

SERVICE MANUAL

BG-1S CHASSIS

MODEL

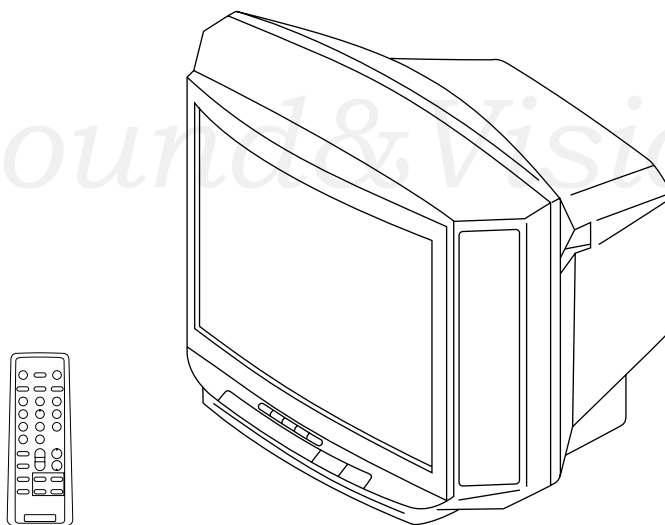
COMMANDER DEST. CHASSIS NO.

MODEL

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LekSound&Vision'50

LekSound&Vision'50



LekSound&Vision'50



TRINITRON[®] COLOR TV
SONY[®]

SPECIFICATIONS

	KV-2119M5J	KV-J21MF2J	Note
Power requirements	110-240 V AC, 50/60 Hz		
Power consumption (W)	Indicated on the rear of the TV		
Television system	B/G	B/G, I, D/K, M	
Color system	PAL, PAL 60, SECAM, NTSC4.43, NTSC3.58 (AV IN)	PAL, PAL 60, SECAM, NTSC4.43, NTSC3.58	
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: Z1 to Z39, S01 to S03, S1 to S41	
M	—	VHF: A2 to A13 / UHF: A14 to A79 / CATV: A-8 to A-2, A to W+ 4, W+ 6 to W+ 84	
Audio output (speaker)	3W + 3W		
Inputs	ㄗ (antenna): 75 ohms external terminal		
	⏮ (video input) jacks: phono jacks		
	⊕ (video): 1 Vp-p, 75 ohms		
	♪ (audio): 500 mVrms, high impedance		
Outputs	🎧 (earphone) jack: mini jack	🎧 (headphones) jack	
	⏮ (monitor output) jacks: phono jacks		
	⊕ (video): 1 Vp-p, 75 ohms		
	♪ (audio): 500 mVrms		
Picture tube	21in.		
Tube size (cm)	54		Measured diagonally
Screen size (cm)	51		Measured diagonally
Dimensions (w/h/d, mm)	610 × 470 × 474		
Mass (kg)	22		

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!!

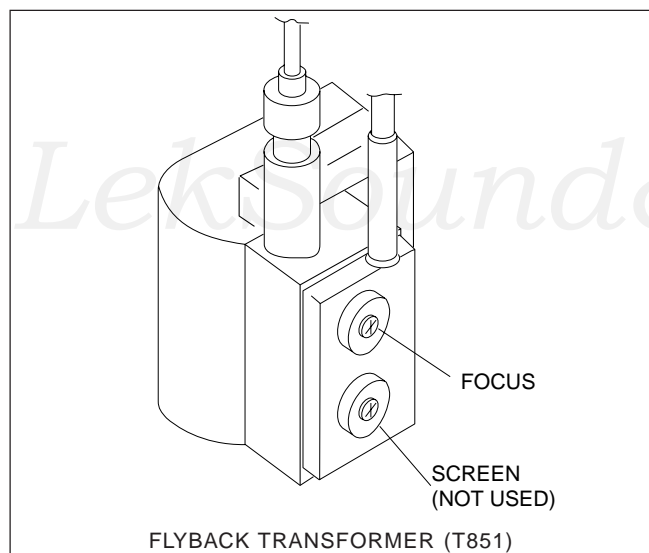
COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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3-3. FOCUS ADJUSTMENT

Adjust FOCUS control on the flyback transformer for the best focus.



