
SPECIFICATIONS

1. **PRODUCT NAME** 4 Inch Flat B/W CRT Module (Module)
2. **MODEL** QA2088D
3. **TECHNICAL STANDARD** Q/SXDZ01-2000 equivalent
4. **MAJOR PARTS**

No.	Parts		Model	Description
1	CRT	SAMSUNG	4FNG45	4 INCH FLAT CRT
2	Flight Back Transformer		DFT-F110M	Designed for 4FNG45
3	Deflection York		DDY-D0401A	Designed for 4FNG45
4	Printed Circuit Board		VS-2000D1	1994-V0 No.:CH0021234-97
5	FUSE		1A/250V	CCEE 50T, IEC 127

5. ELECTRICAL CHARACTERISTICS

- 1) Rated Voltage DC 12.0V
- 2) Rated Current DC 300mA $\pm$ 10mA
- 3) Power Consumption 3.5W
- 4) Input Signal NTSC Standard, Sync Negative Unbalanced
Video/Composite, 1Vp-p/75-Ohm
- 5) Operating Temperature - 5 ~ 45 °C
- 6) Storage Temperature -20 ~ 60 °C
- 7) Relative Humidity 10 ~ 90% (RH)

6. ABSOLUTE MAXIMUM RATINGS

- 1) Power Supply DC 11.5~ 15.0V (VS-2000/LOW VOLTAGE DC10.5~15.0V)
Ripple Voltage 0.3V MAX.
- 2) Video Signal 0.7~ 1.4Vp-p (NTSC Standard, 75-Ohm Termination)

7. EXTERNAL CONNECTIONS(PARTS AND DIAGRAM)

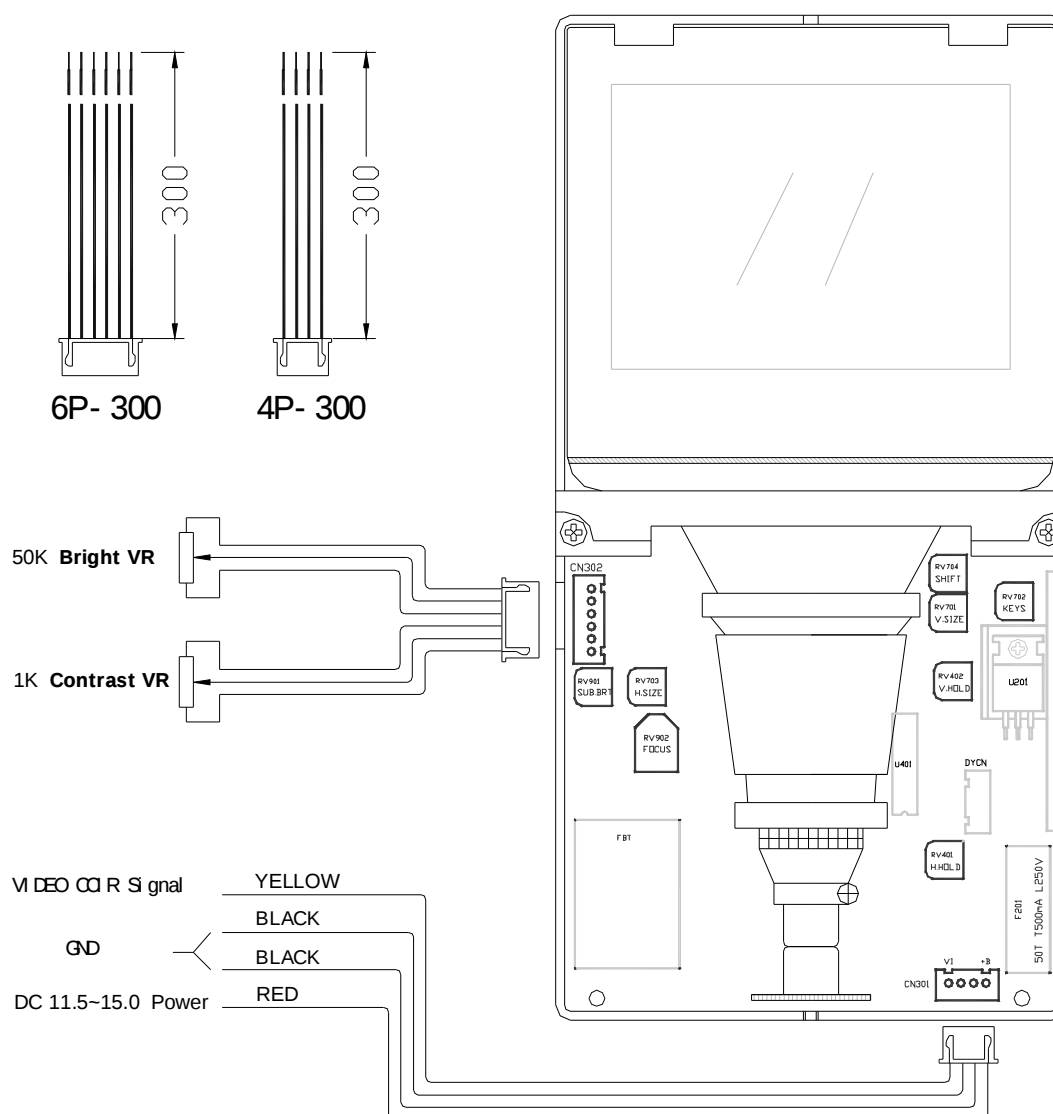
- 1) **CN301** 4-pin Micro Connector (C3, 2.54mm Pitch), for Video and Power

