHIP	10K 5% 1/10W
R4276	1-216-295-91	SHORT CHIP	0
R4278	1-216-295-91	SHORT CHIP	0
R4279	1-216-025-11	RES-CHIP	100 5% 1/10W
R4280	1-216-025-11	RES-CHIP	100 5% 1/10W
R4282	1-216-295-91	SHORT CHIP	0
R4284	1-216-295-91	SHORT CHIP	0
R4286	1-216-025-11	RES-CHIP	100 5% 1/10W
R4287	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4288	1-216-025-11	RES-CHIP	100 5% 1/10W
R4290	1-216-295-91	SHORT CHIP	0
R4291	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R4292	1-216-059-00	RES-CHIP	2.7K 5% 1/10W
R4293	1-216-061-91	RES-CHIP	3.3K 5% 1/10W
R4295	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R4296	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4297	1-216-025-11	RES-CHIP	100 5% 1/10W
R4298	1-216-063-91	RES-CHIP	3.9K 5% 1/10W
R4299	1-216-025-11	RES-CHIP	100 5% 1/10W
R4300	1-216-057-00	RES-CHIP	2.2K 5% 1/10W
R4308	1-216-025-11	RES-CHIP	100 5% 1/10W
R4309	1-216-025-11	RES-CHIP	100 5% 1/10W

REF NO.	PART NO.	DESCRIPTION	REMARK
R4311	1-208-783-11	METAL CHIP	1.1K 0.5% 1/10W
R4312	1-208-792-11	METAL CHIP	2.7K 0.5% 1/10W
R4313	1-216-631-11	METAL CHIP	150 0.5% 1/10W
R4314	1-216-631-11	METAL CHIP	150 0.5% 1/10W
R4315	1-216-631-11	METAL CHIP	150 0.5% 1/10W
R4317	1-216-017-91	RES-CHIP	47 5% 1/10W
R4318	1-216-017-91	RES-CHIP	47 5% 1/10W
R4319	1-216-017-91	RES-CHIP	47 5% 1/10W
R4320	1-216-017-91	RES-CHIP	47 5% 1/10W
R4321	1-216-017-91	RES-CHIP	47 5% 1/10W
R4322	1-216-073-91	RES-CHIP	10K 5% 1/10W
R4323	1-208-790-11	METAL CHIP	2.2K 0.5% 1/10W
R4329	1-216-295-91	SHORT CHIP	0
R4330	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4402	1-216-295-91	SHORT CHIP	0
R4403	1-216-025-11	RES-CHIP	100 5% 1/10W
R4404	1-216-025-11	RES-CHIP	100 5% 1/10W
R4406	1-216-025-11	RES-CHIP	100 5% 1/10W
R4407	1-216-025-11	RES-CHIP	100 5% 1/10W
R4408	1-216-295-91	SHORT CHIP	0
R4415	1-216-025-11	RES-CHIP	100 5% 1/10W
R4418	1-208-783-11	METAL CHIP	1.1K 0.5% 1/10W
R4419	1-208-790-11	METAL CHIP	2.2K 0.5% 1/10W
R4420	1-208-792-11	METAL CHIP	2.7K 0.5% 1/10W
R4421	1-216-631-11	METAL CHIP	150 0.5% 1/10W
R4422	1-216-631-11	METAL CHIP	150 0.5% 1/10W
R4423	1-216-631-11	METAL CHIP	150 0.5% 1/10W
R4424	1-216-025-11	RES-CHIP	100 5% 1/10W
R4425	1-216-025-11	RES-CHIP	100 5% 1/10W
R4426	1-216-025-11	RES-CHIP	100 5% 1/10W
R4427	1-216-025-11	RES-CHIP	100 5% 1/10W
R4434	1-216-025-11	RES-CHIP	100 5% 1/10W
R4436	1-216-025-11	RES-CHIP	100 5% 1/10W
R4438	1-216-025-11	RES-CHIP	100 5% 1/10W
R4440	1-216-295-91	SHORT CHIP	0
R4441	1-216-025-11	RES-CHIP	100 5% 1/10W
R4442	1-216-295-91	SHORT CHIP	0
R4449	1-216-295-91	SHORT CHIP	0
R4451	1-216-295-91	SHORT CHIP	0
R4452	1-216-295-91	SHORT CHIP	0
R4454	1-216-295-91	SHORT CHIP	0
R4458	1-216-295-91	SHORT CHIP	0
R4461	1-216-295-91	SHORT CHIP	0
R4464	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4465	1-208-776-11	METAL CHIP	560 0.5% 1/10W
R4466	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4467	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4468	1-216-295-91	SHORT CHIP	0
R4469	1-208-776-11	METAL CHIP	560 0.5% 1/10W
R4470	1-208-776-11	METAL CHIP	560 0.5% 1/10W
R4471	1-208-800-11	METAL CHIP	5.6K 0.5% 1/10W
R4472	1-208-800-11	METAL CHIP	5.6K 0.5% 1/10W
R4473	1-208-800-11	METAL CHIP	5.6K 0.5% 1/10W
R4474	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4475	1-216-049-11	RES-CHIP	1K 5% 1/10W
R4476	1-216-017-91	RES-CHIP	47 5% 1/10W
R4477	1-216-017-91	RES-CHIP	47 5% 1/10W
R4478	1-216-033-00	RES-CHIP	220 5% 1/10W
R4479	1-216-025-11	RES-CHIP	100 5% 1/10W
R4480	1-216-015-00	RES-CHIP	39 5% 1/10W
R4481	1-216-049-11	RES-CHIP	1K 5% 1/10W

P5 (KV-AR29M86)**V1** (KV-AR29M61/AR29M86)

REF NO.	PART NO.	DESCRIPTION	REMARK		
R4482	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4483	1-216-025-11	RES-CHIP	100	5%	1/10W
R4484	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R4485	1-216-061-91	RES-CHIP	3.3K	5%	1/10W
R4487	1-216-089-91	RES-CHIP	47K	5%	1/10W
R4489	1-216-113-00	RES-CHIP	470K	5%	1/10W
R4490	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4491	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4492	1-216-025-11	RES-CHIP	100	5%	1/10W
R4494	1-216-041-00	RES-CHIP	470	5%	1/10W
R4496	1-216-017-91	RES-CHIP	47	5%	1/10W
R4512	1-216-085-91	RES-CHIP	33K	5%	1/10W
R4513	1-216-113-00	RES-CHIP	470K	5%	1/10W
R4514	1-216-683-11	METAL CHIP	22K	0.5%	1/10W
R4515	1-216-617-11	METAL CHIP	39	0.5%	1/10W
R4527	1-216-049-11	RES-CHIP	1K	5%	1/10W
R4528	1-216-295-91	SHORT CHIP	0		
R4559	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R4560	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R4561	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R4562	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R4563	1-208-810-11	METAL CHIP	15K	0.5%	1/10W
R4564	1-208-782-11	METAL CHIP	1K	0.5%	1/10W
R4568	1-216-017-91	RES-CHIP	47	5%	1/10W
R4569	1-216-017-91	RES-CHIP	47	5%	1/10W
R4570	1-216-017-91	RES-CHIP	47	5%	1/10W
R4573	1-216-295-91	SHORT CHIP	0		
RB4201	1-239-409-11	NETWORK RESISTOR (CHIP)	47		
RB4202	1-239-409-11	NETWORK RESISTOR (CHIP)	47		
RB4203	1-239-409-11	NETWORK RESISTOR (CHIP)	47		
RB4204	1-239-409-11	NETWORK RESISTOR (CHIP)	47		
RB4301	1-239-409-11	NETWORK RESISTOR (CHIP)	47		
RB4302	1-239-409-11	NETWORK RESISTOR (CHIP)	47		
RB4303	1-239-409-11	NETWORK RESISTOR (CHIP)	47		
RB4304	1-239-409-11	NETWORK RESISTOR (CHIP)	47		
<CRYSTAL>					
X4101	1-781-946-21	VIBRATOR, CRYSTAL			
X4102	1-781-612-11	VIBRATOR, CRYSTAL			

* A-1347-164-A		V1 BOARD COMPLETE (KV-AR29M61)			
* A-1300-668-A		V1 BOARD COMPLETE (KV-AR29M86)			

<CAPACITOR>					
C801	1-126-947-11	ELECT	47UF	20.00%	16V
C805	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C806	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C814	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C815	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C816	1-164-505-11	CERAMIC CHIP	2.2UF		16V
C817	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C818	1-163-239-11	CERAMIC CHIP	33PF	5.00%	50V
C820	1-163-239-11	CERAMIC CHIP	33PF	5.00%	50V
C821	1-163-038-91	CERAMIC CHIP	0.1UF		25V

REF NO.	PART NO.	DESCRIPTION	REMARK		
C822	1-163-009-91	CERAMIC CHIP	0.001UF	10.00%	50V
C823	1-126-933-11	ELECT	100UF	20.00%	16V
C826	1-126-963-11	ELECT	4.7UF	20.00%	50V
C829	1-163-247-91	CERAMIC CHIP	68PF	5.00%	50V
C830	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C831	1-126-933-11	ELECT	100UF	20.00%	16V
C832	1-126-964-11	ELECT	10UF	20.00%	50V
C835	1-163-038-91	CERAMIC CHIP	0.1UF		25V
C837	1-126-933-11	ELECT	100UF	20.00%	16V
<CONNECTOR>					
CN801	* 1-774-812-11	CONNECTOR, BOARD TO BOARD 7P			
CN803	* 1-774-812-11	CONNECTOR, BOARD TO BOARD 7P			
<DIODE>					
D802	8-719-941-09	DAP202U			
D803	8-719-105-46	RD3.3M-B2			
D804	8-719-105-91	RD5.6M-B2			
<FERRITE BEAD>					
FB801	1-410-397-21	FERRITE	1.1		

V1 (KV-AR29M61/AR29M86)

VM1

REF NO.	PART NO.	DESCRIPTION	REMARK		
R813	1-216-295-91	SHORT CHIP	0		
R820	1-216-073-91	RES-CHIP	10K	5%	1/10W
R821	1-216-083-00	RES-CHIP	27K	5%	1/10W
R822	1-216-025-11	RES-CHIP	100	5%	1/10W
R824	1-216-295-91	SHORT CHIP	0		
R825	1-216-295-91	SHORT CHIP	0		
R827	1-216-295-91	SHORT CHIP	0		
R828	1-216-025-11	RES-CHIP	100	5%	1/10W
R829	1-216-025-11	RES-CHIP	100	5%	1/10W
R830	1-216-295-91	SHORT CHIP	0		
R831	1-216-295-91	SHORT CHIP	0		
R832	1-208-790-11	METAL CHIP	2.2K	0.5%	1/10W
R835	1-216-295-91	SHORT CHIP	0		
R839	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R841	1-216-025-11	RES-CHIP	100	5%	1/10W
R842	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R843	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R844	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R845	1-216-049-11	RES-CHIP	1K	5%	1/10W
R846	1-216-049-11	RES-CHIP	1K	5%	1/10W
R847	1-216-049-11	RES-CHIP	1K	5%	1/10W
R848	1-216-049-11	RES-CHIP	1K	5%	1/10W
R849	1-216-049-11	RES-CHIP	1K	5%	1/10W
R850	1-216-105-91	RES-CHIP	220K	5%	1/10W
R851	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R853	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R857	1-216-077-91	RES-CHIP	15K	5%	1/10W
R861	1-216-049-11	RES-CHIP	1K	5%	1/10W
R862	1-260-095-11	CARBON	470	5%	1/2W
R863	1-216-049-11	RES-CHIP	1K	5%	1/10W
R864	1-216-041-00	RES-CHIP	470	5%	1/10W
R866	1-215-880-00	METAL OXIDE	10	5%	2W
R871	1-216-037-00	RES-CHIP	330	5%	1/10W
R879	1-216-073-91	RES-CHIP	10K	5%	1/10W
R880	1-216-041-00	RES-CHIP	470	5%	1/10W
R882	1-216-049-11	RES-CHIP	1K	5%	1/10W
R884	1-216-025-11	RES-CHIP	100	5%	1/10W
<CRYSTAL>					
X801	1-578-774-11	VIBRATOR, CRYSTAL			

	* A-1401-877-A	VM1 BOARD MOUNTED (KV-AR29M61/AR29N90)			
	* A-1401-675-A	VM1 BOARD MOUNTED (KV-AR29M86)			

	4-382-854-11	SCREW (M3X10), P, SW (+)			
<CAPACITOR>					
C5900	1-102-115-00	CERAMIC	560PF	10.00%	50V
C5902	1-104-661-91	ELECT	330UF	20.00%	16V
C5903	1-161-830-00	CERAMIC	0.0047UF		500V
C5905	1-126-935-11	ELECT	470UF	20.00%	10V
C5906	1-130-491-00	MYLAR	0.047UF	5.00%	50V
C5907	1-107-638-11	ELECT	33UF	20.00%	160V
C5908	1-106-383-00	MYLAR	0.047UF	10.00%	200V
C5909	1-126-933-11	ELECT	100UF	20.00%	16V

REF NO.	PART NO.	DESCRIPTION	REMARK		
C5910	1-130-471-00	MYLAR	0.001UF	5.00%	50V
C5911	1-107-949-11	ELECT	2.2UF	20.00%	160V
C5912	1-104-999-11	MYLAR	0.1UF	10.00%	200V
C5913	1-130-471-00	MYLAR	0.001UF	5.00%	50V
C5914	1-126-933-11	ELECT	100UF	20.00%	16V
C5916	1-130-491-00	MYLAR	0.047UF	5.00%	50V
C5917	1-126-935-11	ELECT	470UF	20.00%	10V
C5918	1-102-244-00	CERAMIC	220PF	10.00%	500V
C5919	1-136-165-00	FILM	0.1UF	5.00%	50V
<CONNECTOR>					
CN2801	* 1-564-506-11	PLUG, CONNECTOR 3P			
CN5901	* 1-564-510-11	PLUG, CONNECTOR 7P			
CN5904	* 1-770-723-11	CONNECTOR, BOARD TO BOARD 8P			
<DIODE>					
D5901	8-719-911-19	1SS119-25			
D5902	8-719-110-86	RD39ES-B			
D5903	8-719-911-19	1SS119-25			
D5904	8-719-110-86	RD39ES-B			
D5905	8-719-911-19	1SS119-25			
D5906	1-249-406-11	CARBON	120	5%	1/4W
D5907	1-249-406-11	CARBON	120	5%	1/4W
<COIL>					
L5901	1-414-187-11	INDUCTOR	47UH		
<TRANSISTOR>					
Q5901	8-729-230-45	2SC2458-YGR			
Q5902	8-729-809-26	2SA1606-E			
Q5903	8-729-230-45	2SC2458-YGR			
Q5904	8-729-119-76	2SA1175-HFE			
Q5905	8-729-230-45	2SC2458-YGR			
Q5906	8-729-809-29	2SC4159-E			
Q5907	8-729-230-45	2SC2458-YGR			
<RESISTOR>					
R5901	1-249-401-11	CARBON	47	5%	1/4W
R5902	1-249-414-11	CARBON	560	5%	1/4W
R5903	1-247-734-11	CARBON	39	5%	1/2W
R5904	1-249-411-11	CARBON	330	5%	1/4W
R5905	1-249-417-11	CARBON	1K	5%	1/4W
R5906	1-249-417-11	CARBON	1K	5%	1/4W
R5907	1-249-417-11	CARBON	1K	5%	1/4W
R5908	1-249-383-11	CARBON	1.5	5%	1/4W
R5909	1-249-409-11	CARBON	220	5%	1/4W
R5910	1-249-403-11	CARBON	68	5%	1/4W
R5911	1-249-439-11	CARBON	68K	5%	1/4W
R5912	1-249-437-11	CARBON	47K	5%	1/4W
R5914	1-249-403-11	CARBON	68	5%	1/4W
R5915	1-249-429-11	CARBON	10K	5%	1/4W
R5916	1-249-419-11	CARBON	1.5K	5%	1/4W
R5917	1-249-416-11	CARBON	820	5%	1/4W
R5918	1-249-429-11	CARBON	10K	5%	1/4W
R5919	1-249-417-11	CARBON	1K	5%	1/4W
R5920	1-249-439-11	CARBON	68K	5%	1/4W
R5921	1-216-476-11	METAL OXIDE	180	5%	3W

<u>REF NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REMARK</u>		
R5922	1-249-414-11	CARBON	560	5%	1/4W
R5923	1-249-383-11	CARBON	1.5	5%	1/4W
R5925	1-249-400-11	CARBON	39	5%	1/4W
R5927	1-249-416-11	CARBON	820	5%	1/4W
R5929	1-215-880-00	METAL OXIDE	10	5%	2W

ACCESSORIES AND PACKING MATERIALS

3-701-910-00	SCREW, SPECIAL (DIA. 3.8X20)
* 4-029-168-01	BAG, PROTECTION
* 4-054-319-01	TRAY
4-065-210-01	JOINT
* 4-089-237-02	CUSHION (UPPER)
* 4-089-238-01	CUSHION (LOWER)
* 4-091-600-01	INDIVIDUAL CARTON (KV-AR29M61)
* 4-090-634-01	INDIVIDUAL CARTON (KV-AR29M86)
* 4-090-835-01	INDIVIDUAL CARTON (KV-AR29N90)
4-088-962-12	MANUAL, INSTRUCTION (KV-AR29M61)

<u>REF NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>REMARK</u>
	4-090-195-11	MANUAL, INSTRUCTION (KV-AR29M86)	
	4-091-882-11	MANUAL, INSTRUCTION (KV-AR29N90)	
	4-392-003-11	BAND, HOLD	
	4-392-004-11	CLIP	

REMOTE COMMANDER

1-477-407-11	REMOTE COMMANDER (RM-995) (KV-AR29M61)
1-477-314-11	REMOTE COMMANDER (RM-993) (KV-AR29M86)
4-079-833-01	BATTERY COVER REMOTE COMMANDER (RM-995/RM-993/RM996)
1-477-490-11	REMOTE COMMANDER (RM-996) (KV-AR29N90)

Trinitron Color TV

Operating Instructions

GB

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

Mode d'emploi

FR

- Avant de faire fonctionner cet appareil, lisez attentivement le présent mode d'emploi et conservez-le pour toute référence ultérieure.

دفترچه راهنما

PR

- قبل از تنظیم کردن دستگاه، لطفا دفترچه راهنما را با دقت بخوانید و به منظور مراجعه بعدی آن را نگه دارید.

تعليمات التشغيل

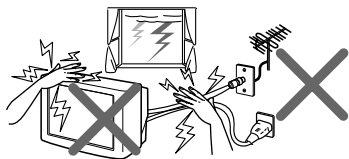
AR

- قبل تشغيل الجهاز، يرجى قراءة هذا الدليل بصورة كاملة والاحتفاظ به للمراجعة مستقبلا.

FD Trinitron**WEGA****KV-AR34****KV-AR29****KV-AR25**

WARNING

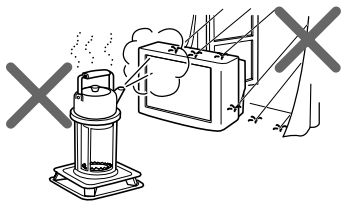
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 110 – 240 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage 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.