Note: Screen VR is not used.

a. AN ITEM OF ADJUSTMENT

Item number	Adjustment item	Initial DATA	Note
09	RDR	25	WHITE POINT R
0A	GDR	20	WHITE POINT G
0B	BDR	20	WHITE POINT B

b. METHOD OF CANCELLATION FROM SERVICE MODE

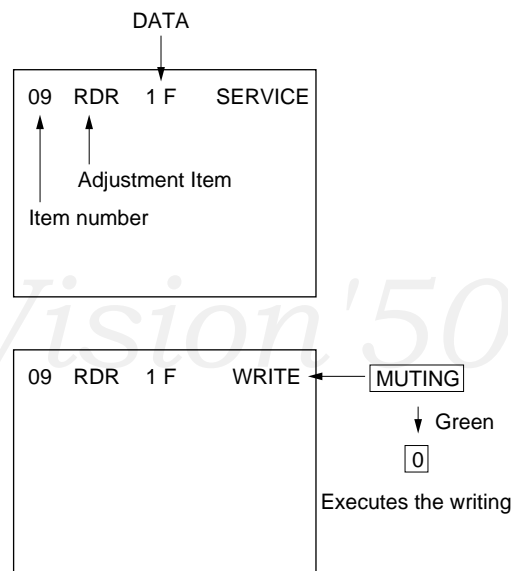
Set the standby condition (Press **POWER** button on the commander) and then press **POWER** button again, hereupon it becomes TV mode.

c. METHOD OF WRITE FOR MEMORY

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

d. MEMORY WRITE CONFIRMATION METHOD

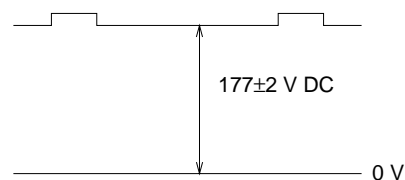
- 1) After adjustment, pull out the plug from the AC outlet, and then plug into the AC outlet again.
- 2) Turn the power switch ON and set to Service Mode.
- 3) Call the adjusted items again to confirm adjustments were made.



3-4. G2 (SCREEN) AND WHITE BALANCE ADJUSTMENTS

1. G2 (SCREEN) ADJUSTMENT (RV701)

- 1) Set the PICTURE and BRIGHTNESS to normal.
- 2) Put to VIDEO input mode without signals.
- 3) Connect R, G, and B of the C board cathode to the oscilloscope.
- 4) Adjust G2 (RV701) volume to the value below.



2. WHITE BALANCE ADJUSTMENTS

- 1) Set to Service Mode.
- 2) Input an entire white signal.
- 3) Set the PICTURE to maximum.
- 4) Select RDR(09) with **[1]** and **[4]**, and then set the level to 25 with **[3]** and **[6]**.
- 5) Select GDR(0A) and BDR(0B) with **[1]** and **[4]** and adjust the level with **[3]** and **[6]** for the best white balance.
- 6) Write into the memory by pressing **MUTING** then **[0]**.

SECTION 4

SELF DIAGNOSIS FUNCTION

If no acknowledgement is returned from a device which is turned "ON", the device has a problem.
In this case, one of the LED's responding to the problem device will flicker a defined number of times.

Flickering is operated by lighting the LED's for 60ms each time.

The flickering frequency responding to each failed device is shown below.

