

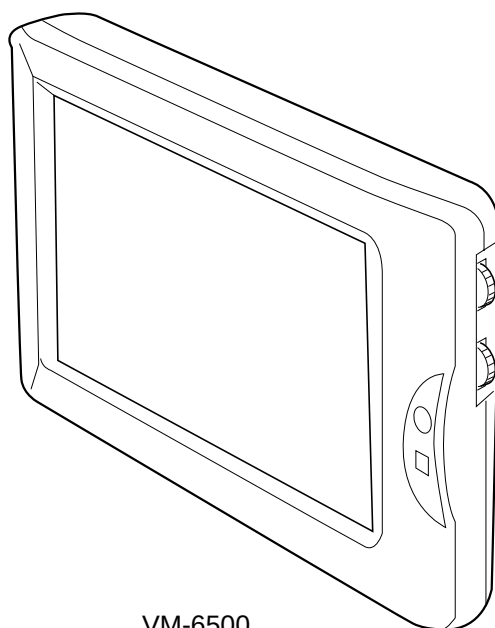
SERVICE MANUAL & PARTS LIST

(without price)

VM-6500

(KX-666B)

NOV. 2000



VM-6500

CASIO®

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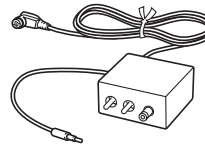
1. SPECIFICATIONS

Monitor (VM-105U)

Display Element:	High-resolution color LCD
Pixels:	224,640 (234 × 960)
Driver:	TFT active matrix
Light Source:	Internal backlight; high luminosity fluorescent lamp
Speaker:	One (3.6 cm) round speaker
Operating Temperature:	0 °C to 40 °C
Storage Temperature:	–20 °C to 60 °C
Dimensions:	7 1/16"(W) × 1 3/16"(D) × 5 1/16"(H) 18.0(W) × 3.05(D) × 12.8(H) cm (excluding projections)
Approximate Weight:	15.3 oz (434 g)

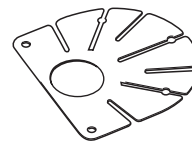
Connector Box (AV-2VM)

Dimensions:	2 9/16"(W) × 1 3/8"(D) × 1 1/16"(H) 6.5 (W) × 3.5(D) × 2.7(H) cm (excluding projections)
Approximate Weight:	6.0 oz (170 g)
Cable Length:	Approximately 4.8 m



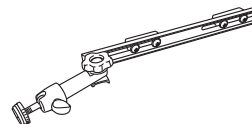
Center Console Box Stand Base (KY-01CA)

Dimensions:	3 15/16"(W) × 2 7/8"(D) × 3 13/16"(H) 10.0 (W) × 7.3(D) × 9.7(H) cm
Approximate Weight:	6.3 oz (180 g)
Accessories:	Five screws