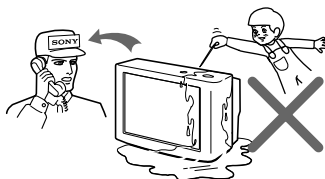
For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.



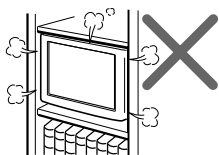
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



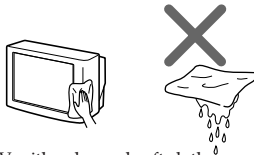
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



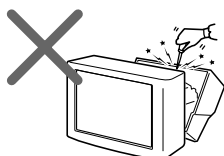
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



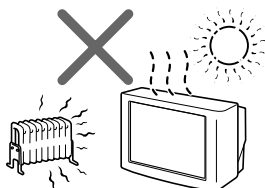
Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



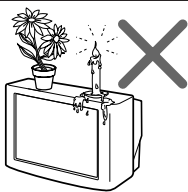
Clean the TV with a dry and soft cloth. Do not use benzine, thinner, or any other chemicals to clean the TV. Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



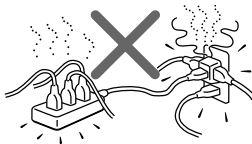
Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



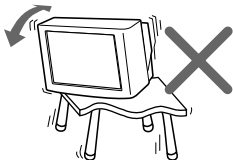
Your TV is recommended for home use only. Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



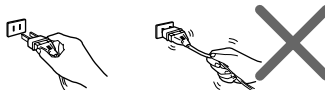
Do not place any objects on the TV.



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



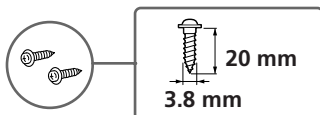
Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.



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.

■ Securing the TV

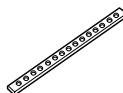
To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.



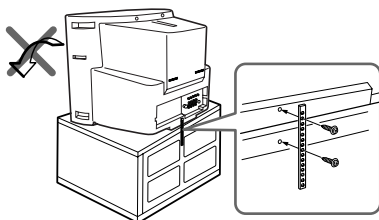
screws



clamps

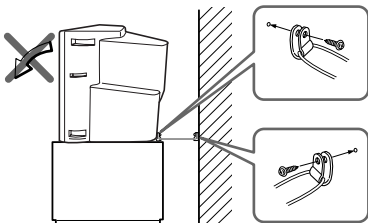


band



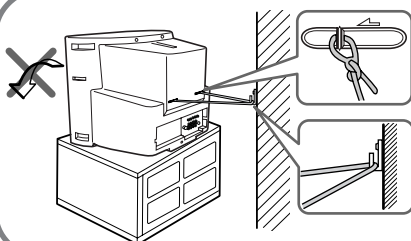
Screw the band to the TV stand and to the provided hole at the rear of your TV.

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.

Note

- Use only the supplied screws. Use of other screws may damage the TV.

Table of Contents

Installation	
Getting Started	6
Setting up your TV ("INITIAL SETUP")	7

Overview of Controls	
TV front and rear panels	8
Remote control	9

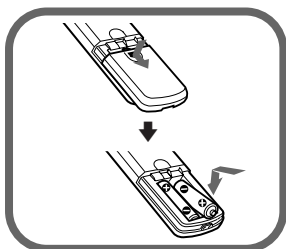
Advanced Operations	
Selecting the picture and sound modes	11
Viewing the picture with DTE	12
Viewing the picture in wide mode ..	12
Watching Picture-in-Picture (PIP) ...	13
Selecting a TV program using PIP ..	14
Listening with surround sound	14
Setting the timers	15
Viewing Teletext	16

Menu Adjustment	
Introducing the menu system	17
Changing the "PICTURE" setting ...	20
Changing the "SOUND" setting	22
Changing the Picture-in-Picture ("PIP") setting	24
Changing the "SETUP" setting	25
Changing the Channel Preset ("CH PRESET") setting	27

Additional Information	
Connecting optional components ...	30
Troubleshooting	32
Specifications	Back cover

GB

■ Getting Started

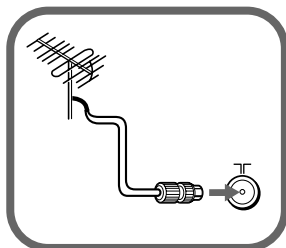


Step 1

Insert the batteries (supplied) into the remote.

Note

- Do not use old or different types of batteries together.

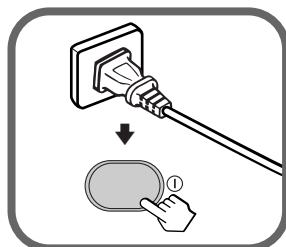


Step 2

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

Tip

- You can also connect your TV to other optional components (see page 30).



Step 3

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

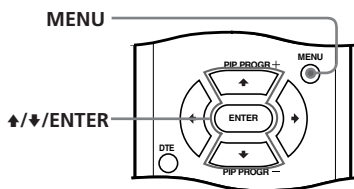


Step 4

Set up the TV by following the instructions of the "INITIAL SETUP" menu (see page 7).

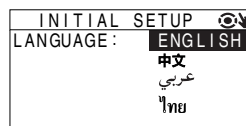
■ Setting up your TV ("INITIAL SETUP")

When you turn on your TV for the first time, the "INITIAL SETUP" menu will appear. This menu allows you to change the menu language, adjust the picture position and preset the TV channels automatically.



- 1 Press **▲** or **▼** to select the desired menu language (e.g., "ENGLISH"), then press **ENTER**.

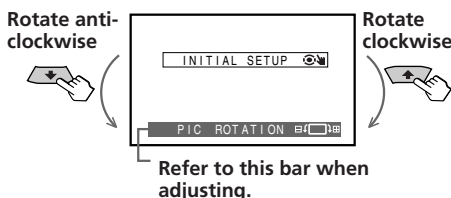
The selected menu language appears.



- 2 If the "PIC ROTATION" bar is slanted, press **▲** or **▼** to adjust it, then press **ENTER**.

If no adjustment is necessary, then press **ENTER**.

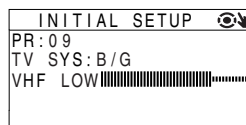
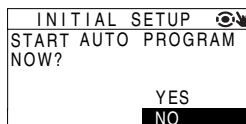
The **↕** or **↗** icon on the screen flashes while adjusting.



- 3 Press **▲** or **▼** to select "YES", then press **ENTER** to preset the channels automatically (see page 27).

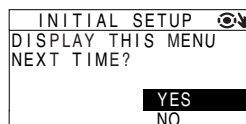
The screen will indicate automatic presetting is in progress.

To skip automatic channel presetting, select "NO", then press **ENTER**.



- 4 Press **▲** or **▼** to select "NO", then press **ENTER**. The "INITIAL SETUP" menu will not appear again the next time you turn on the TV by pressing **①**.

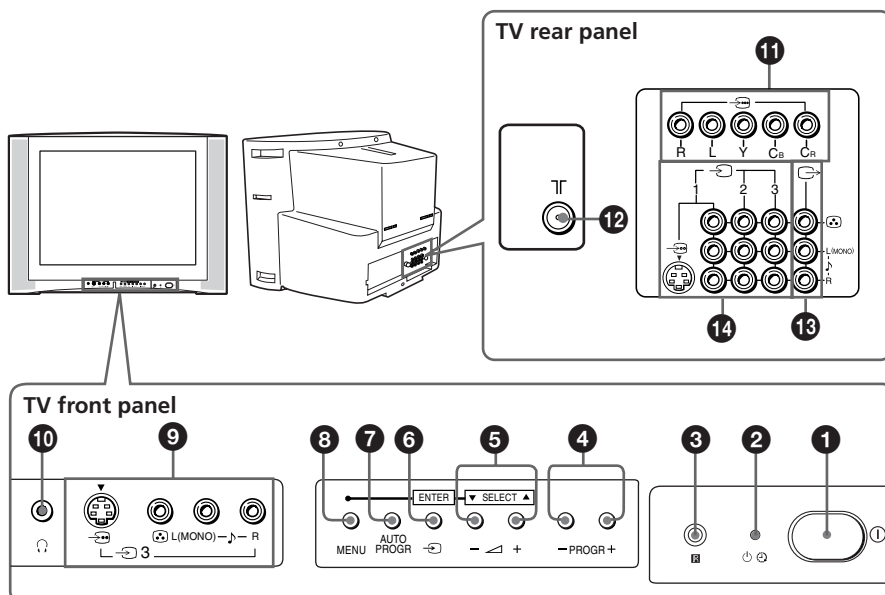
To allow this menu to appear again, select "YES", then press **ENTER**.



Tips

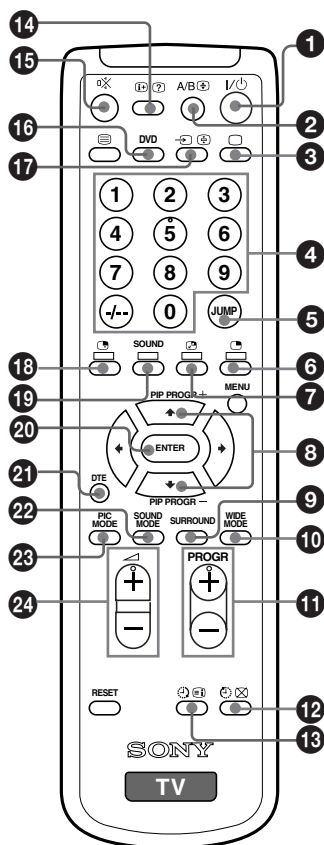
- You can immediately go to the end of the "INITIAL SETUP" menu by pressing **MENU**.
- You can also set up your TV using the menu system (see page 17).

TV front and rear panels



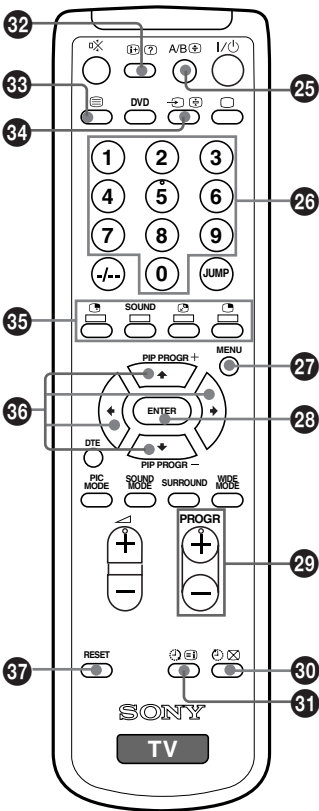
Button/Terminal	Function	Page
① ①	Turn off or turn on the TV.	6
②	Standby indicator.	—
②	Wake Up indicator.	15
③	Remote control sensor.	—
④ PROGR +/-	Select program number.	—
⑤	Adjust volume.	—
⑥	Select TV or video input.	—
⑦ AUTO PROGR	Preset channels automatically.	—
Menu operations		
⑤ SELECT ▼/▲	Select and adjust items.	19
⑥ ENTER	Confirm selected items.	19
⑧ MENU	Display or cancel the menu.	19
⑨	Video input terminal 3.	30
⑩	Headphone jack.	—
⑪	Component video input terminal.	31
⑫	Antenna input terminal.	30
⑬	Monitor output terminal.	30
⑭	Video input terminal 1, 2, 3.	30

Remote control



Button	Function	Page
1 I/⏻	Turn off temporarily or turn on the TV.	–
3 TV icon	Display the TV input.	–
4 0 – 9, -/--	Input numbers.	–
5 JUMP	Jump to previous program number.	–
9 SURROUND	Select surround mode.	14
10 WIDE MODE	Select wide-mode (16:9).	12
11 PROGR +/-	Select program number.	–
14 ⊗	Display on-screen information.	–
15 DVD	Mute the sound.	–
16 DVD	Select component video input.	31
17 TV icon	Select TV or video input.	30
21 DTE	Select DTE mode.	12
22 SOUND MODE	Select sound mode.	11
23 PIC MODE	Select picture mode.	11
24 ∇ +/-	Adjust volume.	–
Timer operations		
12 ⌚	Set TV to turn off automatically.	15
13 ⌚	Set TV to turn on automatically.	15
PIP operations (yellow label)		
6 TV icon	Display a sub screen.	13
7 TV icon	Swap main and sub screens.	13
8 PIP PROGR +/- PIP PROGR −	Display and change programs in the sub screen.	13,14
18 TV icon	Select a video input in the sub screen.	13
19 SOUND	Swap sound between main and sub screen.	13
20 ENTER	Change sub screen to main screen.	14
Stereo/bilingual operations		
2 A/B	Not function for your TV.	–

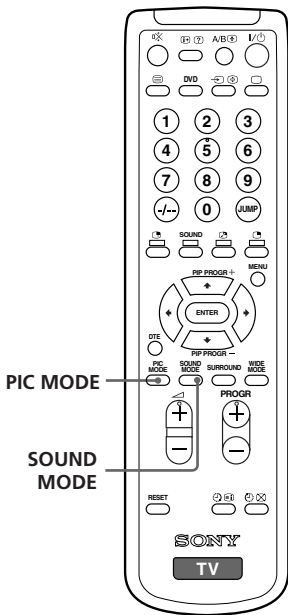
continue



Button	Function	Page
Menu operations		
27 MENU	Display or cancel the menu.	19
28 ENTER	Confirm selected items.	19
36	Select and adjust items.	19
Teletext operations (green label)		
25	Enlarge the Teletext display.	16
26 0 - 9	Input Teletext page number.	16
29 PROGR +/-	Display the next or previous page.	16
30	Show TV screen while waiting for Teletext page.	16
31	Display Teletext service contents.	16
32	Reveal concealed information.	16
33	Displat Teletext broadcast.	16
34	Stop Teletext display from scrolling.	16
35	Access a FASTEXT menu.	16
37 RESET	Set TV to factory setting.	32

Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in the "PERSONAL" option.



Selecting the picture mode

Press PIC MODE to select the desired picture mode.

Select	To
"DYNAMIC"	view high contrast pictures.
"STANDARD"	view normal pictures.
"SOFT"	view mild pictures.
"PERSONAL"	receive the last adjusted picture setting from the "ADJUST" option in the "PICTURE" menu (see page 21).

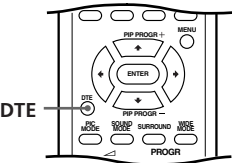
Selecting the sound mode

Press SOUND MODE to select the desired sound mode.

Select	To
"🔊 DYNAMIC"	listen to dynamic and clear sound that emphasizes both the low and high tones.
"🔊 DRAMA"	listen to sound that emphasizes voice and high tones.
"🔊 SOFT"	listen to soft sound.
"🔊 PERSONAL"	receive the last adjusted sound setting from the "ADJUST" option in the "SOUND" menu (see page 23).

■ Viewing the picture with DTE

The Digital Texture Enhancer (DTE) feature allows you to enjoy a more natural and vivid picture by optimizing the contrast of each object in the picture. You can use the DTE button to select “ON” or “OFF”.



Select	To
“ON”	enhance each object’s details and contours with optimum contrast.
“OFF”	cancel DTE.

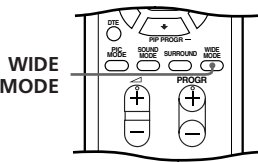
Note

- The DTE mode is not selectable when the “GAME MODE” is turned “ON”.

The DTE logo (**DTE**) and “DTE” are trademarks of Sony Corporation.
Digital Texture Enhancer

■ Viewing the picture in wide mode

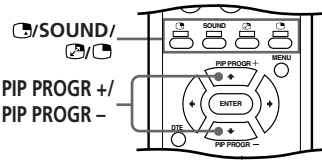
When receiving a wide-mode (16:9) signal, the picture will appear “squeezed” (compressed) on your screen. Use the WIDE MODE button to view the picture with the optimal effect.



Select	To
“ON”	view the picture in wide-mode (16:9).
“OFF”	cancel wide-mode (16:9).

■ Watching Picture-in-Picture (PIP)

With the PIP feature, you can display two different TV programs or video input at the same time by using the  button.



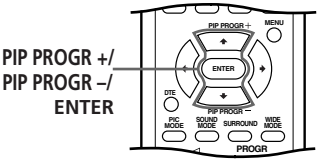
To	Press
Display a sub screen	 To cancel the sub screen, press the button again.
Change a program number in the sub screen	PIP PROGR + or PIP PROGR -.
Select a video input in the sub screen	 .
Swap pictures between the main and sub screens	 .
Swap sound between the main and sub screens	SOUND.
A “  ” symbol will appear next to the program number or video input display to indicate which screen you are hearing.	

Note

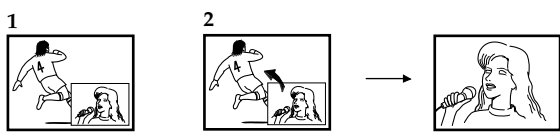
- The picture and sound from the  (monitor output) terminals will always be from the main screen, even when you select the sub screen sound by pressing SOUND (see page 30).

Selecting a TV program using PIP

You can select your desired TV program directly from the PIP sub screen by using PIP PROGR +/- buttons.

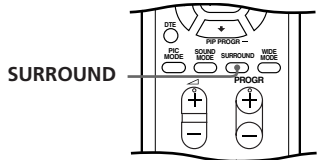


- 1 Press PIP PROGR +/- until the desired program appears in the sub screen.
- 2 Press ENTER to change the sub screen program to the main screen.



Listening with surround sound

You can use the SURROUND button to listen to the sound effects of a concert hall or movie theater.



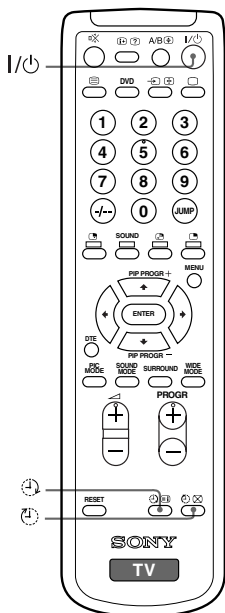
Select	To
"TruSurround"	listen to the surround sound that spreads out to the rear of a room.
"SIMULATED"	listen to monaural sound with a stereo-like effect.
"OFF"	cancel surround sound.

The surround of your TV is categorized as TruSurround.

TruSurround™ is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos. 4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents.

■ Setting the timers

You can set your TV to turn on and off automatically by using the Wake up timer and Sleep timer respectively.



Setting the Wake Up timer

- 1 Press until the desired period of time appears on the screen.

WAKE UP TIMER:10M
(After 10 minutes)

WAKE UP TIMER:OFF
(No Wake Up timer)

WAKE UP TIMER:12H00M
(After 12 hours)

The Wake Up timer starts immediately after you have set it.

- 2 Select the program number or video input you want to wake up to.

- 3 Press or set the Sleep timer if you want the TV to turn off automatically.

The indicator on the TV lights up orange when the TV goes into standby mode.

Setting the Sleep timer

Press until the desired period of time appears on the screen.

SLEEP TIMER:30M
(After 30 minutes)

SLEEP TIMER:60M
(After 60 minutes)

SLEEP TIMER:OFF
(No Sleep timer)

SLEEP TIMER:90M
(After 90 minutes)

The Sleep timer starts immediately after you have set it.