Board name	A Board	A Board
Ref. No.	IC003	IC300
Device	NONVOLATILE MEMORY (ST24C04FB6)	Y/C JUNGLE (TDA8375A)
Flickering Frequency	1	3

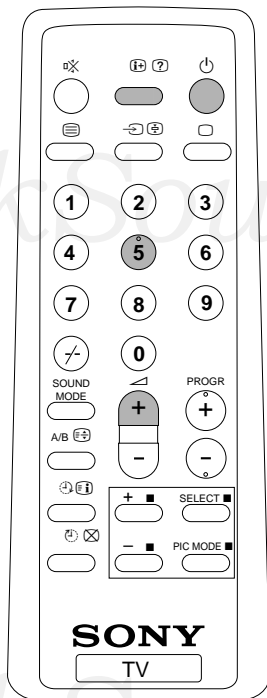
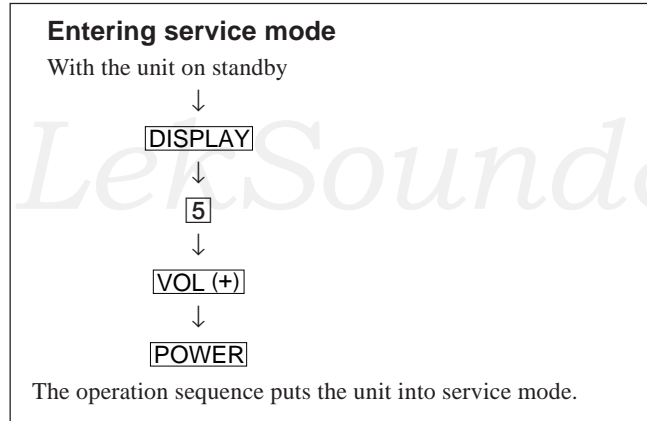
All the devices are checked one after another from the left of the table.
If an error is found, the responding LED will start flickering.
So, if more than 1 device have failed, only the one on the left side will flicker.

SECTION 5

CIRCUIT ADJUSTMENTS

5-1. ADJUSTMENTS WITH COMMANDER

Service adjustments are made with the RM-869 that comes with this unit.

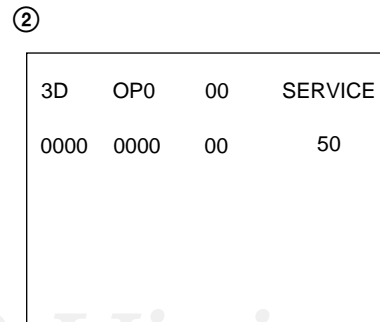
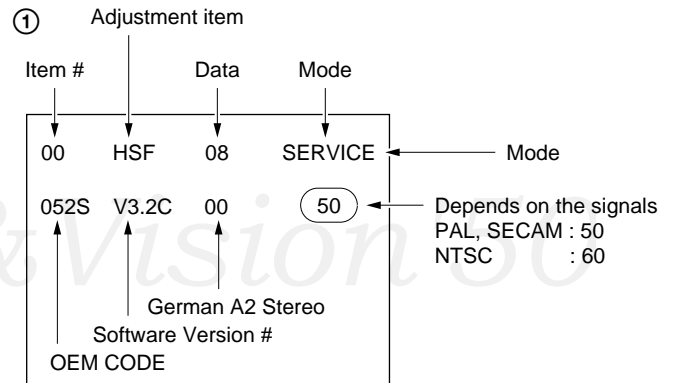


RM-869

- [1], [4] Raise/lower the service item number
- [3], [6] Raise/lower the data
- [MUTING] Writes
- [0] Executes the writing

- [7], [0] All 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.)
- [2], [0] Write 50Hz adjustment data to 60Hz, or viceversa.

The screen display is :



(Bit options adjustable)

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

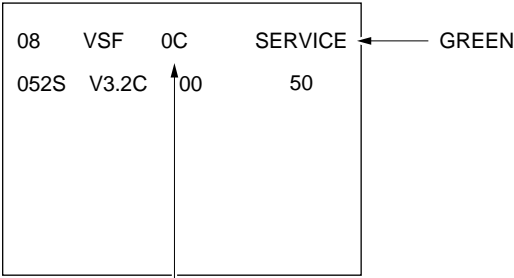
5-2. ADJUSTMENT METHOD

Item Number 08

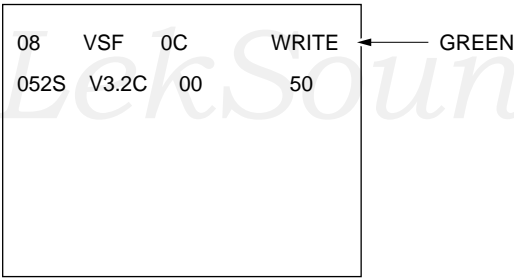
This explanation uses V-SHIFT as an example.

