HITACHI

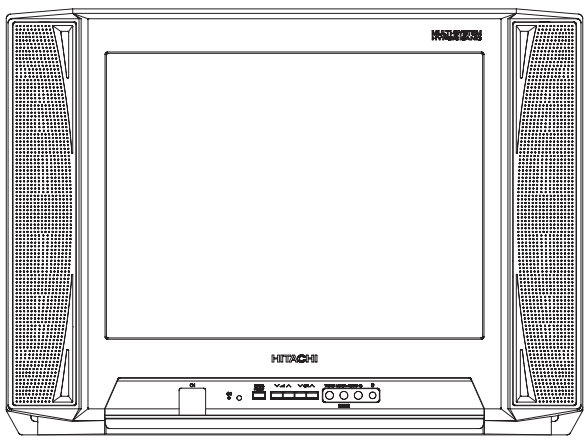
SERVICE MANUAL

PAL/SECAM/NTSC

YS	No.

C21-RF50S		
A Color of Cabinet	Destination	Code
Silver	MIDDLE EAST	191
	M'SIA & S'PORE	081
Black	MIDDLE EAST & AFRICA	191B

UA1 Chassis



CAUTION: Before servicing this chassis, it is important that the service technician read the "IMPORTANT SERVICE NOTES" in this Service Manual.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

COLOR TELEVISION

SEPTEMBER 2002 Digital Media System Group, Hitachi Asia Ltd.

SPECIFICATIONS

Power Input	AC 110 - 240V, 50/60 Hz
Power Consumption	
C21-RF50S/SB	100 W
C21-RF50SN	103 W
Convergence	Self Convergence System
Focus	Quadra Potential Electrostatic
Sweep Deflection	Magnetic
Intermediate Frequency	
Picture IF Carrier	38.9 MHz
Sound IF Carrier Frequency	
6.5 MHz	32.4 MHz
6.0 MHz	32.9 MHz
5.5 MHz	33.4 MHz
4.5MHz	34.4 MHz
Colour Sub-Carrier Frequency	34.47 MHz
Audio Power Output Rating	7.5 W × 2 (RMS)
Speaker	
Size	6 × 12 cm Elliptic (2 pcs.)
Voice Coil Impedance	6 ohms at 400 Hz
Aerial Input Impedance	
VHF/UHF	75 ohm Unbalanced
Receiving System	PAL-B/G/DK/I
	SECAM-B/G/DK/K1
	NTSC-M

Tuner Ranges

» VHF-Channels	E2 (48.25 MHz)	thru	E12 (224.25 MHz)
	C1 (49.75 MHz)	thru	C12 (216.25 MHz)
	S1 (105.25 MHz)	thru	S41 (463.25 MHz)
» UHF-Channels	E21 (471.25 MHz)	thru	E69 (855.25 MHz)
	C13 (471.75 MHz)	thru	C57 (863.25 MHz)

Receiving Frequency	
VHF	44.25 MHz thru 423.25 MHz
UHF	471.25MHz thru 863.25MHz
Dimensions	Width : 642.0 mm
	Height : 475.0 mm
	Depth : 477.0 mm
	Weight (Approx) : 21.0 kg

Specifications are subject to change without prior notice.

IMPORTANT SERVICE NOTES

Maintenance and repair of this receiver should be done by qualified service personnel only.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove static charge from it by connecting a 10k ohm Resistor in series with an insulated wire (such as a test probe) between picture tube dag and 2nd anode lead. (AC line cord should be disconnected from AC outlet.)

1. **Picture tube in this receiver employs integral implosion protection.**
2. **Replace with tube of the same type number for continued safety.**
3. **Do not lift picture tube by the neck.**
4. **Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely**

X-RAY

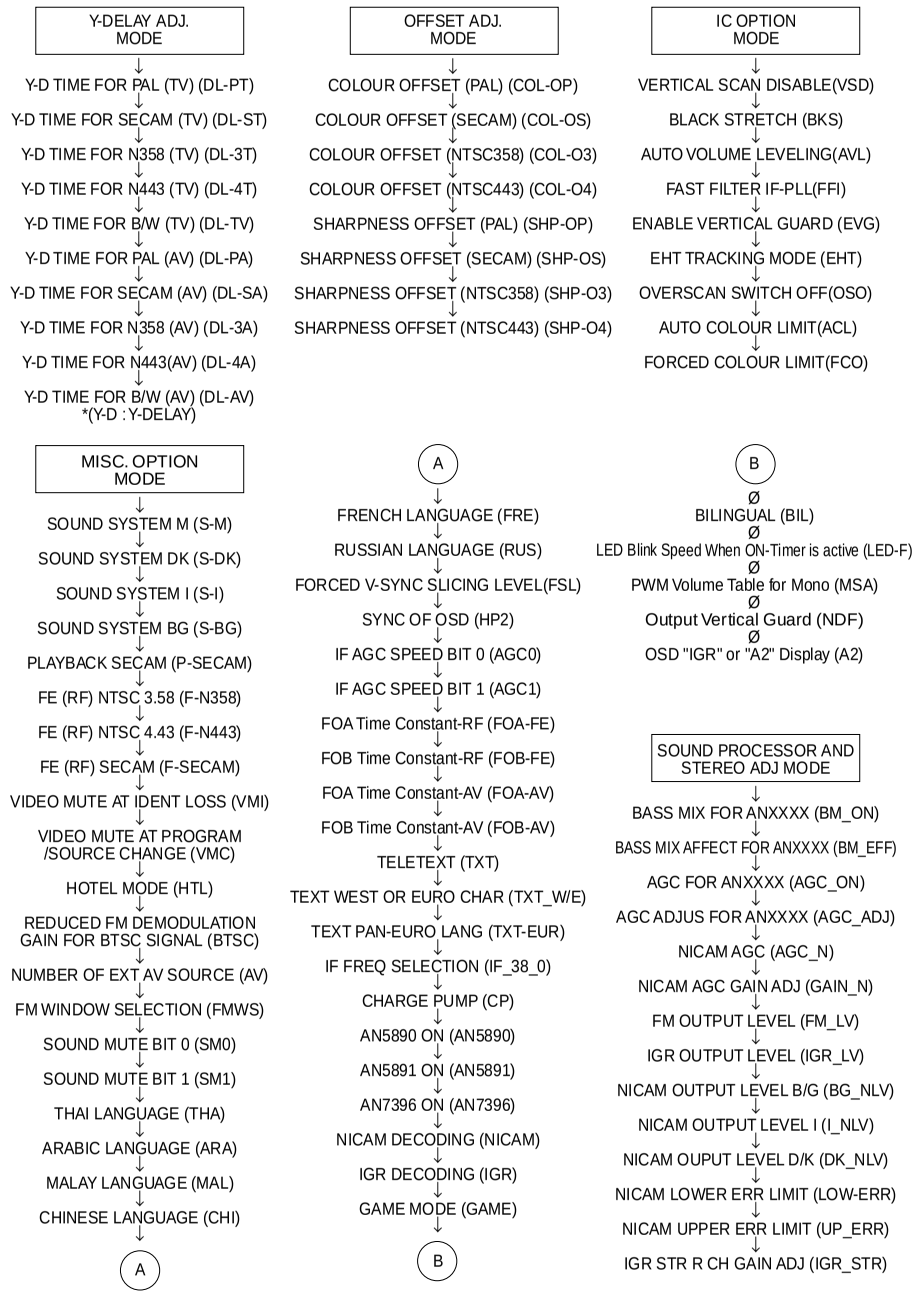
This receiver is designed so that any X-Ray radiation is kept to an absolute minimum. Since certain malfunctions or servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed:

1. **When repairing the circuit, be sure not to increase the high voltage to more than 26.5 ± 1.5 kV (at beam 0.1 µA) for the set.**
2. **To keep the set in a normal operation, be sure to make it function on 24.8 ± 1.5 kV (at beam 1,100 µA) in the case of the set. The set has been factory – Adjusted to the above-mentioned high voltage.**
   ∴ If there is a possibility that the high voltage fluctuates as a result of the repairs, never forget to check for such high voltage after the work.
3. **Do not substitute a picture tube with unauthorized types and/or brands which may cause excess X-ray radiation.**

BEFORE RETURNING THE RECEIVER

Before returning the receiver to the user, perform the following safety checks.

1. **Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.**
2. **Inspect all protective devices such as non-metallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators and etc.**



USER DATA IN SERVICE MODE

* While SERVICE mode ON, EEPROM DATA will switch to the service data.
  Also, once SERVICE mode OFF, EEPROM will switch back to previous USER DATA.
* In the service mode, the user data establish as below,

MODE	USER DATA
CONTRAST	MAX
COLOUR	CENTER
BRIGHTNESS	CENTER
TINT	CENTER
SHARPNESS	CENTER
WHITE TEMP	STANDARD
S-VOLUME	MAX
BLUE BACK	OFF
C SYSTEM	AUTO
S SYSTEM	*1

*1 : For each CH, data is same as before switch to Service mode.

* Direct Key-in for service item in service mode

RC COMMAND	SERVICE-ITEM
STANDBY/ON	STANDBY
TV/VIDEO	NEXT SOURCE
DIGIT 0~9	DIGIT 0~.9
AV1	SELECT AV1
AV2	SELECT AV2
-/--	1/2 DIGIT ENTRY
FUNCTION FSET	AGC
TIMER TSET	SUB-VOL
TXT/MIX	DRI-GS
PIC	DRI-BS
HOLD	DRI-GC
CANCEL	DRI-GW
SIZE	DRI-RC
REVEAL	DRI-BW
RED	CUT-R
GREEN	CUT-G
BLUE BACK	S-COR
S-SYSTEM	HB
CONTRAST+	SUB-CON
CONTRAST-	V-LIN
COLOUR+	SUB-COL
COLOUR-	V-AMP
BRIGHTNESS+	SUB-BRI
BRIGHTNESS-	V-CENT
TINT+	SUB-TINT
TINT-	H-CENT
SHARPNESS+	SUB-SHP
SHARPNESS-	EW//
BASS+	FM LV
BASS-	IGR LV
TREBLE+	IGR STR
TREBLE-	B/G NLV

After short JA122 & JA 124, and turn on the main power switch, read data from EEPROM address 00H ~ 03H, and compare to the list below, if different, initialize the EEPROM.

Address	Data	Address	Data
00H:	55H	02H:	53H
01H:	41H	03H:	36H

EEPROM ITEMS	OSD	DATA LENGTH	INITIAL DATA	FIX/ADJ	REMARK
AGC TAKE OVER POINT	AGC	0~63	14	ADJ	
VERTICAL SLOPE	V-LIN	0~63	32	ADJ	
VERTICAL AMPLITUDE	V-AMP	0~63	32	ADJ	
VERTICAL SHIFT	V-CENT	0~63	32	ADJ	
HORIZONTAL SHIFT	H-CENT	0~63	32	ADJ	
EAST-WEST WIDTH [EW]	H-SIZE	0~63	32	FIX	
HORIZONTAL PARALLELOGRAM	EW//	0~63	32	FIX	
EAST-WEST PARABOLA/WIDTH	PARA	0~63	32	FIX	
EAST-WEST UPPER CORNER PARABOLA	COR(U)	0~63	32	FIX	
EAST-WEST LOWER CORNER PARABOLA	COR(L)	0~63	32	FIX	
EAST-WEST TRAPEZIUM [TC]	TRAPE	0~63	32	FIX	
HORIZONTAL BOW	HB	0~63	32	FIX	
S-CORRECTION	S-COR	0~63	0 (20)	FIX	
WHITE POINT RED STD WHITE TEMP	DRI-RS	0~63	32	FIX	
WHITE POINT GREEN STD WHITE TEMP	DRI-GS	0~63	32	ADJ	
WHITE POINT BLUE STD WHITE TEMP	DRI-BS	0~63	32	ADJ	
WHITE POINT RED COOL WHITE TEMP	DRI-RC	0~63	25	FIX	(DRI-BS)-7 DATA
WHITE POINT GREEN COOL WHITE TEMP	DRI-GC	0~63	32	FIX	(DRI-GS)-7 DATA
WHITE POINT BLUE COOL WHITE TEMP	DRI-BC	0~63	32	FIX	(DRI-BS) SAME DATA
WHITE POINT RED WARM WHITE TEMP	DRI-RW	0~63	32	FIX	
WHITE POINT GREEN WARM WHITE TEMP	DRI-GW	0~63	32	FIX	(DRI-GS)-7 DATA
WHITE POINT BLUE WARM WHITE TEMP	DRI-BW	0~63	32	FIX	(DRI-BS)-7 DATA
MAX VOLUME	SUB-VOL	0~60	60	FIX	
SUB CONTRAST	SUB-CON	0~63	63	FIX	
SUB COLOUR	SUB-COL	0~63	32	ADJ	
SUB BRIGHTNESS	SUB-BRI	0~63	32	ADJ	
SUB TINT	SUB-TINT	0~63	32	ADJ	
SUB SHARPNESS	SUB-SHP	0~63	32(20)	ADJ	
MAX HOTEL VOLUME	HTL-VOL	0~60	30	ADJ	
HOTEL PROGRAM NUMBER	HTL-PRG	0~99 OR>99FOR NONE	255	FIX	
BLUE BACK CONTRAST	BB-CON	0~15	10	FIX	
OSD GRB REFERENCE	RGB	0~15	15	FIX	
BLACK LEVEL OFF-SET R	CUT-R	0~63	32	FIX	
BLACK LEVEL OFF-SET G	CUT-G	0~63	32	FIX	
CATHODE DRIVE LEVEL	CDL	0~15	0 (7)	FIX	
Y-DELAY TIME FOR PAL(TV) [YD]	DL-PT	0~15	12	FIX	
Y-DELAY TIME FOR SECAM(TV) [YD]	DL-ST	0~15	15	FIX	
Y-DELAY TIME FOR N358 (TV) [YD]	DL-3T	0~15	12	FIX	
Y-DELAY TIME FOR N443 (TV) [YD]	DL-4T	0~15	12	FIX	
Y-DELAY TIME FOR B/W (TV) [YD]	DL-TV	0~15	12	FIX	
Y-DELAY TIME FOR PAL (AV) [YD]	DL-PA	0~15	12(9)	FIX	
Y-DELAY TIME FOR SECAM (AV) [YD]	DL-SA	0~15	15	FIX	
Y-DELAY TIME FOR N358 (AV) [YD]	DL-3A	0~15	12(7)	FIX	
Y-DELAY TIME FOR N443 (AV) [YD]	DL-4A	0~15	12	FIX	
Y-DELAY TIME FOR B/W (AV) [YD]	DL-AV	0~15	12	FIX	
COLOUR OFFSET (PAL)	COL-OP	0~15	8	FIX	*1
COLOUR OFFSET (SECAM)	COL-OS	0~15	8	FIX	*1
COLOUR OFFSET (NTSC358)	COL-O3	0~15	4	FIX	*1
COLOUR OFFSET (NTSC443)	COL-O4	0~15	4	FIX	*1
SHARPNESS OFFSET (PAL)	SHP-OP	0~15	8	FIX	
SHARPNESS OFFSET (SECAM)	SHP-OS	0~15	4	FIX	