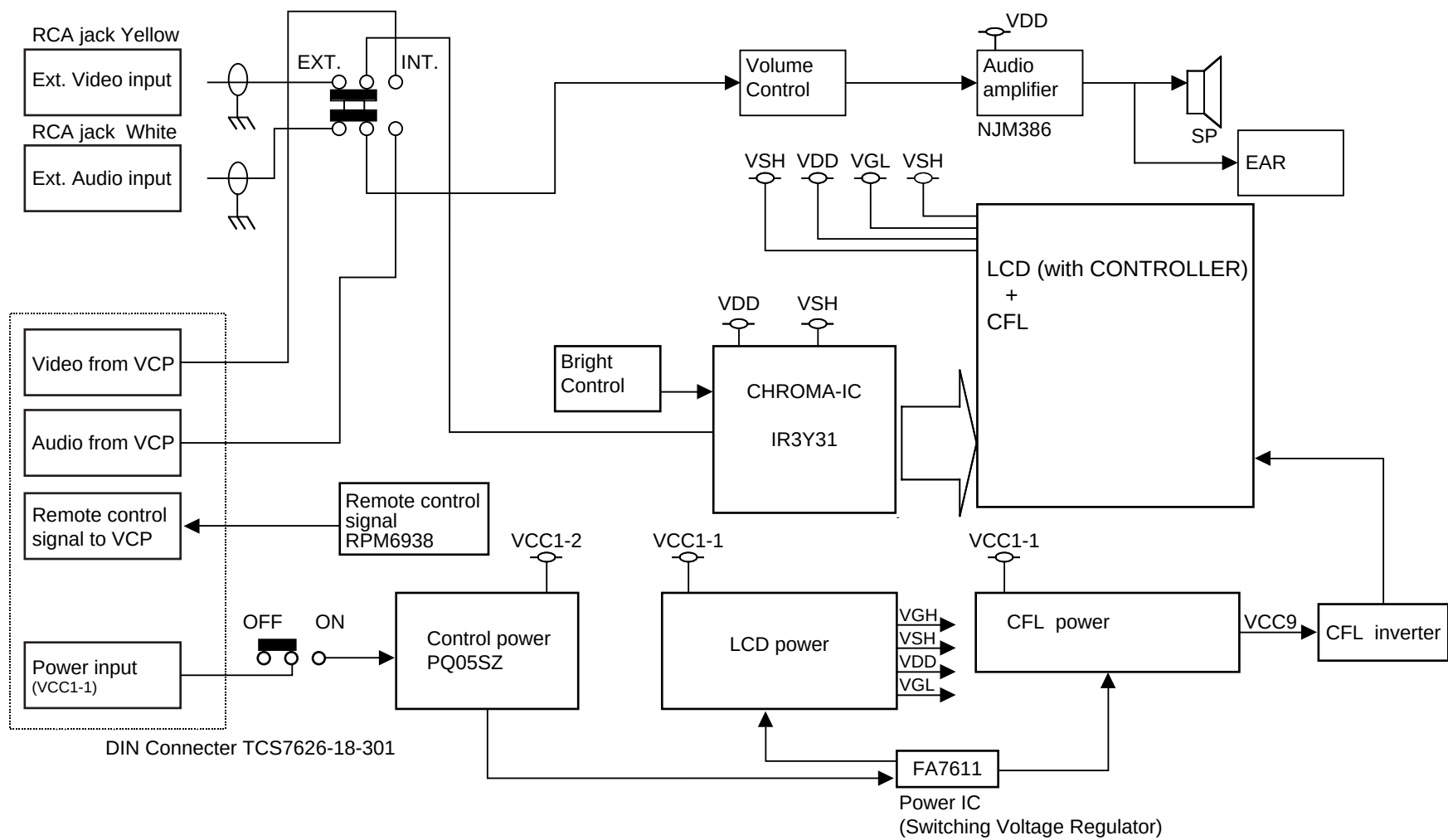


Headrest Stand (OS-29R)

Stand Length:	16 1/8" 41.0 cm (when extended)
Approximate Weight:	14.6 oz (415 g)



2. BLOCK DIAGRAM



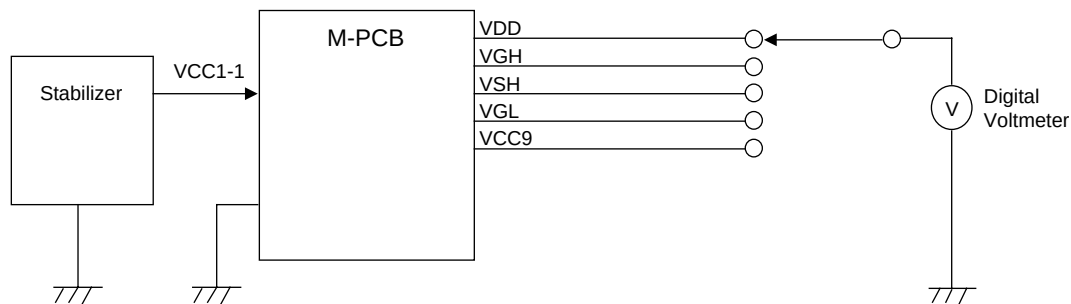
3. ADJUSTMENTS

3-1. Adjustments to be done

Adjustments	Necessary equipment
1. VDD adjustment, VGH, VSH, VGL, Vcc9 voltage check	Power supply, Digital voltmeter
2. Bright adjustment	Power supply, Signal generator, Oscilloscope
3. Contrast adjustment	Power supply, Signal generator, Oscilloscope
4. TINT color adjustment	Power supply, Signal generator, Oscilloscope
5. LCM screen positioning	Power supply, Signal generator