- 1. Select 08 V-SHIFT 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 0F for PAL reception.)
- 4. Write with the [MUTING] button.
- 5. Execute the writing with the [0] button. (The WRITE display returns to green SERVICE.)

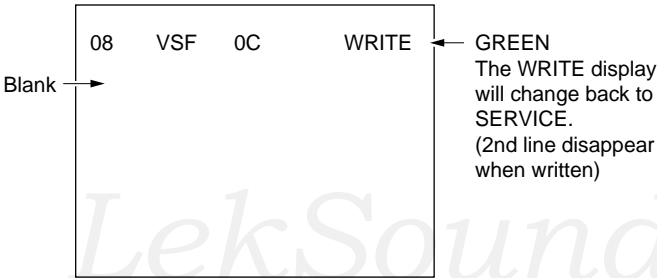
Use the same method for Items Number 00-40. Use [1] and [4] to select the adjustment item, use [3] and [6] to adjust, write with [MUTING], then execute the write with [0].



Adjusted with 3 and 6 buttons



Written with [MUTING]



Write executed with [0]

Adjustment Item Table

Item No.	Adj Item	Initial Data	Note for Different Data	Standard Data	Function	Device
00	HSF	24	50/60Hz/RGB 50/RGB 60	2C/33/31/38	H Shift	
01	HSZ	23	50/60Hz/RGB 50/RGB 60	35/35/35/35	H Size	
02	PAP	21	50/60Hz	25/25	Pin Amplitude	
03	CNP	29	50/60Hz	10/0C	Corner Pin	
04	TLT	20	50/60Hz	20/2D	Tilt	
05	VSL	20	50/60Hz	1F/1F	V Slope	
06	VAP	ID	50/60Hz	1C/1B	V Amplitude	
07	SCR	20	50/60Hz	16/16	S Correction	
08	VSF	20	50/60Hz	10/10	V Shift	
09	RDR	25		28	R Drive	
0A	GDR	20			G Drive	
0B	BDR	20			B Drive	
0C	F0	00	TV/Video/Teletext	00/00/00	ø1 Time Constant	
0D	AGC	06	TV/Video/Teletext	28/28/28	AGC Take Over	
0E	VSW	0	TV/Video/Teletext	0/1/0	Video Mute Switch	
0F	FOR	00		03	Forced Field Frequency	
10	DL	0			De-interlace	
11	POC	0			Fixed ø1 Synchro. mode	
12	COR	0	TV/Video/Teletext	01/00/00	Noise Coring	
13	VPX	00			Extra Bits (see below)	
14	PMX	27	TV/Video/Teletext	2B/2B/2B	Picture Maximum Data	
15	PMI	05		04	Picture Minimum Data	
16	SBR	4B			Sub Brightness	
17	SHU	07			Sub Hue	
18	SSH	01	TV/Video	01/03	Sub Sharpness	
19	SC1	1F	50/60Hz	26/29	Sub Color Lower	
1A	SC2	0B	50/60Hz	0C/0D	Sub Color Higher	
1B	AIP	40		3F	Adjustment IF-PLL	
1C	VZM	20		19	Vertical Zoom	
1D	WST	15			W/G Stereo Threshold	
1E	WBT	EA			W/G Bilingual Threshold	
1F	WLL	05			W/G Monaural Threshold	
20	ACG	1			AGC Switch auto/constant	
21	CDB	28			AGC Gain at Constant Mode	
22	FGP	1B			FM Prescale for B/G.I.D/K	
23	FMP	32			FM Prescale for M	
24	FMH	36			FM Prescale for HDEV Mode	
25	FMM	65			FM Prescale for HDEV Mode	
26	WGP	2A			W/G Prescale	
27	NIP	6D			NICAM Prescale	
28	SCP	3B			SCART Input Prescale	
29	SCV	2A			SCART Output Prescale	
2A	CRM	0			Carrier Muting on/off	
2B	ACO	1			Audio Clock-out on/off	
2C	WAC	00			W/G Agreement Count	
2D	NFT	50			Auto FM Switch Threshold	
2E	DLG	30			W/G Search Delay	
2F	DLN	20			NICAM Search Delay	
30	DLS	10			Stereo Status Read Delay	
31	SMX	73			DFP Volume Maximum	
32	ING	00	M System/non-M/Video		Input Gain	
33	VOM	01	M System only		Volume Output Gain	
34	TXH	01			Teletext Horizontal Position	
35	BKP	00			Picture Data at Blanking OFF	
36	ODL	10			Power ON Delay	
37	OFR	00			RGB Output Time (STBY OFF)	
38	OFM	00			RGB Output Time (AC OFF)	

