

SPECIFICATIONS

**MODEL CIQ-9
MODEL CIQ-12**

**9" and 12" CRT
DISPLAY
MONITOR**



C. ITOH ELECTRONICS, INC.

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SPEC. NO. GK:4-82
Rev. 1

SPECIFICATIONS

GENERAL

The Model CIQ-12 and CIQ-9 are a 12-inch and 9 inch CRT Display Unit which is to be used as an alpha-numeric display device. The CRT will be scanned in conventional TV fashion.

All input signal connections to the monitor will be via a single 10 pin card edge connector, and comprise:

Video
Horizontal Drive
Vertical Sync

RATING

1. Video Input 4.0Vp-p \pm 1.5V positive going pulse
2. Video Input Impedance More than 1 K Ω
3. Horizontal Drive 4.0Vp-p \pm 1.5V positive going pulse
Pulse width: 4 to 40 μ sec
Frequency: 15.75 KHz \pm 500 Hz
4. Horizontal Drive Input Impedance More than 470 Ω
5. Vertical Sync 4.0Vp-p \pm 1.5V negative going pulse
Pulse width: 300 μ sec. to 1.4 msec.
Frequency: 55 Hz \pm 8 Hz
6. Vertical Sync Input Impedance More than 1 K Ω
7. Signal Level Low: 0 \pm 0.4V
High: 4 \pm 1.5V
8. Power Supply DC +12V \pm 0.2V (Less than 1.5A)
or DC +15V \pm 0.2V (Less than 1.2A)*
or AC 115/230V \pm 10%, 50/60 Hz (Option)
Input connector for AC power supply
(customer supplied)
Housing: AMP1-480705-0 or equivalent
Contact pin: AMP 350690-1 or equivalent

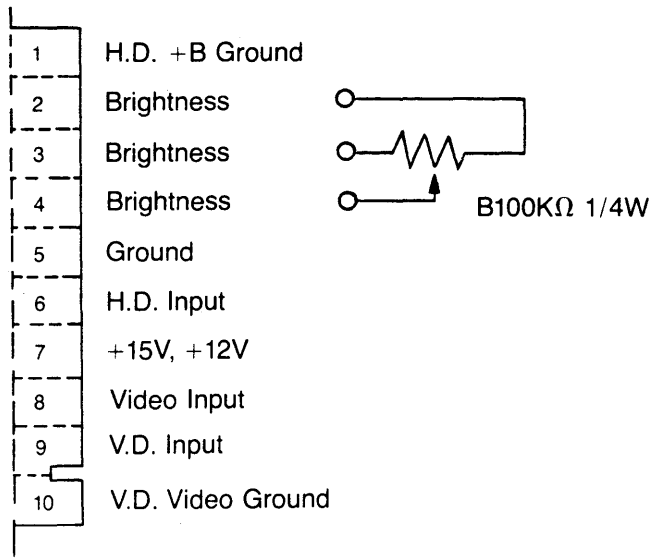
*Jumper selection and parts replacement are needed.

9. Ambient Temperature	0°C to 55°C (Operating) -30°C to 65°C (Storage)
10. Humidity	10 to 90% (Non-condensing)
11. C.R.T.	12 and 9-inch, 90° deflection 20
12. X-ray Radiation	Less than 0.5mR/H
13. Weight	<u>CIQ-12</u> Approx. 9.9 lbs (4.5 Kg) without AC power unit AC power unit Approx. 3.3 lbs. (1.5 Kg) <u>CIQ-9</u> Approx. 6.2 lbs. (2.8 Kg)
14. Dimensions	Based on the drawing of External View.
15. Inside Controls	Sub-brightness Horizontal Centering Focusing Horizontal Size Vertical Frequency Horizontal Linearity Vertical Size Vertical Linearity
16. Phosphor	P4 - Standard P31 - Option P39 - Option
17. Optimum Display Size	CIQ-12 198mm x 135mm (7.8 in. x 5.3 in.) CIQ-9 150mm x 110mm (5.9 in. x 4.3 in.)