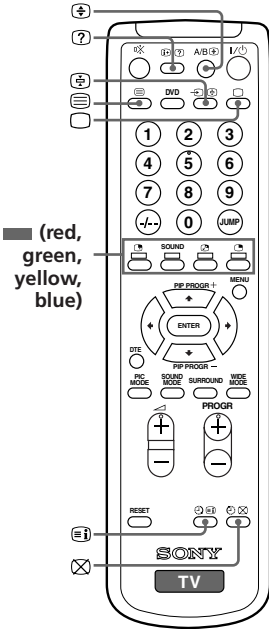
Notes

- You can also cancel the Wake Up and Sleep timers by pressing on the TV to turn off the TV.
- If no buttons are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into standby mode.

■ Viewing Teletext

Some TV stations broadcast an information service called Teletext which allows you to receive various information, such as stock market reports and news.

You can use the buttons on the remote to view Teletext.



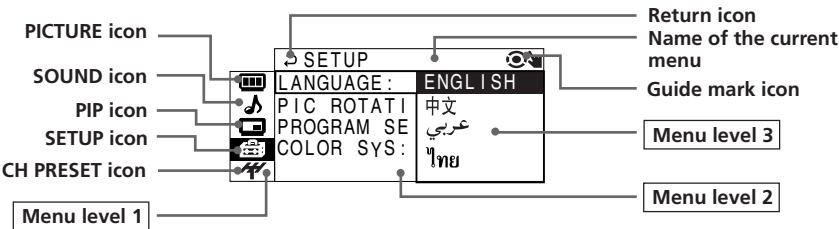
To	Do this
display a Teletext page on the TV picture	Press  . Each time you press  , the screen changes as follows: Teletext → Teletext and TV → TV. If there is no Teletext broadcast, "100" is displayed at the top left corner of the screen.
check the contents of a Teletext service	Press  . An overview of the Teletext contents, including page numbers, appears on the screen.
select a Teletext page	Press the number buttons to enter the three-digit page number of the desired Teletext page. If you make a mistake, reenter the correct page number. To access the next or previous page, press PROGR +/-. + ENTER -
hold (pause) a Teletext display	Press  to display the symbol "E" at the top left corner of the screen. To resume normal Teletext viewing, press  or  .
reveal concealed information (e.g., an answer to a quiz)	Press  . To conceal the information, press the button again.
enlarge the Teletext display	Press  . Each time you press  , the Teletext display changes as follows: Enlarge upper half → Enlarge lower half → Normal size.
stand by for a Teletext page while watching a TV program	1 Enter the Teletext page number that you want to refer to, then press  . 2 When the page number is displayed, press  to show the text.
select a FASTEXT menu or the colored boxes	Press  (red, green, yellow and blue) that corresponds to the desired menu or page number.
turn off Teletext	Press  .

Note

- The FASTEXT feature can be used only when the FASTEXT broadcast is available.

Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. The following is an overview of the menu system.



Level 1	Level 2	Level 3/Function	Page
"PICTURE" 	"PICTURE MODE"	Select the picture mode: "DYNAMIC" → "STANDARD" → "SOFT" → "PERSONAL" → "ADJUST"	20
	"ADJUST"	Adjust the "PERSONAL" option: "PICTURE" → "COLOR" → "BRIGHT" → "HUE" → "SHARP"	
	"DTE"	Optimize the picture contrast: "ON" → "OFF"	
	"WIDE MODE"	Change the picture size: "ON" → "OFF"	
	"GAME MODE"	Adjust the picture settings for video games: "ON" → "OFF"	
"SOUND" 	"SOUND MODE"	Select the sound mode: "DYNAMIC" → "DRAMA" → "SOFT" → "PERSONAL" → "ADJUST"	22
	"ADJUST"	Adjust the "PERSONAL" option: "BASS" → "TREBLE" → "BALANCE" → "BBE"*	
	"SURROUND"	Select the "SURROUND" mode: "TruSurround" → "SIMULATED" → "OFF"	
	"INTELLIGENT VOL"	Adjust volume automatically: "ON" → "OFF"	
"PIP" 	"POSITION"	Change the position of the sub screen.	24
	"PIP"	Display a sub screen within the main picture: "ON" → "OFF"	
	"SWAP"	Exchange pictures between main screen and sub screen.	

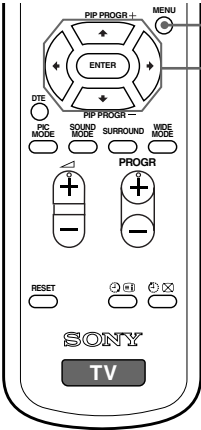
continue

continued

Level 1	Level 2	Level 3/Function	Page
"SETUP" 	"LANGUAGE"	Change the menu language: "ENGLISH" → "中文" (Chinese) → "عربي" (Arabic) → "ไทย" (Thai)	25
	"PIC ROTATION"	Adjust the picture position.	
	"PROGRAM SETUP"	Adjust each program number settings.	
	"COLOR SYS"	Select the color system: "AUTO" → "PAL" → "SECAM" → "NTSC3.58" → "NTSC4.43"	
"CH PRESET" 	"AUTO PROGRAM"	Preset channels automatically.	27
	"MANUAL PROGRAM"	Preset channels manually.	
	"TV SYS"	Select the TV system: "B/G" → "I" → "D/K" → "M"	

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and the BBE symbol are the trademarks of BBE Sound, Inc.

How to use the menu



Press MENU to display the menu.



Press $\uparrow$ or $\downarrow$ (or $\leftarrow$ or $\rightarrow$) to select the desired item.



Press ENTER to confirm your selection and go to the next level.



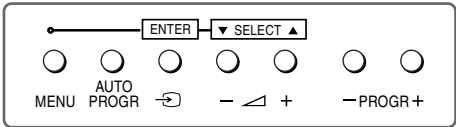
Other menu operations

To	Press
Adjust the setting value	$\uparrow$, $\downarrow$, $\leftarrow$ or $\rightarrow$.
Move to the next/previous menu level	$\leftarrow$ or $\rightarrow$.
Cancel the menu	MENU.

Tips

- If you want to exit from Menu level 2 to Menu level 1, press $\uparrow$ or $\downarrow$ until the return icon (↶) is highlighted, then press ENTER.
- Some of the menu items can be operated directly using the remote buttons.
- The MENU, ENTER, and SELECT $\blacktriangledown$ / $\blacktriangle$ buttons on the TV can also be used for the operations above.

Front of TV

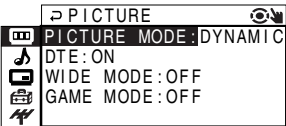


■ Changing the “PICTURE” setting

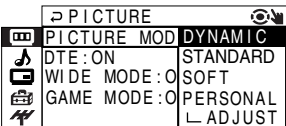
The “PICTURE” menu allows you to adjust the picture settings.

1 Press MENU.

2 Make sure the “PICTURE” icon (🖼️) is selected, then press ENTER.



3 Press ↑ or ↓ to select the desired item (e.g., “PICTURE MODE”), then press ENTER.



Select	To
“PICTURE MODE”	choose either “DYNAMIC”, “STANDARD”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“DTE”	optimize the picture contrast. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.
“WIDE MODE”	choose either “ON” or “OFF” (see page 12).
“GAME MODE”	adjust the picture setting that is suitable to view video games. Press ↑ or ↓ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.

* When the “PERSONAL” mode is selected, you can receive the last adjusted picture settings from the “ADJUST” option (see page 21).

Notes

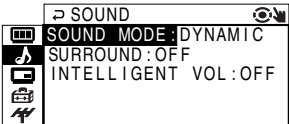
- “GAME MODE” is available only when receiving signals through 📺 (video input), 📡 (S video input), or 🎮 (component video input).
- The DTE mode is not selectable when “GAME MODE” is turned “ON”.

■ Changing the “SOUND” setting

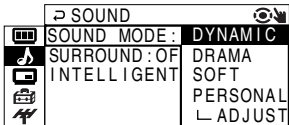
The “SOUND” menu allows you to adjust the sound settings.

1 Press MENU.

2 Press **▲** or **▼** to select the “SOUND” icon (🔊), then press ENTER.



3 Press **▲** or **▼** to select the desired item (e.g., “SOUND MODE”), then press ENTER.



Select	To
“SOUND MODE”	choose either “DYNAMIC”, “DRAMA”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“SURROUND”	choose either “TruSurround”, “SIMULATED” or “OFF” (see page 14).
“INTELLIGENT VOL”	adjust the volume of all program numbers and video inputs automatically. Press ▲ or ▼ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.

* When the “PERSONAL” mode is selected, you can receive the last adjusted sound settings from the “ADJUST” option (see page 23).

Adjusting the “ADJUST” items under “SOUND MODE”

- 1** Press **▲** or **▼** to select the desired item (e.g., “BALANCE”), then press ENTER.

BALANCE  00

- 2** Adjust the value according to the following table, then press ENTER .

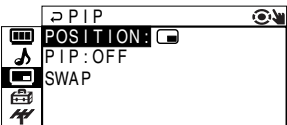
For	Press ▼ or ◀ to	Press ▲ or ▶ to
“BASS”	decrease the bass.	increase the bass.
“TREBLE”	decrease the treble.	increase the treble.
“BALANCE”	increase the left speaker’s volume.	increase the right speaker’s volume.
“BBE”	select “HIGH” for higher enhancement of sound clarity; select “LOW” for lower enhancement of sound clarity; select “OFF” to cancel BBE sound.	

- 3** Repeat the above steps to adjust other items.
The adjusted settings will be received when you select “PERSONAL”.

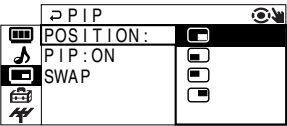
■ Changing the Picture-in-Picture ("PIP") setting

The "PIP" menu allows you to display a sub screen, change the sub screen position and exchange pictures between the main and sub screens.

- 1 Press MENU.
- 2 Press $\uparrow$ or $\downarrow$ to select the "PIP" icon , then press ENTER.



- 3 Press $\uparrow$ or $\downarrow$ to select the desired item (e.g., "POSITION"), then press ENTER.



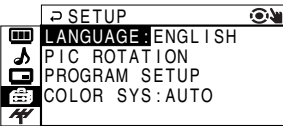
Select	To
"POSITION"	change the position of the sub screen. Press $\uparrow$ or $\downarrow$ to select the desired position, then press ENTER . 
"PIP"	display a sub screen. Press $\uparrow$ or $\downarrow$ to select "ON", then press ENTER . To cancel, press  or select "OFF", then press ENTER .
"SWAP"	exchange pictures between the main screen and sub screen.

Changing the “SETUP” setting

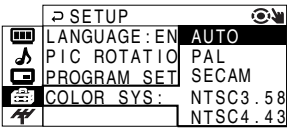
The “SETUP” menu allows you to change the menu language, adjust the picture position, set up your program numbers and select the color system.

1 Press MENU.

2 Press $\uparrow$ or $\downarrow$ to select the “SETUP” icon (📺), then press ENTER.



3 Press $\uparrow$ or $\downarrow$ to select the desired item (e.g., “COLOR SYS”), then press ENTER.



Select	To
“LANGUAGE”	change the menu language. Press $\uparrow$ or $\downarrow$ to select either “ENGLISH”, “中文” (Chinese), “عربي” (Arabic), or “ไทย” (Thai), then press ENTER. The selected menu language appears.
“PIC ROTATION”	adjust the picture position when it is not aligned with the TV screen. Press $\uparrow$, $\rightarrow$, $\downarrow$ or $\leftarrow$ to adjust the picture position, then press ENTER. PIC ROTATION
“PROGRAM SETUP”	adjust each channel settings (see Adjusting each program number settings (“PROGRAM SETUP”) on page 26).
“COLOR SYS”	select the color system. Normally, set this to “AUTO”.

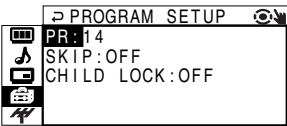
continue

continued

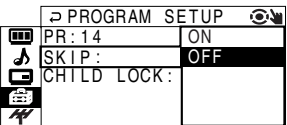
Adjusting each program number settings (“PROGRAM SETUP”)

1 Select “PROGRAM SETUP” from the “SETUP” menu.

2 Select “PR” and press ENTER. Press **▲** or **▼** to select the desired program number you want to adjust, then press ENTER.



3 Press **▲** or **▼** to select the desired item (e.g., “SKIP”), then press ENTER.



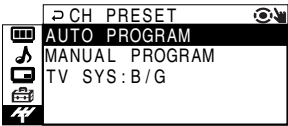
Select	To
“PR”	select the desired program number.
“SKIP”	skip unwanted or unused program number. Press ▲ or ▼ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.
“CHILD LOCK”	prevent children from watching this selected program number. Press ▲ or ▼ to select “ON”, then press ENTER. The lock symbol () appears on the screen. To cancel, select “OFF”, then press ENTER. If you preset a locked program number, that program number will be unlocked automatically.

4 To continue adjusting other program numbers, press **▲** or **▼** to select “PR”, then repeat step 2 and 3.

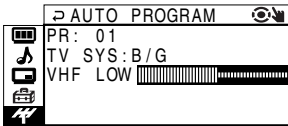
■ Changing the Channel Preset (“CH PRESET”) setting

The “CH PRESET” menu allows you to preset channels automatically, manually preset channels and select the TV system.

- 1 Press MENU.
- 2 Press  or  to select the “CH PRESET” icon () , then press ENTER.



- 3 Press  or  to select the desired item (e.g., “AUTO PROGRAM”), then press ENTER.



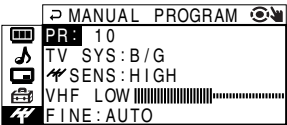
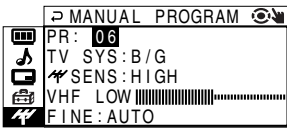
Select	To
“AUTO PROGRAM”	preset channels automatically.
“MANUAL PROGRAM”	manually preset desired channels and channels that cannot be preset automatically (see Presetting channels manually on page 28).
“TV SYS”	select the TV system. Press  or  to select either “B/G”, “I”, “D/K” or “M”, then press ENTER.

continue

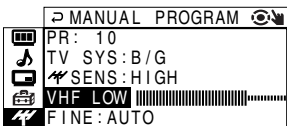
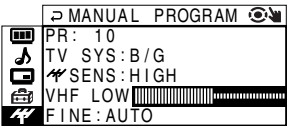
continued

Presetting channels manually

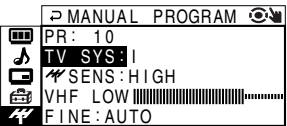
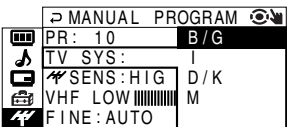
- 1** After selecting “MANUAL PROGRAM”, select the program number to which you want to preset a channel.
- (1) Make sure “PR” is selected, then press ENTER.
- (2) Press **▲** or **▼** until the program number you want to preset (e.g., program number “10”) appears on the menu, then press ENTER.



- 2** Select the desired channel.
- (1) Make sure either “VHF LOW”, “VHF HIGH”, or “UHF” is selected, then press ENTER.
- (2) Press **▲** or **▼** until the desired channel’s broadcast appears on the TV screen, then press ENTER.



- 3** If the sound of the desired channel is abnormal, select the appropriate TV system.
- (1) Press **▲** or **▼** to select “TV SYS”, then press ENTER.
- (2) Press **▲** or **▼** until the sound becomes normal, then press ENTER.

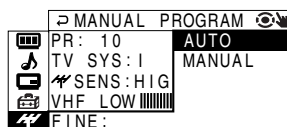


Tip

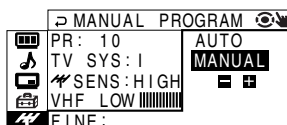
- You can also select the program number with the **PROGR +/-** or **number** buttons.

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 ENTER.

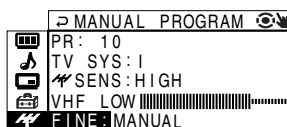


(2) Press **▲** or **▼** to select “MANUAL”, then press ENTER.



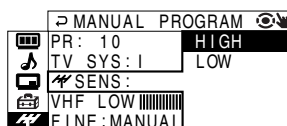
(3) Press **▲**, **▼**, **◀** or **▶** until the picture and sound quality are optimal, then press ENTER.

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

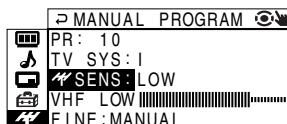


5 If the TV signal is too strong and the picture is distorted, you can adjust the TV reception sensitivity.

(1) Press **▲** or **▼** to select “SENS”, then press ENTER.



(2) Press **▲** or **▼** to select “LOW”, then press ENTER.

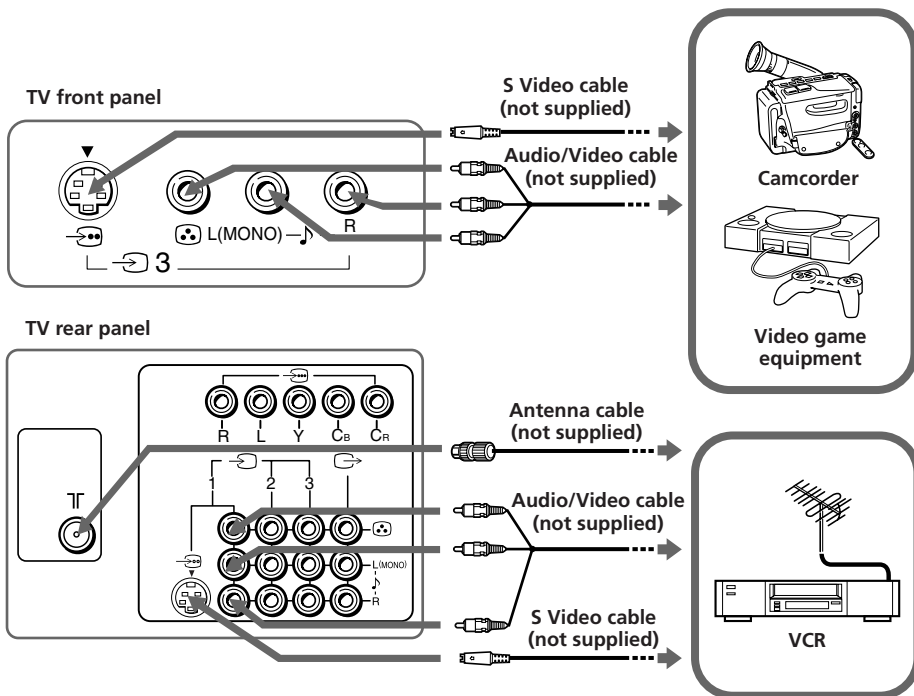


Note

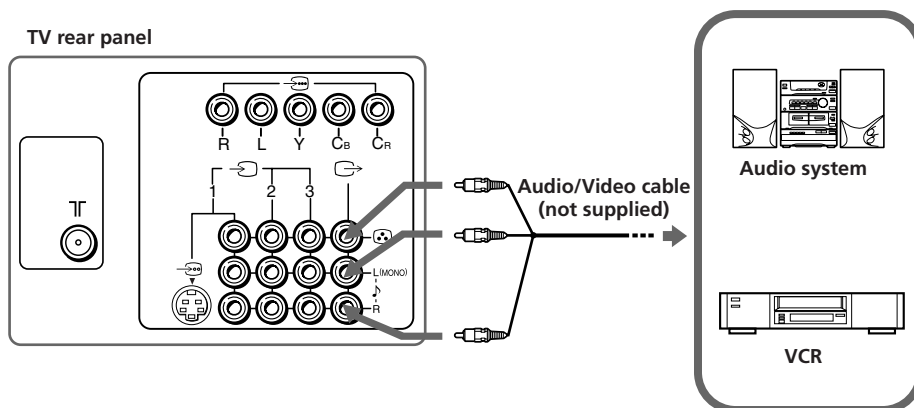
- If you connect a VCR to **㊦** (antenna input), preset the signal output from the VCR to the program number 0 on the TV.