Item No.	Adj Item	Initial Data	Note for Different Data	Standard Data		Function	Device
39	OSH	0A				OSD H Position	
3A	DKS	1			0	D/K Stereo enable/disable	
3B	MUT	0				Muting on/off at No Sync	
3C	ABL	0				Bright ABL Switch	
3D	SCM	0				SECAM Trap active/inactive	
3E	FBT	1				FBT L/S C/M strict/plain	
3F	OP0	2F		28 (2199)	2F (J21)	Optional Flags 0 (see below)	
40	OP1	0F				Optional Flags 1 (see below)	
41	OP2	00		24 (2199)	04 (J21)	Optional Flags 2 (see below)	

NOTE

- Note for Different Data Those are the standard data values written on the microprocessor. Therefore, the data values of the modes are stored respectively in the memory.
In case of a device replacement, adjustment by rewriting the data value is necessary for some items.
- 50 50 Hz data
- 60 60 Hz data
- Note for Different Data listed on the adjustment item table are reference values, therefore it is different for every model.

Option Note

13. VPX	bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
Item	HCO	EVG	SBL	PRD	–	–	–	VID
Initial data	0	0	0	0	0	0	0	0

HCO EHT Tracking Mode 1 = on V and E–W, 0 = only on V 0A (7)
 EVG Enable Vertical Guard 1 = enable, 0 = disable 0A (6)
 SBL Service Blanking 1 = active, 0 = inactive 0B (7)
 PRD Over-voltage Protection Detection 1 = enable, 0 = disable 0B (6)
 VID Video Ident Mode 1 = not for ø1-loop, 0 = for ø1-loop 09 (7)

3A. OP0	bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
Item	No TOP	AV input		AVMUT	B/G	I	D/K	M
Initial data	0	1	0	0	1	1	1	1

AV Input 0 0 no AV input model 0 1 1 AV input model
 1 0 2 AV input model 1 1 2 AV input and RGB input model
 No TOP (for teletext model) 1 = only FLOF available, 0 = both FLOF and TOP available
 AVMUT 1 = AV multi is always muted if no signal input, 0 = not muted always
 Other optional bits are effective if set to 1.

3B. OP1	bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
Item	–	–	HDEV	1 V-Curve	XTAL SEL		SECAM	2nd Lang.
Initial data	0	0	0	0	1	1	1	1

XTAL SEL 0 0 only 4.43 XTAL 0 1 only 3.58 XTAL
 1 0 (not used) 1 1 both 4.43 and 3.58 XTAL
 1 V-Curve (for monaural model)
 1 = using common volume curve for every mode and every TV system
 0 = another volume curve available for video mode and M system
 HDEV 1 = High Deviation Mode switch available, 0 = not available
 Other optional bits are effective if set to 1.