EEPROM ITEMS	OSD	DATA LENGTH	INITIAL DATA	FIX/ADJ	REMARK
SHARPNESS OFFSET (NTSC358)	SHP-O3	0~15	12	FIX	
SHARPNESS OFFSET (NTSC443)	SHP-O4	0~15	8	FIX	
BASS MIX FOR ANXXXX	BM-ON	0(DISABLE)/1(ENABLE)	0	FIX	
BASS MIX EFFECT FOR ANXXXX	BM-EFF	0~3	2	FIX	
AGC FOR ANXXXX	AGC-ON	0(DISABLE)/1(ENABLE)	1	FIX	
AGC ADJUST FOR ANXXXX	AGC-ADJ	0~3	3	FIX	
NICAM AGC	AGC-N	0(ENABLE)/1(DISABLE)	0	FIX	
NICAM AGC GAIN ADJ	GAIN-N	0~31	0	FIX	
FM OUTPUT LEVEL	FM-LV	0~30	15(22)	FIX	
IGR OUTPUT LEVEL	IGR-LV	0~30	16(23)	FIX	
NICAM OUTPUT LEVEL (B/G)	B/G-NLV	0~30	13(20)	FIX	
NICAM OUTPUT LEVEL (I)	I-NLV	0~30	18(25)	FIX	
NICAM OUTPUT LEVEL (D/K)	D/K-NLV	0~30	13(20)	FIX	
NICAM LOWER ERROR LIMIT	LOW ERR	0~255	35(20)	FIX	
NICAM UPPER ERROR LIMIT	UP ERR	0~255	70	FIX	
IGR STEREO R CH GAIN ADJUST	IGR-STR	0~13	6	FIX	
VERTICAL SCAN DISABLE	VSD	0(DISABLE)/1(ENABLE)	0	FIX	
BLACK STRETCH	BKS	0(DISABLE)/1(ENABLE)	1	FIX	
AUTOMATIC VOLUME LEVELING	AVL	0(DISABLE)/1(ENABLE)	1	FIX	
FAST FILTER IF-PLL	FFI	0(DISABLE)/1(ENABLE)	0	FIX	
ENABLE VERTICAL GUARD (RGB BLANKING)	EVG	0(DISABLE)/1(ENABLE)	1	FIX	
EHT TRACKING MODE (HCO)	EHT	0(DISABLE)/1(ENABLE)	1	FIX	
OVERSCAN SWITCH OFF	OSO	0(DISABLE)/1(ENABLE)	0	FIX	
AUTO COLOUR LIMIT	ACL	0(DISABLE)/1(ENABLE)	0	FIX	
FORCED COLOUR LIMIT	FCO	0(DISABLE)/1(ENABLE)	0	FIX	
SOUND SYSTEM M	S-M	0(DISABLE)/1(ENABLE)	0(1)	FIX	
SOUND SYSTEM DK	S-DK	0(DISABLE)/1(ENABLE)	1	FIX	
SOUND SYSTEM I	S-I	0(DISABLE)/1(ENABLE)	1	FIX	
SOUND SYSTEM BG	S-BG	0(DISABLE)/1(ENABLE)	1	FIX	
PLAYBACK SECAM	P-SECAM	0(DISABLE)/1(ENABLE)	1	FIX	
FE (RF) NTSC 3.58	F-N358	0(DISABLE)/1(ENABLE)	0(1)	FIX	
FE (RF) NTSC 4.43	F-N443	0(DISABLE)/1(ENABLE)	1	FIX	
FE (RF) SECAM	F-SECAM	0(DISABLE)/1(ENABLE)	1	FIX	
VIDEO MUTE AT IDENT LOSS	VMI	0(DISABLE)/1(ENABLE)	1	FIX	
VIDEO MUTE AT PROGRAM/SOURCE CHANGE	VMC	0(DISABLE)/1(ENABLE)	1	FIX	
HOTEL MODE	HTL	0(DISABLE)/1(ENABLE)	0	FIX	
REDUCED FM DEMODULATOR GAIN FOR BTSC SIGNAL	BTSC	0(DISABLE)/1(ENABLE)	0	FIX	
NUMBER OF EXTERNAL AV SOURCE	AV	0 FOR1 AV/1 FOR 2AV	1	FIX	
FM WINDOW SELECTION	FMWS	0(DISABLE)/1(ENABLE)	0	FIX	
SOUND MUTE BIT 0	SM0	0(DISABLE)/1(ENABLE)	1	FIX	
SOUND MUTE BIT 1	SM1	0(DISABLE)/1(ENABLE)	0	FIX	
THAI LANGUAGE	THA	0(DISABLE)/1(ENABLE)	0	FIX	
ARABIC LANGUAGE	ARA	0(DISABLE)/1(ENABLE)	1	FIX	
MALAY LANGUAGE	MAL	0(DISABLE)/1(ENABLE)	1	FIX	
CHINESE LANGUAGE	CHI	0(DISABLE)/1(ENABLE)	1	FIX	
FRENCH LANGUAGE	FRE	0(DISABLE)/1(ENABLE)	1	FIX	
RUSSIAN LANGUAGE	RUS	0(DISABLE)/1(ENABLE)	1	FIX	
FORCED V-SYNC SLICING LEVEL	FSL	0(DISABLE)/1(ENABLE)	0	FIX	
SYNC OF OSD	HP2	0(DISABLE)/1(ENABLE)	0	FIX	
IF AGC SPEED BIT 0	AGC0	0(DISABLE)/1(ENABLE)	1	FIX	
IF AGC SPEED BIT 1	AGC1	0(DISABLE)/1(ENABLE)	0	FIX	
PHI-1 TIME CONSTANT (RF)	FOA-FE	0(DISABLE)/1(ENABLE)	0	FIX	
PHI-1 TIME CONSTANT (RF)	FOB-FE	0(DISABLE)/1(ENABLE)	0	FIX	
PHI-1 TIME CONSTANT (OFF AIR)	FOA-AV	0(DISABLE)/1(ENABLE)	1	FIX	
PHI-1 TIME CONSTANT (OFF AIR)	FOB-AV	0(DISABLE)/1(ENABLE)	1	FIX	
TELETEXT	TXT	0(DISABLE)/1(ENABLE)	0	FIX	
TELETEXT WESTERN OR EASTERN CHAR	TXT-W/E	0(WESTERN)/1(EASTERN)	0	FIX	

EEPROM ITEMS	OSD	DATA LENGTH	INITIAL DATA	FIX/ADJ	REMARK
TELETEXT PAN-EURO LANG	TXT-EUR	0(EURO)/1(OTHER)	0	FIX	
AN5890 PRESENT	AN5890	0(DISABLE)/1(ENABLE)	1(0)	FIX	
AN5891 PRESENT	AN5891	0(DISABLE)/1(ENABLE)	0(1)	FIX	
AN7396 PRESENT	AN7396	0(DISABLE)/1(ENABLE)	0	FIX	
NICAM DECODING ENABLED	NICAM	0(DISABLE)/1(ENABLE)	0	FIX	
IGR DECODING ENABLED	IGR	0(DISABLE)/1(ENABLE)	0	FIX	
GAME MODE ENABLED	GAME	0(DISABLE)/1(ENABLE)	0	FIX	
IF FREQ SELECTION	IF_38_0	0(38.9)/1(38.0)	0	FIX	
BILINGUAL	BIL	0(DISABLE)/1(ENABLE)	0	FIX	
CHARGE PUMP	CP	0(FAST TUNE)/1(MODERATE TUNE)	0(1)	FIX	
LED BLINK SPEED	LED_F	0(100Hz) OR 1(1Hz)	0	FIX	
VOLUME CONTROL PWM CONVERSION TABLE	MSA	0(ORIGINAL-TABLE A) OR 1 TABLE B	0	FIX	
OUTPUT VERTICAL GUARD	NDF	0(IGNORE) OR 1 (ACCEPT)	0(1)	FIX	
OSD A2 IN STEREO	A2	0(DISABLE)/1(ENABLE)	0	FIX	

NOTE :

Please set the EEPROM initial data according to the value in parenthesis ( ) before adjustment
Fixed data, please do not change without specific instruction.

*1:After Adj. SUB-COLOUR then change, 1. COL-OP FROM 8 TO 14
2. COL-OS FROM 8 TO 14
3. COL-O3 FROM 4 TO 10
4. COL-O4 FROM 4 TO 10

INITIAL SETTING

(1) Please set to MCL1.
(2) After set the MCL please set the INITIAL SETTING as below.
INITIAL3 : for Singapore, Malaysia, Middle East and Africa.

MCL1		
CH-NO	Fv (MHz)	SOUND SYS
0		
1	48.25	B/G
2	62.25	B/G
3	77.25	D/K
4	175.25	B/G
5	182.25	B/G
6	183.25	D/K
7	191.25	D/K
8	196.25	B/G
9	199.25	M
10	210.25	B/G
11	224.25	B/G
12	471.25	B/G
13	487.25	I
14	503.25	B/G
15	575.25	B/G
16	583.25	B/G
17	599.25	B/G
18	621.25	M
19	639.25	D/K
20	703.25	B/G
21	735.25	I
22	767.25	B/G
23	815.25	B/G
24	855.25	I
25	855.25	B/G
26	55.25	M
27	83.25	M
28	183.25	M
29	193.25	M
30	217.25	M
31	471.25	M
32	477.25	M
33	693.25	M
34	41.1	M
35	112.25	B/G
36	168.25	B/G
37		
38	294.25	B/G
39	463.25	B/G
40		
41	647.25	B/G
42	663.25	B/G
43	679.25	B/G
44	174.95	B/G
45	175.55	B/G

SHIPPING SETTING & CHECKING

(1) The following default data has been factory-set for the E²PROM.

ITEMS	DATA SETTING
LAST PROGRAM/CHANNEL	1
FLASHBACK PROGARM/CH	1
DIGIT	2 DIGIT
C-SYSTEM	AUTO
S-SYSTEM	*1
SKIP	OFF
AFC	ON
VOLUME	1
CONTRAST	60 (MAX)
COLOUR	0 (CENTER)
BRIGHTNESS	0 (CENTER)
TINT	0 (CENTER)
SHARPNESS	0 (CENTER)
WHITE TEMP	STANDARD
REMINDER TIMER	In-active, "--:--"
ON TIMER	In-active, "--:--"
OFF TIMER	In-active, "--:--"
LAST POWER	POWER-ON
LANGUAGE	*1
BLUE BACK MUTE	ON
HOTEL MODE	OFF
0 CHANNEL SKIP	ON
LAST TV/AV	TV
BASS/TRE/BAL	CENT
SURROUND	OFF
SURROUND LEVEL	CENT

NOTE: AFTER PRESSING MODEL SETTING, 0 CHANNEL WILL BE SKIPPED

*1:Please refer defaults for LANGUAGE and SOUND SYSTEM per MODEL as follows.

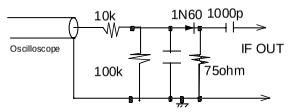
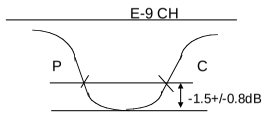
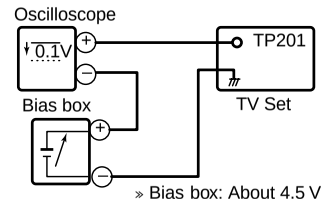
FACTORY SETTING BY MODEL

(Reference: Geomagnetism Adjustment)

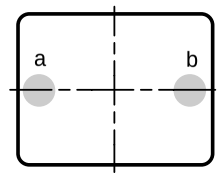
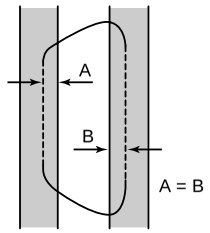
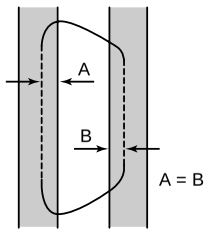
MODEL	MAGNEYIC FIELD (V, H) nT		BACKGROUND	LANG.	S-SYS	LANG QTY
C21-RF50S (081,191B)	-10,000	40,000	12300K	ENGLISH	B/G	6
C21-RF50S (191)	30,000	20,000	12300K	ARABIC	B/G	6

*NOTE FOR OSD TYPE
ENGLISH/CHINESE/FRENCH/ARABIC/MALAY/RUSSIAN

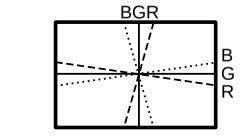
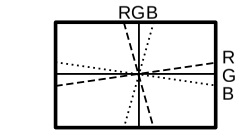
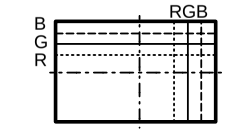
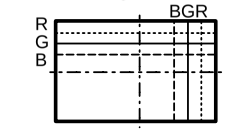
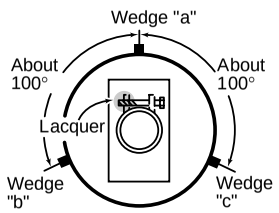
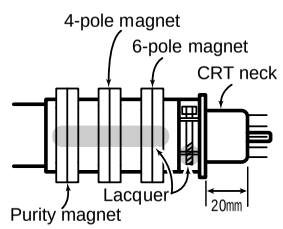
PIF ADJUSTMENT

NO.	Adjustment part	Adjusting procedure and conditions	Waveform and others
1	**Tuner IFT (PRESET)**	1. Get the tuner ready to receive the E-9 CH signal, but with no signal input. Adjust the PLL data. 2. Connect the sweep generator's output cable to the tuner antenna. (RF SWEEP) 3. Adjust the sweep generator's to 80dBµV. 4. Connect the response lead (use LOW IMPEDANCE probe with wave detector; see **Fig.1**) to the tuner's IF output terminal. (This terminal must have the probe alone connected). 5. Set the RF AGC to 0 - 6 V with no saturation with the waveform. 6. Adjust the tuner IF coil to obtain the waveform as shown in **Fig. 2**. **Note: Be sure to keep the tuner cover in position during this adjustment.**	 **Fig. 1**  **Fig. 2**
2	**RF-AGC TAKE OVER POINT ADJUSTMENT (I²C BUS CONTROL)**	1. Receive the PAL colour bar signal. » Signal Strength: 54 ±1 dBµV (75 ohm open) 2. Connect the oscilloscope to TP201 (Tuner's AGC Terminal) as shown in **Fig. 3**.  » Bias box: About 4.5 V **Fig. 3** 3. Call the "AG" mode in service mode. Adjust the "AG" bus data to obtain the Tuner output pin drop 0.1 V below maximum voltage. 4. Change the antenna input signal to 63~67dBµV, and make sure there is no noise. 5. Turn up the input signal to 90~95 dBµV to be sure that there is no cross modulation beat.	**Note:** **For the 50 ohm signal strength gauge, when not using 50/75 impedance adapter, signal strength is 52 ±1 dBµV(75 ohm open), instead of 54 ±1 dBµV (75 ohm open).** **Precaution:** **The loss of using impedance adapter**

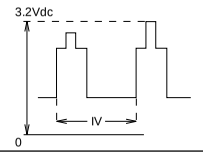
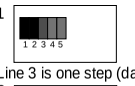
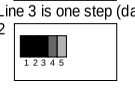
PURITY ADJUSTMENT

NO.	Adjustment part	Adjusting procedure and conditions	Waveform and others
1	**PURITY ADJ.**	1. Receive the GREEN-ONLY signal. Adjust the beam current to about 700 µA. 2. Degauss the CRT enough with the degausing coil. 3. Maintain the purity magnet at the zero magnetic field and keep the static convergence roughly adjusted. 4. Observe the points a and b as shown in **Fig. 4-1** through the microscope. Adjust the landing to the rank A requirement. 5. Orient the raster rotation to 0 eastward. 6. Tighten up the deflection coil screws. » Tightening torque: 108N ± 20 N (11 ± 2 kgf) 7. Make sure the CRT corners landing meet the A rank requirements. If not, stick the magnet sheet to correct it. **Note: This adjustment must be done after warming up the unit for 30 minutes or longer with a beam current over 700µA.** **Note: Set the service mode by TP1001 & TP1002 (short) then press factory process R/C RGB key to change to RGB mono colour mode.** * For the following colours press R/C RGB key to change. Red-only → Green-only → Blue-only → Signal-colour screen cleared	 **Fig. 4-1**  **Fig. 4-2** Rank "A" (on the right of the CRT)  **Fig. 4-3** Rank "A" (on the left of the CRT) * Press R/C RGB key for 1 second in NORMAL MODE, the colour will change to RGB mono colour mode. The TEXT Key "R. G. Cy" Key can be directly use to change to other colours screen.