■ Connecting optional components

Connecting to the video input terminal (➡)

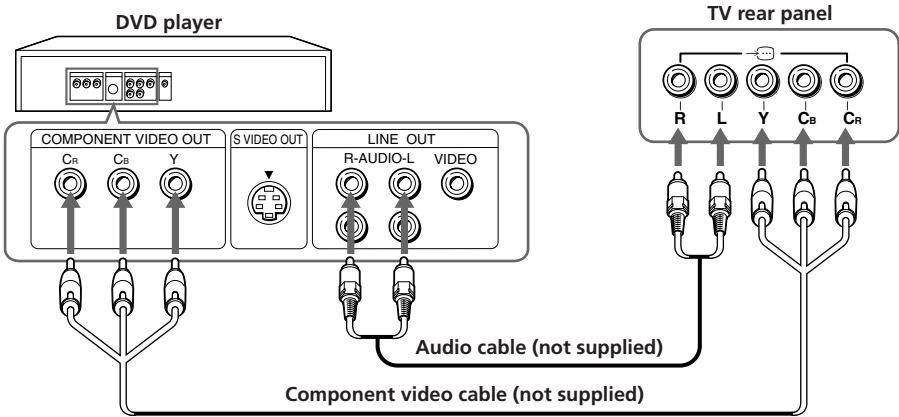


Connecting to the monitor output terminal (➡)



Connecting a DVD player to the component video input terminal ()

- 1 Using an audio cable, connect R and L under () (component video input) on your TV to the LINE OUT, AUDIO R and L output connectors on your DVD player.
- 2 Using a component video cable, connect Y, C_B, and C_R under () (component video input) on your TV to the COMPONENT VIDEO OUT Y, C_B, and C_R output connectors on your DVD player.
- 3 Press DVD on the remote to watch the () (component video input) and “DVD” will appear on your screen.



Notes

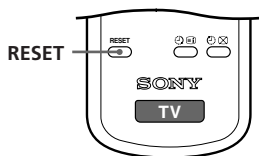
- If your DVD player can output interlace and progressive mode signals, select the interlace output when connecting to () (component video input) on your TV. Your TV can receive either 525i/60Hz or 625i/50Hz interlace signals.
- Some DVD player terminals may be labeled differently:

Connect	To (on the DVD player)
Y (green)	Y
Cb (blue)	Cb, Pb, Cb or B-Y
Cr (red)	Cr, Pr, Cr or R-Y

- When both () (S video) and () (video) for 1 or 3 are connected at the same time, () (S video) is automatically selected. To view () (video), disconnect the S video cable.
- If you select “DVD” on your TV screen, the signal from the () (monitor output) jacks will not be output properly. This does not indicate a malfunction.

Troubleshooting

If you have any problem while viewing your TV, you can either use the Reset function or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

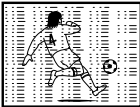


Reset function

Press the RESET button on your remote control. Your TV will go blank for about half a second then the picture will reappear with “RESET” displayed on your TV screen for about 10 seconds.

Pressing RESET will set your TV to the factory setting, but certain problems may be solved.

Troubleshooting guide

Symptom	Possible cause	Solutions	Page
Snowy picture 	- The connection is loose or the cable is damaged. - The antenna setup is inappropriate.	- Check the antenna cable and connection on the TV, VCR and at the wall. - Check the antenna setup. Contact a Sony dealer for advice.	30 –
Noisy sound 	- Channel presetting is inappropriate or incomplete. - Signal transmission is low.	- Display the “CH PRESET” menu and select “MANUAL PROGRAM” to preset the channel again. - Try using a booster.	28 –
Distorted picture 	Broadcast signals are too strong.	- Display the “CH PRESET” menu and select “MANUAL PROGRAM”. Then, select “SENS: LOW”. - Turn off or disconnect the booster if it is in use.	29 –
Noisy sound 			
Good picture 	- The TV system setting is inappropriate. - PIP sound is selected when PIP is displayed.	- Display the “CH PRESET” menu and select the appropriate TV system (“TV SYS”). - Press SOUND or .	28 13
Noisy sound 			

Symptom	Possible cause	Solutions	Page
No picture 	The power cord, antenna or VCR is not connected.	Check the power cord, antenna and VCR connections.	30
No sound 	The TV is not turned on.	- Press I/⏻ (power). - Press ① (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	9 8
Good picture 	The volume level is too low.	Press ▲ + to increase the volume level.	9
No sound 	- The sound is muted. - PIP sound is selected when PIP is displayed.	- Press 🔊 to cancel the muting. - Press SOUND or 📺.	9 13
Dotted lines or stripes 	There is local interference from cars, neon signs, hair dryers, power generators, etc.	- Do not use a hair dryer or other equipment near the TV. - Check the antenna setup. Contact a Sony dealer for advice.	– –
Double images or "ghosts" 	Broadcast signals are reflected by nearby mountains or buildings.	- Use a highly directional antenna. - Use the fine tuning ("FINE") function.	– 29
	The antenna setup is inappropriate.	Check the antenna setup. Contact a Sony dealer for advice.	–
	Use of a booster is inappropriate.	Turn off or disconnect the booster if it is in use.	–
No color 	The color level setting is too low.	Display the "PICTURE" menu and select "ADJUST" of "PICTURE MODE", then adjust the "COLOR" level.	21
	The color system setting is inappropriate.	Display the "SETUP" menu and check the color system ("COLOR SYS") setting (usually set this to "AUTO").	25
	The antenna setup is inappropriate.	Check the antenna setup. Contact a Sony dealer for advice.	–

continued

Symptom	Possible cause	Solutions	Page
Picture slant 	The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	- Keep external speakers or other electrical equipment away from the TV. - Display the "SETUP" menu and adjust "PIC ROTATION" so that the picture position is optimal.	— 25
Abnormal color patches 	The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ① (main power) on the TV to turn off the TV for about 15 minutes, then turn it on again to demagnetize the TV.	—
"100" appears at the top of the screen and there is no Teletext display.	The channel carries no Teletext broadcast.	—	16
Teletext display is incomplete (snowy picture or double images).	Connection is loose or the cable is damaged.	Check the antenna cable and connection on the TV, VCR, and at the wall.	30
	The antenna setup is inappropriate.	Check the antenna setup. Contact a Sony dealer for advice.	—
	Signal transmission is too low.	- Try using a booster. - Use the fine tuning ("FINE") function.	— 29
The ⏻ (standby) indicator on your TV flashes red several times after every three seconds.	Your TV's self-diagnosis function indicates the possible problems.	Count the number of times the ⏻ (standby) indicator flashes. Press ① (main power) to turn off your TV. Contact your nearest Sony service center.	—
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 detail, see the instruction manual supplied with the video game software.	—	—



Symptom	Possible cause	Solutions	Page
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.	—	—

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.

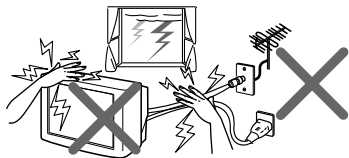
FD Trinitron
WEGA

KV-AR29
KV-AR25

M61
M80
M50

WARNING

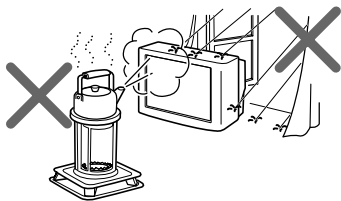
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 110-240 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage 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.



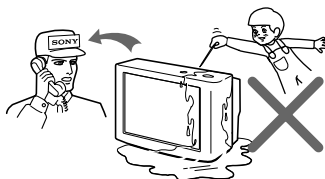
For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.



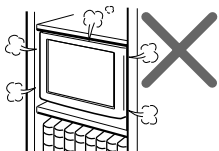
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



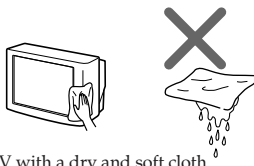
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



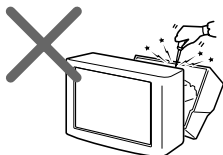
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



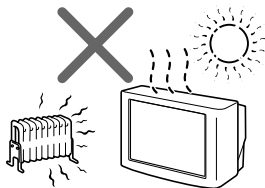
Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



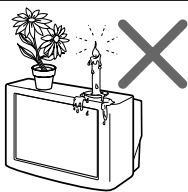
Clean the TV with a dry and soft cloth. Do not use benzene, thinner, or any other chemicals to clean the TV. Do not attach anything (e. g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



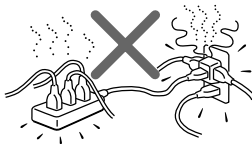
Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



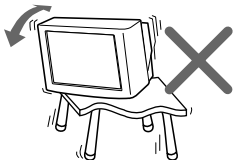
Your TV is recommended for home use only. Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



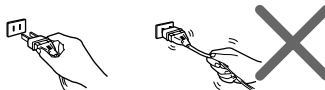
Do not place any objects on the TV.



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



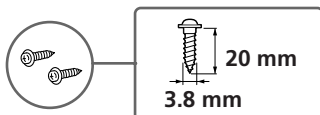
Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.



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.

■ Securing the TV

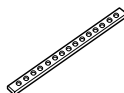
To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.



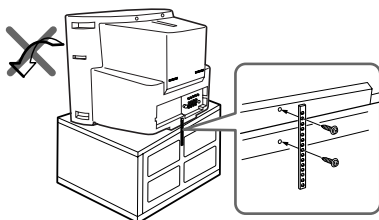
screws



clamps

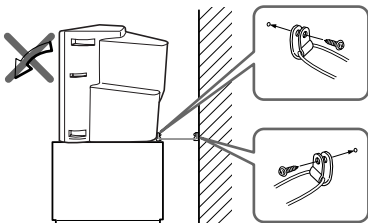


band



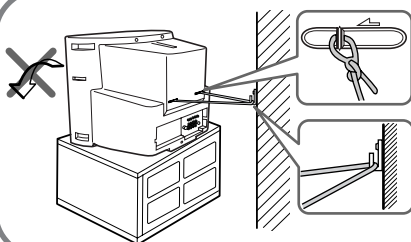
Screw the band to the TV stand and to the provided hole at the rear of your TV.

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.

Note

- Use only the supplied screws. Use of other screws may damage the TV.

Table of Contents

Installation	
Getting Started	6
Setting up your TV ("INITIAL SETUP")	7

Overview of Controls	
TV front and rear panels	8
Remote control	9

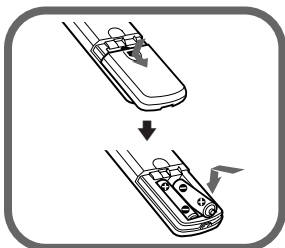
Advanced Operations	
Selecting the picture and sound modes	11
Viewing the picture in wide mode ..	12
Listening with surround sound	12
Setting the timers	13
Enjoying stereo or bilingual programs (KV-AR29M61/AR25M61 only)	14
Viewing Teletext (KV-AR29M61/ AR25M61 only)	15

Menu Adjustment	
Introducing the menu system	16
Changing the "PICTURE" setting ...	19
Changing the "SOUND" setting	21
Changing the "SETUP" setting	23
Changing the Channel Preset ("CH PRESET") setting	25

Additional Information	
Connecting optional components ...	28
Troubleshooting	30
Specifications	Back cover

GB

■ Getting Started

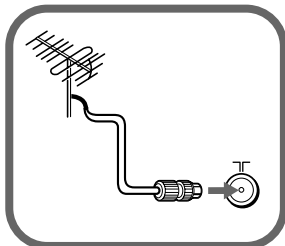


Step 1

Insert the batteries (supplied) into the remote.

Note

- Do not use old or different types of batteries together.

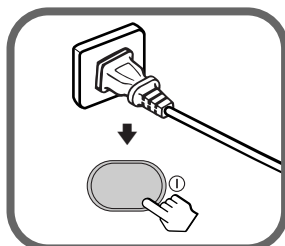


Step 2

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

Tip

- You can also connect your TV to other optional components (see page 28).



Step 3

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

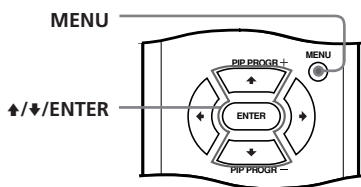


Step 4

Set up the TV by following the instructions of the "INITIAL SETUP" menu (see page 7).

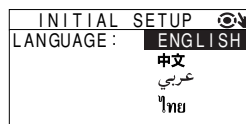
■ Setting up your TV ("INITIAL SETUP")

When you turn on your TV for the first time, the "INITIAL SETUP" menu will appear. This menu allows you to change the menu language, adjust the picture position and preset the TV channels automatically.



- 1 Press ▲ or ▼ to select the desired menu language (e.g., "ENGLISH"), then press ENTER.

The selected menu language appears.

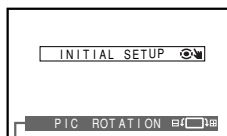


- 2 If the "PIC ROTATION" bar is slanted, press ▲ or ▼ to adjust it, then press ENTER.

If no adjustment is necessary, then press ENTER.

The ⊕ or ⊖ icon on the screen flashes while adjusting.

Rotate anti-clockwise



Rotate clockwise

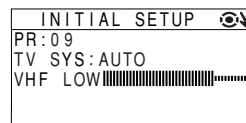
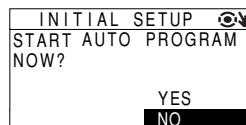


Refer to this bar when adjusting.

- 3 Press ▲ or ▼ to select "YES", then press ENTER to preset the channels automatically (see page 25).

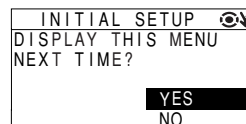
The screen will indicate automatic presetting is in progress.

To skip automatic channel presetting, select "NO", then press ENTER.



- 4 Press ▲ or ▼ to select "NO", then press ENTER. The "INITIAL SETUP" menu will not appear again the next time you turn on the TV by pressing ①.

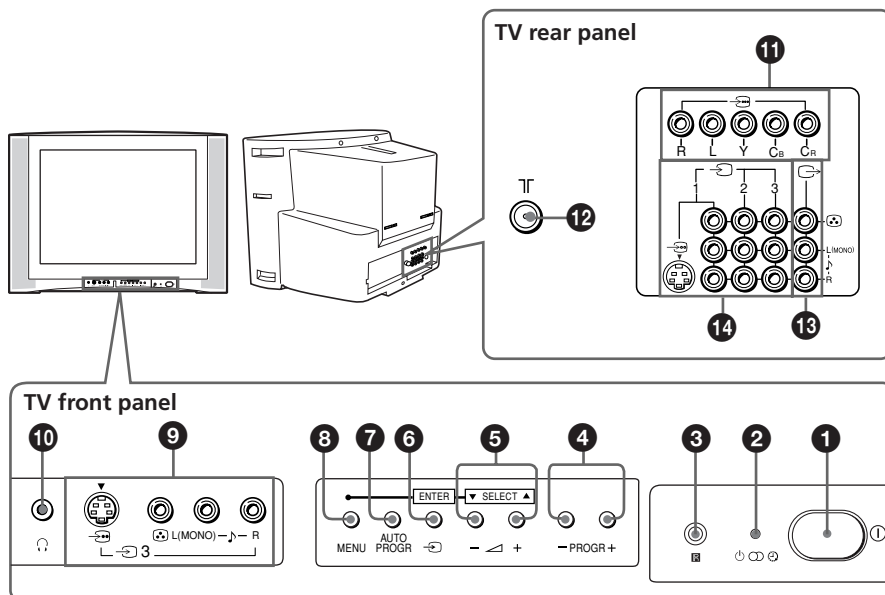
To allow this menu to appear again, select "YES", then press ENTER.



Tips

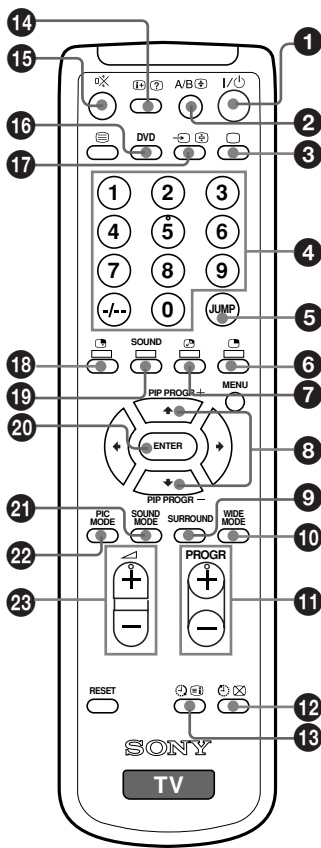
- You can immediately go to the end of the "INITIAL SETUP" menu by pressing MENU.
- You can also set up your TV using the menu system (see page 16).