3C. OP2	bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
Item	–	–	No Bal.	TV Out	Hotel	VM	D.B.F.B.	Thai Bil.
Initial data	0	0	0	0	0	0	0	0

No Bal. (for AV stereo model) 1 = no balance in analog select items, 0 = balance included
 Other optional bits are effective if set to 1.
 Hotel TV mode should be switched with remote commander from STBY condition as below.
 Hotel TV on : push “display”, “8”, “vol +” and “power” sequentially
 Hotel TV off : push “display”, “8”, “vol –” and “power” sequentially

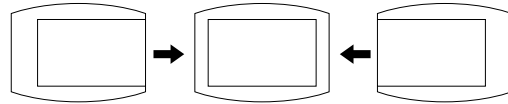
5-3. A BOARD ADJUSTMENT AFTER IC003 (MEMORY) REPLACEMENT

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 case some items are not well-adjusted, give them fine adjustment.
Write the data per each item number (**[MUTING]** + **[0]**).
4. Select item numbers “3E” (OP0), “3F” (OP1) and “40” (OP2) and 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.
(= Cancel Service Mode.)

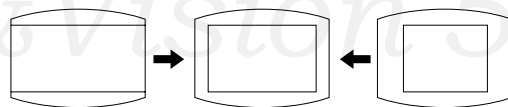
5-4. PICTURE DISTORTION ADJUSTMENT

Item Number 00 – 08

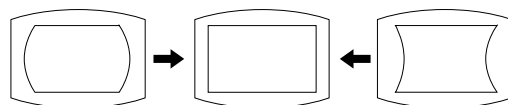
00 HSF (H SHIFT)



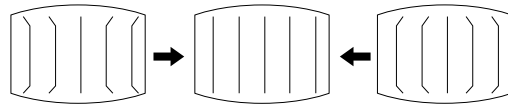
01 HSZ (H SIZE)



02 PAP (PIN AMPLITUDE)



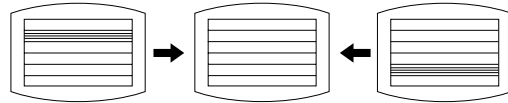
03 CNP (CORNER PIN)



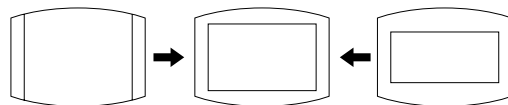
04 TLT (TILT)



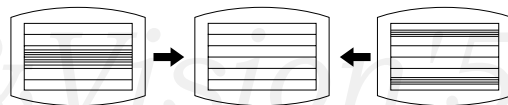
05 VSL (V SLOPE)



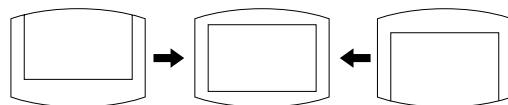
06 VAP (V AMPLITUDE)