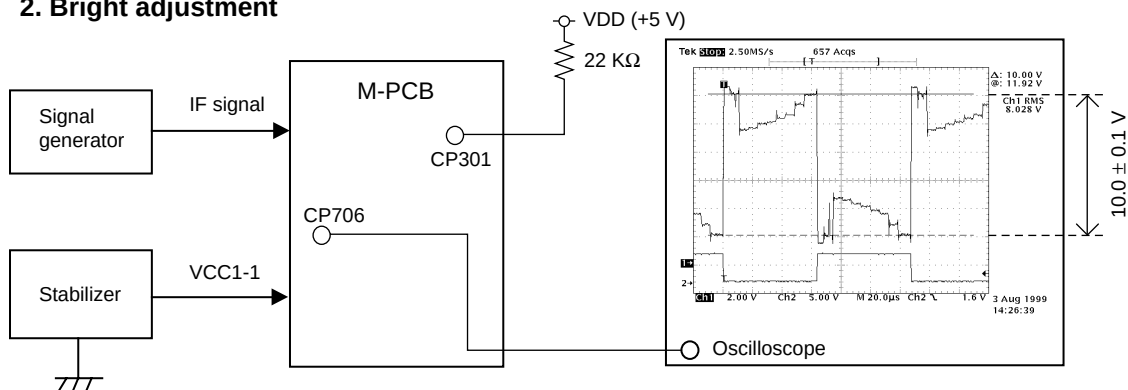
3-2. Adjustments

1. VDD adjustment, VGH, VSH, VGL, Vcc9 voltage check



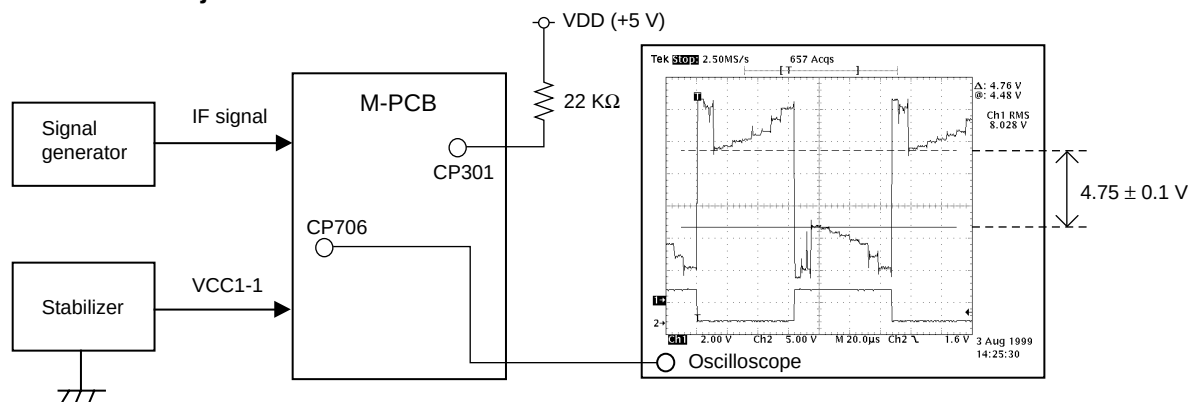
- Conditions
Apply 11.50 ± 0.05 [V] on Vcc1-1.
- Adjustment
Adjust VR161 so that VDD (CP165) voltage becomes 5.00 ± 0.02 [V].
- Checking
 VGH (CP168) = $19.0 \sim 21.0$ [V]
 VSH (CP166) = $13.5 \sim 14.5$ [V]
 VGL (CP164) = $-5.5 \sim -4.0$ [V]
 $Vcc9$ (CP163) = $7.8 \sim 8.4$ [V]