CONVERGENCE ADJUSTMENT

NO.	Adjustment part	Adjusting procedure and conditions	Waveform and others
1	**CONVERGENCE ADJ. (To be done after the purity adjustment.)**	1. Receive the Crosshatch Pattern signal. 2. Using the remote controller, call NORMAL mode. **Static Convergence** 1. Turn the 4-pole magnet to a proper opening angle in order to superpose the blue and red colours. 2. Turn the 6-pole magnet to a proper opening angle in order to superpose the green colour over the blue and red colours. **Dynamic Convergence** 1. Adjust the convergence on the fringes of the screen in the following steps. **a) Fig. 5-1: Drive the wedge at point "a" and swing the deflection coil upward.** **b) Fig. 5-2: Drive the wedge at points "b" and "c" and swing the deflection coil downward.** **c) Fig. 5-3: Drive the "c" wedge deeper and swing the deflection coil rightward.** **d) Fig. 5-4: Drive the "b" wedge deeper and swing the deflection coil leftward.** 2. Fix all the wedges on the CRT and apply glass tape over them. 3. Apply lacquer to the deflection yoke lock screw, magnet unit (purity, 4-pole, 6-pole magnets) and magnet unit lock screw. Finally received the Red-only and Blue-only signals to make sure there is no other colours on the screen.	 **Fig. 5-1**  **Fig. 5-2**  **Fig. 5-3**  **Fig. 5-4**  **Fig. 5-5**  **Fig. 5-6**

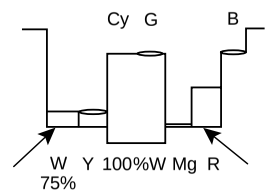
CUT-OFF, BKGD, SUB-CONT (1) ADJUSTMENT

NO.	Adjustment part	Adjusting procedure and conditions	Waveform or others
1	**CRT CUTOFF ADJUSTMENT (I^2C BUS CONTROL)**	1. Switch TV to VIDEO mode,BLUE BACK OFF, with NO VIDEO signal. 2. Press R/C to set Picture Normal condition. 3. Frist off the screen by adjust screen variable resistor. *4. Next, check AKB circuit function by slowly increase screen variable resistor until colour raster suddenly On and Off (AKB start function). 5. Then continue adjust until retrace line appear. 6. Finally, slowly decrease the screen variable resistor until screen retrace line(Not Raster) Cut Off. ***Note :** **Must comfirm the AKB function in set before continue the next adjustment.** REMARK : 1) Before CRT Cutoff adjustment, SUB-BRIGHT, DRI-RS/RC/RW, DRI-GS/GC/GW, DRI-BS/BC/BW, CUT-R AND CUT-G must be initial data. 2) CRT Cutoff adjustment must be done inside a dark room.	* Alternative Procedure: (1) Step (1), (2), (3) and (4) are same as beside procedure. (2) Then continue adjust until retrace line appear and make sure the colour appear wheather red, green or blue. (3) Connect the oscilloscope to related test points as belowwhich is based on colour appear at (2) RED=TP851, GREEN=TP852, BLUE=TP853 (4) Then adjust Screen VR until the tip of signal reach 3.2Vdc 
2	**SUB-BRIGHTNESS ADJUSMENT (I^2C BUS CONTROL)**	1. Call " SUB-BRI" in service mode. (Receive Cross-hatch pattern with 5 black level windows) 2. Adjust the " SUB BRIGHT " bus data in order that the line 1 and 2 have the same darkness wherelse line 3 is one step (data) brighter than line 2. Finally data minus 1 to make line 1, 2, and 3 are in same level (darkness). 3. Clear the SERVICE mode.	1  Line 3 is one step (data) brighter than line 2 2 
3	**WHITE BALANCE SERVICE MODE ADJ (I^2C BUS CONTROL)**	1. Receive the "WHITE" pattern with BURST signal. 2. Press R/C to set Picture NORMAL condition. 3. Connect the DC miliammeter between the TP 602 (-) TP 603 (+). 4. Check Beam current should be around 1100µA. 5. Set BRIGHTNESS Y by generator, to high brightness 120cd/m^2 (MINOLTA CA-100) 6. Switch TV to service mode and adjust the DRI-GS & DRI-BS data to have a colour temperature of 12,300°k. *Note. 7. Set BRIGHTNESS Y by generator, to low brightness 10cd/m^2 (MINOLTA CA-100) 8. Adjust "CUT-R" & "CUT-G" to get desired colour temperature #. Then go back NORMAL mode (HIGH BRIGHT**) to check colour temperature. If out of range, back to (1) **Note : This adjustment must be done after warming up the unit for 30 minutes or longer with a beam current over 700µA.** * ADJUST DRI-GC/GW, DRI-BC/BW as following DATA, after finishing DRI-BS and DRI-GS DRI-RW=32 (FIXED), DRI-GW="DRI-GS"-7*, DRI-BW="DRI-BS"-7* DRI-RS=25(FIXED), DRI-BC="DRI-BS", DRI-GC="DRI-GS"-7 9. Clear the SERVICE mode.	# 12300°K X : 0.272 Y : 0.275 (MINOLTA COLOUR ANALYZER CA-100) *Note: Above Data can be UP/DOWN by Volume key. **BRIGHTNESS LOW 10cd/m^2 HIGH 120cd/m^2
4	**Maximum beam check**	1. Receive the "Monoscope Pattern" signal. 2. Press R/C to set Picture NORMAL condition. 3. Connect the DC miliammeter between TP603 (+) & TP602 (–). (Full Scale: 3 mA Range) 4. Beam current must be within 1,100 ± 100 µA.	

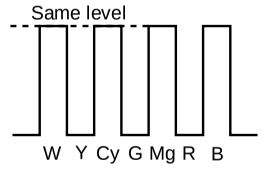
HORIZONTAL, VERTICAL, DEFLECTION LOOP AND FOCUS ADJUSTMENT

NO.	Adjustment part	Adjusting procedure and conditions	Waveform and others
1	**V-SLOPE (I^2C BUS CONTROL)**	1. Receive the monoscope pattern signal. 2. Call the "V-LIN" mode. 3. Increase or decrease "V-LIN" by Volume key till the horizontal line in the center of monoscope is just at the position where the blanking starts.	
2	**V-SHIFT-50 (I^2C BUS CONTROL)**	1. Call the "V-CENT" mode. 2. Increase or decrease "V-CENT" by Volume key till the picture is centered.	
3	**V - AMP 50 (I^2C BUS CONTROL)**	1. Call the "V-AMP" mode. 2. Increase or decrease "V- AMP" by Volume key to set overscan of 9.5% typical. Adjustment Spec. 9.5% range +1% -0%.	
4	**S-CORRECTION (I^2C BUS CONTROL)**	**FIXED DATA, NO NEED TO ADJUST.**	
5	**H-SHIFT (50) (H-CENTER) (I^2C BUS CONTROL)**	1. Call the "H-CENT" mode. 2. Increase or decrease "H-CENT" by Volume key to center the picture horizontal.	
1	**Focus**	1. Receive the monoscope pattern signal. 2. Press R/C to set Picture NORMAL condition. 3. Adjust the focus control to get the best focus.	

PAL CHROMA ADJUSTMENT

NO.	Adjustment part	Adjusting procedure and conditions	Waveform and others
1	**SUB COLOUR (I^2C BUS CONTROL)**	1. Receive the PAL colour bar signal. 2. Press R/C to set Picture Normal condition. 3. Connect the oscilloscope to Red cathode (C881 and R885). » Range : 20 V/div. (AC) (Use 10:1 probe) » Sweep time : 10 µsec/div. 4. Using the R/C call "SUB COL" in SERVICE mode. Adjust SUB COLOUR bus data, so that the 75% White & Red portions of PAL Colour Bar be at the same level shown as **Fig. 8**. 5. Clear the SERVICE mode. * Before adjust SUB COL, COL-OP=8, COL-OS=8, COL-O3=4, COL-O4=4 After adjust SUB COL, set COL-OP=12, COL-OS=12, COL-O3=8, COL-O4=8	 **Fig. 8**

NTSC CHROMA ADJUSTMENT

NO.	Adjustment part	Adjusting procedure and conditions	Waveform and others
1	**SUB-TINT (I²C BUS CONTROL)**	1. Receive the NTSC3.58 colour bar signal through AV in. 2. Connect the oscilloscope to TP853 (Pin (5) of P882) BLUE-OUT. » Range : 100mV/div.(AC)(Use Probe 10:1) » Sweep time : 10 µsec/div. 3. Call the "SUB-TINT" mode in service mode. Adjust the "SUB-TINT" bus data to obtain the waveform shown as **Fig. 9**. 4. Clear the SERVICE mode.	 **Fig. 9**

PROTECTOR OPERATION CHECKING

NO.	Adjustment part	Adjusting procedure and conditions	Waveform and others
1	**BEAM PROTECTOR**	1. Receive the monoscope pattern signal. 2. Set CONTRAST MAX. 3. Set BRIGHT MAX. 4. During the Collector & Emitter of Q883/5/7 short, make sure the protector ON and switch to standby mode.	* Select one of Q883/5/7 to do each short test.
2	**H·V PROTEC-TOR**	1. Receive the monoscope pattern signal. 2. Connect output of Bias Box to D607 cathode (R606 side). 3. Set voltage of Bias Box to 18V and make sure the protector is not work. 4. Set voltage of Bias Box to 27V, and make sure the protector is work.	
3	**Other protectors**	1. Once finish rectified Electrolytic Capacitor short testing in +B line, check all possible damaged components on +B line. (Use random selected set for inspection)	

A/V INPUT AND OUTPUT CHECKING

NO.	Adjustment part	Adjusting procedure and conditions	Waveform and others
1	**VIDEO AND AUDIO OUT-PUT CHECK**	1. Receive the PAL colour bar signal (100% White Colour Bar, Sound 400 Hz 100% Mod.) 2. Terminate the Video output with a 75 ohm impedance. Make sure the output is as specified (1.0 Vp-p ±3 dB). 3. Terminate the Audio output with a 10k ohm impedance. Make sure the output is as specified (1.76 Vp-p ±3 dB).	
2	**VIDEO AND AUDIO INPUT CHECK**	1. Using the TV/AV key on the remote controller, make sure that the modes change in order of TV, AV1, AV2 & TV again and the video & audio output are according to the input terminal for each mode.	

FUNCTION OPERATION CHECKING (VIDEO AND AUDIO)

NO.	Adjustment part	Adjusting procedure and conditions	Waveform and others
1	**CONTRAST key**	1. Receive the monoscope pattern signal. 2. Set P-Mode to select CONTRAST. 3. Press Volume Up/Down key to check whether the CONTRAST effect is OK or not.	
2	**COLOUR key**	1. Receive the colour bar signal. 2. Set P-Mode to select COLOUR. 3. Press Volume Up/Down key to check whether the COLOUR effect is OK or not.	
3	**BRIGHTNESS key**	1. Receive the monoscope pattern signal. 2. Set P-Mode to select BRIGHTNESS. 3. Press Volume Up/Down key to check whether the BRIGHTNESS effect is OK or not	
4	**TINT key**	1. Receive the NTSC colour bar signal thru AV in. 2. Set P-Mode to select TINT. 3. Press Volume Up/Down key to check TINT, UP for GREEN direction and DOWN for PURPLE direction whether is OK or not.	
5	**SHARPNESS Key**	1. Receive the monoscope pattern signal. 2. Set P-mode to select SHARPNESS. 3. Press Volume Up/Down key to check whether the SHARPNESS effect is OK or not.	
6	**CH DISPLAY COLOUR**	1. All Ch (1~99) will have an OSD display of the channel number in green colour under AFT ON condition.	
7	**NORMAL Key**	1. Once in PICTURE Mode, and the NORMAL key is pressed, all the settings will be present to normal setting. (Normal setting value for every mode). » CONTRAST : MAX TREBLE : CENTER » COLOUR : CENTER BASS : CENTER » BRIGHTNESS : CENTER SURROUND : OFF » TINT : CENTER SURROUND LEVEL : CENTER » SHARPNESS : CENTER BALANCE : CENTER	**Note: If nothing is display mean contrast, colour, bright, tint or sharpness are all in normal setting.**
8	**White Temp**	1. Receive the monoscope pattern signal. 2. Set P-mode to select WHITE TEMP. 3. Press Volume Up/Down key to check WHITE TEMP Option, STANDARD: NORMAL SETTING, WARM for more REDDISH direction changing, COOL for more BLUISH direction changing.	

FUNCTION OPERATION CHECKING (VIDEO AND AUDIO)
(Continued)

NO.	Adjustment part	Adjusting procedure and conditions	Waveform and others
9	**Colour system**	1. Receive the PAL colour bar signal, select the COLOUR SYSTEM key to select modes except PAL, check the COLOUR is not working properly. Then, select the "PAL" mode. Check again its colour so that it is working properly. 2. Receive the SECAM colour bar signal, select the COLOUR SYSTEM key to select modes except SECAM, check the COLOUR is not working properly. Then, select the "SECAM" mode. Check again its colour so that it is working properly. 3. Receive the NTSC 4.43 signal, select the COLOUR SYSTEM key to select modes except NTSC 4.43, check the COLOUR is not working properly. Then, select the "NTSC 4.43" mode. Check again its colour so that it is working properly. 4. Receive the NTSC 4.43/3.58 colour bar signal thru AV, select the COLOUR SYSTEM key to select modes except N4.43/3.58, check the COLOUR is not working properly. Then, select the "NTSC 4.43/3.58" mode. Check again its colour so that it is working properly.	
10	**SOUND SYSTEM**	1. Receive the PAL-D/K signal, select the "SOUND SYSTEM" turn to B/G, I. Check the sound output is not working properly. Select D/K and check the sound output to make sure it is working properly. 2. Receive the PAL-I signal, select the "SOUND SYSTEM" turn to B/G, D/K. Check the sound output is not working properly. Select I and check the sound output to make sure it is working properly. 3. Receive PAL-B/G signal, select the "SOUND SYSTEM" turn to I, D/K. Check the sound output is not working properly. Select B/G and check the sound output to make sure it is working properly. 4. Receive "NTSC-M" signal, select the "SOUND SYSTEM" turn to BIG, I, D/K. Check the sound output is not working properly.	
11	**NOISE MUTE CHECKING**	**Select mode check the sound output to make sure it is working properly.** 1. Receive the PAL colour bar signal. 2. Turn up the volume control to maximum, make sure the sound is heard from the speakers. Then put the unit in no signal state. 3. Check the sound mute is effective. 4. Finally turn sound level of CTV to minimum.	

FUNCTION OPERATION CHECKING (VIDEO AND AUDIO)
(Continued)

NO.	Adjustment part	Adjusting procedure and conditions	Waveform and others
12	**OSD LANGUAGE QUANTITY CHECK**	Check OSD LANGUAGE quantity and type for respect model. QUANTITY: 6 — ENGLISH: O — RUSSIAN: O — CHINESE: O — ERENCH: O — ARABIC: O — MALAY: O	
13	**SOUND CONTROL (BASS/TRE/ BAL)**	1. Receive the monoscope pattern signal. 2. Set P-Mode to select the "BASS", "TRE" and "BAL". 3. Select each item, and press Vol. Up/Down Key to check the sound effect."	
14	**SURROUND FUNCTION CHECKING**	1. Receive the music signal. 2. Press SURROUND Key to select the following mode. SURROUND OFF ↓ SURROUND 1 (Check SURROUND sound effect) Check the level of SURROUND 1 effect by increasing and decreasing the level control. 3. Receive the music signal and press SURROUND Key to select the following mode. SURROUND 2 (Check MONO sound effect)	

HEADPHONE JACK CHECKING

NO.	Adjustment part	Adjusting procedure and conditions	Waveform and others
1	**HEADPHONE OUTPUT CHECKING**	1. Receive the PAL colour bar with SOUND 400Hz, 100% Modulation (±50 kHz Dev). 2. Maximum volume, and check the headphone output with 400Hz sound and no sound out from speaker.	

MEMORY MAP

ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
00				PASS WORD					55	00-FF							
01				PASS WORD					41	00-FF							
02				PASS WORD					53	00-FF							
03				PASS WORD					36	00-FF							
04																	
05																	
06				AGC TAKE-OVER					0E	00-3F							
07				V-SLOPE					20	00-3F							
08				V-SLOPE					20	00-3F							
09				V-CENTER					20	00-3F							
0A				H-CENTER					20	00-3F							
0B				H-SIZE					20	00-3F							
0C				EW-PARALLELOGRAM					20	00-3F							
0D				EW-PARABOLA/WIDTH					20	00-3F							
0E				EW-UPPER CORNER					20	00-3F							
0F				EW-LOWER CORNER					20	00-3F							
10				EW-TRAPEZIUM					20	00-3F							
11				HORIZONTAL-BOW					20	00-3F							
12				S-CORRECTION					00	00-3F							
13																	
14																	
15																	
16				DRIVE-R (STANDARD)					20	00-3F							
17				DRIVE-G (STANDARD)					20	00-3F							
18				DRIVE-B (STANDARD)					20	00-3F							
19				DRIVE-R (WARM)					20	00-3F							
1A				DRIVE-G (WARM)					20	00-3F							
1B				DRIVE-B (WARM)					20	00-3F							
1C				DRIVE-R (COOL)					19	00-3F							
1D				DRIVE-G (COOL)					20	00-3F							
1E				DRIVE-B (COOL)					20	00-3F							
1F																	
20																	
21																	
22				SUB-VOLUME					3C	00-3C							
23				SUB-CONTRAST					3F	00-3F							
24				SUB-COLOUR					20	00-3F							
25				SUB-BRIGHTNESS					20	00-3F							
26				SUB-TINT					20	00-3F							
27				SUB-SHARPNESS					20	00-3F							
28				HTL-VOLUME					1E	00-3C							
29				HTL-PROGRAM-NUMBER					FF	00-FF							
2A																	
2B																	
2C						BLUE BACK CONTRAST			0A	00-0F							
2D						OSD-REFERENCE			0F	00-0F							
2E						CUTOFF LEVEL -OFFSET R			20	00-0F							
2F						CUTOFF LEVEL -OFFSET G			20	00-0F							
30						CATHODE DRIVE LEVEL			00	00-0F							
31						Y-DELAY (TV PAL)			0C	00-0F							
32						Y-DELAY (TV SECAM)			0F	00-0F							
33						Y-DELAY (TV N358)			0C	00-0F							
34						Y-DELAY (TV N443)			0C	00-0F							
35						Y-DELAY (TV BW)			0C	00-0F							
36						Y-DELAY (AV PAL)			0C	00-0F							
37						Y-DELAY (AV SECAM)			0F	00-0F							
38						Y-DELAY (AV N358)			0C	00-0F							
39						Y-DELAY (AV N443)			0C	00-0F							
3A						Y-DELAY (AV BW)			0C	00-0F							
3B						COLOUR-OFFSET (PAL)			08	00-0F							
3C						COLOUR-OFFSET (SECAM)			08	00-0F							
3D						COLOUR-OFFSET (N358)			04	00-0F							
3E						COLOUR-OFFSET (N443)			04	00-0F							
3F						SHARPNESS-OFFSET (PAL)			08	00-0F							
	MODEL																
	LETTER NO.																

ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
40					SHARPNESS-OFFSET (SECAM)				04	00-0F							
41					SHARPNESS-OFFSET (N358)				0C	00-0F							
42					SHARPNESS-OFFSET (N443)				08	00-0F							
43																	
44																	
45																	
46								BM-ON	00	00-01							
47						BM-EFFECT			02	00-0F							
48							AGC-ON		01	00-01							
49					AGC ADJUST				03	00-0F							
4A																	
4B																	
4C								AGC-N	00	00-01							
4D					GAIN-N					00-1F							
4E					FM OUTPUT LEVEL				0F	00-1F							
4F					IGR OUTPUT LEVEL				10	00-1E							
50					NICAM OUTPUT LEVEL (B/G)				0D	00-1E							
51					NICAM OUTPUT LEVEL (I)				12	00-1E							
52					NICAM OUTPUT LEVEL (D/K)				0D	00-1E							
53					NICAM LOWER ERROR LIMIT				23	00-FF							
54					NICAM UPPER ERROR LIMIT				46	00-FF							
55					IGR STEREO R CH GAIN ADJ.				06	00-0F							
56																	
57																	
58	OP_FCO		OP_ACL	OP_OSO	OP_EHT	OP_EVG	OP_FFI	OP_AVL	OP_BKS	1B	00-FF						
59	OP_FSECAM	OP_FN443		OP_F358	OP_PSECAM	OP_S_BG	OP_S_I	OP_S_DK	OP_S_M	DE	00-FF						
5A	OP_SM1	OP_SM0		OP_FMWS	OP_AV	OP_BTSC	OP_HTL	OP_VMC	OP_VMI	53	00-FF						
5B	OP_HP2	OP_FSL		OP_RUS	OP_PRE	OP_CHI	OP_NAL	OP_ARA	OP_THA	3E	00-FF						
5C	OP_TXT_WE	OP_TXT		OP_FDB_AV	OP_FOA_AV	OP_FDB_FE	OP_FOA_FE	OP_AGC1	OP_AGC0	31	00-FF						
5D	OP_IGR	OP_NICAM		OP_AN7286	OP_AN5891	OP_AN5880	OP_CP	OP_IF38_U	OP_TXT_EU	08	00-FF						
5E				OP_A2	OP_NDF	OP_MSA	OP_LED_F	OP_BIL	OP_GAME	00	00-3F						
5F																	
60					LAST VOLUME				01	00-3C							
61					LAST BALANCE				1E	00-3C							
62					LAST BASS				1E	00-3C							
63					LAST TREBLE				1E	00-3C							
64							LAST SURR ON/OFF		00	00-02							
65					LAST SURROUND LEVEL				1E	00-3C							
66							LAST SPAT ON/OFF		00	00-02							
67					LAST SPATIALIZER LEVEL				1E	00-3C							
68																	
69					LAST CONTRAST				3C	00-3C							
6A					LAST COLOUR				1E	00-3C							
6B					LAST BRIGHTNESS				1E	00-3C							
6C					LAST TINT				1E	00-3C							
6D					LAST SHARPNESS				1E	00-3C							
6E							LAST WHITE_TEMP		00	00-02							
6F																	
70					LAST BALANCE-G				1E	00-3C							
71					LAST BASS-G				1E	00-3C							
72					LAST TREBLE-G				1E	00-3C							
73							LAST SURR ON/OFF-G		00	00-02							
74					LAST SURROUND LEVEL-G				1E	00-3C							
75							LAST SPAT ON/OFF-G		00	00-02							
76					LAST SPATIALIZER LEVEL-G				1E	00-3C							
77																	
78					LAST CONTRAST-G				3C	00-3C							
79					LAST COLOUR-G				1E	00-3C							
7A					LAST BRIGHTNESS-G				1E	00-3C							
7B					LAST TINT-G				1E	00-3C							
7C					LAST SHARPNESS-G				1E	00-3C							
7D							LAST WHITE_TEMP-G		00	00-02							
7E																	
7F				FLAST PROGRAMSOURCE					01	00-FF							
	MODEL																
	LETTER NO.																

ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
80				FAVOURITE PROGRAM RED					0A	00-FF							
81				FAVOURITE PROGRAM GREEN					14	00-FF							
82				FAVOURITE PROGRAM YELLOW					1E	00-FF							
83				FAVOURITE PROGRAM CYAN					28	00-FF							
84																	
85																	
86								POWER	01	00-01							
87								B_BACK	00	00-01							
88							LANGUAGE		00	00-06							
89		DIGIT							01	00-01							
8A																	
8B																	
8C				REMINDER					00	00-4D							
8D				OFF TIMER					00	00-4D							
8E				ON TIMER					00	00-4D							
8F				FADE IN VOLUME					FF	00-FF							
90								TMR_FLAG	00	00-FF							
91																	
92																	
93	SKIP 0		SKIP 2	SKIP 3	SKIP 4	SKIP 5	SKIP 6	SKIP 7	80	00-FF							
94	SKIP 8		SKIP 10	SKIP 11	SKIP 12	SKIP 13	SKIP 14	SKIP 15	00	00-FF							
95	SKIP 16		SKIP 18	SKIP 19	SKIP 20	SKIP 21	SKIP 22	SKIP 23	00	00-FF							
96	SKIP 24		SKIP 26	SKIP 27	SKIP 28	SKIP 29	SKIP 30	SKIP 31	00	00-FF							
97	SKIP 32		SKIP 34	SKIP 35	SKIP 36	SKIP 37	SKIP 38	SKIP 39	00	00-FF							
98	SKIP 40		SKIP 42	SKIP 43	SKIP 44	SKIP 45	SKIP 46	SKIP 47	00	00-FF							
99	SKIP 48		SKIP 50	SKIP 51	SKIP 52	SKIP 53	SKIP 54	SKIP 55	00	00-FF							
9A	SKIP 56		SKIP 58	SKIP 59	SKIP 60	SKIP 61	SKIP 62	SKIP 63	00	00-FF							
9B	SKIP 64		SKIP 66	SKIP 67	SKIP 68	SKIP 69	SKIP 70	SKIP 71	00	00-FF							
9C	SKIP 72		SKIP 74	SKIP 75	SKIP 76	SKIP 77	SKIP 78	SKIP 79	00	00-FF							
9D	SKIP 80		SKIP 82	SKIP 83	SKIP 84	SKIP 85	SKIP 86	SKIP 87	00	00-FF							
9E	SKIP 88		SKIP 90	SKIP 91	SKIP 92	SKIP 93	SKIP 94	SKIP 95	00	00-FF							
9F	SKIP 96		SKIP 98	SKIP 99					FF	00-FF							
A0																	
A1																	
A2	IGR 0	IGR 1	IGR 2	IGR 3	IGR 4	IGR 5	IGR 6	IGR 7	FF	00-FF							
A3	IGR 8	IGR 9	IGR 10	IGR 11	IGR 12	IGR 13	IGR 14	IGR 15	FF	00-FF							
A4	IGR 16	IGR 17	IGR 18	IGR 19	IGR 20	IGR 21	IGR 22	IGR 23	FF	00-FF							
A5	IGR 24	IGR 25	IGR 26	IGR 27	IGR 28	IGR 29	IGR 30	IGR 31	FF	00-FF							
A6	IGR 32	IGR 33	IGR 34	IGR 35	IGR 36	IGR 37	IGR 38	IGR 39	FF	00-FF							
A7	IGR 40	IGR 41	IGR 42	IGR 43	IGR 44	IGR 45	IGR 46	IGR 47	FF	00-FF							
A8	IGR 48	IGR 49	IGR 50	IGR 51	IGR 52	IGR 53	IGR 54	IGR 55	FF	00-FF							
A9	IGR 56	IGR 57	IGR 58	IGR 59	IGR 60	IGR 61	IGR 62	IGR 63	FF	00-FF							
AA	IGR 64	IGR 65	IGR 66	IGR 67	IGR 68	IGR 69	IGR 70	IGR 71	FF	00-FF							
AB	IGR 72	IGR 73	IGR 74	IGR 75	IGR 76	IGR 77	IGR 78	IGR 79	FF	00-FF							
AC	IGR 80	IGR 81	IGR 82	IGR 83	IGR 84	IGR 85	IGR 86	IGR 87	FF	00-FF							
AD	IGR 88	IGR 89	IGR 90	IGR 91	IGR 92	IGR 93	IGR 94	IGR 95	FF	00-FF							
AE	IGR 96	IGR 97	IGR 98	IGR 99					FF	00-FF							
AF																	
B0																	
B1	NICAM 0	NICAM 1	NICAM 2	NICAM 3	NICAM 4	NICAM 5	NICAM 6	NICAM 7	FF	00-FF							
B2	NICAM 8	NICAM 9	NICAM 10	NICAM 11	NICAM 12	NICAM 13	NICAM 14	NICAM 15	FF	00-FF							
B3	NICAM 16	NICAM 17	NICAM 18	NICAM 19	NICAM 20	NICAM 21	NICAM 22	NICAM 23	FF	00-FF							
B4	NICAM 24	NICAM 25	NICAM 26	NICAM 27	NICAM 28	NICAM 29	NICAM 30	NICAM 31	FF	00-FF							
B5	NICAM 32	NICAM 33	NICAM 34	NICAM 35	NICAM 36	NICAM 37	NICAM 38	NICAM 39	FF	00-FF							
B6	NICAM 40	NICAM 41	NICAM 42	NICAM 43	NICAM 44	NICAM 45	NICAM 46	NICAM 47	FF	00-FF							
B7	NICAM 48	NICAM 49	NICAM 50	NICAM 51	NICAM 52	NICAM 53	NICAM 54	NICAM 55	FF	00-FF							
B8	NICAM 56	NICAM 57	NICAM 58	NICAM 59	NICAM 60	NICAM 61	NICAM 62	NICAM 63	FF	00-FF							
B9	NICAM 64	NICAM 65	NICAM 66	NICAM 67	NICAM 68	NICAM 69	NICAM 70	NICAM 71	FF	00-FF							
BA	NICAM 72	NICAM 73	NICAM 74	NICAM 75	NICAM 76	NICAM 77	NICAM 78	NICAM 79	FF	00-FF							
BB	NICAM 80	NICAM 81	NICAM 82	NICAM 83	NICAM 84	NICAM 85	NICAM 86	NICAM 87	FF	00-FF							
BC	NICAM 88	NICAM 89	NICAM 90	NICAM 91	NICAM 92	NICAM 93	NICAM 94	NICAM 95	FF	00-FF							
BD	NICAM 96	NICAM 97	NICAM 98	NICAM 99					FF	00-FF							
BE																	
BF																	
	MODEL																
	LETTER NO.																

ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
C0	IGR_ST 0	IGR_ST 1	IGR_ST 2	IGR_ST 3	IGR_ST 4	IGR_ST 5	IGR_ST 6	IGR_ST 7	FF	00-FF							
C1	IGR_ST 8	IGR_ST 9	IGR_ST 10	IGR_ST 11	IGR_ST 12	IGR_ST 13	IGR_ST 14	IGR_ST 15	FF	00-FF							
C2	IGR_ST 16	IGR_ST 17	IGR_ST 18	IGR_ST 19	IGR_ST 20	IGR_ST 21	IGR_ST 22	IGR_ST 23	FF	00-FF							
C3	IGR_ST 24	IGR_ST 25	IGR_ST 26	IGR_ST 27	IGR_ST 28	IGR_ST 29	IGR_ST 30	IGR_ST 31	FF	00-FF							
C4	IGR_ST 32	IGR_ST 33	IGR_ST 34	IGR_ST 35	IGR_ST 36	IGR_ST 37	IGR_ST 38	IGR_ST 39	FF	00-FF							
C5	IGR_ST 40	IGR_ST 41	IGR_ST 42	IGR_ST 43	IGR_ST 44	IGR_ST 45	IGR_ST 46	IGR_ST 47	FF	00-FF							
C6	IGR_ST 48	IGR_ST 49	IGR_ST 50	IGR_ST 51	IGR_ST 52	IGR_ST 53	IGR_ST 54	IGR_ST 55	FF	00-FF							
C7	IGR_ST 56	IGR_ST 57	IGR_ST 58	IGR_ST 59	IGR_ST 60	IGR_ST 61	IGR_ST 62	IGR_ST 63	FF	00-FF							
C8	IGR_ST 64	IGR_ST 65	IGR_ST 66	IGR_ST 67	IGR_ST 68	IGR_ST 69	IGR_ST 70	IGR_ST 71	FF	00-FF							
C9	IGR_ST 72	IGR_ST 73	IGR_ST 74	IGR_ST 75	IGR_ST 76	IGR_ST 77	IGR_ST 78	IGR_ST 79	FF	00-FF							
CA	IGR_ST 80	IGR_ST 81	IGR_ST 82	IGR_ST 83	IGR_ST 84	IGR_ST 85	IGR_ST 86	IGR_ST 87	FF	00-FF							
CB	IGR_ST 88	IGR_ST 89	IGR_ST 90	IGR_ST 91	IGR_ST 92	IGR_ST 93	IGR_ST 94	IGR_ST 95	FF	00-FF							
CC	IGR_ST 96	IGR_ST 97	IGR_ST 98	IGR_ST 99					FF	00-FF							
CD																	
CE																	
CF	IGR_MA 0	IGR_MA 1	IGR_MA 2	IGR_MA 3	IGR_MA 4	IGR_MA 5	IGR_MA 6	IGR_MA 7	FF	00-FF							
D0	IGR_MA 8	IGR_MA 9	IGR_MA 10	IGR_MA 11	IGR_MA 12	IGR_MA 13	IGR_MA 14	IGR_MA 15	FF	00-FF							
D1	IGR_MA 16	IGR_MA 17	IGR_MA 18	IGR_MA 19	IGR_MA 20	IGR_MA 21	IGR_MA 22	IGR_MA 23	FF	00-FF							
D2	IGR_MA 24	IGR_MA 25	IGR_MA 26	IGR_MA 27	IGR_MA 28	IGR_MA 29	IGR_MA 30	IGR_MA 31	FF	00-FF							
D3	IGR_MA 32	IGR_MA 33	IGR_MA 34	IGR_MA 35	IGR_MA 36	IGR_MA 37	IGR_MA 38	IGR_MA 39	FF	00-FF							
D4	IGR_MA 40	IGR_MA 41	IGR_MA 42	IGR_MA 43	IGR_MA 44	IGR_MA 45	IGR_MA 46	IGR_MA 47	FF	00-FF							
D5	IGR_MA 48	IGR_MA 49	IGR_MA 50	IGR_MA 51	IGR_MA 52	IGR_MA 53	IGR_MA 54	IGR_MA 55	FF	00-FF							
D6	IGR_MA 56	IGR_MA 57	IGR_MA 58	IGR_MA 59	IGR_MA 60	IGR_MA 61	IGR_MA 62	IGR_MA 63	FF	00-FF							
D7	IGR_MA 64	IGR_MA 65	IGR_MA 66	IGR_MA 67	IGR_MA 68	IGR_MA 69	IGR_MA 70	IGR_MA 71	FF	00-FF							
D8	IGR_MA 72	IGR_MA 73	IGR_MA 74	IGR_MA 75	IGR_MA 76	IGR_MA 77	IGR_MA 78	IGR_MA 79	FF	00-FF							
D9	IGR_MA 80	IGR_MA 81	IGR_MA 82	IGR_MA 83	IGR_MA 84	IGR_MA 85	IGR_MA 86	IGR_MA 87	FF	00-FF							
DA	IGR_MA 88	IGR_MA 89	IGR_MA 90	IGR_MA 91	IGR_MA 92	IGR_MA 93	IGR_MA 94	IGR_MA 95	FF	00-FF							
DB	IGR_MA 96	IGR_MA 97	IGR_MA 98	IGR_MA 99					FF	00-FF							
DC																	
DD																	
DE	NIC_ST 0	NIC_ST 1	NIC_ST 2	NIC_ST 3	NIC_ST 4	NIC_ST 5	NIC_ST 6	NIC_ST 7	FF	00-FF							
DF	NIC_ST 8	NIC_ST 9	NIC_ST 10	NIC_ST 11	NIC_ST 12	NIC_ST 13	NIC_ST 14	NIC_ST 15	FF	00-FF							
E0	NIC_ST 16	NIC_ST 17	NIC_ST 18	NIC_ST 19	NIC_ST 20	NIC_ST 21	NIC_ST 22	NIC_ST 23	FF	00-FF							
E1	NIC_ST 24	NIC_ST 25	NIC_ST 26	NIC_ST 27	NIC_ST 28	NIC_ST 29	NIC_ST 30	NIC_ST 31	FF	00-FF							
E2	NIC_ST 32	NIC_ST 33	NIC_ST 34	NIC_ST 35	NIC_ST 36	NIC_ST 37	NIC_ST 38	NIC_ST 39	FF	00-FF							
E3	NIC_ST 40	NIC_ST 41	NIC_ST 42	NIC_ST 43	NIC_ST 44	NIC_ST 45	NIC_ST 46	NIC_ST 47	FF	00-FF							
E4	NIC_ST 48	NIC_ST 49	NIC_ST 50	NIC_ST 51	NIC_ST 52	NIC_ST 53	NIC_ST 54	NIC_ST 55	FF	00-FF							
E5	NIC_ST 56	NIC_ST 57	NIC_ST 58	NIC_ST 59	NIC_ST 60	NIC_ST 61	NIC_ST 62	NIC_ST 63	FF	00-FF							
E6	NIC_ST 64	NIC_ST 65	NIC_ST 66	NIC_ST 67	NIC_ST 68	NIC_ST 69	NIC_ST 70	NIC_ST 71	FF	00-FF							
E7	NIC_ST 72	NIC_ST 73	NIC_ST 74	NIC_ST 75	NIC_ST 76	NIC_ST 77	NIC_ST 78	NIC_ST 79	FF	00-FF							
E8	NIC_ST 80	NIC_ST 81	NIC_ST 82	NIC_ST 83	NIC_ST 84	NIC_ST 85	NIC_ST 86	NIC_ST 87	FF	00-FF							
E9	NIC_ST 88	NIC_ST 89	NIC_ST 90	NIC_ST 91	NIC_ST 92	NIC_ST 93	NIC_ST 94	NIC_ST 95	FF	00-FF							
EA	NIC_ST 96	NIC_ST 97	NIC_ST 98	NIC_ST 99					FF	00-FF							
EB																	
EC																	
ED	NIC_MA 0	NIC_MA 1	NIC_MA 2	NIC_MA 3	NIC_MA 4	NIC_MA 5	NIC_MA 6	NIC_MA 7	FF	00-FF							
EE	NIC_MA 8	NIC_MA 9	NIC_MA 10	NIC_MA 11	NIC_MA 12	NIC_MA 13	NIC_MA 14	NIC_MA 15	FF	00-FF							
EF	NIC_MA 16	NIC_MA 17	NIC_MA 18	NIC_MA 19	NIC_MA 20	NIC_MA 21	NIC_MA 22	NIC_MA 23	FF	00-FF							
F0	NIC_MA 24	NIC_MA 25	NIC_MA 26	NIC_MA 27	NIC_MA 28	NIC_MA 29	NIC_MA 30	NIC_MA 31	FF	00-FF							
F1	NIC_MA 32	NIC_MA 33	NIC_MA 34	NIC_MA 35	NIC_MA 36	NIC_MA 37	NIC_MA 38	NIC_MA 39	FF	00-FF							
F2	NIC_MA 40	NIC_MA 41	NIC_MA 42	NIC_MA 43	NIC_MA 44	NIC_MA 45	NIC_MA 46	NIC_MA 47	FF	00-FF							
F3	NIC_MA 48	NIC_MA 49	NIC_MA 50	NIC_MA 51	NIC_MA 52	NIC_MA 53	NIC_MA 54	NIC_MA 55	FF	00-FF							
F4	NIC_MA 56	NIC_MA 57	NIC_MA 58	NIC_MA 59	NIC_MA 60	NIC_MA 61	NIC_MA 62	NIC_MA 63	FF	00-FF							
F5	NIC_MA 64	NIC_MA 65	NIC_MA 66	NIC_MA 67	NIC_MA 68	NIC_MA 69	NIC_MA 70	NIC_MA 71	FF	00-FF							
F6	NIC_MA 72	NIC_MA 73	NIC_MA 74	NIC_MA 75	NIC_MA 76	NIC_MA 77	NIC_MA 78	NIC_MA 79	FF	00-FF							
F7	NIC_MA 80	NIC_MA 81	NIC_MA 82	NIC_MA 83	NIC_MA 84	NIC_MA 85	NIC_MA 86	NIC_MA 87	FF	00-FF							
F8	NIC_MA 88	NIC_MA 89	NIC_MA 90	NIC_MA 91	NIC_MA 92	NIC_MA 93	NIC_MA 94	NIC_MA 95	FF	00-FF							
F9	NIC_MA 96	NIC_MA 97	NIC_MA 98	NIC_MA 99					FF	00-FF							
FA																	
FB																	
FC	NIC_3D 0	NIC_3D 1	NIC_3D 2	NIC_3D 3	NIC_3D 4	NIC_3D 5	NIC_3D 6	NIC_3D 7	00	00-FF							
FD	NIC_3D 8	NIC_3D 9	NIC_3D 10	NIC_3D 11	NIC_3D 12	NIC_3D 13	NIC_3D 14	NIC_3D 15	00	00-FF							
FE	NIC_3D 16	NIC_3D 17	NIC_3D 18	NIC_3D 19	NIC_3D 20	NIC_3D 21	NIC_3D 22	NIC_3D 23	00	00-FF							
FF	NIC_3D 24	NIC_3D 25	NIC_3D 26	NIC_3D 27	NIC_3D 28	NIC_3D 29	NIC_3D 30	NIC_3D 31	00	00-FF							
	MODEL																
	LETTER NO.																

ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
100	NIC_3D 32	NIC_3D 33	NIC_3D 34	NIC_3D 35	NIC_3D 36	NIC_3D 37	NIC_3D 38	NIC_3D 39	00	00-FF							
101	NIC_3D 40	NIC_3D 41	NIC_3D 42	NIC_3D 43	NIC_3D 44	NIC_3D 45	NIC_3D 46	NIC_3D 47	00	00-FF							
102	NIC_3D 48	NIC_3D 49	NIC_3D 50	NIC_3D 51	NIC_3D 52	NIC_3D 53	NIC_3D 54	NIC_3D 55	00	00-FF							
103	NIC_3D 56	NIC_3D 57	NIC_3D 58	NIC_3D 59	NIC_3D 60	NIC_3D 61	NIC_3D 62	NIC_3D 63	00	00-FF							
104	NIC_3D 64	NIC_3D 65	NIC_3D 66	NIC_3D 67	NIC_3D 68	NIC_3D 69	NIC_3D 70	NIC_3D 71	00	00-FF							
105	NIC_3D 72	NIC_3D 73	NIC_3D 74	NIC_3D 75	NIC_3D 76	NIC_3D 77	NIC_3D 78	NIC_3D 79	00	00-FF							
106	NIC_3D 80	NIC_3D 81	NIC_3D 82	NIC_3D 83	NIC_3D 84	NIC_3D 85	NIC_3D 86	NIC_3D 87	00	00-FF							
107	NIC_3D 88	NIC_3D 89	NIC_3D 90	NIC_3D 91	NIC_3D 92	NIC_3D 93	NIC_3D 94	NIC_3D 95	00	00-FF							
108	NIC_3D 96	NIC_3D 97	NIC_3D 98	NIC_3D 99					00	00-FF							
109																	
10A																	
10B	NIC_MO 0	NIC_MO 1	NIC_MO 2	NIC_MO 3	NIC_MO 4	NIC_MO 5	NIC_MO 6	NIC_MO 7	FF	00-FF							
10C	NIC_MO 8	NIC_MO 9	NIC_MO 10	NIC_MO 11	NIC_MO 12	NIC_MO 13	NIC_MO 14	NIC_MO 15	FF	00-FF							
10D	NIC_MO 16	NIC_MO 17	NIC_MO 18	NIC_MO 19	NIC_MO 20	NIC_MO 21	NIC_MO 22	NIC_MO 23	FF	00-FF							
10E	NIC_MO 24	NIC_MO 25	NIC_MO 26	NIC_MO 27	NIC_MO 28	NIC_MO 29	NIC_MO 30	NIC_MO 31	FF	00-FF							
10F	NIC_MO 32	NIC_MO 33	NIC_MO 34	NIC_MO 35	NIC_MO 36	NIC_MO 37	NIC_MO 38	NIC_MO 39	FF	00-FF							
110	NIC_MO 40	NIC_MO 41	NIC_MO 42	NIC_MO 43	NIC_MO 44	NIC_MO 45	NIC_MO 46	NIC_MO 47	FF	00-FF							
111	NIC_MO 48	NIC_MO 49	NIC_MO 50	NIC_MO 51	NIC_MO 52	NIC_MO 53	NIC_MO 54	NIC_MO 55	FF	00-FF							
112	NIC_MO 56	NIC_MO 57	NIC_MO 58	NIC_MO 59	NIC_MO 60	NIC_MO 61	NIC_MO 62	NIC_MO 63	FF	00-FF							
113	NIC_MO 64	NIC_MO 65	NIC_MO 66	NIC_MO 67	NIC_MO 68	NIC_MO 69	NIC_MO 70	NIC_MO 71	FF	00-FF							
114	NIC_MO 72	NIC_MO 73	NIC_MO 74	NIC_MO 75	NIC_MO 76	NIC_MO 77	NIC_MO 78	NIC_MO 79	FF	00-FF							
115	NIC_MO 80	NIC_MO 81	NIC_MO 82	NIC_MO 83	NIC_MO 84	NIC_MO 85	NIC_MO 86	NIC_MO 87	FF	00-FF							
116	NIC_MO 88	NIC_MO 89	NIC_MO 90	NIC_MO 91	NIC_MO 92	NIC_MO 93	NIC_MO 94	NIC_MO 95	FF	00-FF							
117	NIC_MO 96	NIC_MO 97	NIC_MO 98	NIC_MO 99					FF	00-FF							
118																	
119																	
11	ATUNING FREQUANCY (HIGHER PART)										S-SYS						POS 0
11	BTUNING FREQUANCY (LOWER PART)										000:BG						
11C		S-SYS		AFT		(auto)	C-SYS		10		001:I						
11	DTUNING FREQUANCY (HIGHER PART										O1O:DK						POS 1
11E	TUNING FREQUANCY (LOWER PART)										011:M						
11F		S-SYS		AFT		(auto)	C-SYS		10								
120	TUNING FREQUANCY (HIGHER PART)										AFT						POS 2
121	TUNING FREQUANCY (LOWER PART)										0:OFF						
122		S-SYS		AFT		(auto)	C-SYS		10		1:ON						
123	TUNING FREQUANCY (HIGHER PART)																PO 3
124	TUNING FREQUANCY (LOWER PART)																
125		S-SYS		AFT		(auto)	C-SYS		10								
126	TUNING FREQUANCY (HIGHER PART)																POS 4
127	TUNING FREQUANCY (LOWER PART)																
128		S-SYS		AFT		(auto)	C-SYS		10								
129	TUNING FREQUANCY (HIGHER PART)																POS 5
12A	TUNING FREQUANCY (LOWER PART)																
12B		S-SYS		AFT		(auto)	C-SYS		10								
12C	TUNING FREQUANCY (HIGHER PART)																POS 6
12D	TUNING FREQUANCY (LOWER PART)																
12E		S-SYS		AFT		(auto)	C-SYS		10								
12F	TUNING FREQUANCY (HIGHER PART)																POS 7
130	TUNING FREQUANCY (LOWER PART)																
131		S-SYS		AFT		(auto)	C-SYS		10								
132	TUNING FREQUANCY (HIGHER PART)																POS 8
133	TUNING FREQUANCY (LOWER PART)																
134		S-SYS		AFT		(auto)	C-SYS		10								
135	TUNING FREQUANCY (HIGHER PART)																POS 9
136	TUNING FREQUANCY (LOWER PART)																
137		S-SYS		AFT		(auto)	C-SYS		10								
138	TUNING FREQUANCY (HIGHER PART)																POS 10
139	TUNING FREQUANCY (LOWER PART)																
13A		S-SYS		AFT		(auto)	C-SYS		10								
13B	TUNING FREQUANCY (HIGHER PART)																POS 11
13C	TUNING FREQUANCY (LOWER PART)																
13D		S-SYS		AFT		(auto)	C-SYS		10								
13E	TUNING FREQUANCY (HIGHER PART)																POS 12
13F	TUNING FREQUANCY (LOWER PART)																
MODEL										MODEL							
LETTER NO.										LETTER NO.							

ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
140		S-SYS		AFT		(auto)	C-SYS		10								
141	TUNING FREQUANCY (HIGHER PART)																POS 13
142	TUNING FREQUANCY (LOWER PART)																
143		S-SYS		AFT		(auto)	C-SYS		10								
144	TUNING FREQUANCY (HIGHER PART)																POS 14
145	TUNING FREQUANCY (LOWER PART)																
146		S-SYS		AFT		(auto)	C-SYS		10								
147	TUNING FREQUANCY (HIGHER PART)																POS 15
148	TUNING FREQUANCY (LOWER PART)																
149		S-SYS		AFT		(auto)	C-SYS		10								
14A	TUNING FREQUANCY (HIGHER PART)																POS 16
14B	TUNING FREQUANCY (LOWER PART)																-
14C		S-SYS		AFT		(auto)	C-SYS		10								
14D	TUNING FREQUANCY (HIGHER PART)																POS 17
14E	TUNING FREQUANCY (LOWER PART)																
14F		S-SYS		AFT		(auto)	C-SYS		10								
150	TUNING FREQUANCY (HIGHER PART)																POS 18
151	TUNING FREQUANCY (LOWER PART)																
152		S-SYS		AFT		(auto)	C-SYS		10								
153	TUNING FREQUANCY (HIGHER PART)																POS 19
154	TUNING FREQUANCY (LOWER PART)																
155		S-SYS		AFT		(auto)	C-SYS		10								
156	TUNING FREQUANCY (HIGHER PART)																POS 20
157	TUNING FREQUANCY (LOWER PART)																
158		S-SYS		AFT		(auto)	C-SYS		10								
159	TUNING FREQUANCY (HIGHER PART)																POS 21
15A	TUNING FREQUANCY (LOWER PART)																
15B		S-SYS		AFT		(auto)	C-SYS		10								
15C	TUNING FREQUANCY (HIGHER PART)																POS 22
15D	TUNING FREQUANCY (LOWER PART)																
15E		S-SYS		AFT		(auto)	C-SYS		10								
15F	TUNING FREQUANCY (HIGHER PART)																POS 23
160	TUNING FREQUANCY (LOWER PART)																
161		S-SYS		AFT		(auto)	C-SYS		10								
162	TUNING FREQUANCY (HIGHER PART)																POS 24
163	TUNING FREQUANCY (LOWER PART)																
164		S-SYS		AFT		(auto)	C-SYS		10								
165	TUNING FREQUANCY (HIGHER PART)																POS 25
166	TUNING FREQUANCY (LOWER PART)																
167		S-SYS		AFT		(auto)	C-SYS		10								
168	TUNING FREQUANCY (HIGHER PART)																POS 26
169	TUNING FREQUANCY (LOWER PART)																
16A		S-SYS		AFT		(auto)	C-SYS		10								
16B	TUNING FREQUANCY (HIGHER PART)																POS 27
16C	TUNING FREQUANCY (LOWER PART)																
16D		S-SYS		AFT		(auto)	C-SYS		10								
16E	TUNING FREQUANCY (HIGHER PART)																POS 28
16F	TUNING FREQUANCY (LOWER PART)																
170		S-SYS		AFT		(auto)	C-SYS		10								
171	TUNING FREQUANCY (HIGHER PART)																POS 29
172	TUNING FREQUANCY (LOWER PART)																
173		S-SYS		AFT		(auto)	C-SYS		10								
174	TUNING FREQUANCY (HIGHER PART)																POS 30
175	TUNING FREQUANCY (LOWER PART)																
176		S-SYS		AFT		(auto)	C-SYS		10								
177	TUNING FREQUANCY (HIGHER PART)																POS 31
178	TUNING FREQUANCY (LOWER PART)																
179		S-SYS		AFT		(auto)	C-SYS		10								
17A	TUNING FREQUANCY (HIGHER PART)																POS 32
17B	TUNING FREQUANCY (LOWER PART)																
17C		S-SYS		AFT		(auto)	C-SYS		10								
17D	TUNING FREQUANCY (HIGHER PART)																POS 33
17E	TUNING FREQUANCY (LOWER PART)																
17F		S-SYS		AFT		(auto)	C-SYS		10								
MODEL										MODEL							
LETTER NO.										LETTER NO.							

ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
1C0				TUNING FREQUANCY (LOWER PART)													POS 55
1C1		S-SYS		AFT		(auto)	C-SYS		10								
1C2				TUNING FREQUANCY (HIGHER PART)													
1C3				TUNING FREQUANCY (LOWER PART)													POS 56
1C4		S-SYS		AFT		(auto)	C-SYS		10								
1C5				TUNING FREQUANCY (HIGHER PART)													
1C6				TUNING FREQUANCY (LOWER PART)													POS 57
1C7		S-SYS		AFT		(auto)	C-SYS		10								
1C8				TUNING FREQUANCY (HIGHER PART)													
1C9				TUNING FREQUANCY (LOWER PART)													POS 58
1CA		S-SYS		AFT		(auto)	C-SYS		10								
1CB				TUNING FREQUANCY (HIGHER PART)													
1CC				TUNING FREQUANCY (LOWER PART)													POS 59
1CD		S-SYS		AFT		(auto)	C-SYS		10								
1CE				TUNING FREQUANCY (HIGHER PART)													
1CF				TUNING FREQUANCY (LOWER PART)													POS 60
1D0		S-SYS		AFT		(auto)	C-SYS		10								
1D1				TUNING FREQUANCY (HIGHER PART)													
1D2				TUNING FREQUANCY (LOWER PART)													POS 61
1D3		S-SYS		AFT		(auto)	C-SYS		10								
1D4				TUNING FREQUANCY (HIGHER PART)													
1D5				TUNING FREQUANCY (LOWER PART)													POS 62
1D6		S-SYS		AFT		(auto)	C-SYS		10								
1D7				TUNING FREQUANCY (HIGHER PART)													
1D8				TUNING FREQUANCY (LOWER PART)													POS 63
1D9		S-SYS		AFT		(auto)	C-SYS		10								
1DA				TUNING FREQUANCY (HIGHER PART)													
1DB				TUNING FREQUANCY (LOWER PART)													POS 64
1DC		S-SYS		AFT		(auto)	C-SYS		10								
1DD				TUNING FREQUANCY (HIGHER PART)													
1DE				TUNING FREQUANCY (LOWER PART)													POS 65
1DF		S-SYS		AFT		(auto)	C-SYS		10								
1E0				TUNING FREQUANCY (HIGHER PART)													
1E1				TUNING FREQUANCY (LOWER PART)													POS 66
1E2		S-SYS		AFT		(auto)	C-SYS		10								
1E3				TUNING FREQUANCY (HIGHER PART)													
1E4				TUNING FREQUANCY (LOWER PART)													POS 67
1E5		S-SYS		AFT		(auto)	C-SYS		10								
1E6				TUNING FREQUANCY (HIGHER PART)													
1E7				TUNING FREQUANCY (LOWER PART)													POS 68
1E8		S-SYS		AFT		(auto)	C-SYS		10								
1E9				TUNING FREQUANCY (HIGHER PART)													
1EA				TUNING FREQUANCY (LOWER PART)													POS 69
1EB		S-SYS		AFT		(auto)	C-SYS		10								
1EC				TUNING FREQUANCY (HIGHER PART)													
1ED				TUNING FREQUANCY (LOWER PART)													POS 70
1EE		S-SYS		AFT		(auto)	C-SYS		10								
1EF				TUNING FREQUANCY (HIGHER PART)													
1F0				TUNING FREQUANCY (LOWER PART)													POS 71
1F1		S-SYS		AFT		(auto)	C-SYS		10								
1F2				TUNING FREQUANCY (HIGHER PART)													
1F3				TUNING FREQUANCY (LOWER PART)													POS 72
1F4		S-SYS		AFT		(auto)	C-SYS		10								
1F5				TUNING FREQUANCY (HIGHER PART)													
1F6				TUNING FREQUANCY (LOWER PART)													POS 73
1F7		S-SYS		AFT		(auto)	C-SYS		10								
1F8				TUNING FREQUANCY (HIGHER PART)													
1F9				TUNING FREQUANCY (LOWER PART)													POS 74
1FA		S-SYS		AFT		(auto)	C-SYS		10								
1FB				TUNING FREQUANCY (HIGHER PART)													
1FC				TUNING FREQUANCY (LOWER PART)													POS 75
1FD		S-SYS		AFT		(auto)	C-SYS		10								
1FE				TUNING FREQUANCY (HIGHER PART)													
1FF				TUNING FREQUANCY (LOWER PART)													POS 76

MODEL

LETTER NO.

ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
180				TUNING FREQUANCY (HIGHER PART)													POS 34
181				TUNING FREQUANCY (LOWER PART)													
182		S-SYS		AFT		(auto)	C-SYS		10								
183				TUNING FREQUANCY (HIGHER PART)													POS 35
184				TUNING FREQUANCY (LOWER PART)													
185		S-SYS		AFT		(auto)	C-SYS		10								POS 36
186				TUNING FREQUANCY (HIGHER PART)													
187				TUNING FREQUANCY (LOWER PART)													
188		S-SYS		AFT		(auto)	C-SYS		10								
189				TUNING FREQUANCY (HIGHER PART)													POS 37
18A				TUNING FREQUANCY (LOWER PART)													
18B		S-SYS		AFT		(auto)	C-SYS		10								
18C				TUNING FREQUANCY (HIGHER PART)													POS 38
18D				TUNING FREQUANCY (LOWER PART)													
18E		S-SYS		AFT		(auto)	C-SYS		10								
18F				TUNING FREQUANCY (HIGHER PART)													
190				TUNING FREQUANCY (LOWER PART)													POS 39
191		S-SYS		AFT		(auto)	C-SYS		10								
192				TUNING FREQUANCY (HIGHER PART)													
193				TUNING FREQUANCY (LOWER PART)													POS 40
194		S-SYS		AFT		(auto)	C-SYS		10								
195				TUNING FREQUANCY (HIGHER PART)													
196				TUNING FREQUANCY (LOWER PART)													POS 41
197		S-SYS		AFT		(auto)	C-SYS		10								
198				TUNING FREQUANCY (HIGHER PART)													
199				TUNING FREQUANCY (LOWER PART)													POS 42
19A		S-SYS		AFT		(auto)	C-SYS		10								
19B				TUNING FREQUANCY (HIGHER PART)													
19C				TUNING FREQUANCY (LOWER PART)													POS 43
19D		S-SYS		AFT		(auto)	C-SYS		10								
19E				TUNING FREQUANCY (HIGHER PART)													
19F				TUNING FREQUANCY (LOWER PART)													POS 44
1A0		S-SYS		AFT		(auto)	C-SYS		10								
1A1				TUNING FREQUANCY (HIGHER PART)													
1A2				TUNING FREQUANCY (LOWER PART)													POS 45
1A3		S-SYS		AFT		(auto)	C-SYS		10								
1A4				TUNING FREQUANCY (HIGHER PART)													
1A5				TUNING FREQUANCY (LOWER PART)													POS 46
1A6		S-SYS		AFT		(auto)	C-SYS		10								
1A7				TUNING FREQUANCY (HIGHER PART)													
1A8				TUNING FREQUANCY (LOWER PART)													POS 47
1A9		S-SYS		AFT		(auto)	C-SYS		10								
1AA				TUNING FREQUANCY (HIGHER PART)													
1AB				TUNING FREQUANCY (LOWER PART)													POS 48
1AC		S-SYS		AFT		(auto)	C-SYS		10								
1AD				TUNING FREQUANCY (HIGHER PART)													
1AE				TUNING FREQUANCY (LOWER PART)													POS 49
1AF		S-SYS		AFT		(auto)	C-SYS		10								
1B0				TUNING FREQUANCY (HIGHER PART)													
1B1				TUNING FREQUANCY (LOWER PART)													POS 50
1B2		S-SYS		AFT		(auto)	C-SYS		10								
1B3				TUNING FREQUANCY (HIGHER PART)													
1B4				TUNING FREQUANCY (LOWER PART)													POS 51
1B5		S-SYS		AFT		(auto)	C-SYS		10								
1B6				TUNING FREQUANCY (HIGHER PART)													
1B7				TUNING FREQUANCY (LOWER PART)													POS 52
1B8		S-SYS		AFT		(auto)	C-SYS		10								
1B9				TUNING FREQUANCY (HIGHER PART)													
1BA				TUNING FREQUANCY (LOWER PART)													POS 53
1BB		S-SYS		AFT		(auto)	C-SYS		10								
1BC				TUNING FREQUANCY (HIGHER PART)													
1BD				TUNING FREQUANCY (LOWER PART)													POS 54
1BE		S-SYS		AFT		(auto)	C-SYS		10								
1BF				TUNING FREQUANCY (HIGHER PART)													
																	POS 55

MODEL

LETTER NO.

C21-RF50S

ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
240				TUNING FREQUANCY (HIGHER PART)													
241				TUNING FREQUANCY (LOWER PART)													
242		S-SYS		AFT		(auto)	C-SYS		10								
243				TUNING FREQUANCY (HIGHER PART)													
244				TUNING FREQUANCY (LOWER PART)													
245		S-SYS		AFT		(auto)	C-SYS		10								
246				TUNING FREQUANCY (HIGHER PART)													
247				TUNING FREQUANCY (LOWER PART)													
248						(auto)	C-SYS		10								
249				TUNING FREQUANCY (HIGHER PART)													
24A				TUNING FREQUANCY (LOWER PART)													
24B				DEFAULT BALANCE-G		(auto)	C-SYS		10	00-3C							
24C				DEFAULT BASS-G						1E							
24D				DEFAULT TREBLE-G						1E							
24E						(auto)	C-SYS		10								
24F																	
250				DEFAULT SURROUND LEVEL-G					1E	00-3C							
251				DEFAULT SPATIALIZER LEVEL-G					1E	00-3C							
252																	
253																	
254				DEFAULT SURR ON-OFF-G					00	00-02							
255				DEFAULT SURROUND LEVEL-G					1E	00-3C							
256				DEFAULT SPATIALIZER LEVEL-G					1E	00-3C							
257																	
258				DEFAULT CONTRAST-G					3C	00-3C							
259				DEFAULT COLOUR-G					1E	00-3C							
25A				DEFAULT BRIGHTNESS-G					1E	00-3C							
25B				DEFAULT TINT-G					1E	00-3C							
25C				DEFAULT SHARPNESS-G					1E	00-3C							
25D				DEFAULT WHITE TEMP-G					00	00-02							
25E																	
25F																	
260																	
261																	
262																	
263																	
264																	
265																	
266																	
267																	
268																	
269																	
26A																	
26B																	
26C																	
26D																	
26E																	
26F																	
270																	
271																	
272																	
273																	
274																	
275																	
276																	
277																	
278																	
279																	
27A																	
27B																	
27C																	
27D																	
27E																	
27F																	
MODEL																	
LETTER NO.																	

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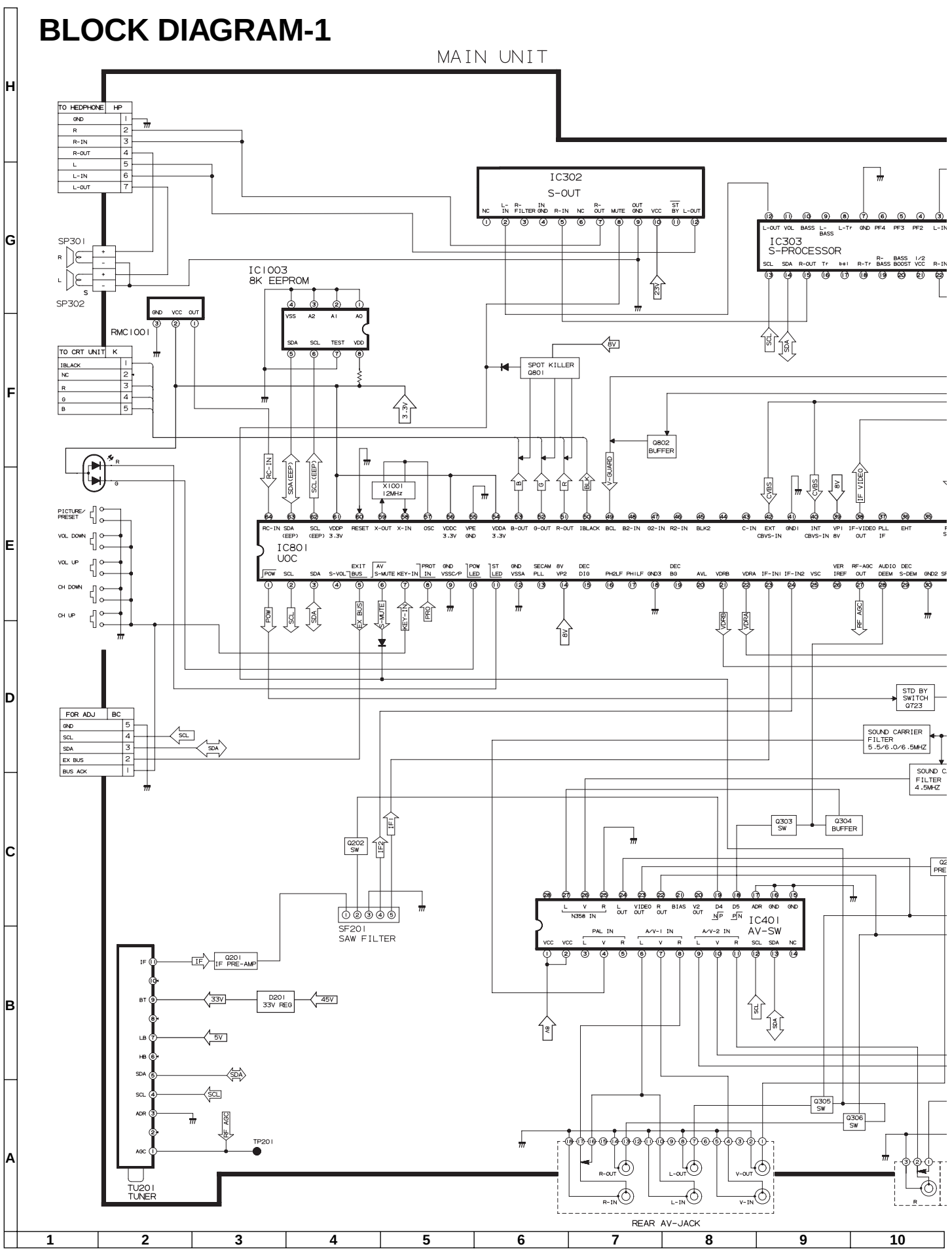
ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
200		S-SYS		AFT		(auto)	C-SYS		10								POS 77
201				TUNING FREQUANCY (HIGHER PART)													
202				TUNING FREQUANCY (LOWER PART)													
203		S-SYS		AFT		(auto)	C-SYS		10								
204				TUNING FREQUANCY (HIGHER PART)													POS 78
205				TUNING FREQUANCY (LOWER PART)													
206		S-SYS		AFT		(auto)	C-SYS		10								
207				TUNING FREQUANCY (HIGHER PART)													POS 79
208				TUNING FREQUANCY (LOWER PART)													
209		S-SYS		AFT		(auto)	C-SYS		10								
20A				TUNING FREQUANCY (HIGHER PART)													POS 80
20B				TUNING FREQUANCY (LOWER PART)													
20C		S-SYS		AFT		(auto)	C-SYS		10								
20D				TUNING FREQUANCY (HIGHER PART)													POS 81
20E				TUNING FREQUANCY (LOWER PART)													
20F		S-SYS		AFT		(auto)	C-SYS		10								
210				TUNING FREQUANCY (HIGHER PART)													POS 82
211				TUNING FREQUANCY (LOWER PART)													
212		S-SYS		AFT		(auto)	C-SYS		10								
213				TUNING FREQUANCY (HIGHER PART)													POS 83
214				TUNING FREQUANCY (LOWER PART)													
215		S-SYS		AFT		(auto)	C-SYS		10								
216				TUNING FREQUANCY (HIGHER PART)													POS 84
217				TUNING FREQUANCY (LOWER PART)													
218		S-SYS		AFT		(auto)	C-SYS		10								
219				TUNING FREQUANCY (HIGHER PART)													POS 85
21A				TUNING FREQUANCY (LOWER PART)													
21B		S-SYS		AFT		(auto)	C-SYS		10								
21C				TUNING FREQUANCY (HIGHER PART)													POS 86
21D				TUNING FREQUANCY (LOWER PART)													
21E		S-SYS		AFT		(auto)	C-SYS		10								
21F				TUNING FREQUANCY (HIGHER PART)													POS 87
220				TUNING FREQUANCY (LOWER PART)													
221		S-SYS		AFT		(auto)	C-SYS		10								
222				TUNING FREQUANCY (HIGHER PART)													POS 88
223				TUNING FREQUANCY (LOWER PART)													
224		S-SYS		AFT		(auto)	C-SYS		10								
225				TUNING FREQUANCY (HIGHER PART)													POS 89
226				TUNING FREQUANCY (LOWER PART)													
227		S-SYS		AFT		(auto)	C-SYS		10								
228				TUNING FREQUANCY (HIGHER PART)													POS 90
229				TUNING FREQUANCY (LOWER PART)													
22A		S-SYS		AFT		(auto)	C-SYS		10								
22B				TUNING FREQUANCY (HIGHER PART)													POS 91
22C				TUNING FREQUANCY (LOWER PART)													
22D		S-SYS		AFT		(auto)	C-SYS		10								
22E				TUNING FREQUANCY (HIGHER PART)													POS 92
22F				TUNING FREQUANCY (LOWER PART)													
230		S-SYS		AFT		(auto)	C-SYS		10								
231				TUNING FREQUANCY (HIGHER PART)													POS 93
232				TUNING FREQUANCY (LOWER PART)													
233		S-SYS		AFT		(auto)	C-SYS		10								
234				TUNING FREQUANCY (HIGHER PART)													POS 94
235				TUNING FREQUANCY (LOWER PART)													
236		S-SYS		AFT		(auto)	C-SYS		10								
237				TUNING FREQUANCY (HIGHER PART)													POS 95
238				TUNING FREQUANCY (LOWER PART)													
239		S-SYS		AFT		(auto)	C-SYS		10								
23A				TUNING FREQUANCY (HIGHER PART)													POS 96
23B				TUNING FREQUANCY (LOWER PART)													
23C		S-SYS		AFT		(auto)	C-SYS		10								
23D				TUNING FREQUANCY (HIGHER PART)													POS 97
23E				TUNING FREQUANCY (LOWER PART)													
23F		S-SYS		AFT		(auto)	C-SYS		10								
MODEL																	
LETTER NO.																	