07 SCR (S CORRECTION)



08 VSF (V SHIFT)



6-1. BLOCK DIAGRAM



6-2. CIRCUIT BOARDS LOCATION

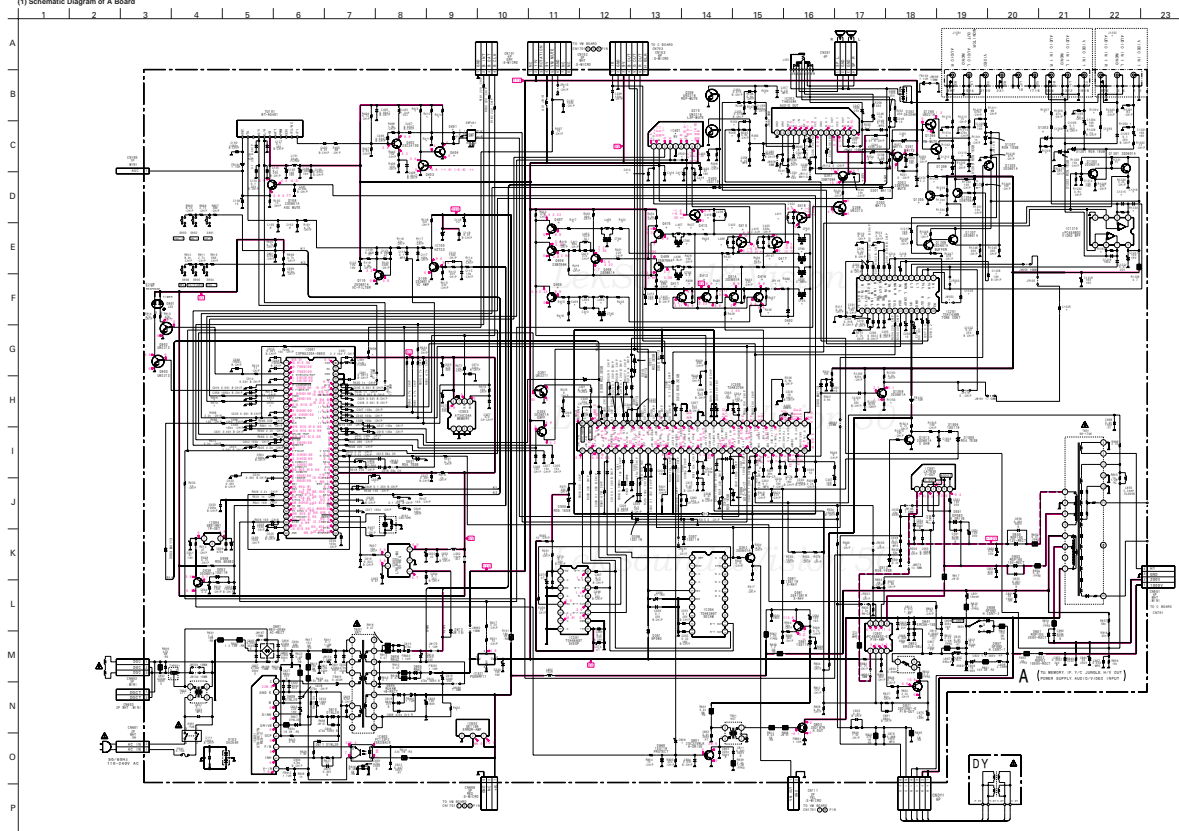


- | Reference information | | |
|-----------------------|--------|--------------------------|
| RESISTOR | • RN | METAL FILM |
| | • RC | SOLID |
| | • FRPD | NONFLAMMABLE CARBON |
| | • FUSE | NONFLAMMABLE FUSIBLE |
| | • RS | NONFLAMMABLE METAL OXIDE |
| | • RB | NONFLAMMABLE CERAMIC |
| | • RW | NONFLAMMABLE WIREWOUND |
| | • * | ADJUSTMENT RESISTOR |
| COIL | • LR | MAGNETIC INDUCTOR |
| CAPACITOR | • TA | TANTALUM |
| | • PS | STYROL |
| | • PP | POLYPROPYLENE |
| | • PPF | MYLAR |
| | • MPS | METALIZED POLYESTER |
| | • SPS | METALIZED POLYPROPYLENE |
| | • ALB | BIPOLAR |
| | • ALT | HIGH TEMPERATURE |
| | • ALR | HIGH HUMIDITY |
- Note:**The component identified by shading and **mark** are critical for safety. Replace only with part number specified.

—	Concrete semiconductor
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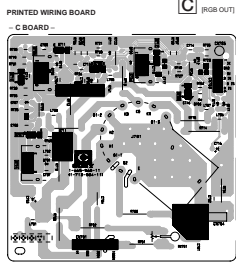
*Non-semiconductors that are not actually used are included.