CHARACTERISTICS

1. Video Band Width	16MHz ± 3dB
2. Rise Time and Fall Time	35 nsec or less (linear mode)
3. Storage Time	15 nsec or less (linear mode)
4. Horizontal Retrace Time	Approx. 8.5 µsec
5. Vertical Retrace Time	0.9 msec. or less
6. Resolution	<u>CIQ-12</u> Center: 850 TV lines (mean) Corner: 700 TV lines (mean) <u>CIQ-9</u> Center: 800 TV lines (mean) Corner: 650 TV lines (mean)
7. Distortion and Linearity Offset	Within limit equivalent to 2% measured with EAI's ball chart (with PC board mounted according to manufacturer's specification)
8. SN Ratio	40dB or more (80% area of CRT screen)
9. MTBF	More than 20,000 H (without CRT)
10. Performance range	0°C to 40°C

1. Connection of Connector



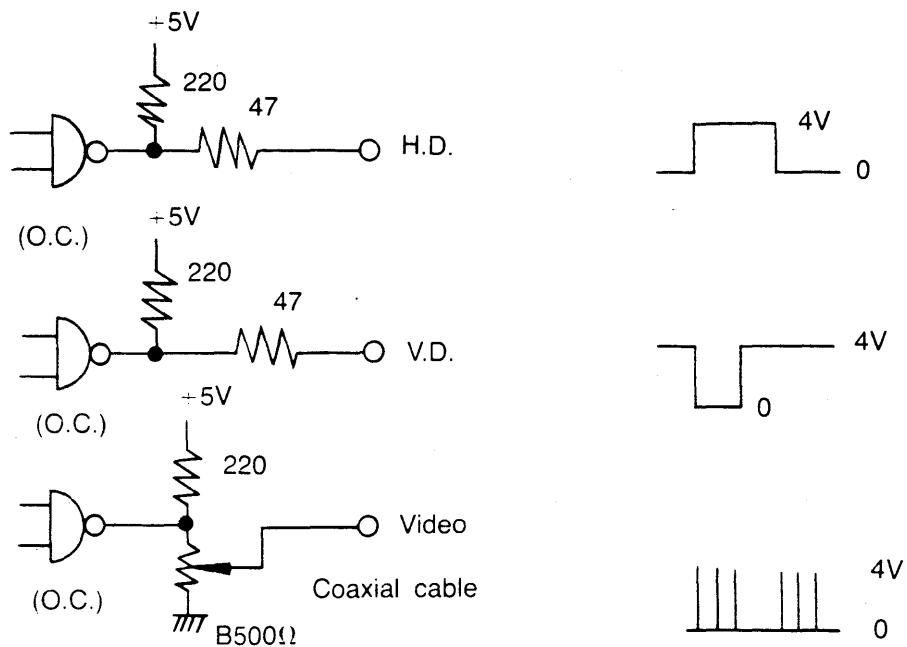
2. Input Connector

Card edge connector

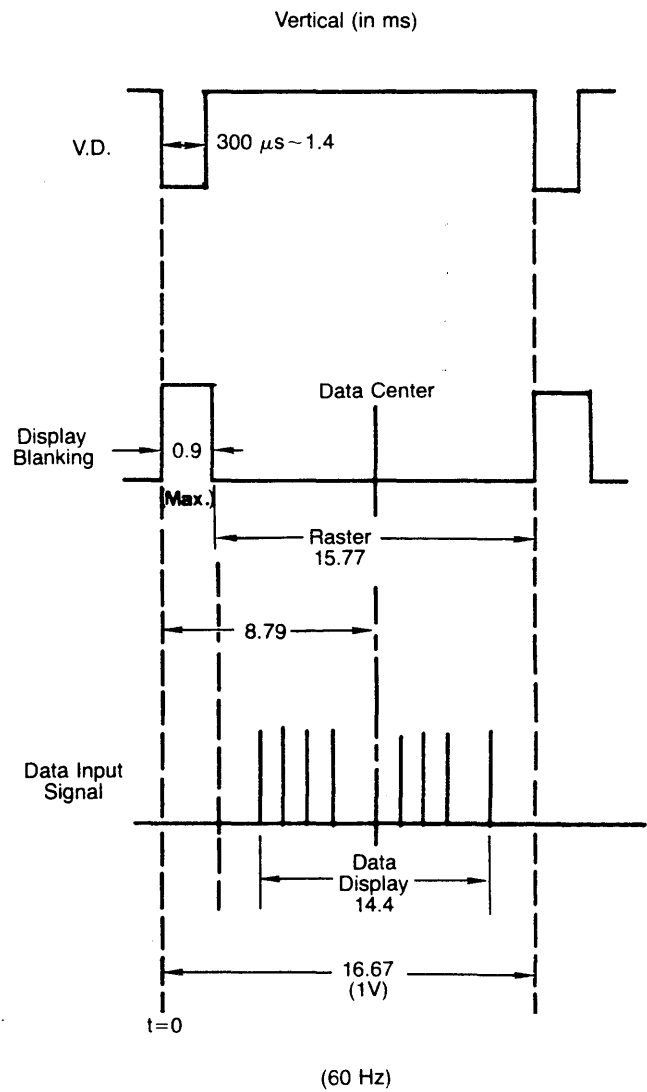
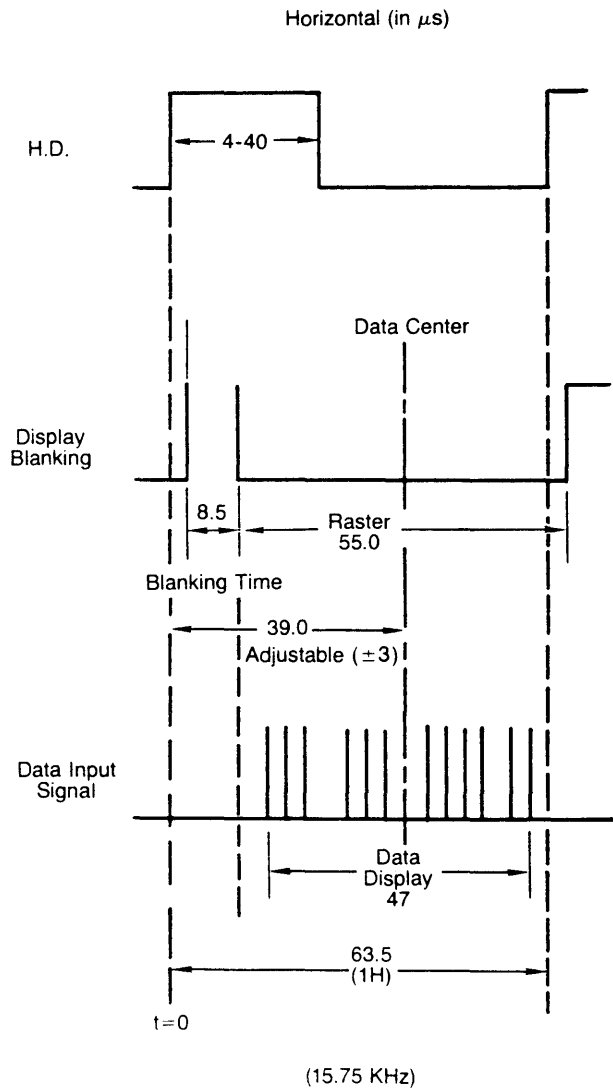
- Viking # 2VK10S/1-2
- Amphenol # 225-21031-101
- Cinch # 1-039-0119
- Hirose # CR7E-20DA-3.96E
- Or Equivalent

Polarizing key shall be inserted between 9 pin and 10 pin.