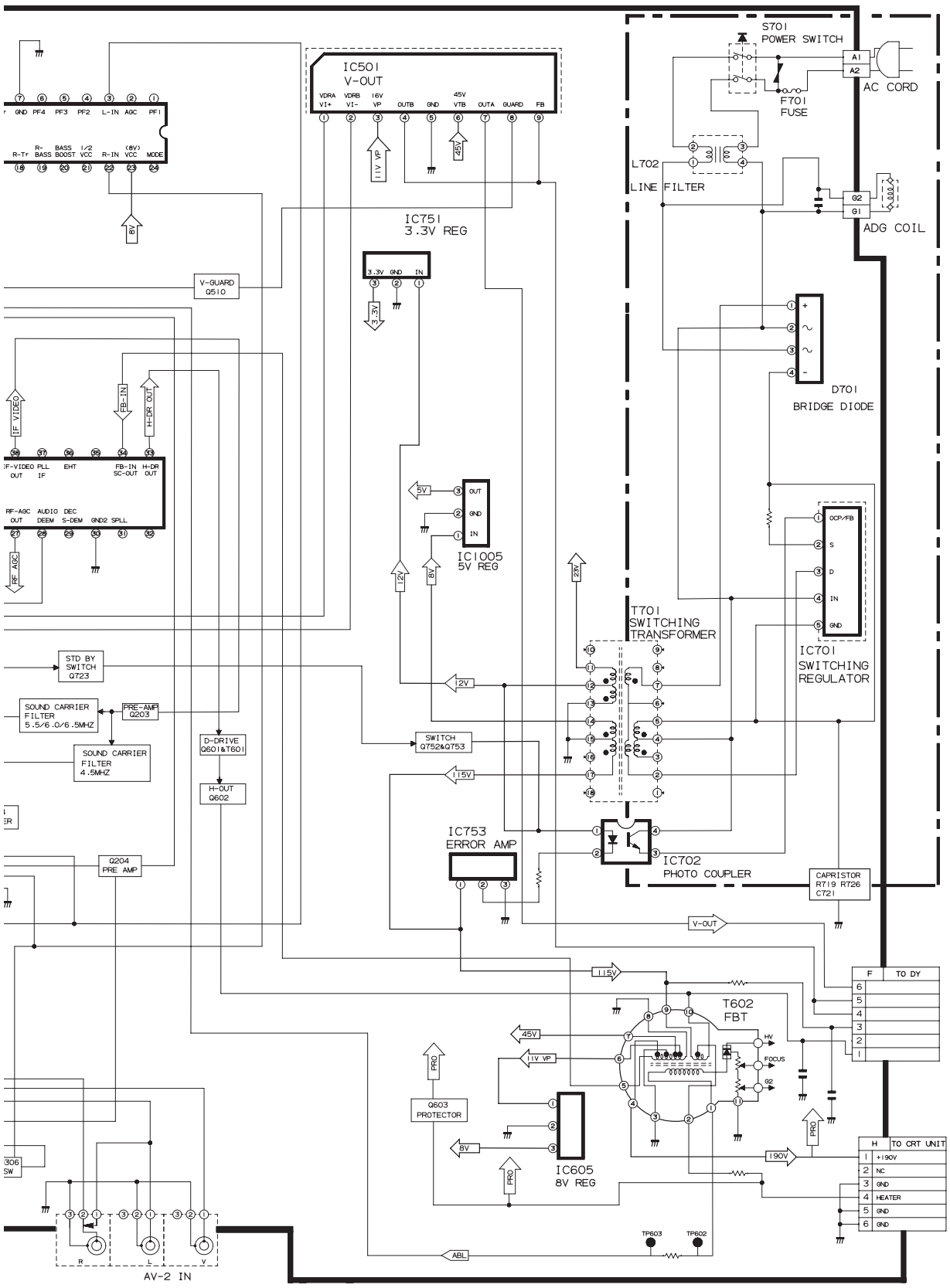
16-1

ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
2C0																	
2C1																	
2C2																	
2C3																	
2C4																	
2C5																	
2C6																	
2C7																	
2C8																	
2C9																	
2CA																	
2CB																	
2CC																	
2CD																	
2CE																	
2CF																	
2D0																	
2D1																	
2D2																	
2D3																	
2D4																	
2D5																	
2D6																	
2D7																	
2D8																	
2D9																	
2DA																	
2DB																	
2DC																	
2DD																	
2DE																	
2DF																	
2E0																	
2E1																	
2E2																	
2E3																	
2E4																	
2E5																	
2E6																	
2E7																	
2E8																	
2E9																	
2EA																	
2EB																	
2EC																	
2ED																	
2EE																	
2EF																	
2F0																	
2F1																	
2F2																	
2F3																	
2F4																	
2F5																	
2F6																	
2F7																	
2F8																	
2F9																	
2FA																	
2FB																	
2FC																	
2FD																	
2FE																	
2FF																	
MODEL																	
LETTER NO.																	

ADDRESS (HEX)	DATA D7	D6	D5	D4	D3	D2	D1	D0	MICON DEFAULT	EEPROM RANGE	EEPROM WRITE(CPU)	CHASSIS CHECK DATA	CHASSIS CHECK TYPE	CTV FINAL CHECK DATA	CTV FINAL CHECK TYPE	LAST INITIAL SETTING DATA	REMARK
280																	
281																	
282																	
283																	
284																	
285																	
286																	
287																	
288																	
289																	
28A																	
28B																	
28C																	
28D																	
28E																	
28F																	
290																	
291																	
292																	
293																	
294																	
295																	
296																	
297																	
298																	
299																	
29A																	
29B																	
29C																	
29D																	
29E																	
29F																	
2A0																	
2A1																	
2A2																	
2A3																	
2A4																	
2A5																	
2A6																	
2A7																	
2A8																	
2A9																	
2AA																	
2AB																	
2AC																	
2AD																	
2AE																	
2AF																	
2B0																	
2B1																	
2B2																	
2B3																	
2B4																	
2B5																	
2B6																	
2B7																	
2B8																	
2B9																	
2BA																	
2BB																	
2BC																	
2BD																	
2BE																	
2BF																	
MODEL																	
LETTER NO.																	

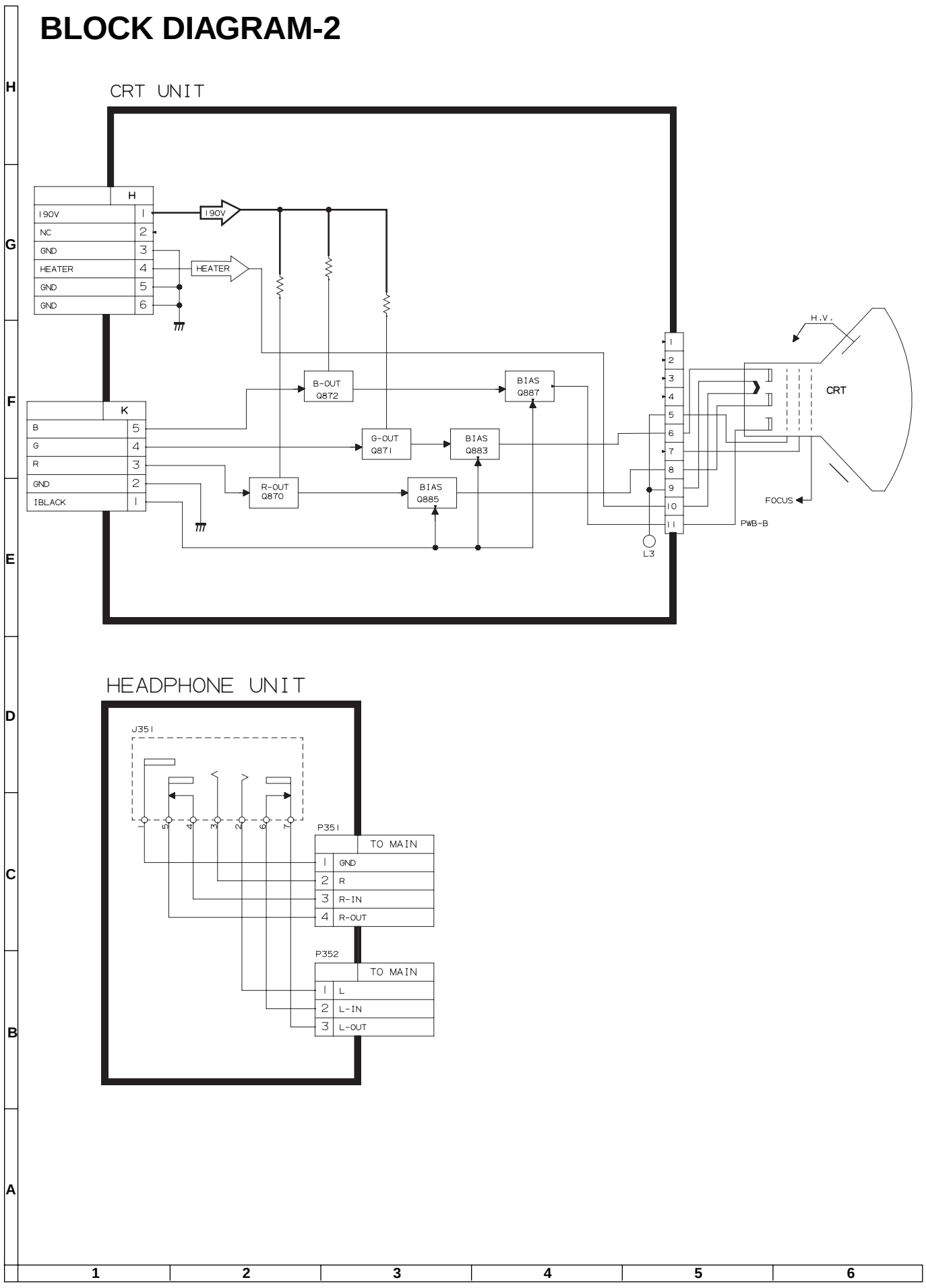
BLOCK DIAGRAM-1



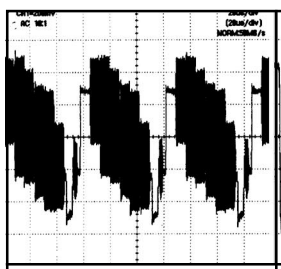
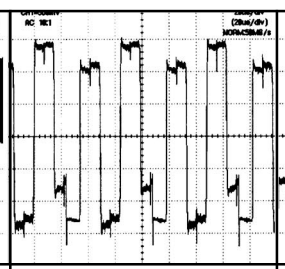
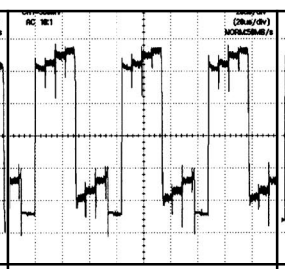
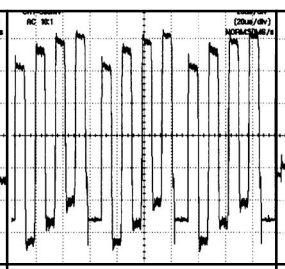
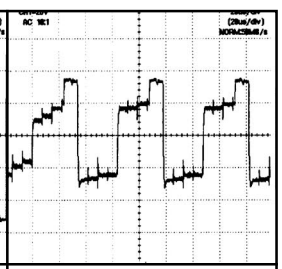
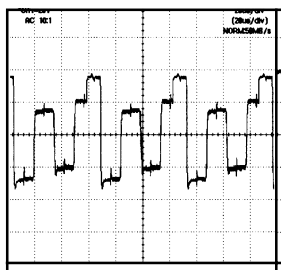
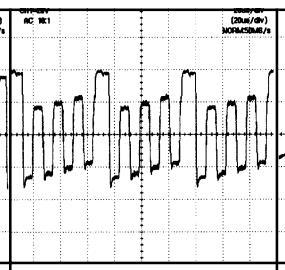
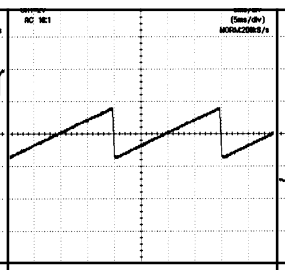
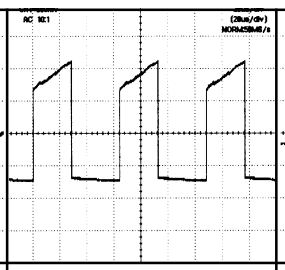
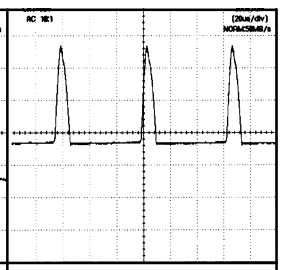
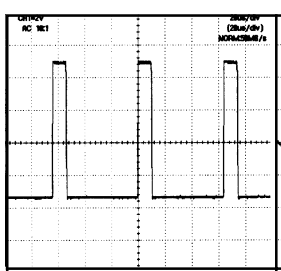
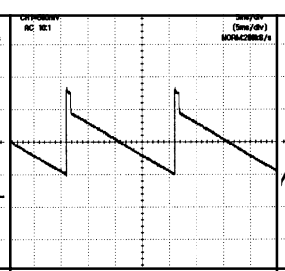
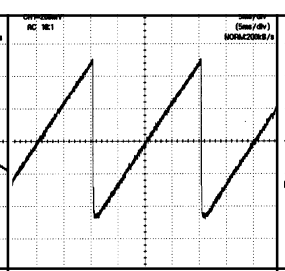
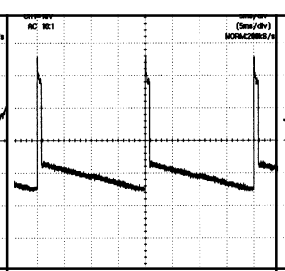
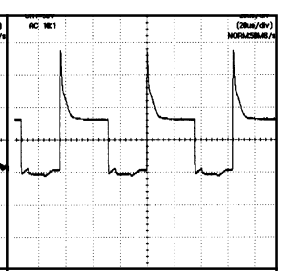
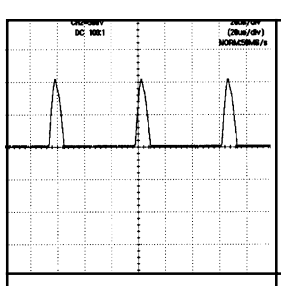
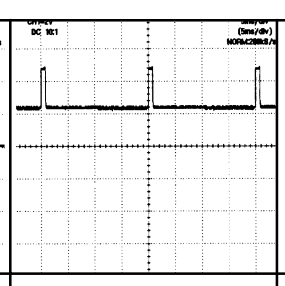
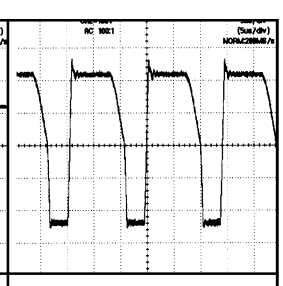