2. Bright adjustment



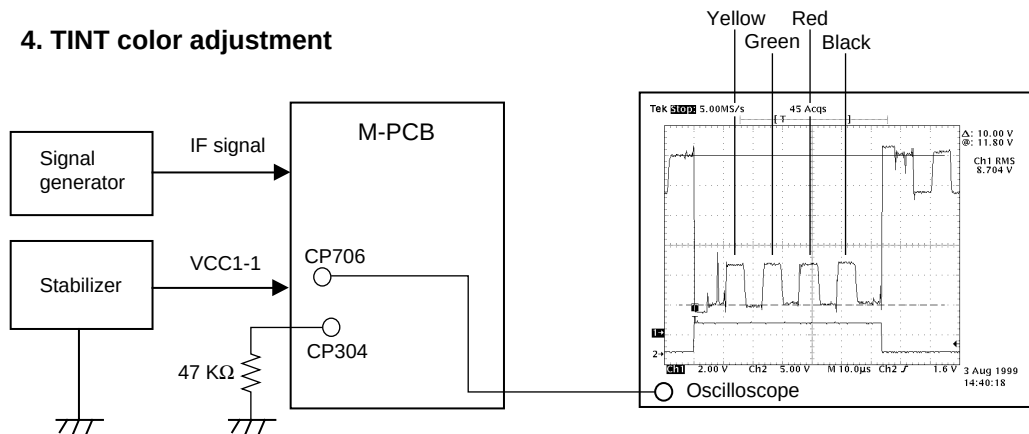
- Conditions
 - (1) Apply 11.50 ± 0.05 [V] on Vcc1-1.
 - (2) Signals: provide color bar pattern (white 75 %) composite video signal from CP196.
Signal level; 1Vp-p +/- 0.01V (75 ohm termination), conforming to NTSC-M system.
 - (3) Apply VDD (+5V) voltage on KILLER terminal (CP301) via 22 k Ω resistance.
- Adjustment
 - (1) Triggering CP702 (FRP), adjust VR304 so that positive and negative pedestal level of CP706 (VB) is 10.0 ± 0.1 V.
- Caution
 - (1) Make sure that waveforms are not distorted.
 - (2) Do not turn VR430 until contrast, tint, and color level adjustments are completed.
 - (3) Leave the resistor connected between CP301 (KILLER) and VDD until contrast adjustment is completed.

3. Contrast adjustment



- Conditions
 - (1) Apply 11.50 ± 0.05 [V] on Vcc1-1.
 - (2) Signals: provide color bar pattern (white 75 %) composite video signal from CP196.
Signal level; 1Vp-p +/- 0.01V (75 ohm termination), conforming to NTSC-M system.
- Adjustment
 - (1) Triggering CP702 (FRP), adjust VR301 so that CP706 (VB)'s negative and positive white peak voltage becomes 4.75 ± 0.1 V.
- Caution
 - (1) Make sure that waveforms are not distorted.
 - (2) Make sure to perform this adjustment after brightness adjustment.
 - (3) After the adjustment, remove the resistor connected between CP301 (KILLER) and VDD.

4. TINT color adjustment



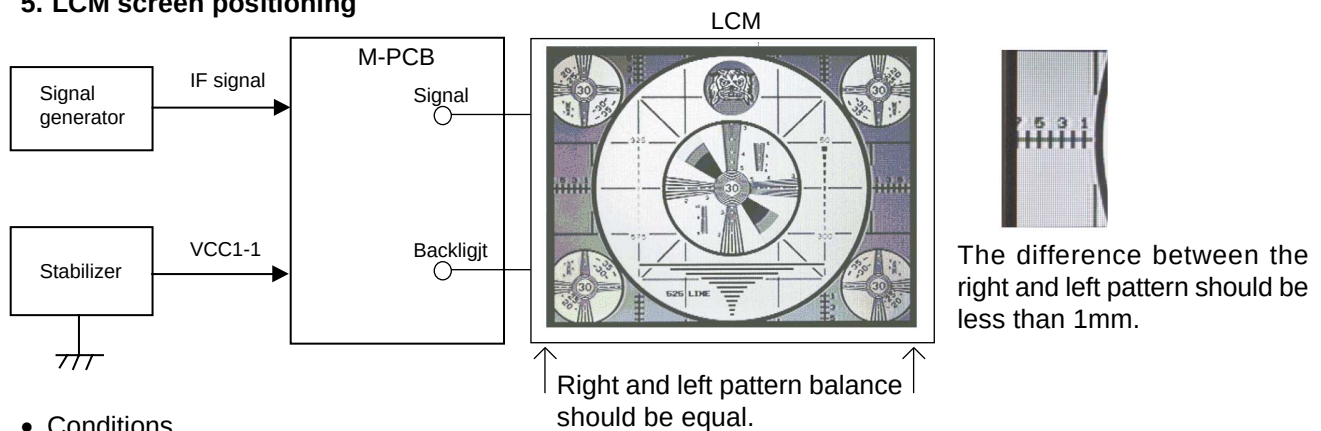
- Conditions

- (1) Apply 11.50 ± 0.05 [V] on Vcc1-1.
- (2) Signals: provide color bar pattern (white 75 %) composite video signal from CP196.
Signal level; 1Vp-p +/- 0.01V (75 ohm termination), conforming to NTSC-M system.
- (3) Connect 47kohm resistor between CP304 and CP300 (GND).