TV front and rear panels



Button/Terminal	Function	Page
① ①	Turn off or turn on the TV.	6
② ⏻	Standby indicator.	—
② ⌚	Wake Up indicator.	13
② ⌂ (KV-AR29M61/ AR25M61 only)	Stereo/bilingual indicator.	14
③ 📡	Remote control sensor.	—
④ PROGR +/-	Select program number.	—
⑤ ▴ +/-	Adjust volume.	—
⑥ ↵	Select TV or video input.	—
⑦ AUTO PROGR	Preset channels automatically.	—
Menu operations		
⑤ SELECT ▾/▴	Select and adjust items.	18
⑥ ENTER	Confirm selected items.	18
⑧ MENU	Display or cancel the menu.	18
⑨ ↵3	Video input terminal 3.	28
⑩ 🎧	Headphone jack.	—
⑪ 📺	Component video input terminal.	29
⑫ 📡	Antenna input terminal.	28
⑬ 📺	Monitor output terminal.	28
⑭ ↵1, ↵2, ↵3	Video input terminal 1, 2, 3.	28

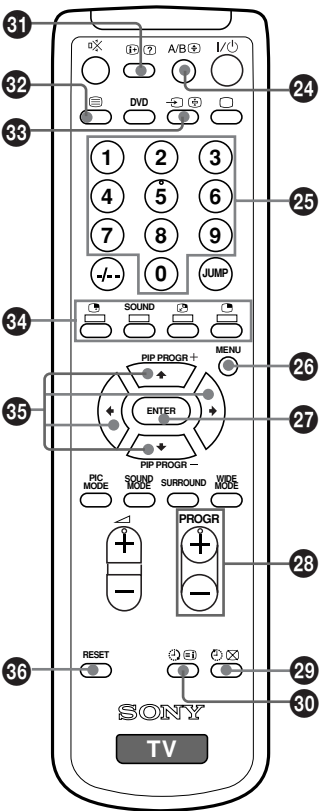
Remote control



Button	Function	Page
❶ I/⏻	Turn off temporarily or turn on the TV.	–
❸ □	Display the TV input.	–
❹ 0 – 9, -/-	Input numbers.	–
❺ JUMP	Jump to previous program number.	–
❾ SURROUND	Select surround mode.	12
❿ WIDE MODE	Select wide-mode (16:9).	12
⓫ PROGR +/-	Select program number.	–
⓬ ⓘ	Display on-screen information.	–
⓭ 🔊	Mute the sound.	–
⓯ DVD	Select DVD input.	29
⓰ ↵	Select TV or video input.	28
⓴ SOUND MODE	Select sound mode.	11
⓶ PIC MODE	Select picture mode.	11
⓸ 🔊 +/-	Adjust volume.	–
Timer operations		
⓫ 🔔	Set TV to turn off automatically.	13
⓬ 🔔	Set TV to turn on automatically.	13
PIP operations (yellow label)		
❻ □	Not function for your TV.	–
❼ 🖥		
❽ PIP PROGR +/ PIP PROGR –		
⓫ 🖥		
⓯ SOUND		
⓶ ENTER		
Stereo/bilingual operations (KV-AR29M61/AR25M61 only)		
❷ A/B	Select stereo/bilingual mode.	14

continue

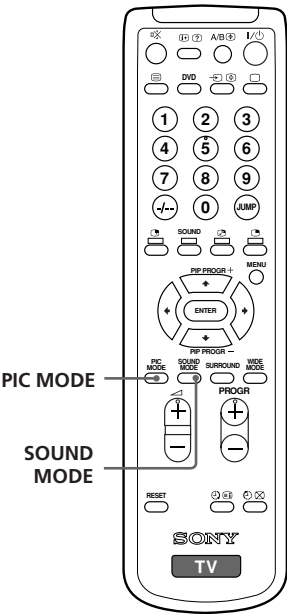
continued



Button	Function	Page
Menu operations		
26 MENU	Display or cancel the menu.	18
27 ENTER	Confirm selected items.	18
35	Select and adjust items.	18
Teletext operations (green label) (KV-AR29M61/AR25M61 only)		
24	Enlarge the Teletext display.	15
25 0 - 9	Input Teletext page number.	15
28 PROGR +/-	Display the next or previous page.	15
29	Show TV screen while waiting for Teletext page.	15
30	Display Teletext service contents.	15
31	Reveal concealed information.	15
32	Display Teletext broadcast.	15
33	Stop Teletext display from scrolling.	15
34	Access a FASTEXT menu.	15
36 RESET	Set TV to factory setting.	30

Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in the "PERSONAL" option.



Selecting the picture mode

Press PIC MODE to select the desired picture mode.

Select	To
"DYNAMIC"	view high contrast pictures.
"STANDARD"	view normal pictures.
"SOFT"	view mild pictures.
"PERSONAL"	receive the last adjusted picture setting from the "ADJUST" option in the "PICTURE" menu (see page 20).

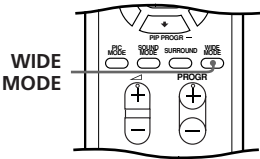
Selecting the sound mode

Press SOUND MODE to select the desired sound mode.

Select	To
"🔊 DYNAMIC"	listen to dynamic and clear sound that emphasizes both the low and high tones.
"🔊 DRAMA"	listen to sound that emphasizes voice and high tones.
"🔊 SOFT"	listen to soft sound.
"🔊 PERSONAL"	receive the last adjusted sound setting from the "ADJUST" option in the "SOUND" menu (see page 22).

■ Viewing the picture in wide mode

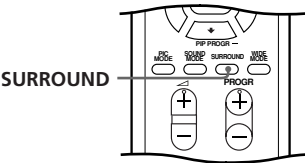
When receiving a wide-mode (16:9) signal, the picture will appear “squeezed” (compressed) on your screen. Use the WIDE MODE button to view the picture with the optimal effect.



Select	To
“ON”	view the picture in wide-mode (16:9).
“OFF”	cancel wide-mode (16:9).

■ Listening with surround sound

You can use the SURROUND button to listen to the sound effects of a concert hall or movie theater.



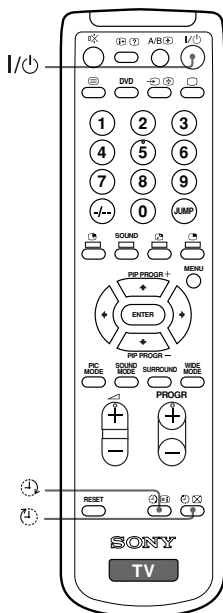
Select	To
“TruSurround”	listen to the surround sound that spreads out to the rear of a room.
“SIMULATED”	listen to monaural sound with a stereo-like effect.
“OFF”	cancel surround sound.

The surround of your TV is categorized as TruSurround.

TruSurround™ is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos. 4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents.

■ Setting the timers

You can set your TV to turn on and off automatically by using the Wake Up timer and Sleep timer respectively.



Setting the Wake Up timer

- 1 Press until the desired period of time appears on the screen.

WAKE UP TIMER:10M
(After 10 minutes)

WAKE UP TIMER:OFF
(No Wake Up timer)

WAKE UP TIMER:12H00M
(After 12 hours)

The Wake Up timer starts immediately after you have set it.

- 2 Select the program number or video input you want to wake up to.

- 3 Press or set the Sleep timer if you want the TV to turn off automatically.

The indicator on the TV lights up orange when the TV goes into standby mode.

Setting the Sleep timer

Press until the desired period of time appears on the screen.

SLEEP TIMER:30M
(After 30 minutes)

SLEEP TIMER:60M
(After 60 minutes)

SLEEP TIMER:OFF
(No Sleep timer)

SLEEP TIMER:90M
(After 90 minutes)

The Sleep timer starts immediately after you have set it.

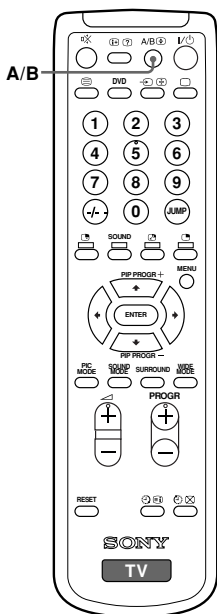
Notes

- You can also cancel the Wake Up and Sleep timers by pressing on the TV to turn off the TV.
- If no buttons are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into standby mode.

■ Enjoying stereo or bilingual programs

► KV-AR29M61/AR25M61 only

You can enjoy stereo sound or bilingual programs of NICAM and A2 stereo systems by using the A/B button.



When receiving a NICAM program

Broadcasting	On-screen display (Selected sound)
NICAM stereo	<pre> graph LR A[NICAM (Stereo sound)] --> B[MONO (Regular sound)] B --> A </pre>
NICAM bilingual	<pre> graph LR A[NICAM MAIN (Main sound)] --> B[NICAM SUB (Sub sound)] </pre>

When receiving an A2 program

Broadcasting	On-screen display (Selected sound)	
A2 stereo	STEREO (Stereo sound)	MONO (Regular sound)
A2 bilingual	MAIN (Main sound)	SUB (Sub sound)

Notes

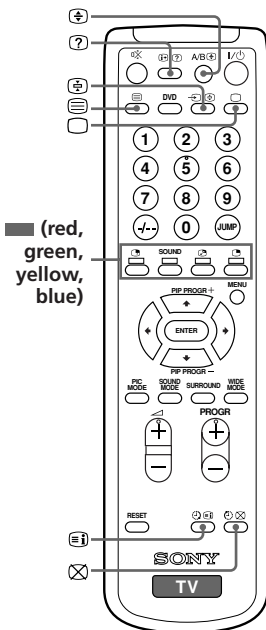
- If the stereo sound is noisy when receiving a stereo program, select “MONO”. The sound becomes monaural, but the noise is reduced.
- If the sound is distorted when receiving a monaural program through ⑦ (antenna input), press A/B repeatedly until “MONO” appears on the screen. To cancel the monaural sound setting, press A/B again until “AUTO” appears on the screen.

■ Viewing Teletext

► KV-AR29M61/AR25M61 only

Some TV stations broadcast an information service called Teletext which allows you to receive various information, such as stock market reports and news.

You can use the buttons on the remote to view Teletext.



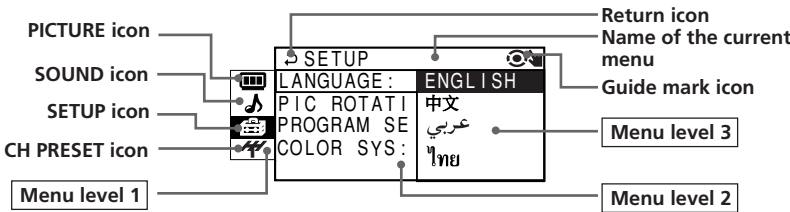
To	Do this
display a Teletext page on the TV picture	Press . Each time you press , the screen changes as follows: Teletext → Teletext and TV → TV. If there is no Teletext broadcast, "100" is displayed at the top left corner of the screen.
check the contents of a Teletext service	Press . An overview of the Teletext contents, including page numbers, appears on the screen.
select a Teletext page	Press the number buttons to enter the three-digit page number of the desired Teletext page. If you make a mistake, reenter the correct page number. To access the next or previous page, press PROGR +/-.
hold (pause) a Teletext display	Press to display the symbol "". To resume normal Teletext viewing, press or .
reveal concealed information (e.g., an answer to a quiz)	Press . To conceal the information, press the button again.
enlarge the Teletext display	Press . Each time you press , the Teletext display changes as follows: Enlarge upper half → Enlarge lower half → Normal size.
stand by for a Teletext page while watching a TV program	1 Enter the Teletext page number that you want to refer to, then press . 2 When the page number is displayed, press to show the text.
select a FASTEXT menu or the colored boxes	Press (red, green, yellow and blue) that corresponds to the desired menu or page number.
turn off Teletext	Press .

Note

- The FASTEXT feature can be used only when the FASTEXT broadcast is available.

■ Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV. The following is an overview of the menu system.

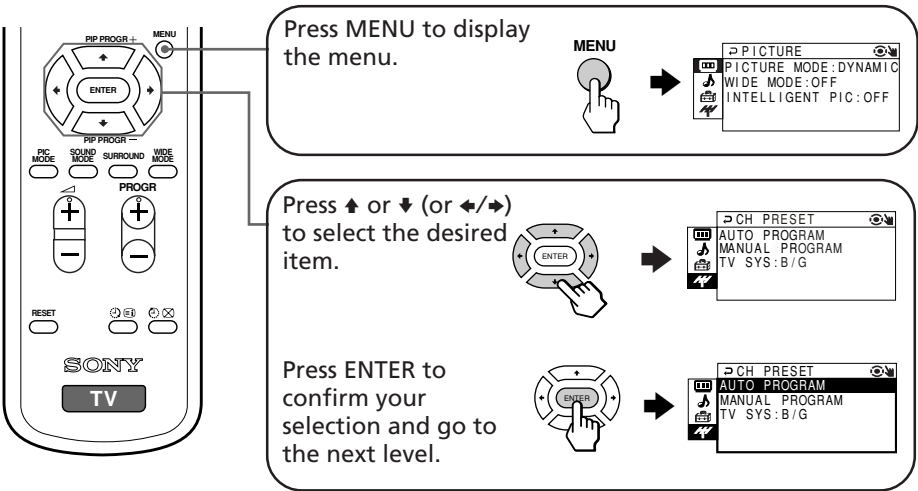


Level 1	Level 2	Level 3/Function	Page
"PICTURE" 	"PICTURE MODE"	Select the picture mode: "DYNAMIC" → "STANDARD" → "SOFT" → "PERSONAL" → "ADJUST"	19
	"ADJUST"	Adjust the "PERSONAL" option: "PICTURE" → "COLOR" → "BRIGHT" → "HUE" → "SHARP"	
	"WIDE MODE"	Change the picture size: "ON" → "OFF"	
	"INTELLIGENT PIC"	Optimize picture quality: "ON" → "OFF"	
"SOUND" 	"SOUND MODE"	Select the sound mode: "DYNAMIC" → "DRAMA" → "SOFT" → "PERSONAL" → "ADJUST"	21
	"ADJUST"	Adjust the "PERSONAL" option: "BASS" → "TREBLE" → "BALANCE" → "BBE"*	
	"SURROUND"	Select the "SURROUND" mode: "TruSurround" → "SIMULATED" → "OFF"	
	"INTELLIGENT VOL"	Adjust volume automatically: "ON" → "OFF"	
SETUP" 	"LANGUAGE"	Change the menu language: "ENGLISH" → "中文" (Chinese) → "عربي" (Arabic) → "ไทย" (Thai)	23
	"PIC ROTATION"	Adjust the picture position.	
	"PROGRAM SETUP"	Adjust each program number settings.	
	"COLOR SYS"	Select the color system: "AUTO" → "PAL" → "SECAM" → "NTSC3.58" → "NTSC4.43"	

Level 1	Level 2	Level 3/Function	Page
"CH PRESET" 	"AUTO PROGRAM"	Preset channels automatically.	25
	"MANUAL PROGRAM"	Preset channels manually.	
	"TV SYS"	Select the TV system: "B/G" → "I" → "D/K" → "M"	

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and the BBE symbol are the trademarks of BBE Sound, Inc.

How to use the menu



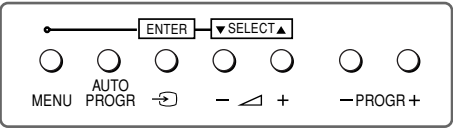
Other menu operations

To	Press
Adjust the setting value	$\uparrow, \downarrow, \leftarrow$ or $\rightarrow$.
Move to the next/previous menu level	$\leftarrow$ or $\rightarrow$.
Cancel the menu	MENU.

Tips

- If you want to exit from Menu level 2 to Menu level 1, press $\uparrow$ or $\downarrow$ until the return icon (↶) is highlighted, then press ENTER.
- Some of the menu items can be operated directly using the remote buttons.
- The MENU, ENTER, and SELECT $\nabla/\blacktriangle$ buttons on the TV can also be used for the operations above.

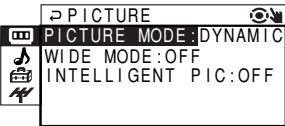
Front of TV



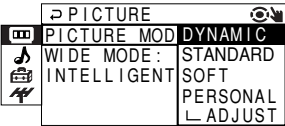
■ Changing the “PICTURE” setting

The “PICTURE” menu allows you to adjust the picture settings.

- 1 Press MENU.
- 2 Make sure the “PICTURE” icon () is selected, then press ENTER.



- 3 Press **▲** or **▼** to select the desired item (e.g., “PICTURE MODE”), then press ENTER.



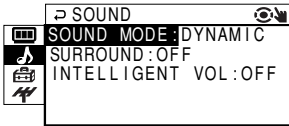
Select	To
“PICTURE MODE”	choose either “DYNAMIC”, “STANDARD”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“WIDE MODE”	choose either “ON” or “OFF” (see page 12).
“INTELLIGENT PIC”	optimize picture quality. Press ▲ or ▼ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.

* When the “PERSONAL” mode is selected, you can receive the last adjusted picture settings from the “ADJUST” option (see page 20).

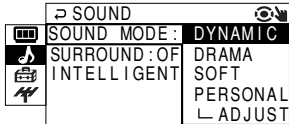
■ Changing the “SOUND” setting

The “SOUND” menu allows you to adjust the sound settings.

- 1 Press MENU.
- 2 Press  or  to select the “SOUND” icon (🔊), then press ENTER.



- 3 Press  or  to select the desired item (e.g., “SOUND MODE”), then press ENTER.



Select	To
“SOUND MODE”	choose either “DYNAMIC”, “DRAMA”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“SURROUND”	choose either “TruSurround”, “SIMULATED” or “OFF” (see page 12).
“INTELLIGENT VOL”	adjust the volume of all program numbers and video inputs automatically. Press  or  to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.

* When the “PERSONAL” mode is selected, you can receive the last adjusted sound settings from the “ADJUST” option (see page 22).

Adjusting the “ADJUST” items under “SOUND MODE”

1 Press **↑** or **↓** to select the desired item (e.g., “BALANCE”), then press ENTER.

BALANCE  00

2 Adjust the value according to the following table, then press ENTER .

For	Press ↓ or ← to	Press ↑ or → to
“BASS”	decrease the bass.	increase the bass.
“TREBLE”	decrease the treble.	increase the treble.
“BALANCE”	increase the left speaker’s volume.	increase the right speaker’s volume.
“BBE”	select “HIGH” for higher enhancement of sound clarity; select “LOW” for lower enhancement of sound clarity; select “OFF” to cancel BBE sound.	

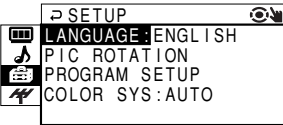
3 Repeat the above steps to adjust other items.
The adjusted settings will be received when you select “PERSONAL”.

■ Changing the “SETUP” setting

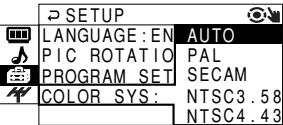
The “SETUP” menu allows you to change the menu language, adjust the picture position, set up your program numbers and select the color system.

1 Press MENU.

2 Press  or  to select the “SETUP” icon () , then press ENTER.



3 Press  or  to select the desired item (e.g., “COLOR SYS”), then press ENTER.



Select	To
“LANGUAGE”	change the menu language. Press  or  to select either “ENGLISH”, “中文” (Chinese), “عربي” (Arabic), or “ไทย” (Thai) then press ENTER. The selected menu language appears.
“PIC ROTATION”	adjust the picture position when it is not aligned with the TV screen. Press  ,  ,  or  to adjust the picture position, then press ENTER. PIC ROTATION 
“PROGRAM SETUP”	adjust each channel settings (see Adjusting each program number settings (“PROGRAM SETUP”) on page 24).
“COLOR SYS”	select the color system. Normally, set this to “AUTO”.

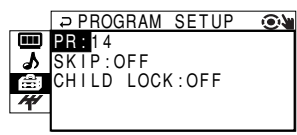
continue

continued

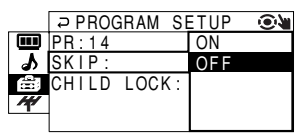
Adjusting each program number settings (“PROGRAM SETUP”)

1 Select “PROGRAM SETUP” from the “SETUP” menu.

2 Select “PR” and press ENTER. Press **▲** or **▼** to select the desired program number you want to adjust, then press ENTER.



3 Press **▲** or **▼** to select the desired item (e.g., “SKIP”), then press ENTER.



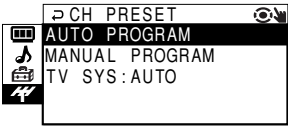
Select	To
“PR”	select the desired program number.
“SKIP”	skip unwanted or unused program number. Press ▲ or ▼ to select “ON”, then press ENTER. To cancel, select “OFF”, then press ENTER.
“CHILD LOCK”	prevent children from watching this selected program number. Press ▲ or ▼ to select “ON”, then press ENTER. The lock symbol () appears on the screen. To cancel, select “OFF”, then press ENTER. If you preset a locked program number, that program number will be unlocked automatically.