10	11	12	13	14	15	16	17	18	19

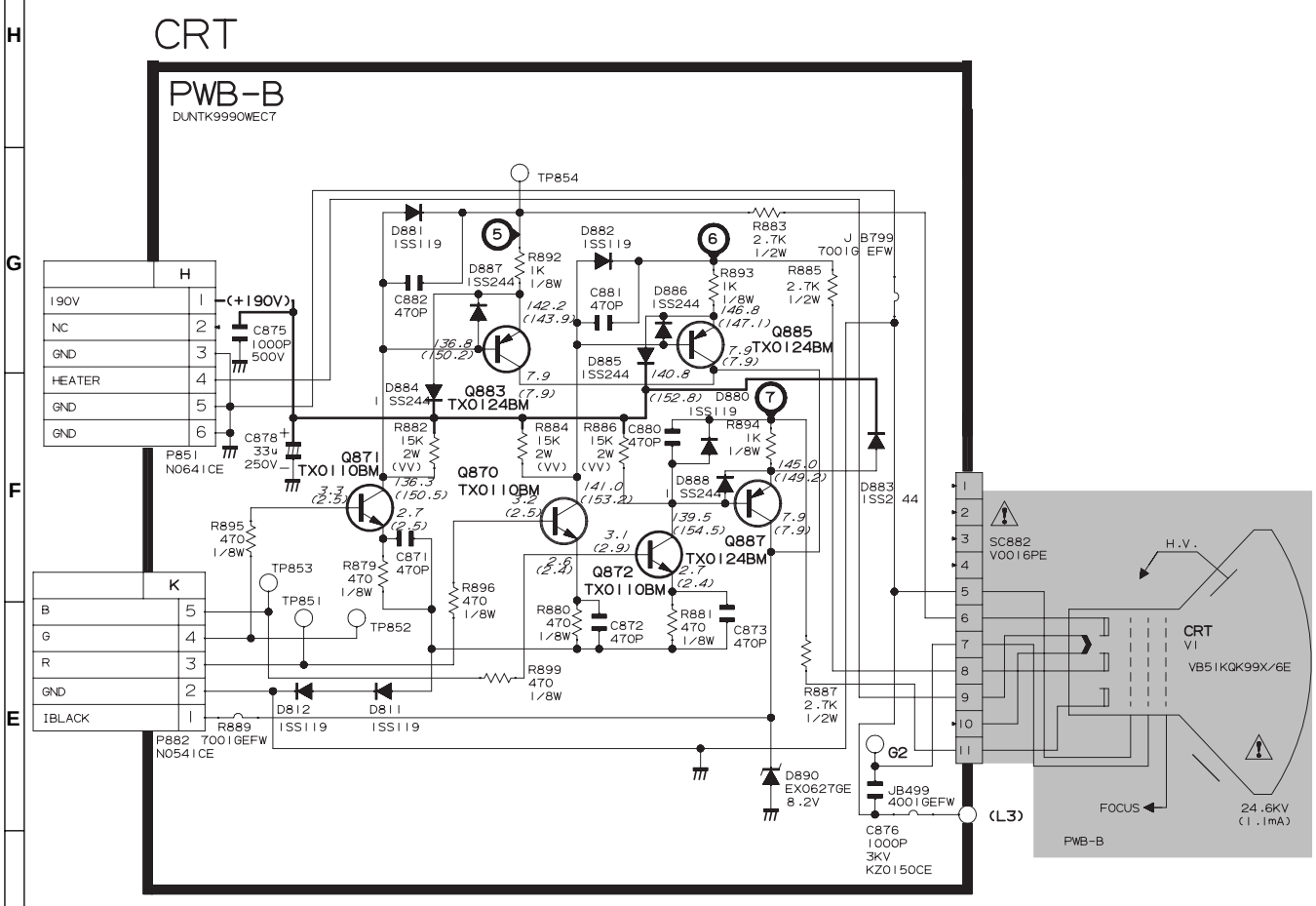
BLOCK DIAGRAM-2

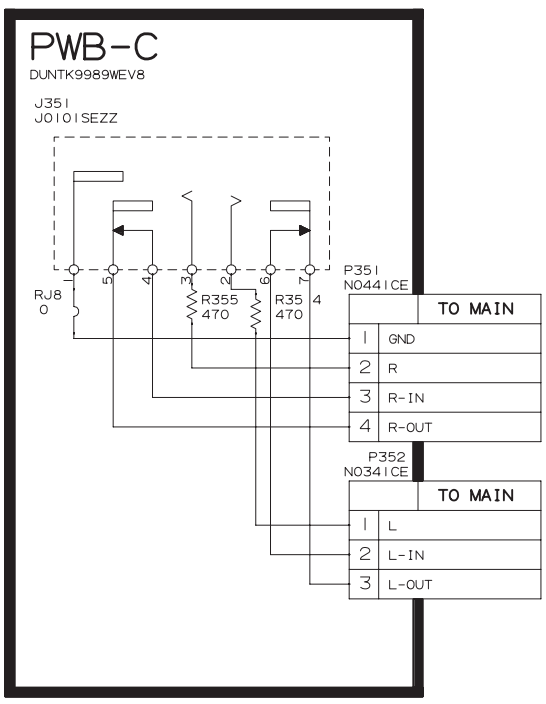


WAVEFORMS

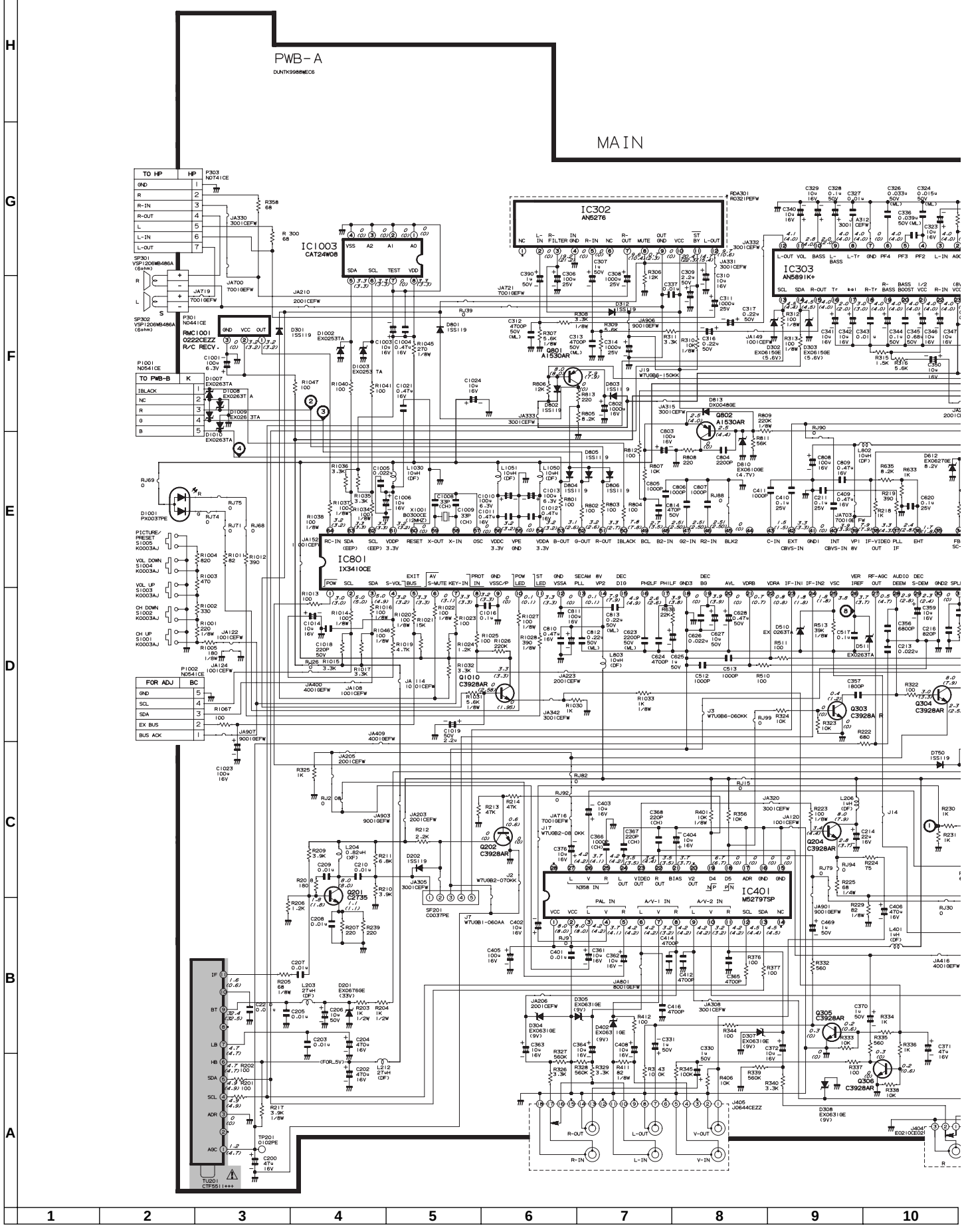
				
1 1.0Vp-p	2 2.5 Vp-p (H)	3 2.55 Vp-p (H)	4 3.35Vp-p (H)	5 68.0 Vp-p (H)
				
6 66.0 Vp-p (H)	7 72.0 Vp-p (H)	8 3.0 Vp-p (V)	9 1.85 Vp-p (H)	0 150.0 Vp-p (H)
				
q 8.4 Vp-p (H)	w 1.3 Vp-p (V)	e 0.98 Vp-p (V)	r 43.0 Vp-p (V)	t 130.0 Vp-p (H)
				
y 980 Vp-p (H)	u 2.4 Vp-p (V)	i 510 Vp-p (V)		

SCHEMATIC DIAGRAM: CRT and HEADPHONE Unit

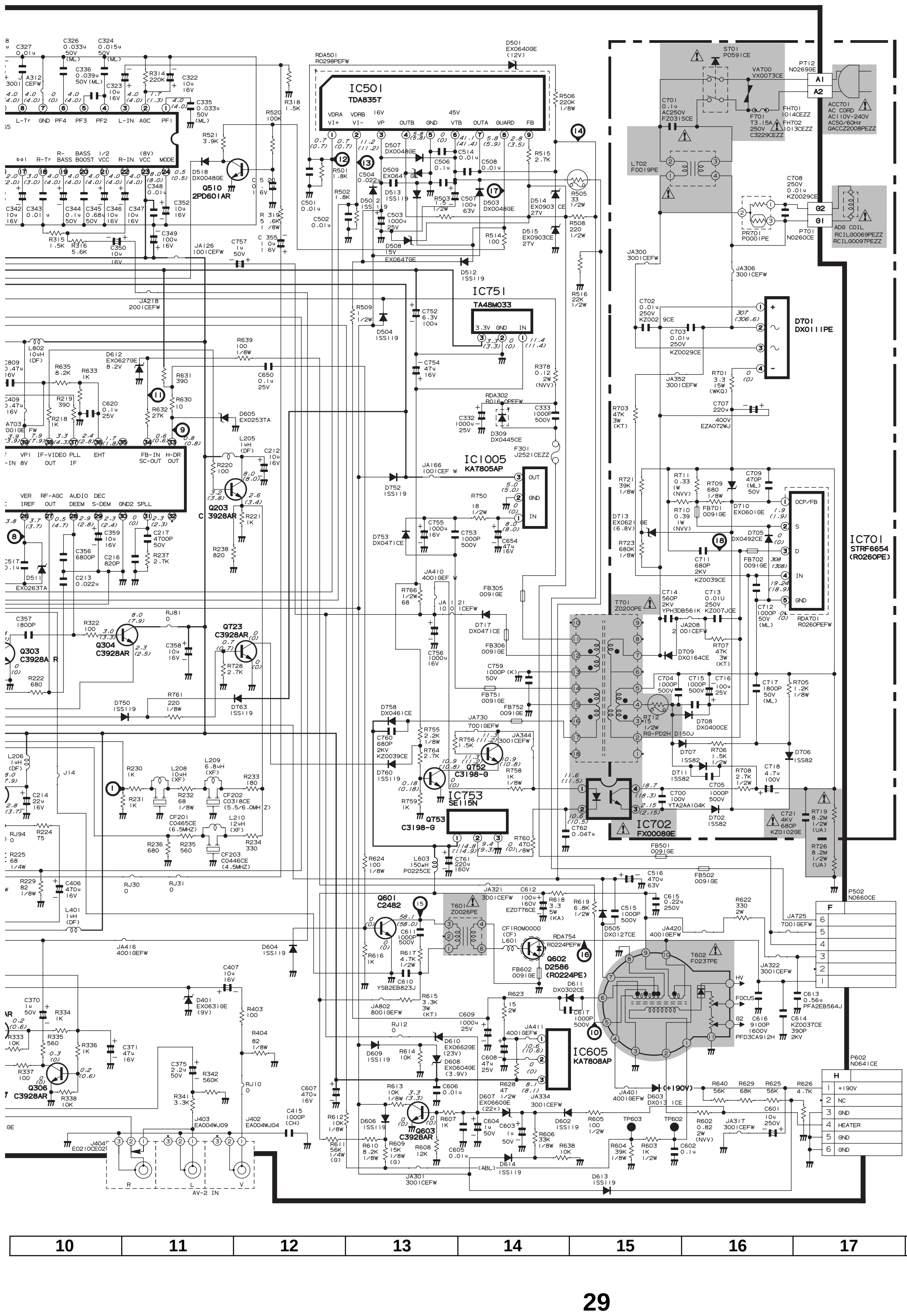




SCHEMATIC DIAGRAM: MAIN Unit



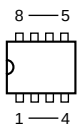
NOTE: 1. THE UNIT OF RESISTANCE "OHM" IS OMITTED (K=1000 OHMS, M=MEGAOHM).
2. ALL RESISTORS ARE 1/10 WATT UNLESS OTHERWISE NOTED.
3. UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL (u, P, ETC).



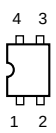
10	11	12	13	14	15	16	17	18	19

SOLID STATE DEVICE BASE DIAGRAM

TOP VIEW

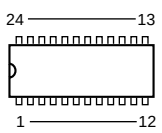


AT24W08



FX0008GE

D601A



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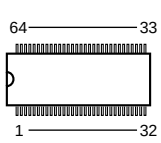

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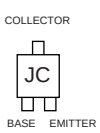

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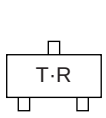

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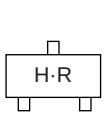

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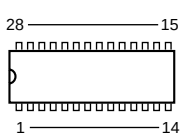
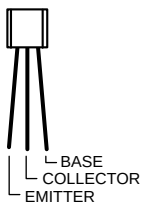


M52797SP

SIDE VIEW



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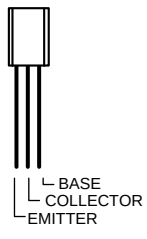

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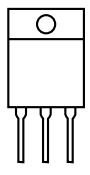

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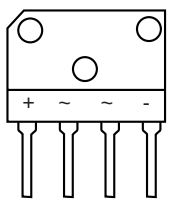

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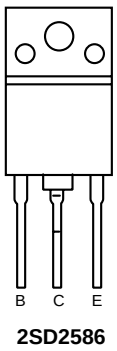

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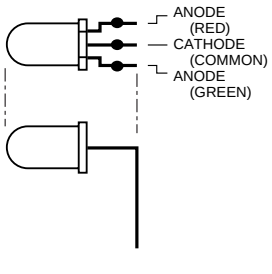
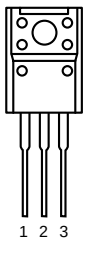
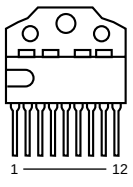


PX0037PE



KA7808
KA7805



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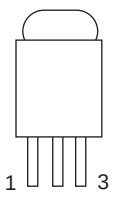
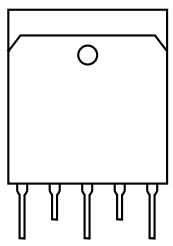
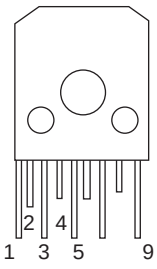


TA48M033



STRF6654



TDA8357