- Adjustment

- (1) Triggering CP702 (FRP), observe CP706 (VB) waveform.
- (2) Adjust VR303 so that yellow, green, and red pulses are level.
- (3) Adjust VR302 so that yellow, green, and red pulses are same height as black pulse.
- (4) Repeat steps (3) and (4) until;
Amplitude difference of blue and purple pulses (center two pulses) is less than 0.1V.
Amplitude difference between black and yellow and red (both adjoining pulses of blue and purple) is less than 0.1V.
- (5) Remove the 47kohm resistor between CP304 and CP300 (GND).

5. LCM screen positioning



- Conditions

- (1) Apply 11.50 ± 0.05 [V] on Vcc1-1.
- (2) Signals: Apply monoscope pattern composite video signal from CP196.
Signal level; 1Vp-p +/-0.01V (75 ohm terminated), conform to NTSC-M system.

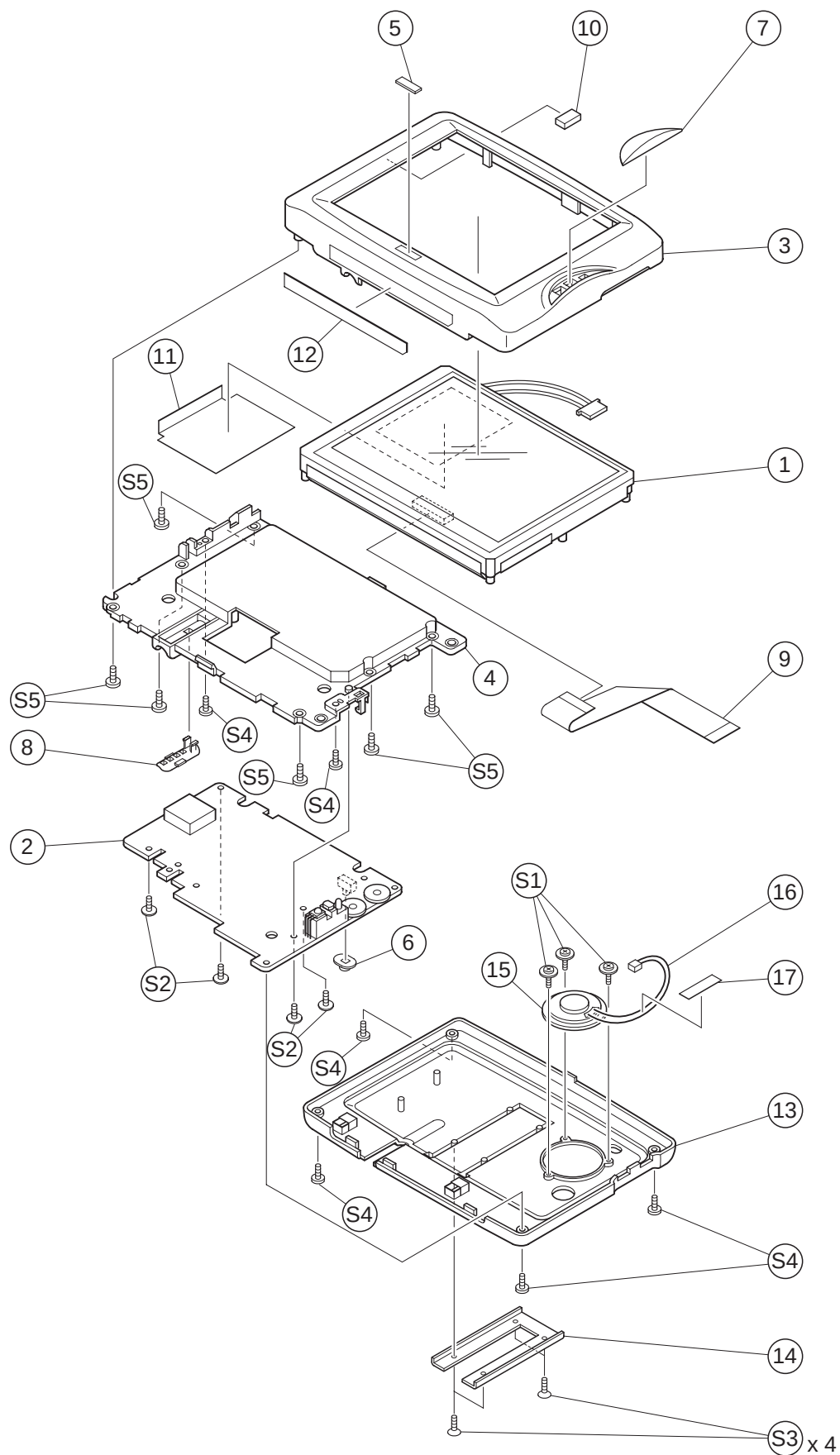
- Adjustment

- (1) Connect LCM to display monoscope pattern.
- (2) Adjust LCD's H.POS to display the picture in the center.
Adjust so that the right and left patterns are the same.

- Caution

- (1) Non-equality of right and left pattern should be less than 1 mm.
- (2) Adjustment should be done with the display unit which is assembly of LCM and PCB.

4. EXPLODED VIEW



5.PARTS PRICE LIST

Monitor (VM-105U)

N	Item	Code No.	Parts Name	Specification	Q	Price Code	R