3. C.P.U. Output Circuit



TIMING CHART (Standard Type)



MODEL CIQ-9 (12V)

SYM	COMPONENT	RATING		Q'TY /SET
Q101	Transistor	2SC1514		1
Q102	"	2SC1815 (Y)		1
Q103	"	2SA1015 (Y)		1
Q104	"	2SD763		1
Q105	"	2SC2335		1
Q106	"	2SC1815 (Y)		1
Q107	"	2SA1015 (Y)		1
Q108	"	"		1
Q109	"	"		1
Q110	"	2SD401A		1
D101	Diode	1S2076		1
D102	"	UO6E or ERD29-04J		1
D103	"	HF-1C or RH-1C		1
D104	"	HF-1 or RH-1		1
D105	"	HF-1 or RH-1		1
D106	"	HZ-11A-1		1
D107	"	ERD29-04J		1
R101	Carbon Film Resistor	22 Ω	1/4W	1
R102	"	56 Ω	1/4W	1
R103	Metal Film Resistor	680 Ω	3W	1
R104	Carbon Film Resistor	100K Ω	1/4W	1
R105	"	3.3K Ω	1/4W	1
R106	"	1K Ω	1/4W	1
R107	"	1.7K Ω	1/4W	1
R108	"	15K Ω	1/4W	1
R109	"	22 Ω	1/4W	1
R110	"	560 Ω	1/4W	1
R111	"	170 Ω	1/4W	1
R112	"	100 Ω	1/4W	1
R113	"	100 Ω	1/4W	1
R114	Delete			
R115	Metal Film Resistor	22 Ω	1W	1
R116	Carbon Film Resistor	560 Ω	1/2W	1
R117	Metal Film Resistor	0.51 Ω	1W $\pm 5\%$	1
R118	Carbon Film Resistor	3.3K Ω	1/4W	1
R119	"	3.3K Ω	1/4W	1
R120	"	100K Ω	1/4W	1
R121	"	1K Ω	1/4W	1
R122	"	2.2K Ω	1/4W	1
R123	"	220 Ω	1/4W	1
R124	"	2.2K Ω	1/4W	1