Pin No.	Color	Usage	Description
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1	RED	Power Positive(+12V)	B+: DC 11.5~15.0V
2	BLACK	Power Negative(GND)	GND
3	BLACK	Video GND	GND
4	YELLOW	Video Input	VI: NTSC,0.7~1.4Vp-p

2) **CN302** 6-pin Micro Connector (C3, 2.54mm Pitch), for external POT

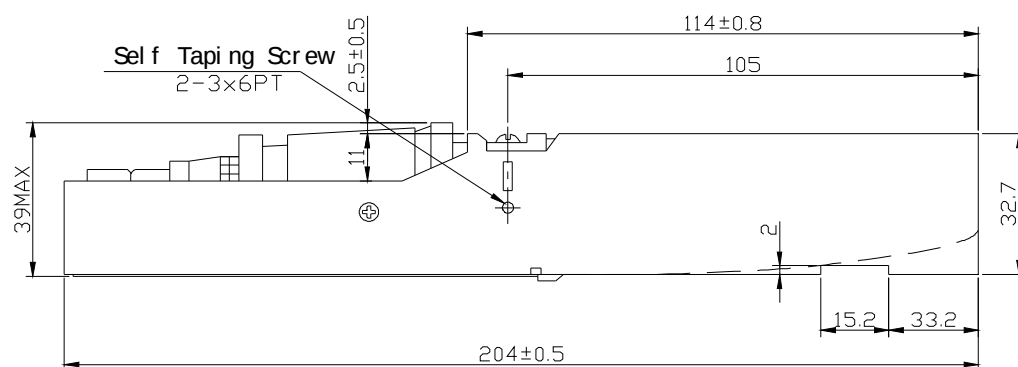
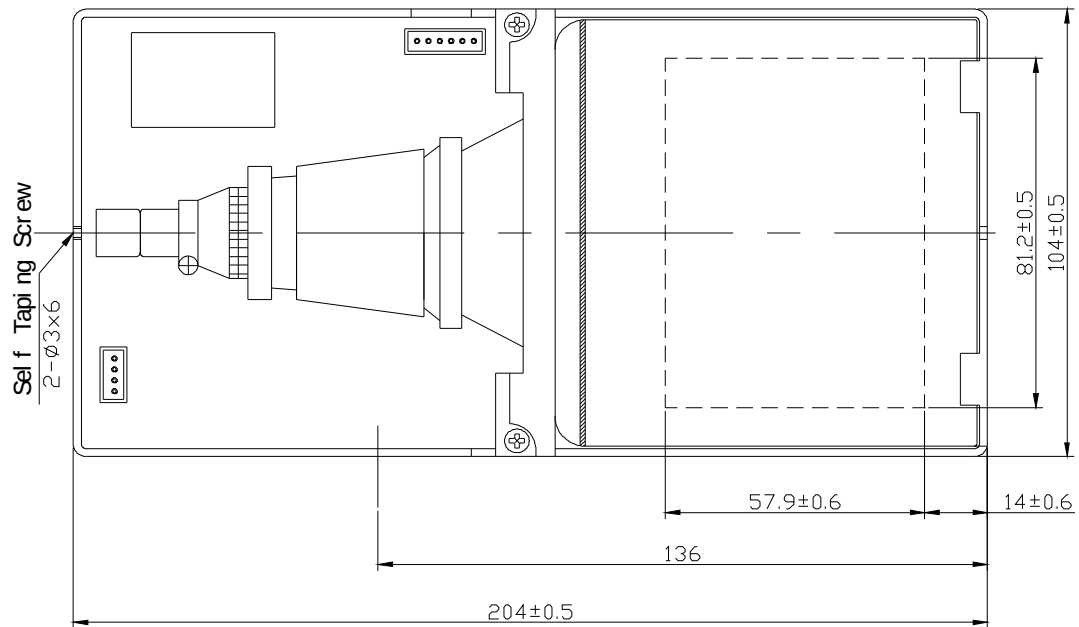
3) **CABLE** C3-4P-300mm, C3-6P-300mm



8. PRODUCT OVERVIEW

DIMENSIONS Approx. 204(L) X 104(W) X 39(H) mm

NET WEIGHT Approx. 560g



9. ELECTRICAL CHARACTERISTICS AND TESTING CONDITION

1) Testing Condition

- a) Temperature: 15 ~ 35 °C
- b) Humidity: 45 ~ 90% (RH)
- c) Position: Standard position, East-ward and Horizontally flat.