-	01	2725 1395	MODULE/TFT-LCD	P64AN2	1	EP	A
N	02	-	PCB ASSY/MONITOR	RJK501696*001V01	1		-
-	03	1000 2491	CASE/UPPER BXM-K662	K140633-2	1	BB	X
N	04	1004 2733	FRAME AAM-K658	K140635-2	1	AZ	X
-	05	6610 0341	PLATE/CASIO	K440276A-1	1	AF	X
-	06	1000 2507	KNOB/SWITCH AAM-K662	K341720-1	1	AB	X
-	07	6611 2010	COVER/SENSOR AM-K660	K340585-2	1	AL	X
-	08	1000 2505	SPACER/CODE AAM-K662	K341716-1	1	AB	X
-	09	6614 5520	CABLE/FLAT AAM-K658	K441911-1	1	AC	X
-	10	6614 5510	CUSHION AAM-K658	K441873-1	1	AA	X
-	11	6614 5500	TAPE/SHIELD AAM-K658	K441874-1	1	AD	X
N	12	1004 2730	PLATE/RATING BXA-K662	K440985-13	1	AA	X
N	13	1004 2738	CASE/LOWER BXN-K662	K140634-4	1	BX	X
-	14	6610 0360	ATTACHMENT AM-K635	K340292-1	1	AI	X
-	15	3831 1108	SPEAKER	K036NA505-12	1	AS	B
-	16	6614 5480	CABLE/SPEAKER	K441872-1	1	AB	X
-	17	6614 5470	TAPE/INSULATED AAM-K658	K441912-1	1	AA	X
-	S1	6630 7430	SCREW A-K618	K440305-1	3	AA	X
-	S2	6611 2110	SCREW A-K650	K440850-1	4	AA	X
N	S3	1004 2727	SCREW/PRECISION (+)	BT3 2X4BK	4	AA	X
N	S4	1004 2731	SCREW/PRECISION (+)	BT3P 2X6BK	6	AA	X
N	S5	1004 2734	SCREW/PRECISION (+)	BT3P 2.6X8NI	6	AA	X

Accessory

N	Item	Code No.	Parts Name	Specification	Q	Price Code	R
N		1004 2737	CABLE/CONNECTION	AV-2VM	1	CP	C
-		1000 5805	PLATE ASSY/BASE	KY-01CA	1	AZ	X
-		1000 2146	STAND/REAR	OS-29R-(D)	1	CP	X