MODEL CIQ-9 (12V)

SYM	COMPONENT	RATING		Q'TY /SET
R125	"	10K Ω	1/4W	1
R126	"	1.8K Ω	1/4W	1
R127	"	1K Ω	1/4W	1
R128	"	39K Ω	1/4W	1
R129	"	33K Ω	1/4W	1
R130	"	4.7 Ω	1/4W	1
R131	"	1K Ω	1/4W	1
R132	"	22K Ω	1/4W	1
R133	"	180K Ω	1/4W	1
R134	"	220K Ω	1/4W	1
R135	"	220K Ω	1/4W	1
R136	"	270K Ω	1/4W	1
R137	"	47K Ω	1/2W	1
R138	"	680K Ω	1/2W	1
R139	"	1M Ω	1/2W	1
R140	"	1M Ω	1/2W	1
R141	"	100 Ω	1/2W	1
R142	"	2.2 Ω	1/2W	1
R143	"	22 Ω	1/2W	1
R144	"	100 Ω	1/2W	1
R145	Delete			
R146	Carbon Film Resistor	1K Ω	1/2W	1
R147	"	4.7K Ω	1/2W	1
R148	Carbon Film Resistor	4.7K Ω	1/2W	1
R149	"	1K Ω	1/4W	1
C101	Ceramic Capacitor	330PF	50V	1
C102	" "			
C103	Mylar Capacitor	0.0022 μ F	100V	1
C104	PP Capacitor	0.053 μ F	100V	1
C105	Mylar Capacitor	0.022 μ F	100V	1
C106	Ceramic Capacitor	560PF	50V	1
C107	Electrolytic Capacitor	47 μ F	16V	1
C108	Mylar Capacitor	0.01 μ F	100V	1
C109	Electrolytic Capacitor	100 μ F	25V	1
C110	" "	100 μ F	25V	1
C111	" "	100 μ F	25V	1
C112	BP Capacitor	18 μ F	50V \pm 10%	1
C113	PL Capacitor	0.022 μ F	400V \pm 10%	1
C114	Oil Capacitor	0.0 μ F	400V \pm 20%	1
C115	Mylar Capacitor	0.047 μ F	100V	1
C116	" "	0.1 μ F	100V	1
C117	Tantalum Capacitor	4.7 μ F	25V	1
C118	" "	1 μ F	35V	1
C119	Electrolytic Capacitor	10 μ F	25V	1