2) ELECTRICAL CHARACTERISTICS

No.	Parameter	Unit	Value or Scale
1	INPUT SIGNAL (75-Ohm Termination)	Vp-p	0.7 ~ 1.4
2	PICTURE RATIO (WIDTH vs. HEIGHT)	\	4 : 3
3	DISPLAY RATIO	%	≥ 80
4	CENTER OFFSET	%	≤ 3
5	SCREEN MAX. BRIGHTNESS	Cd/m ²	≥ 100
6	BRIGHTNESS ID. CLASS	LEVEL	≥ 10
7	HORIZONTAL RESOLUTION (CENTER)	TV LINES	≥ 500
8	RASTER GEOMETRY DISTORTION	%	≤ 5
9	SCAN LINEARITY DISTORTION	%	≤ 12
10	SCAN FREQUENCY : HORIZONTAL PUT IN SCALE HORIZONTAL HOLD SCALE VERTICAL HOLD SCALE	Hz	15 734 ± 200 15 734 ± 400 57 ± 3
11	ANODE VOLTAGE STABILITY	%	≤ 10
12	AMPLIFIER RESPONSE (+1dB~-3dB)	MHz	≥ 8
13	INPUT VOLTAGE	V	DC 11.5 ~ 15.0
14	VIDEO INPUT IMPEDANCE	K-Ohm	≥ 100
15	SCREEN CONTRAST	MULTIPLE	≥ 60
16	RASTER MODULATE DISTURBANCE	\	NO Distinctness

3) **Testing Method:** Refer to National Standard **GB9384-88**.