4 To continue adjusting other program numbers, press **▲** or **▼** to select “PR”, then repeat step 2 and 3.

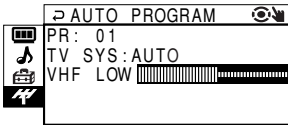
■ Changing the Channel Preset (“CH PRESET”) setting

The “CH PRESET” menu allows you to preset channels automatically, manually preset channels and select the TV system.

- 1 Press MENU.
- 2 Press  or  to select the “CH PRESET” icon () , then press ENTER.



- 3 Press  or  to select the desired item (e.g., “AUTO PROGRAM”), then press ENTER.



Select	To
“AUTO PROGRAM”	preset channels automatically.
“MANUAL PROGRAM”	manually preset desired channels and channels that cannot be preset automatically (see Presetting channels manually on page 26).
“TV SYS”	select the TV system. Press  or  to select either “B/G” , “I” , “D/K” or “M” , then press ENTER.

Note (KV-AR29M50/AR25M80/AR25M50 only)

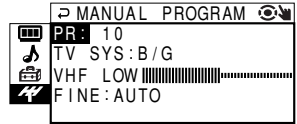
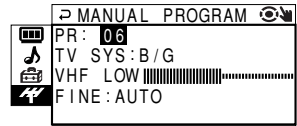
- During automatic channel presetting, your TV screen will indicate “B/G” , “I” , “D/K” or “M” for the TV system (“TV SYS”).

continued

Presetting channels manually

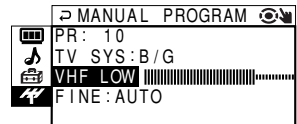
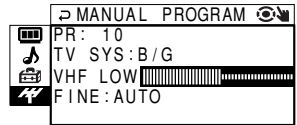
1 After selecting “MANUAL PROGRAM”, select the program number to which you want to preset a channel.

- (1) Make sure “PR” is selected, then press ENTER.
- (2) Press $\blacktriangle$ or $\blacktriangledown$ until the program number you want to preset (e.g., program number “10”) appears on the menu, then press ENTER.



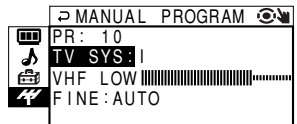
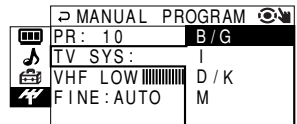
2 Select the desired channel.

- (1) Make sure either “VHF LOW”, “VHF HIGH”, or “UHF” is selected, then press ENTER.
- (2) Press $\blacktriangle$ or $\blacktriangledown$ until the desired channel’s broadcast appears on the TV screen, then press ENTER.



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

- (1) Press $\blacktriangle$ or $\blacktriangledown$ to select “TV SYS”, then press ENTER.
- (2) Press $\blacktriangle$ or $\blacktriangledown$ until the sound becomes normal, then press ENTER.

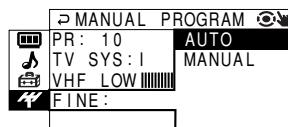


Tip

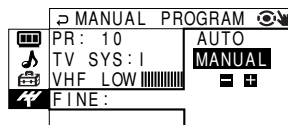
- You can also select the program number with the PROGR +/- or number buttons.

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 ENTER.

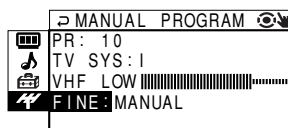


(2) Press **▲** or **▼** to select “MANUAL”, then press ENTER.



(3) Press **▲**, **▼**, **◀** or **▶** until the picture and sound quality are optimal, then press ENTER.

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

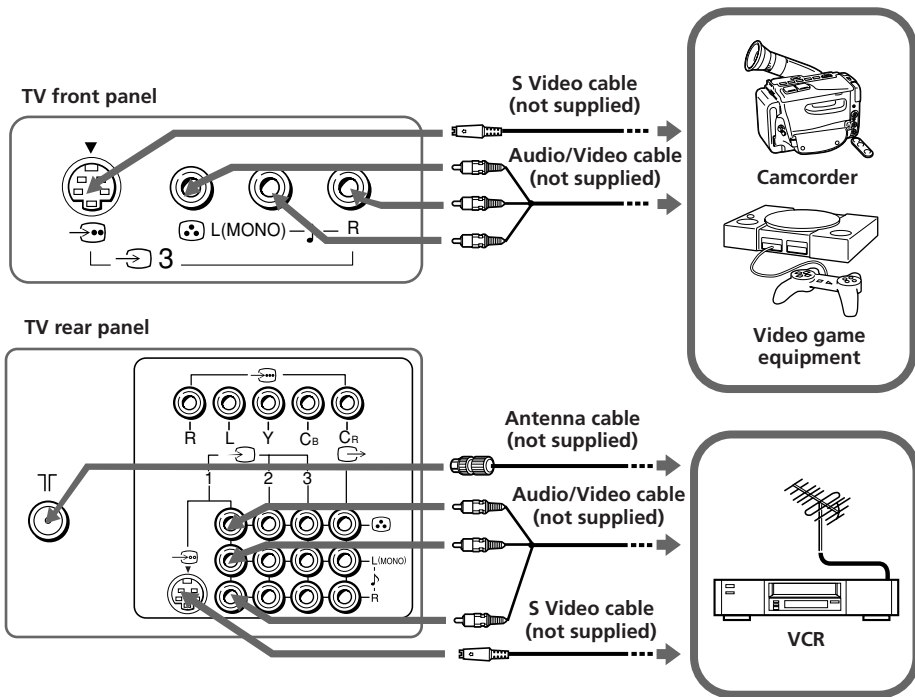


Note

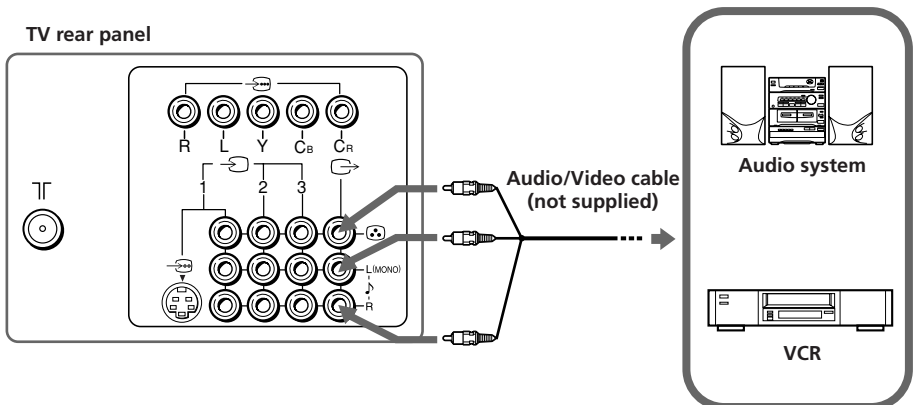
- If you connect a VCR to **㊚** (antenna input), preset the signal output from the VCR to the program number 0 on the TV.

■ Connecting optional components

Connecting to the video input terminal (➡)

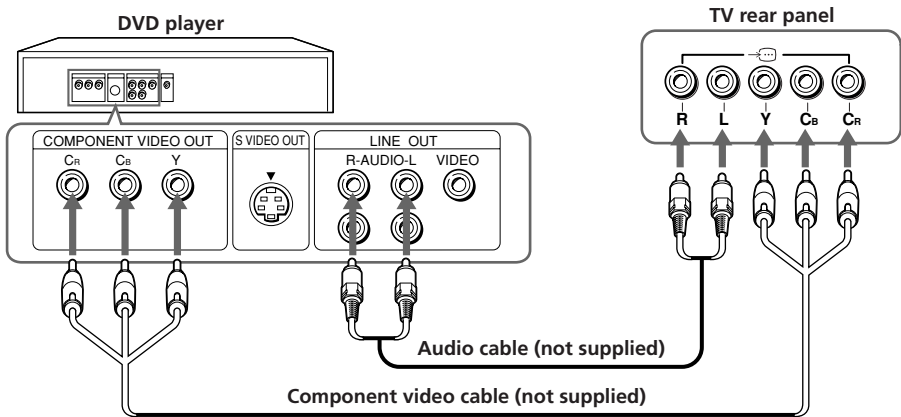


Connecting to the monitor output terminal (➡)



Connecting a DVD player to the component video input terminal ()

- 1 Using an audio cable, connect R and L under () (component video input) on your TV to the LINE OUT, AUDIO R and L output connectors on your DVD player.
- 2 Using a component video cable, connect Y, C_B, and C_R under () (component video input) on your TV to the COMPONENT VIDEO OUT Y, C_B, and C_R output connectors on your DVD player.
- 3 Press DVD on the remote to watch the () (component video input) and “DVD” will appear on your screen.



Notes

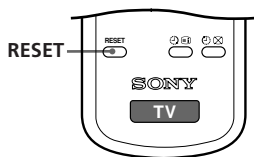
- If your DVD player can output interlace and progressive mode signals, select the interlace output when connecting to () (component video input) on your TV. Your TV can receive either 525i/60Hz or 625i/50Hz interlace signals.
- Some DVD player terminals may be labeled differently:

Connect	To (on the DVD player)
Y (green)	Y
C _B (blue)	C _B , P _B , C _b or B-Y
C _R (red)	C _R , P _R , C _r or R-Y

- When both () (S video) and () (video) for 1 or 3 are connected at the same time, () (S video) is automatically selected. To view () (video), disconnect the S video cable.
- If you select “DVD” on your TV screen, the signal from the () (monitor output) jacks will not be output properly. This does not indicate a malfunction.

Troubleshooting

If you have any problem while viewing your TV, you can either use the Reset function or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.

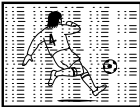


Reset function

Press the RESET button on your remote control. Your TV will go blank for about half a second then the picture will reappear with "RESET" displayed on your TV screen for about 10 seconds.

Pressing RESET will set your TV to the factory setting, but certain problems may be solved.

Troubleshooting guide

Symptom	Possible cause	Solutions	Page
Snowy picture 	- The connection is loose or the cable is damaged. - The antenna setup is inappropriate.	- Check the antenna cable and connection on the TV, VCR and at the wall. - Check the antenna setup. Contact a Sony dealer for advice.	28
Noisy sound 	- Channel presetting is inappropriate or incomplete. - Signal transmission is low.	- Display the "CH PRESET" menu and select "MANUAL PROGRAM" to preset the channel again. - Try using a booster.	26
Distorted picture 	Broadcast signals are too strong.	Turn off or disconnect the booster if it is in use.	—
Noisy sound 			
Good picture 	The TV system setting is inappropriate.	Display the "CH PRESET" menu and select the appropriate TV system ("TV SYS").	26
Noisy sound 			

Symptom	Possible cause	Solutions	Page
No picture 	The power cord, antenna or VCR is not connected.	Check the power cord, antenna and VCR connections.	28
No sound 	The TV is not turned on.	- Press I/⏻ (power). - Press ① (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	9 8
Good picture 	The volume level is too low.	Press ◀ + to increase the volume level.	9
No sound 	The sound is muted.	Press ⏻ to cancel the muting.	9
Dotted lines or stripes 	There is local interference from cars, neon signs, hair dryers, power generators, etc.	- Do not use a hair dryer or other equipment near the TV. - Check the antenna setup. Contact a Sony dealer for advice.	– –
Double images or "ghosts" 	Broadcast signals are reflected by nearby mountains or buildings.	- Use a highly directional antenna. - Use the fine tuning ("FINE") function.	– 27
	The antenna setup is inappropriate.	Check the antenna setup. Contact a Sony dealer for advice.	–
	Use of a booster is inappropriate.	Turn off or disconnect the booster if it is in use.	–
No color 	The color level setting is too low.	Display the "PICTURE" menu and select "ADJUST" of "PICTURE MODE", then adjust the "COLOR" level.	20
	The color system setting is inappropriate.	Display the "SETUP" menu and check the color system ("COLOR SYS") setting (usually set this to "AUTO").	23
	The antenna setup is inappropriate.	Check the antenna setup. Contact a Sony dealer for advice.	–

continue

continued

Symptom	Possible cause	Solutions	Page
Picture slant 	The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	- Keep external speakers or other electrical equipment away from the TV. - Display the "SETUP" menu and adjust "PIC ROTATION" so that the picture position is optimal.	– 23
Abnormal color patches 	The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ① (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.	The stereo reception setting is inappropriate.	Press A/B until "AUTO" appears on the screen.	14
or Stereo broadcast sound switches on and off or is distorted. (KV-AR29M61/AR25M61 only)	- The connection is loose or the cable is damaged. - The antenna setup is inappropriate.	- Check the antenna cable and connection on the TV, VCR and at the wall. - Check the antenna setup. Contact a Sony dealer for advice.	28 –
"100" appears at the top of the screen and there is no Teletext display. (KV-AR29M61/AR25M61 only)	The channel carries no Teletext broadcast.	—	15
Teletext display is incomplete (snowy picture or double images). (KV-AR29M61/AR25M61 only)	- Connection is loose or the cable is damaged. - The antenna setup is inappropriate. - Signal transmission is too low.	- Check the antenna cable and connection on the TV, VCR, and at the wall. - Check the antenna setup. Contact a Sony dealer for advice. - Try using a booster. - Use the fine tuning ("FINE") function.	28 – – 27
The ① (standby) indicator on your TV flashes red several times after every three seconds.	Your TV's self-diagnosis function indicates the possible problems.	Count the number of times the ① (standby) indicator flashes. Press ① (main power) to turn off your TV. Contact your nearest Sony service center.	–



Symptom	Possible cause	Solutions	Page
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.	—	—

■ Specifications

	KV-AR29M61 KV-AR29M50	KV-AR25M61 KV-AR25M80 KV-AR25M50	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		KV-AR29M61 KV-AR25M61 only
Teletext language	English, Arabic, French		KV-AR29M61 KV-AR25M61 only
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)	8W + 8W		
Number of terminal 🎧 (Video)	Input: 4*	Output: 1 Phono jacks; 1 Vp-p, 75 ohms	* Three input lines available
🎵 (Audio)	Input: 4*	Output: 1 Phono jacks; 500 mVrms	* Three input lines available
📺 (S Video)	Input: 2	Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms	
📺 (Component Video)	Input: 1	Phono jacks; Y: 1 Vp-p, 75 ohms, sync negative Cb: 0.7 Vp-p, 75 ohms Cr: 0.7 Vp-p, 75 ohms Audio: 500 mVrms	
🎧 (Headphone)	Output: 1	Stereo minijack	
Picture tube	29 in.	25 in.	
Tube size (cm)	72	64	Measured diagonally
Screen size (cm)	68	60	Measured diagonally
Dimensions (w/h/d, mm)	765 × 578 × 502	650 × 517 × 496	
Mass (kg)	49	39	

Design and specifications are subject to change without notice.

Trinitron Color TV

Operating Instructions _____

GB

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

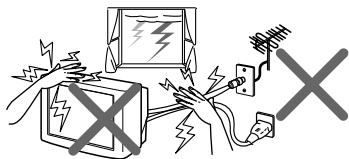
FD Trinitron
WEGA

KV-AR29

KV-AR25

WARNING

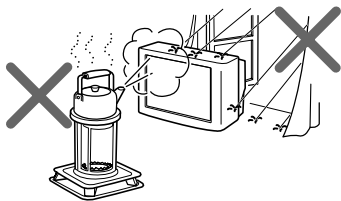
- Dangerously high voltages are present inside the TV.
- TV operating voltage: 110-240 V AC.
- Do not plug in the power cord until you have completed making all other connections; otherwise a minimum leakage current might flow through the antenna and other terminals to ground.
- To avoid battery leakage 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.



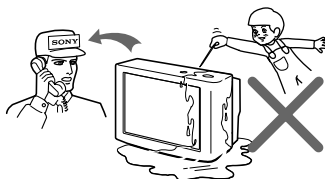
For your own safety, do not touch any part of the TV, the power cord and the antenna cable during lightning storms.



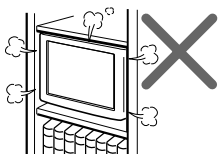
For children's safety, do not leave children alone with the TV. Do not allow children to climb onto it.



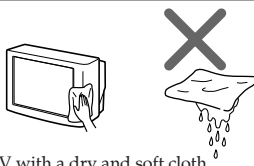
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



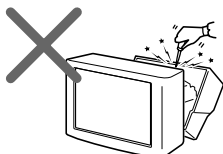
Do not operate the TV if any liquid or solid object falls into it. Have it checked immediately by qualified personnel only.



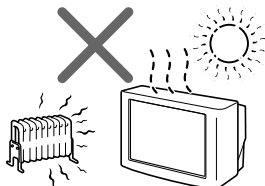
Do not block the ventilation openings of the TV. Do not install the TV in a confined space, such as a bookcase or built-in cabinet.



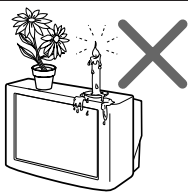
Clean the TV with a dry and soft cloth. Do not use benzene, thinner, or any other chemicals to clean the TV. Do not attach anything (e.g., adhesive tape, cellophane tape, glue) on the painted cabinet of the TV. Do not scratch the picture tube.



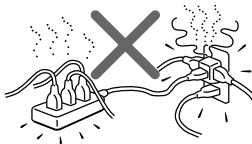
Do not open the cabinet and the rear cover of the TV as high voltages and other hazards are present inside the TV. Refer servicing and disposal of the TV to qualified personnel.



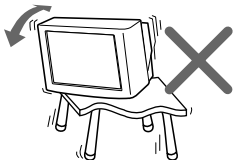
Your TV is recommended for home use only. Do not use the TV in any vehicle or where it may be subject to excessive dust, heat, moisture or vibrations.



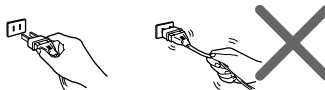
Do not place any objects on the TV.



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



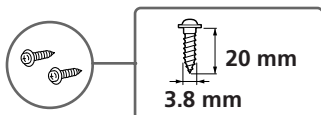
Install the TV on a stable TV stand and floor which can support the TV set weight. Ensure that the TV stand surface is flat and its area is larger than the bottom area of the TV.



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.

■ Securing the TV

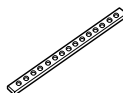
To prevent the TV from falling, use the supplied screws, clamps and band to secure the TV.



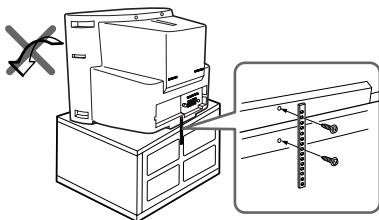
screws



clamps

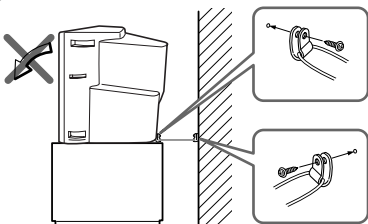


band



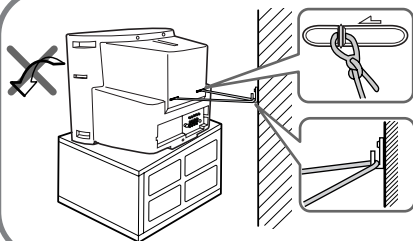
Screw the band to the TV stand and to the provided hole at the rear of your TV.

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.

Note

- Use only the supplied screws. Use of other screws may damage the TV.