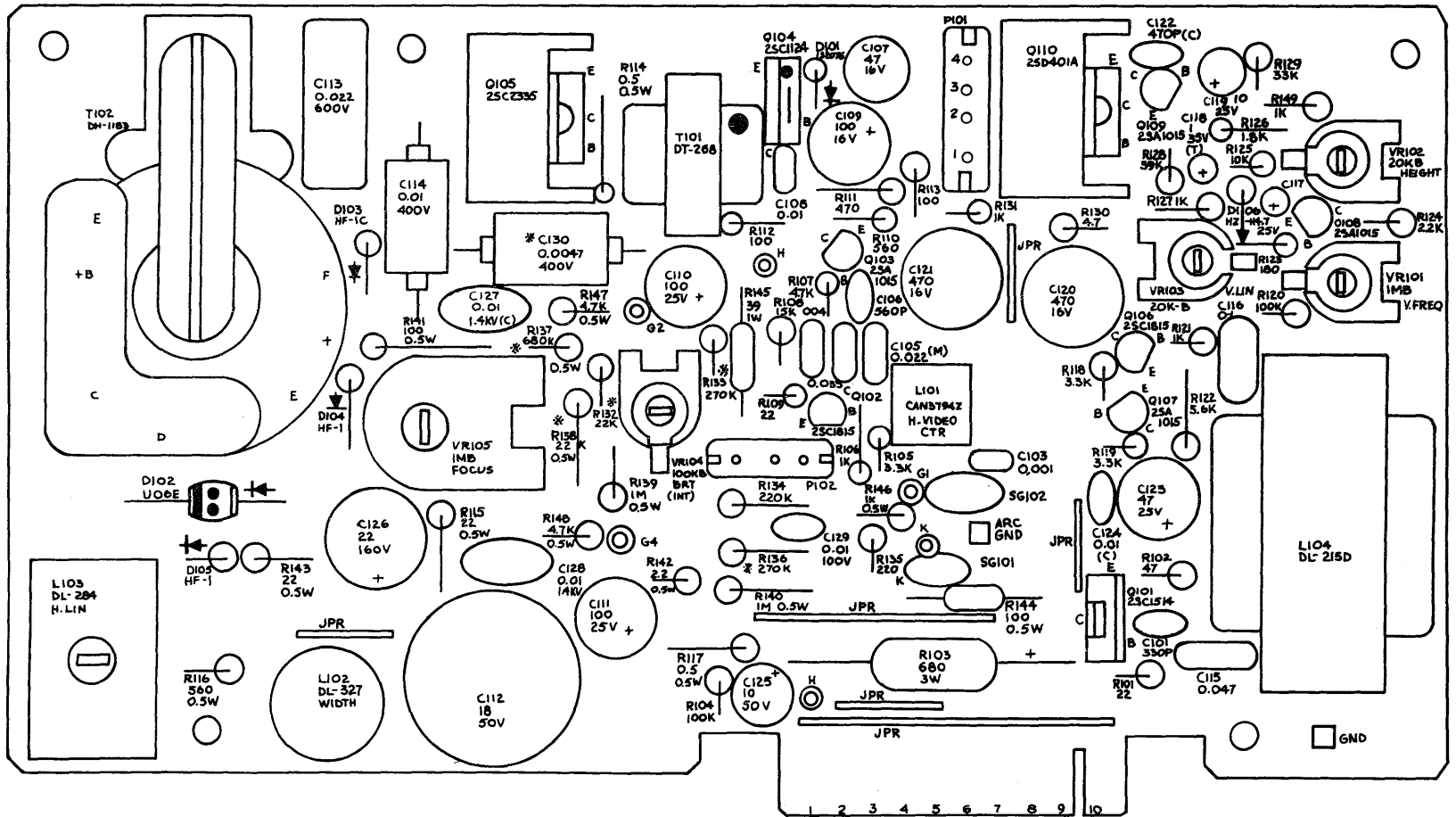
MODEL CIQ-9 (12V)

SYM	COMPONENT	RATING		Q'TY /SET
C120	Electrolytic Capacitor	470 μ F	16V	1
C121	" "	470 μ F	16V	1
C122	Ceramic Capacitor	470PF	50V	1
C123	Electrolytic Capacitor	47 μ F	25V	1
C124	Ceramic Capacitor	0.01 μ F	50V	1
C125	Electrolytic Capacitor	47 μ F	50V	1
C126	" "	22 μ F	160V	1
C127	Ceramic Capacitor	0.01 μ F	1.4KV	1
C128	" "	0.01 μ F	1.4KV	1
C129	Mylar Capacitor	0.01 μ F	100V	1
C130	Oil Capacitor	0.0047 μ F	400V	1
C131	Electrolytic Capacitor	220 μ F	35V	1
T101	Horiz. Drive Transformer	DT-268		1
T102	Flyback Transformer	DH-1183		1
L101	Horiz. Centering Coil	CAN3794Z		1
L102	Horiz. Width Coil	DL-327		1
L103	Horiz. Linearity Coil	DL-284		1
L104	Vertical Choke Coil	DL215D		1
SG101	Spark Gap	SP-10N		1
SG102	Spark Gap	SP-10N		1
P101	Pin Connector	A4-705B-00		1
VR101	Variable Resistor	B1M		1
VR102	Variable Resistor	B20K		1
VR103	Variable Resistor	B20K		1
VR104	Variable Resistor	B100K		1
VR105	Variable Resistor	B1M		1
	Heat Sink	IC-2430-ST		2
	CRT Socket	S7-502B-84 S7-502B-59 with lead wires		1