Note : NEW - New registration parts

Q - Quantity used per unit

R - Rank

MONITOR PCB

N	Item	Code No.	Parts Name	Specification	Q	Price Code	R
N	02	-	PCB ASSY/MONITOR	RJK501696*001V01	1		-
CONNECTORS							
-	CN190	3502 2256	CONNECTOR	TCS7926-18-301	1	AI	X
-	CN600	3502 1529	CONNECTOR	CGP4702-0101	1	AB	X
-	CN700	3501 6720	CONNECTOR	006200520330000	1	AI	X
-	CN900	3502 2707	CONNECTOR	SM02(8)B-BHS-1-TB	1	AD	X
DIODES							
-	D170	2390 1449	DIODE/CHIP/SCHOTTKY	MA701A-(TX)	1	AC	X
-	D172	7101 1194	DIODE	MA111(TX)	1	AA	X
-	D174	2390 1379	DIODE/SCHOTTKY	MA729-(TX)	1	AB	X
-	D176	2390 1379	DIODE/SCHOTTKY	MA729-(TX)	1	AB	X
-	D177	7101 1194	DIODE	MA111(TX)	1	AA	X
-	D178	7101 1194	DIODE	MA111(TX)	1	AA	X
-	D180	2390 1470	DIODE/CHIP	MA143A-(TX)	1	AA	X
-	D190	2390 1883	DIODE/TIP/SCHOTTKY	RB160L-40TE25	1	AC	X
-	D191	7101 1194	DIODE	MA111(TX)	1	AA	X
-	D192	7101 1194	DIODE	MA111(TX)	1	AA	X
-	D905	7101 1194	DIODE	MA111(TX)	1	AA	X
-	-	6614 5560	SPACER / LED	K341677-1	1	AB	X
-	D500	2370 1211	LED	SLR-342VR3F	1	AA	X
FUSE							
-	FU161	3632 0343	FUSE/CHIP	SSFC1AR12A4	1	AH	A
OSCILLATOR							
-	H301	2590 1239	OSCILLATOR/CRYSTAL	HC-49/U-S-A	1	AH	X
ICS							
-	IC160	2114 2660	IC	FA7611M-TE1	1	AS	X
-	IC170	2114 4816	IC/LINEAR	PQ05SZ5U	1	AL	X
-	IC301	2114 5901	IC	IR3Y31M	1	BN	X
-	IC550	1000 2467	IC	RPM6938-V4	1	AL	X
-	IC650	2114 1750	IC/LINEAR	NJM386-M-T1	1	AE	X
-	IC701	2105 6381	IC/MOS	TC74HC14AF(EL)	1	AC	X
-	IC902	2105 4109	IC	TC7S14F(TE85L)	1	AC	X
TRANSISTORS							
-	Q160	2251 0868	TRANSISTOR	2SB1261K-Z-E1	1	AE	X
-	Q161	2252 0714	TRANSISTOR/CHIP	2SD1623S,T-TD	1	AC	X
-	Q163	2251 0189	TRANSISTOR/CHIP	2SB1218A-R(TX)	1	AA	X
-	Q164	2253 0133	TRANSISTOR/CHIP	2SD1819A-R(TX)	1	AA	X
-	Q190	2251 0189	TRANSISTOR/CHIP	2SB1218A-R(TX)	1	AA	X
-	Q191	2253 0133	TRANSISTOR/CHIP	2SD1819A-R(TX)	1	AA	X
-	Q902	2259 1540	TRANSISTOR/DIGITAL	DTC144EU-T106	1	AA	X
-	Q910	2253 0719	TRANSISTOR/CHIP	2SD2391T100	1	AB	X
-	Q911	2253 0719	TRANSISTOR/CHIP	2SD2391T100	1	AB	X
-	Q921	2251 0189	TRANSISTOR/CHIP	2SB1218A-R(TX)	1	AA	X
VARIABLE RESISTORS							
-	VR161	2775 2751	RESISTOR/SEMIFIXED/CHIP	EVN5ESX50B23	1	AA	X
-	VR301	2775 2765	RESISTOR/SEMIFIXED/CHIP	EVN5ESX50B54	1	AA	X
-	VR302	2775 2765	RESISTOR/SEMIFIXED/CHIP	EVN5ESX50B54	1	AA	X
-	VR303	2775 2765	RESISTOR/SEMIFIXED/CHIP	EVN5ESX50B54	1	AA	X
-	VR304	2765 0623	VOLUME	RK09H11T-20KB	1	AD	C
-	VR650	2765 0616	VOLUME	RK09H11T-10KB	1	AD	C

Note : NEW - New registration parts

Q - Quantity used per unit

R - Rank

N	Item	Code No.	Parts Name	Specification	Q	Price Code	R
TRANSFORMERS							
-	T160	3012 1626	TRANSFORMER	10CAH-01	1	AL	X
-	T900	3012 1625	TRANSFORMER	EPS197-01	1	AL	X
SWITCHS							
-	SW101	1000 2474	SWITCH	SLD-12-501A	1	AC	C
N	SW201	1004 2742	SWITCH	SLD-22-505	1	AD	C
COVERS							
N	-	1004 2741	COVER / SWITCH	RJK501766-1	1	AA	X
N	-	1004 4240	COVER / JACK	RJK501778-001V01	1	AO	X
JACKS							
N	JK100	1004 2745	JACK	JPJ2022-01-040	1	AE	C
N	JK101	1004 2744	JACK	JPJ2022-01-030	1	AE	C
N	JK601	1004 2743	JACK	HSJ1406-01-040	1	AE	C