Table of Contents

Installation	
Getting Started	6
Setting up your TV ("INITIAL SETUP")	7

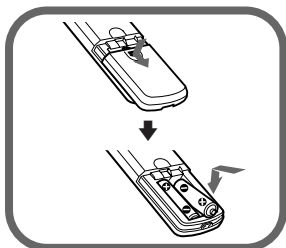
Overview of Controls	
TV front and rear panels	8
Remote control	9

Advanced Operations	
Selecting the picture and sound modes	11
Viewing the picture in wide mode ..	12
Listening with surround sound	12
Setting the timers	13
Enjoying stereo or bilingual programs	14

Menu Adjustment	
Introducing the menu system	15
Changing the "PICTURE" setting ...	18
Changing the "SOUND" setting	20
Changing the "SETUP" setting	22
Changing the Channel Preset ("CH PRESET") setting	24

Additional Information	
Connecting optional components ...	25
Troubleshooting	27
Specifications	30

■ Getting Started

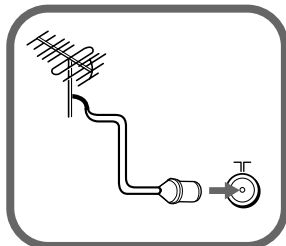


Step 1

Insert the batteries (supplied) into the remote.

Note

- Do not use old or different types of batteries together.

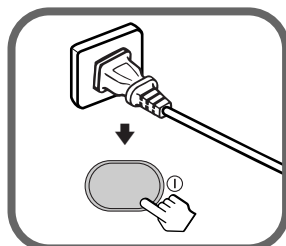


Step 2

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

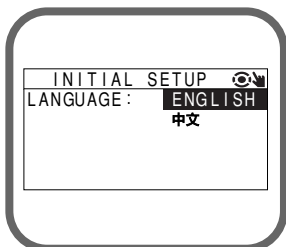
Tip

- You can also connect your TV to other optional components (see page 25).



Step 3

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

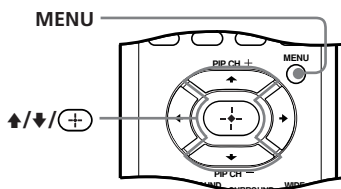


Step 4

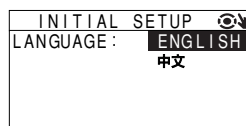
Set up the TV by following the instructions of the "INITIAL SETUP" menu (see page 7).

■ Setting up your TV ("INITIAL SETUP")

When you turn on your TV for the first time, the "INITIAL SETUP" menu will appear. This menu allows you to change the menu language, adjust the picture position and preset the TV channels automatically.



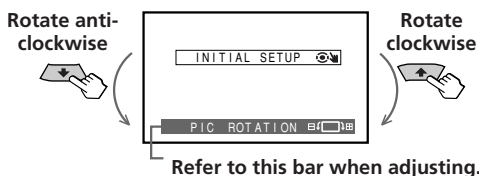
- 1 Press **▲** or **▼** to select the desired menu language (e.g., "ENGLISH"), then press **⊕**.
The selected menu language appears.



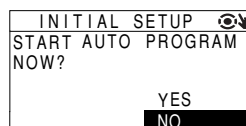
- 2 If the "PIC ROTATION" bar is slanted, press **▲** or **▼** to adjust it, then press **⊕**.

If no adjustment is necessary, then press **⊕**.

The **⊕** or **⊖** icon on the screen flashes while adjusting.

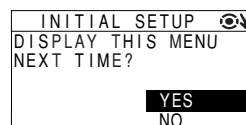


- 3 Press **▲** or **▼** to select "YES", then press **⊕** to preset the channels automatically (see page 24).
To skip automatic channel presetting, select "NO", then press **⊕**.



- 4 Press **▲** or **▼** to select "NO", then press **⊕**. The "INITIAL SETUP" menu will not appear again the next time you turn on the TV by pressing **⓪**.

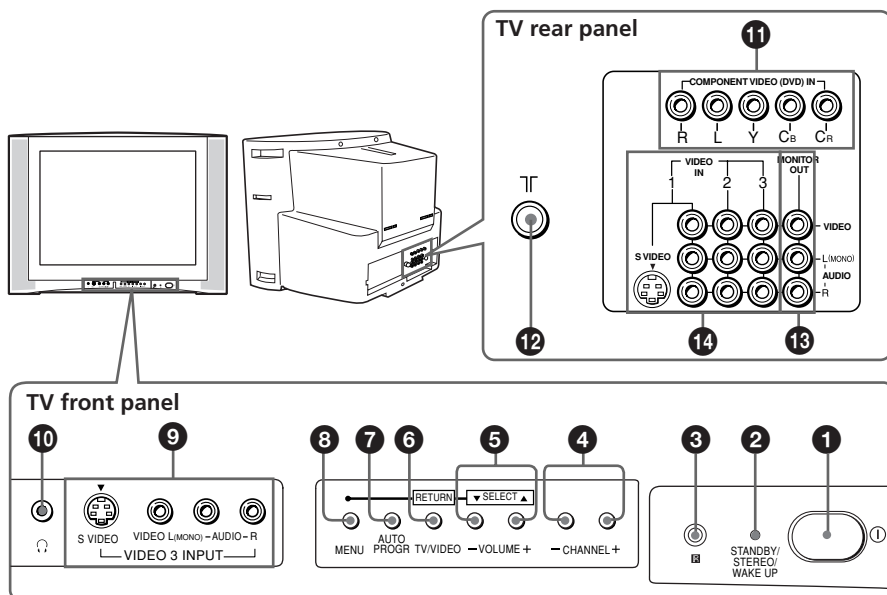
To allow this menu to appear again, select "YES", then press **⊕**.



Tips

- You can immediately go to the end of the "INITIAL SETUP" menu by pressing MENU.
- You can also set up your TV using the menu system (see page 15).

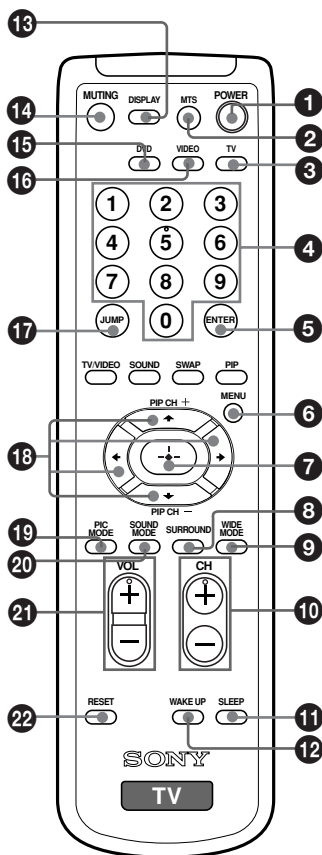
TV front and rear panels



Button/Terminal	Function	Page
① ①	Turn off or turn on the TV.	6
② STANDBY	Standby indicator.	—
② WAKE UP	Wake Up indicator.	13
② STEREO	Stereo/bilingual indicator.	14
③	Remote control sensor.	—
④ CHANNEL +/-	Select channel number.	—
⑤ VOLUME +/-	Adjust volume.	—
⑥ TV/VIDEO	Select TV or video input.	—
⑦ AUTO PROGR	Preset channels automatically.	—
Menu operations		
⑤ SELECT ▼/▲	Select and adjust items.	17
⑥ RETURN	Confirm selected items.	17
⑧ MENU	Display or cancel the menu.	17
⑨ VIDEO 3 INPUT	Video input terminal 3.	25
⑩	Headphone jack.	—
⑪ COMPONENT VIDEO (DVD) IN	Component video (DVD) input terminal.	26
⑫	Antenna input terminal.	25
⑬ MONITOR OUT	Monitor output terminal.	25
⑭ VIDEO IN 1, 2, 3	Video input terminal 1, 2, 3.	25

Remote control

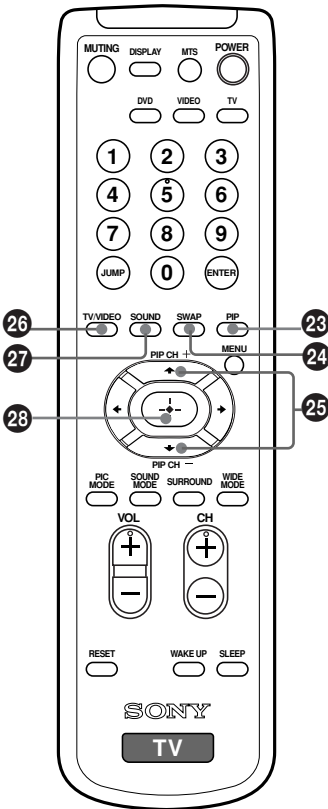
If you prefer Chinese labels, you may detach the back of the supplied sticker and attach it on your remote.



Button	Function	Page
1 POWER	Turn off temporarily or turn on the TV.	–
2 MTS	Select stereo/bilingual mode.	14
3 TV	Display the TV program.	–
4 0-9	Input numbers.	–
5 ENTER	Confirm input numbers.	–
8 SURROUND	Select surround mode.	12
9 WIDE MODE	Select wide-mode (16:9).	12
10 CH +/-	Select channel number.	–
13 DISPLAY	Display on-screen information.	–
14 MUTING	Mute the sound.	–
15 DVD	Select component video input.	26
16 VIDEO	Select TV or video input.	25
17 JUMP	Jump to previous channel number	–
19 PIC MODE	Select picture mode.	11
20 SOUND MODE	Select sound mode.	11
21 VOL +/-	Adjust volume.	–
22 RESET	Set TV to factory setting.	27
Timer operations		
11 SLEEP	Set TV to turn off automatically.	13
12 WAKE UP	Set TV to turn on automatically.	13
Menu operations		
6 MENU	Display the menu.	17
7 (+)	Confirm selected items.	17
18 ↑, ↓, ←, →	Select and adjust items.	17

continue

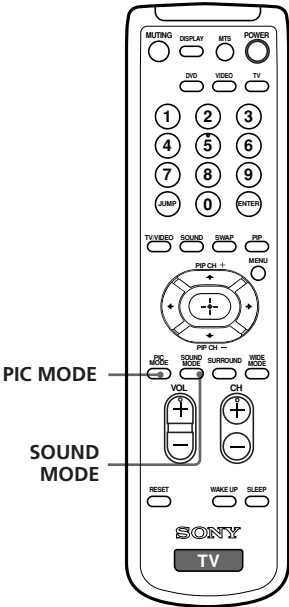
continued



Button	Function	Page
PIP operations (yellow label)		
23	PIP	Not function for your TV. —
24	SWAP	
25	PIP CH +/-	
26	TV/VIDEO	
27	SOUND	
28	+/-	

Selecting the picture and sound modes

You can select picture and sound modes and adjust the setting to your preference in the "PERSONAL" option.



Selecting the picture mode

Press PIC MODE to select the desired picture mode.

Select	To
"DYNAMIC"	view high contrast pictures.
"STANDARD"	view normal pictures.
"SOFT"	view mild pictures.
"PERSONAL"	receive the last adjusted picture setting from the "ADJUST" option in the "PICTURE" menu (see page 19).

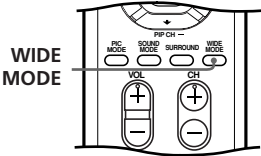
Selecting the sound mode

Press SOUND MODE to select the desired sound mode.

Select	To
"🔊 DYNAMIC"	listen to dynamic and clear sound that emphasizes both the low and high tones.
"🔊 DRAMA"	listen to sound that emphasizes voice and high tones.
"🔊 SOFT"	listen to soft sound.
"🔊 PERSONAL"	receive the last adjusted sound setting from the "ADJUST" option in the "SOUND" menu (see page 21).

■ Viewing the picture in wide mode

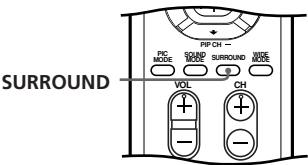
When receiving a wide-mode (16:9) signal, the picture will appear “squeezed” (compressed) on your screen. Use the WIDE MODE button to view the picture with the optimal effect.



Select	To
“ON”	view the picture in wide-mode (16:9).
“OFF”	cancel wide-mode (16:9).

■ Listening with surround sound

You can use the SURROUND button to listen to the sound effects of a concert hall or movie theater.



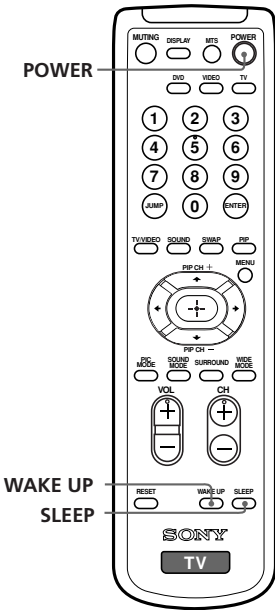
Select	To
“TruSurround”	listen to the surround sound that spreads out to the rear of a room.
“SIMULATED”	listen to monaural sound with a stereo-like effect.
“OFF”	cancel surround sound.

The surround of your TV is categorized as TruSurround.

TruSurround™ is a trademark of SRS Labs, Inc. SRS and the SRS symbol are registered trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS and TruSurround are incorporated under license from SRS Labs, Inc. and are protected under United States Patent Nos. 4,748,669 and 4,841,572 with numerous additional issued and pending foreign patents.

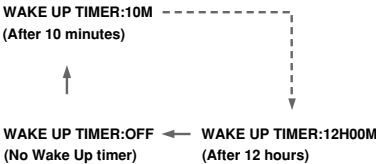
■ Setting the timers

You can set your TV to turn on and off automatically by using the Wake up timer and Sleep timer respectively.



Setting the Wake Up timer

- 1 Press WAKE UP until the desired period of time appears on the screen.



The Wake Up timer starts immediately after you have set it.

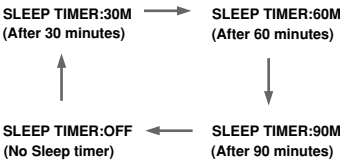
- 2 Select the channel number or video input you want to wake up to.

- 3 Press POWER, or set the Sleep timer if you want the TV to turn off automatically.

The WAKE UP indicator on the TV lights up orange when the TV goes into standby mode.

Setting the Sleep timer

Press SLEEP until the desired period of time appears on the screen.



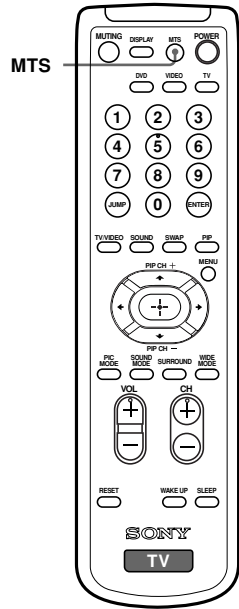
The Sleep timer starts immediately after you have set it.

Notes

- You can also cancel the Wake Up and Sleep timers by pressing ① on the TV to turn off the TV.
- If no buttons are pressed for more than two hours after the TV is turned on using the Wake Up timer, the TV automatically goes into standby mode.

■ Enjoying stereo or bilingual programs

You can enjoy stereo sound or bilingual programs of MTS stereo system by using MTS button.



Select stereo or bilingual programs

Press MTS until you receive the sound you want.

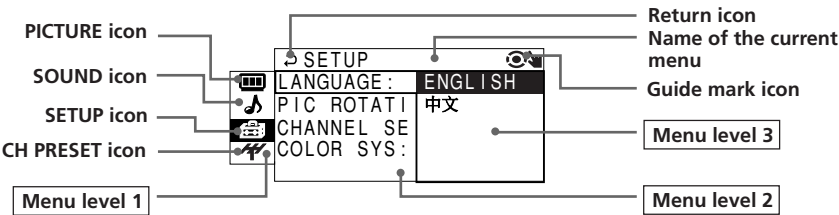
Select	To
"STEREO"	Listen to stereo broadcast sound.
"SAP"	Listen to SAP broadcast sound.
"MONO"	Listen to monaural sound.

Notes

- When select SAP, non-SAP program sound will be same as STEREO mode sound.
- If the stereo signal is very weak, the STEREO broadcast sound may become noisy. To reduce the noise select "MONO".

■ Introducing the menu system

The MENU button lets you open a menu and change the settings of your TV.
The following is an overview of the menu system.



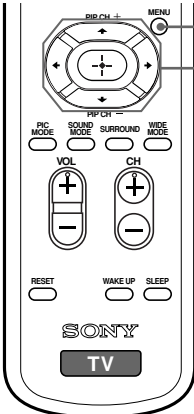
Level 1	Level 2	Level 3/Function	Page
"PICTURE" 	"PICTURE MODE"	Select the picture mode: "DYNAMIC" → "STANDARD" → "SOFT" → "PERSONAL" → "ADJUST"	18
	"ADJUST"	Adjust the "PERSONAL" option: "PICTURE" → "COLOR" → "BRIGHT" → "HUE" → "SHARP"	
	"WIDE MODE"	Change the picture size. "ON" → "OFF"	
	"INTELLIGENT PIC"	Optimize the picture quality: "ON" → "OFF"	
"SOUND" 	"SOUND MODE"	Select the sound mode: "DYNAMIC" → "DRAMA" → "SOFT" → "PERSONAL" → "ADJUST"	20
	"ADJUST"	Adjust the "PERSONAL" option: "BASS" → "TREBLE" → "BALANCE" → "BBE"*	
	"SURROUND"	Select the "SURROUND" mode: "TruSurround" → "SIMULATED" → "OFF"	
	"INTELLIGENT VOL"	Adjust volume automatically: "ON" → "OFF"	

continued

Level 1	Level 2	Level 3/Function	Page
	"LANGUAGE"	Change the menu language: "ENGLISH" → "中文"(Chinese)	22
	"PIC ROTATION"	Adjust the picture position.	
	"CHANNEL SETUP"	Adjust each channel number settings.	
	"COLOR SYS"	Select the color system (for video input only): "AUTO" → "PAL" → "SECAM" → "NTSC3.58" → "NTSC4.43"	
	"AUTO PROGRAM"	Preset channels automatically.	24
	"CABLE"	Watch cable TV programs: "ON" → "OFF"	

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and the BBE symbol are the trademarks of BBE Sound, Inc.

How to use the menu



Press **MENU** to display the menu.



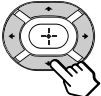

PICTURE

PICTURE MODE: DYNAMIC

WIDE MODE: OFF

INTELLIGENT PIC: OFF

Press **↑** or **↓** (or **←**/**→**) to select the desired item.




CH PRESET

AUTO PROGRAM

CABLE: ON

Press **+** to confirm your selection and go to the next level.




CH PRESET

AUTO PROGRAM

CABLE: ON

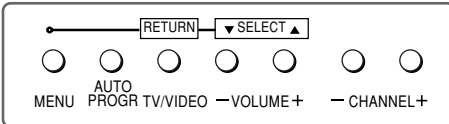
Other menu operations

To	Press
Adjust the setting value	↑ , ↓ , ← or → .
Move to the next/previous menu level	← or → .
Cancel the menu	MENU .

Tips

- If you want to exit from Menu level 2 to Menu level 1, press **↑** or **↓** until the return icon (↶) is highlighted, then press **+**.
- Some of the menu items can be operated directly using the remote buttons.
- The **MENU**, **RETURN**, and **SELECT** **▼**/**▲** buttons on the TV can also be used for the operations above.