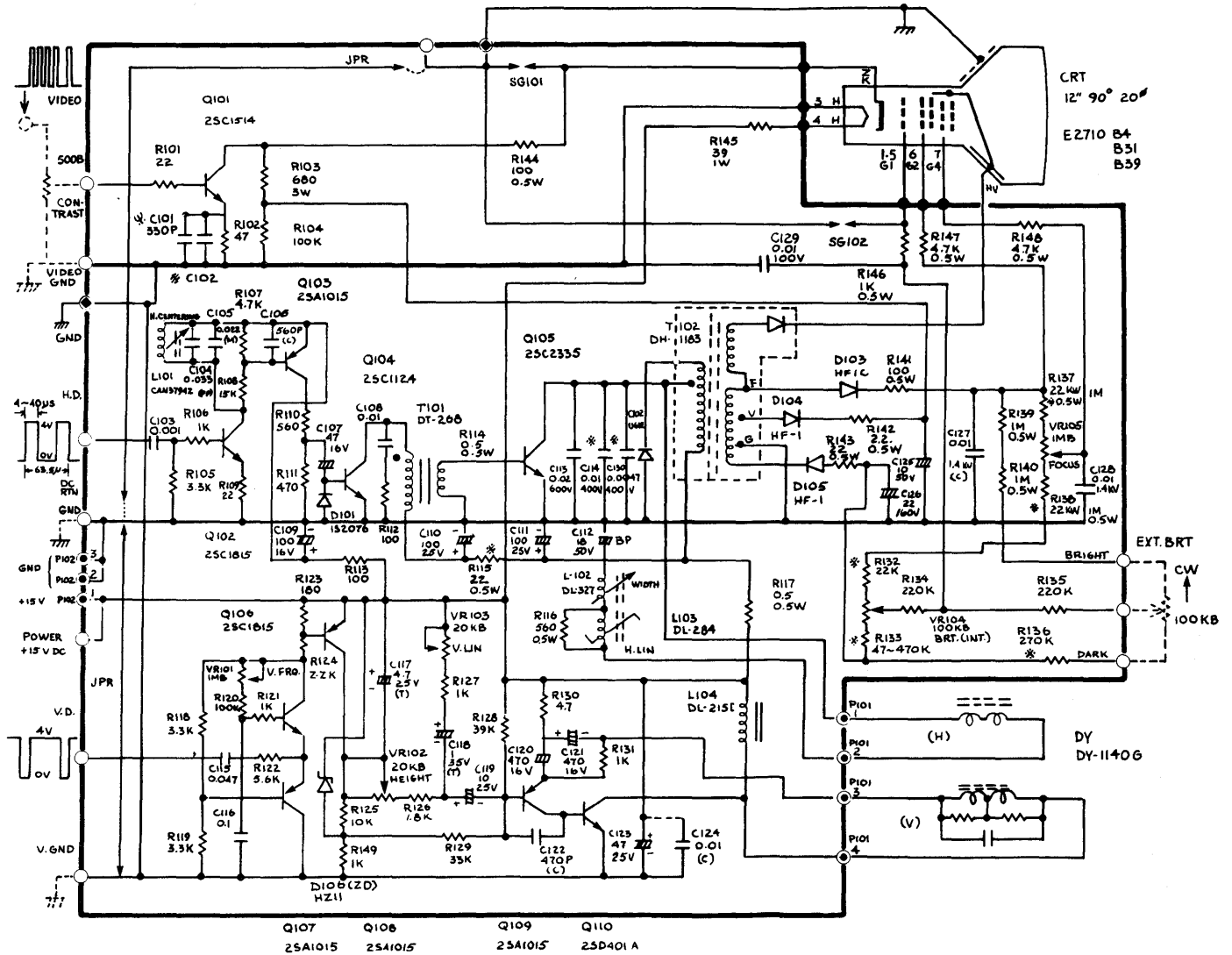
MODEL CIQ-9 (12V)

SYM	COMPONENT	RATING	Q'TY /SET
	Jumping wire for PC Board	ERD-14TO	6
	Wrapping Terminal	1 x 8 mm	2
	Wrapping Terminal Tip		2
	Cathode Ray Tube	E2728 B4	1
		B31	1
		B39	1
		B4 HT	1
		B31 HT	1
		B39 HT	1
	Deflection Yoke	DY-114OG	1
	PC Board	PB-811B	1
	Metal Chassis		1