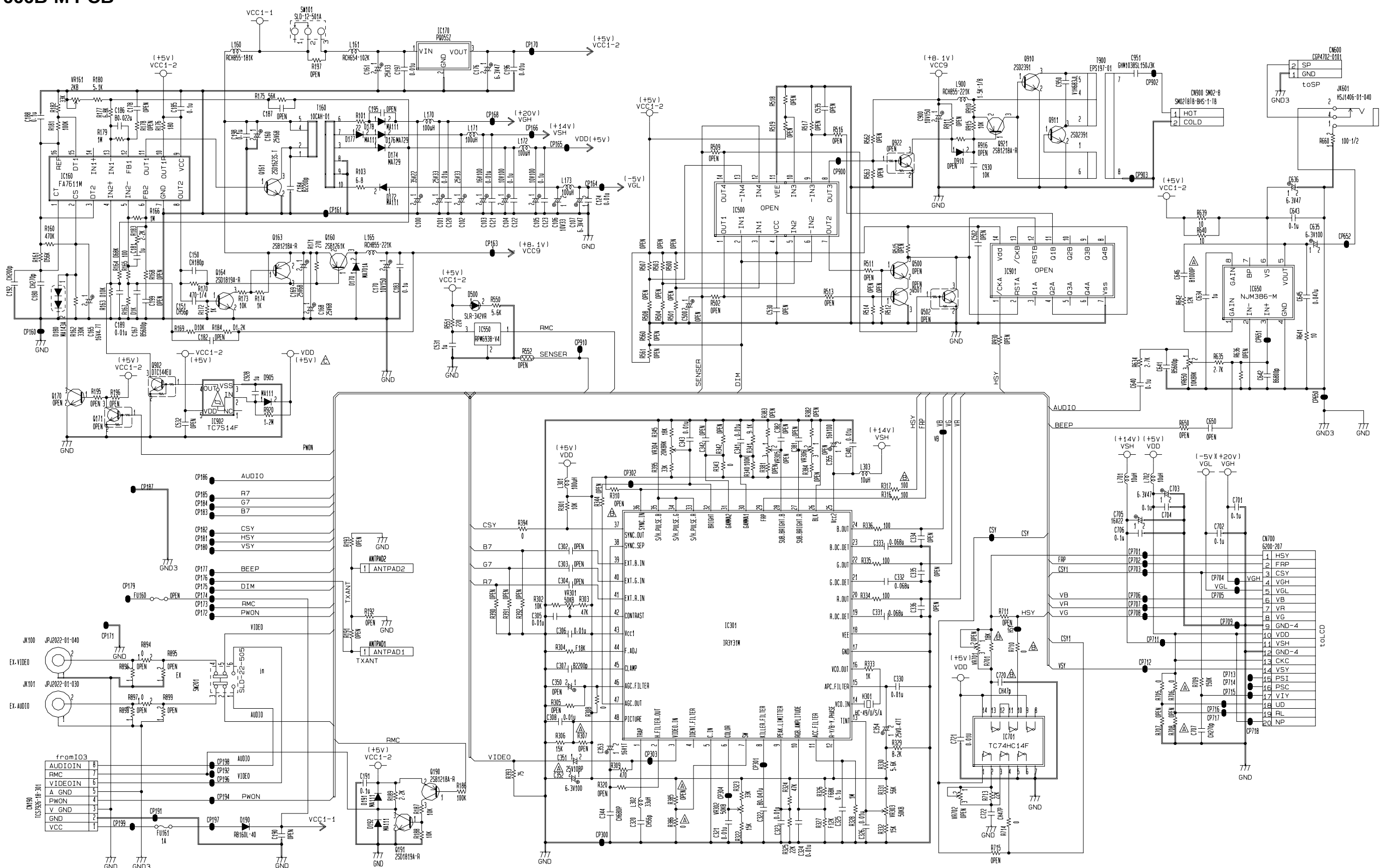
Note : NEW - New registration parts

Q - Quantity used per unit

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6. SCHEMATIC DIAGRAM

666B-M PCB



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