Front of TV

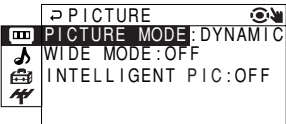


■ Changing the “PICTURE” setting

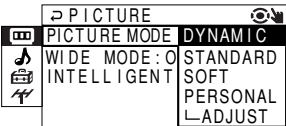
The “PICTURE” menu allows you to adjust the picture settings.

1 Press MENU.

2 Make sure the “PICTURE” icon (🖼️) is selected, then press (+).



3 Press ↑ or ↓ to select the desired item (e.g., “PICTURE MODE”), then press (+).



Select	To
“PICTURE MODE”	choose either “DYNAMIC”, “STANDARD”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“WIDE MODE”	choose either “ON” or “OFF” (see page 12).
“INTELLIGENT PIC”	optimize picture quality. Press ↑ or ↓ to select “ON”, then press (+). To cancel, select “OFF”, then press (+).

* When the “PERSONAL” mode is selected, you can receive the last adjusted picture settings from the “ADJUST” option (see page 19).

Adjusting the “ADJUST” items under “PICTURE MODE”

1 Press **↑** or **↓** to select the desired item (e.g., “COLOR”), then press **⊕**.

COLOR ▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒ 80

2 Adjust the value according to the following table, then press **⊕**.

For	Press ↓ or ← to	Press ↑ or → to
“PICTURE”	decrease picture contrast.	increase picture contrast.
“COLOR”	decrease color intensity.	increase color intensity.
“BRIGHT”	darken the picture.	brighten the picture.
“HUE”	increase red picture tones.	increase green picture tones.
“SHARP”	soften the picture.	sharpen the picture.

3 Repeat the above steps to adjust other items.
The adjusted settings will be received when you select “PERSONAL”.

Notes

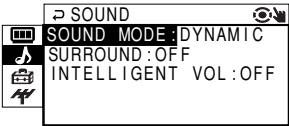
- “HUE” can be adjusted for the NTSC color system only.
- Reducing sharpness (“SHARP”) can also reduce picture noise.

■ Changing the “SOUND” setting

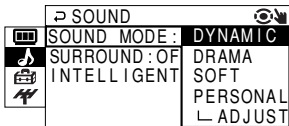
The “SOUND” menu allows you to adjust the sound settings.

1 Press MENU.

2 Press **▲** or **▼** to select the “SOUND” icon (🔊), then press **(+)**.



3 Press **▲** or **▼** to select the desired item (e.g., “SOUND MODE”), then press **(+)**.



Select	To
“SOUND MODE”	choose either “DYNAMIC”, “DRAMA”, “SOFT”, “PERSONAL”*, or “ADJUST” (see page 11).
“SURROUND”	choose either “TruSurround”, “SIMULATED” or “OFF” (see page 12).
“INTELLIGENT VOL”	adjust the volume of all channel numbers and video inputs automatically. Press ▲ or ▼ to select “ON”, then press (+) . To cancel, select “OFF”, then press (+) .

* When the “PERSONAL” mode is selected, you can receive the last adjusted sound settings from the “ADJUST” option (see page 21).

Adjusting the “ADJUST” items under “SOUND MODE”

- 1** Press **▲** or **▼** to select the desired item (e.g., “BALANCE”), then press **(+)**.

BALANCE  00

- 2** Adjust the value according to the following table, then press **(+)**.

For	Press ▼ or ◀ to	Press ▲ or ▶ to
“BASS”	decrease the bass.	increase the bass.
“TREBLE”	decrease the treble.	increase the treble.
“BALANCE”	increase the left speaker’s volume.	increase the right speaker’s volume.
“BBE”	select “HIGH” for higher enhancement of sound clarity; select “LOW” for lower enhancement of sound clarity; select “OFF” to cancel BBE sound.	

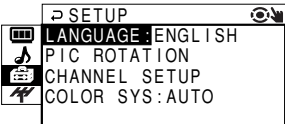
- 3** Repeat the above steps to adjust other items.
The adjusted settings will be received when you select “PERSONAL”.

Changing the “SETUP” setting

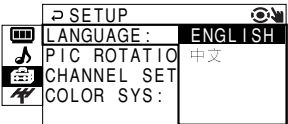
The “SETUP” menu allows you to change the menu language, adjust the picture position, set up your channel numbers and select the color system.

1 Press MENU.

2 Press $\uparrow$ or $\downarrow$ to select the “SETUP” icon (📺), then press (+).



3 Press $\uparrow$ or $\downarrow$ to select the desired item (e.g., “LANGUAGE”), then press (+).

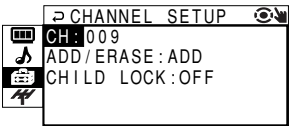


Select	To
“LANGUAGE”	change the menu language. Press $\uparrow$ or $\downarrow$ to select either “ENGLISH” or “中文” (Chinese), then press (+). The selected menu language appears.
“PIC ROTATION”	adjust the picture position when it is not aligned with the TV screen. Press $\uparrow$, $\rightarrow$, $\downarrow$ or $\leftarrow$ to adjust the picture position, then press (+). PIC ROTATION
“CHANNEL SETUP”	adjust each channel number settings (see Adjusting each channel number settings (“CHANNEL SETUP”) on page 23).
“COLOR SYS”	change the color system (for video input only). Press $\uparrow$ or $\downarrow$ to select the appropriate color system, then press (+). Normally, set this to “AUTO”.

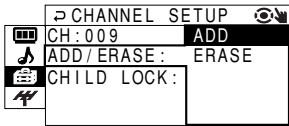
Adjusting each channel number settings ("CHANNEL SETUP")

1 Select "CHANNEL SETUP" from the "SETUP" menu.

2 Select "CH" and press (+).
Press ▲ or ▼ to select the desired channel number you want to adjust, then press (+).



3 Press ▲ or ▼ to select the desired item (e.g., "ADD/ERASE"), then press (+).



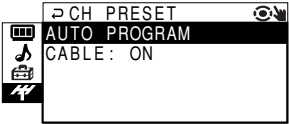
Select	To
"CH"	select the desired channel number.
"ADD/ERASE"	preset the selected channel manually. Press ▲ or ▼ to select "ADD", then press (+). To disable an unused or unwanted channel, select "ERASE", then press (+).
"CHILD LOCK"	prevent children from watching this selected channel number. Press ▲ or ▼ to select "ON", then press (+). The lock symbol (🔒) appears on the screen. To cancel, select "OFF", then press (+). If you preset a locked channel number, that channel number will be unlocked automatically.

4 To continue adjusting other channel numbers, press ▲ or ▼ to select "CH", then repeat step 2 and 3.

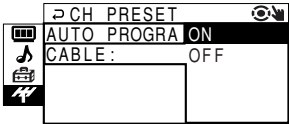
■ Changing the Channel Preset ("CH PRESET") setting

The "CH PRESET" menu allows you to adjust the setup of your TV to receive either CABLE TV or VHF and UHF broadcast.

- 1 Press MENU.
- 2 Press  or  to select the "CH PRESET" icon () , then press .



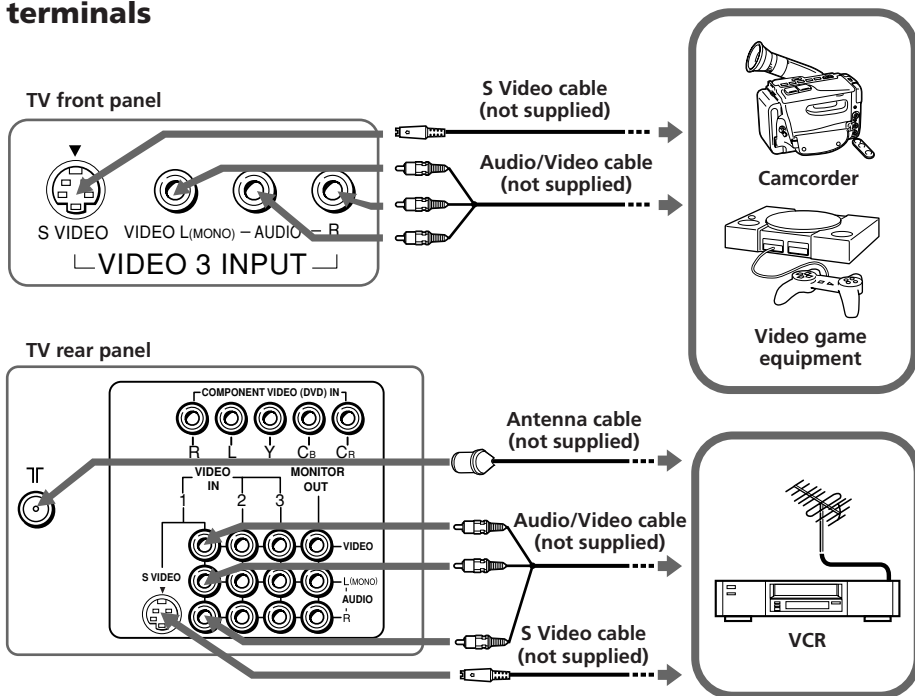
- 3 Press  or  to select the desired item (e.g., "CABLE"), then press .



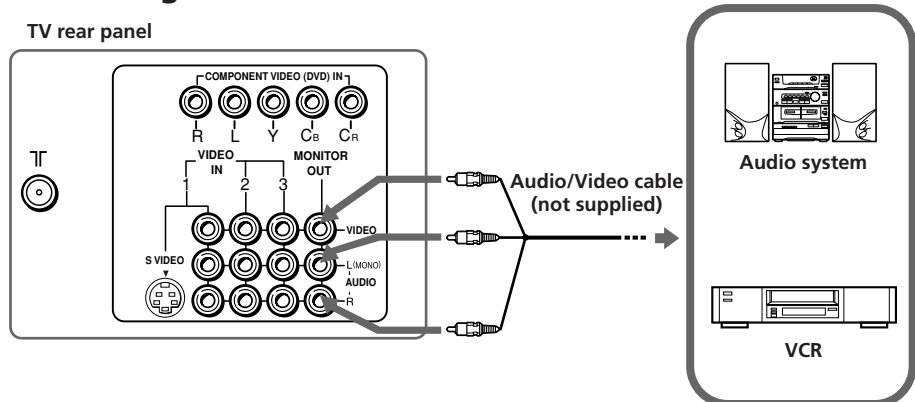
Select	To
"AUTO PROGRAM"	preset channels automatically.
"CABLE"	receive cable TV programs. Press  or  to select "ON", then press  . If you select "CABLE: ON", you will be able to receive 125 cable TV channels. If there are no cable TV channels, you will receive VHF broadcast channels only. To receive only VHF and UHF broadcast channels, select "OFF", then press  .

■ Connecting optional components

Connecting to VIDEO 3 INPUT and VIDEO IN 1,2 or 3 terminals



Connecting to MONITOR OUT terminal

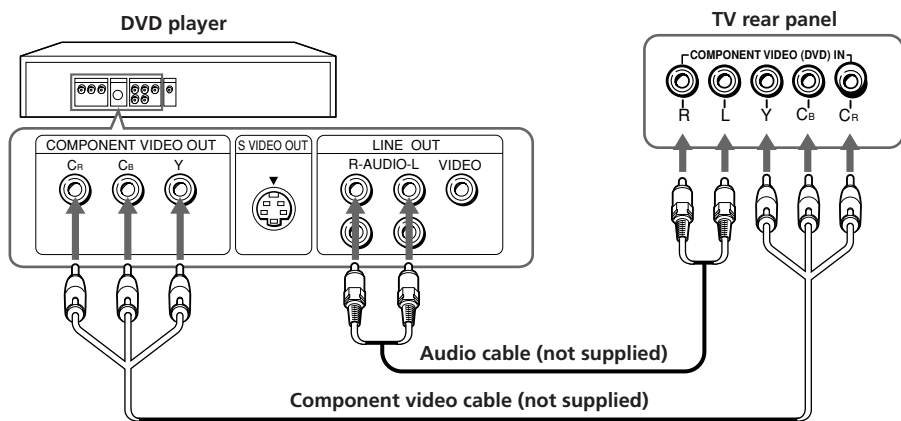


continue

continued

Connecting a DVD player to COMPONENT VIDEO (DVD) IN terminal

- 1 Using an audio cable, connect R and L under COMPONENT VIDEO (DVD) IN on your TV to the LINE OUT, AUDIO R and L output connectors on your DVD player.
- 2 Using a component video cable, connect Y, C_B, and C_R under COMPONENT VIDEO (DVD) IN on your TV to the COMPONENT VIDEO OUT Y, C_B, and C_R output connectors on your DVD player.
- 3 Press DVD on the remote to watch the COMPONENT VIDEO (DVD) IN and “DVD” will appear on your screen.



Notes

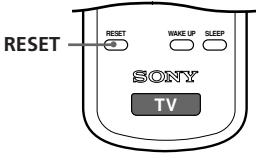
- If your DVD player can output interlace and progressive mode signals, select the interlace output when connecting to COMPONENT VIDEO (DVD) IN on your TV. Your TV can receive either 525i/60Hz or 625i/50Hz interlace signals.
- Some DVD player terminals may be labeled differently:

Connect	To (on the DVD player)
Y (green)	Y
C _B (blue)	C _B , P _B , C _b or B-Y
C _R (red)	C _R , P _R , C _r or R-Y

- When both S VIDEO and VIDEO for VIDEO IN 1 or VIDEO 3 INPUT are connected at the same time, S VIDEO is automatically selected. To view VIDEO, disconnect the S video cable.
- If you select “DVD” on your TV screen, the signal from the MONITOR OUT will not be output properly. This does not indicate a malfunction.

Troubleshooting

If you have any problem while viewing your TV, you can either use the Reset function or check the Troubleshooting guide below. If the problem persists, contact your Sony dealer.



Reset function

Press the RESET button on your remote control. Your TV will go blank for about half a second then the picture will reappear with “RESET” displayed on your TV screen for about 10 seconds.

Pressing RESET will set your TV to the factory setting, but certain problems may be solved.

Troubleshooting guide

Symptom	Possible cause	Solutions	Page
Snowy picture 	• The connection is loose or the cable is damaged.	• Check the antenna cable and connection on the TV, VCR and at the wall.	25
	• The antenna setup is inappropriate.	• Check the antenna setup. Contact a Sony dealer for advice.	–
Noisy sound 	• Channel presetting is inappropriate or incomplete.	• Preset the channel again.	24
	• Signal transmission is low.	• Try using a booster.	–
Distorted picture 	• Broadcast signals are too strong.	• Turn off or disconnect the booster if it is in use.	–
Noisy sound 			
No picture 	• The power cord, antenna or VCR is not connected.	• Check the power cord, antenna and VCR connections.	25
	• The TV is not turned on.	• Press POWER. • Press ① (main power) on the TV to turn off the TV for about five seconds, then turn it on again.	9 8
No sound 			

continue

continued

Symptom	Possible cause	Solutions	Page
Good picture 	The volume level is too low.	Press VOL + to increase the volume level.	9
No sound 	The sound is muted.	Press MUTING to cancel the muting.	9
Dotted lines or stripes 	There is local interference from cars, neon signs, hair dryers, power generators, etc.	- Do not use a hair dryer or other equipment near the TV. - Check the antenna setup. Contact a Sony dealer for advice.	–
Double images or "ghosts" 	Broadcast signals are reflected by nearby mountains or buildings.	Use a highly directional antenna.	–
	The antenna setup is inappropriate.	Check the antenna setup. Contact a Sony dealer for advice.	–
	Use of a booster is inappropriate.	Turn off or disconnect the booster if it is in use.	–
No color 	The color level setting is too low.	Display the "PICTURE" menu and select "ADJUST" of "PICTURE MODE", then adjust the "COLOR" level.	19
	The color system setting is inappropriate (for video input only).	Display the "SETUP" menu and check the color system ("COLOR SYS") setting (usually set this to "AUTO").	22
	The antenna setup is inappropriate.	Check the antenna setup. Contact a Sony dealer for advice.	–
Picture slant 	The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	- Keep external speakers or other electrical equipment away from the TV. - Display the "SETUP" menu and adjust "PIC ROTATION" so that the picture position is optimal.	–
			22

Symptom	Possible cause	Solutions	Page
Abnormal color patches 	The magnetic disturbance from external speakers or other equipment, or the direction of the earth's magnetic field may affect the TV.	Keep external speakers or other equipment away from the TV. Do not move the TV while the TV is turned on. Press ① (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	The stereo reception setting is inappropriate.	Press MTS until "STEREO" appears on the screen.	14
Stereo broadcast sound switches on and off or is distorted.	The connection is loose or the cable is damaged.	Check the antenna cable and connection on the TV, VCR and at the wall.	25
The STANDBY indicator on your TV flashes red several times after every three seconds.	The antenna setup is inappropriate.	Check the antenna setup. Contact a Sony dealer for advice.	—
The STANDBY indicator on your TV flashes red several times after every three seconds.	Your TV's self-diagnosis function indicates the possible problems.	Count the number of times the STANDBY indicator flashes. Press ① (main power) to turn off your TV. Contact your nearest Sony service center.	—
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.	—	—

■ Specifications

	KV-AR29N90	KV-AR25N90	Note
Power requirements	110-240 VAC, 50/60 Hz		
Power consumption (W)	Indicated on the rear of the TV		
Television system	M		
Color system	NTSC3.58, PAL*, PAL 60*, SECAM*, NTSC4.43*		* AV IN only
Stereo/Bilingual system	MTS		
Channel coverage	VHF : 2 to 13 UHF : 14 to 69 CATV : 1 to 125		
⌚ (Antenna)	75-ohm external terminal		
Audio output (Speaker)	8W + 8W		
Number of terminal			
VIDEO	Input: 4*	Output: 1 Phono jacks; 1 Vp-p, 75 ohms	* Three input lines available
AUDIO	Input: 4*	Output: 1 Phono jacks; 500 mVrms	* Three input lines available
S VIDEO	Input: 2	Y: 1 Vp-p, 75 ohms, unbalanced, sync negative C: 0.286 Vp-p, 75 ohms	
COMPONENT VIDEO (DVD) IN	Input: 1	Phono jacks; Y: 1 Vp-p, 75 ohms, sync negative Cb: 0.7 Vp-p, 75 ohms Cr: 0.7 Vp-p, 75 ohms Audio: 500 mVrms	
🎧 (Headphone)	Output: 1	Stereo minijack	
Picture tube	29 in.	25 in.	
Tube size (cm)	72	64	Measured diagonally
Screen size (cm)	68	60	Measured diagonally
Dimensions (w/h/d, mm)	765 × 578 × 502	650 × 517 × 496	
Mass (kg)	49	39	

Design and specifications are subject to change without notice.

<http://www.sony.net/>

Sony Corporation

Product name: Color TV

Model: KV-AR34N90

KV-AR29N90

KV-AR25N90

Input voltage: 110V

Frequency: 60 Hz

Power consumption: KV-AR34N90 : 220 W

KV-AR29N90 : 180 W

KV-AR25N90 : 135 W

Production month: Indicated on the rear of the TV

Serial number: Indicated on the rear of the TV

Manufacturer country: Malaysia

Manufacturer: Sony Technology Malaysia Sdn. Bhd.

Importer: Sony Electronics Marketing of Taiwan Ltd.

Address: 6F, 198, Sec.2 Tun Hwa S. Road, Taipei

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