(1) Schematic Diagram of A Board



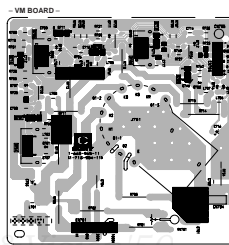
A BOARD MARK LIST

MARK	NO.	NAME	QTY	UNIT	REMARK
A1	1	IC	1	PC	74LS00
A2	1	IC	1	PC	74LS00
A3	1	IC	1	PC	74LS00
A4	1	IC	1	PC	74LS00
A5	1	IC	1	PC	74LS00
A6	1	IC	1	PC	74LS00
A7	1	IC	1	PC	74LS00
A8	1	IC	1	PC	74LS00
A9	1	IC	1	PC	74LS00
A10	1	IC	1	PC	74LS00
A11	1	IC	1	PC	74LS00
A12	1	IC	1	PC	74LS00
A13	1	IC	1	PC	74LS00
A14	1	IC	1	PC	74LS00
A15	1	IC	1	PC	74LS00
A16	1	IC	1	PC	74LS00
A17	1	IC	1	PC	74LS00
A18	1	IC	1	PC	74LS00
A19	1	IC	1	PC	74LS00
A20	1	IC	1	PC	74LS00
A21	1	IC	1	PC	74LS00
A22	1	IC	1	PC	74LS00
A23	1	IC	1	PC	74LS00
A24	1	IC	1	PC	74LS00
A25	1	IC	1	PC	74LS00
A26	1	IC	1	PC	74LS00
A27	1	IC	1	PC	74LS00
A28	1	IC	1	PC	74LS00
A29	1	IC	1	PC	74LS00
A30	1	IC	1	PC	74LS00
A31	1	IC	1	PC	74LS00
A32	1	IC	1	PC	74LS00
A33	1	IC	1	PC	74LS00
A34	1	IC	1	PC	74LS00
A35	1	IC	1	PC	74LS00
A36	1	IC	1	PC	74LS00
A37	1	IC	1	PC	74LS00
A38	1	IC	1	PC	74LS00
A39	1	IC	1	PC	74LS00
A40	1	IC	1	PC	74LS00
A41	1	IC	1	PC	74LS00
A42	1	IC	1	PC	74LS00
A43	1	IC	1	PC	74LS00
A44	1	IC	1	PC	74LS00
A45	1	IC	1	PC	74LS00
A46	1	IC	1	PC	74LS00
A47	1	IC	1	PC	74LS00
A48	1	IC	1	PC	74LS00
A49	1	IC	1	PC	74LS00
A50	1	IC	1	PC	74LS00
A51	1	IC	1	PC	74LS00
A52	1	IC	1	PC	74LS00
A53	1	IC	1	PC	74LS00
A54	1	IC	1	PC	74LS00
A55	1	IC	1	PC	74LS00
A56	1	IC	1	PC	74LS00
A57	1	IC	1	PC	74LS00
A58	1	IC	1	PC	74LS00
A59	1	IC	1	PC	74LS00
A60	1	IC	1	PC	74LS00
A61	1	IC	1	PC	74LS00
A62	1	IC	1	PC	74LS00
A63	1	IC	1	PC	74LS00
A64	1	IC	1	PC	74LS00
A65	1	IC	1	PC	74LS00
A66	1	IC	1	PC	74LS00
A67	1	IC	1	PC	74LS00
A68	1	IC	1	PC	74LS00
A69	1	IC	1	PC	74LS00
A70	1	IC	1	PC	74LS00
A71	1	IC	1	PC	74LS00
A72	1	IC	1	PC	74LS00
A73	1	IC	1	PC	74LS00
A74	1	IC	1	PC	74LS00
A75	1	IC	1	PC	74LS00
A76	1	IC	1	PC	74LS00
A77	1	IC	1	PC	74LS00
A78	1	IC	1	PC	74LS00
A79	1	IC	1	PC	74LS00
A80	1	IC	1	PC	74LS00
A81	1	IC	1	PC	74LS00
A82	1	IC	1	PC	74LS00
A83	1	IC	1	PC	74LS00
A84	1	IC	1	PC	74LS00
A85	1	IC	1	PC	74LS00
A86	1	IC	1	PC	74LS00
A87	1	IC	1	PC	74LS00
A88	1	IC	1	PC	74LS00
A89	1	IC	1	PC	74LS00
A90	1	IC	1	PC	74LS00
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A92	1	IC	1	PC	74LS00
A93	1	IC	1	PC	74LS00
A94	1	IC	1	PC	74LS00
A95	1	IC	1	PC	74LS00
A96	1	IC	1	PC	74LS00
A97	1	IC	1	PC	74LS00
A98	1	IC	1	PC	74LS00
A99	1	IC	1	PC	74LS00
A100	1	IC	1	PC	74LS00



C [RGB OUT]

VM [VM OUT]



(2) Schematic Diagrams of C and VM Boards