4) **Reliability (MTBF):** MTBF > 1 000h

11. PACKING, SHIPPING AND STORAGE

1) PACKING INSTRUCTIONS

DIMENTION 570(L) X 270(W) X 290(H) mm

GROSS WEIGHT 12.3 Kg

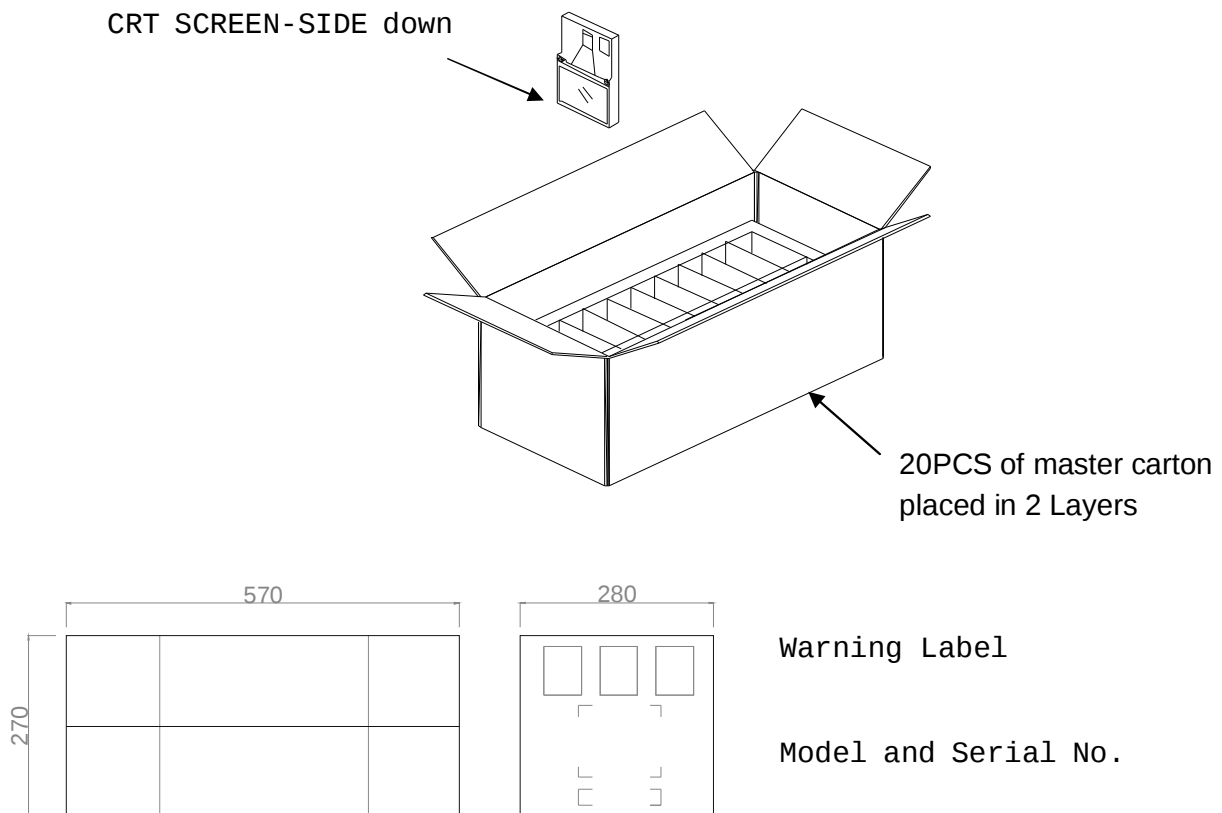
QUANTITY 20 PCS/CARTON

2) Shipping and Storage Condition

AVOID collision, rain or snow.

Storage with chemical or liquid goods STRICTLY PROHIBITED.

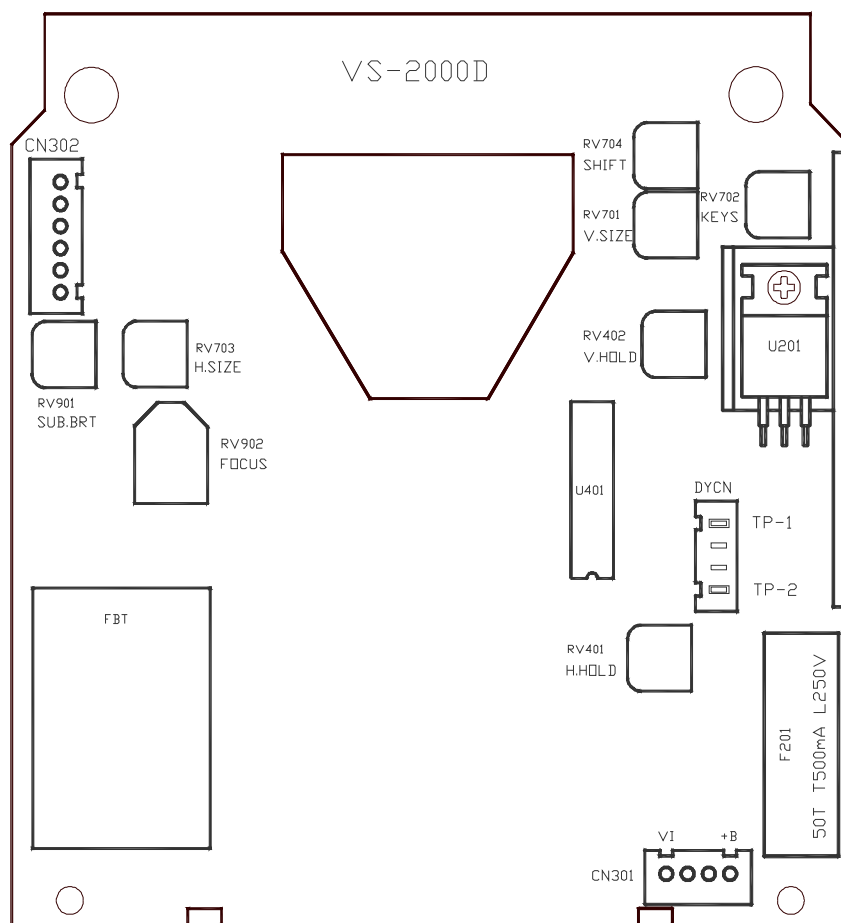
PACKINGDIAGRAM



APPENDIX: ADJUSTMENT

1. CRT Module has been optimistically adjusted and tested before shipping. However, due to effects caused by shipping procedure and other unforeseen circumstances, it might need adjustments upon installation.
2. Refer to the diagram of PCB board for any adjustments.

Diagram of PCB Board



3. Adjustment Parameters of Trimmer Potentiometers

Item	Part	Label	Adjusting Subject	Parameter
1	RV901	SUB . BRT	Aux Brightness	150 ± 20 Lux
2	RV902	FOCUS	Focus	Picture in focus
3	RV401	H . HOLD	Horizontal frequency	$15,734 \pm 200$ Hz
4	RV402	V . HOLD	Vertical frequency	57 ± 1 Hz
5	RV703	H . SIZE	Horizontal extent size	Picture in minimum

6	RV701	V. SIZE	Vertical extent size	distortion
7	RV704	SHIFT	Vertical offset	
8	RV702	KEYS	Raster trapezium	

4. Before adjusting, connect external power and video input, set brightness and contrast potentiometers to middle position. After adjusting, check the adjusting result by switching the power on and off several times.