Assembly No. 545-299



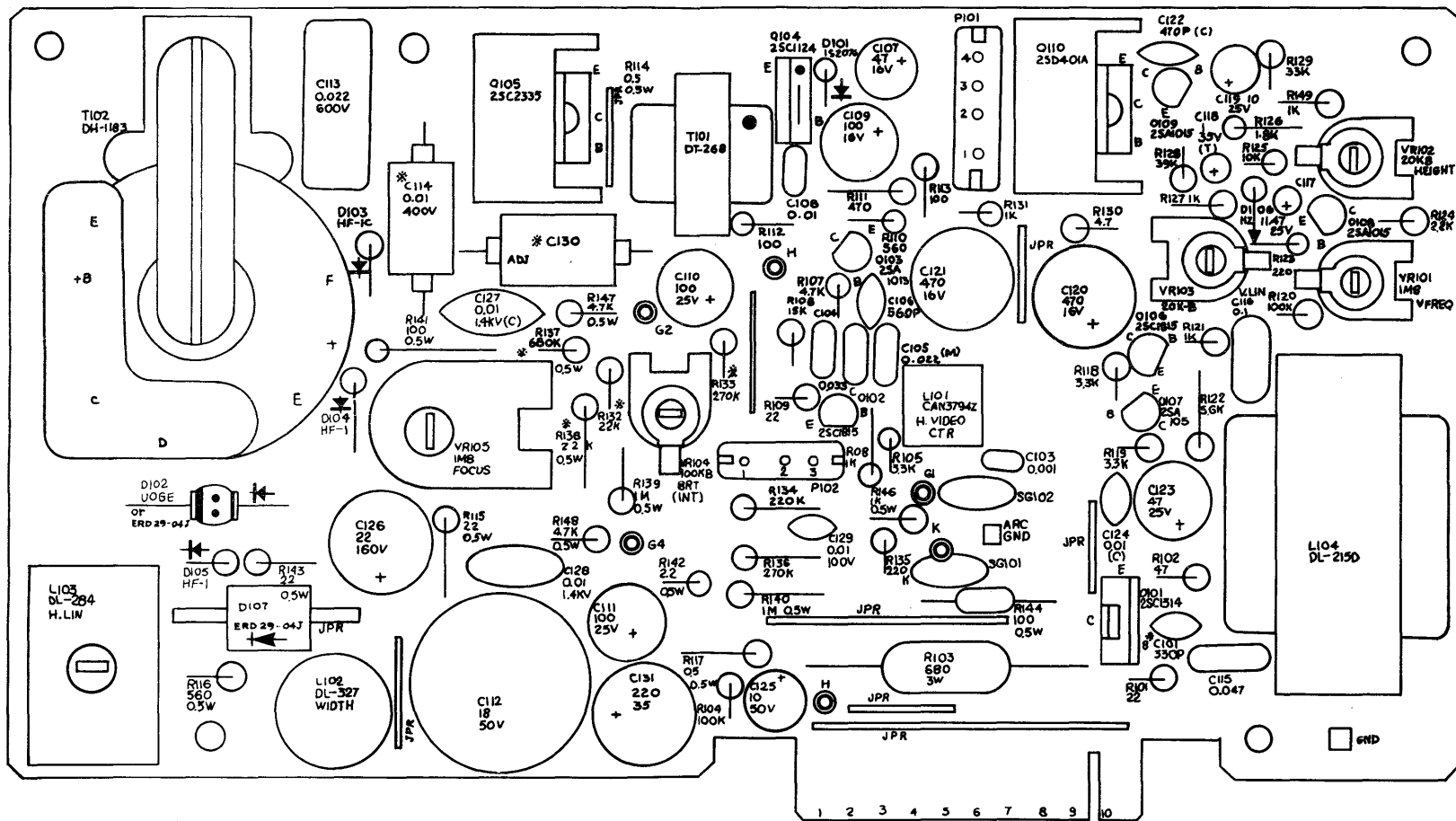
<p>PB-811 CIQ-12 AND 9 15VDC VERSION COMPONENTS LOCATION (COMPONENTS SIDE)</p>	
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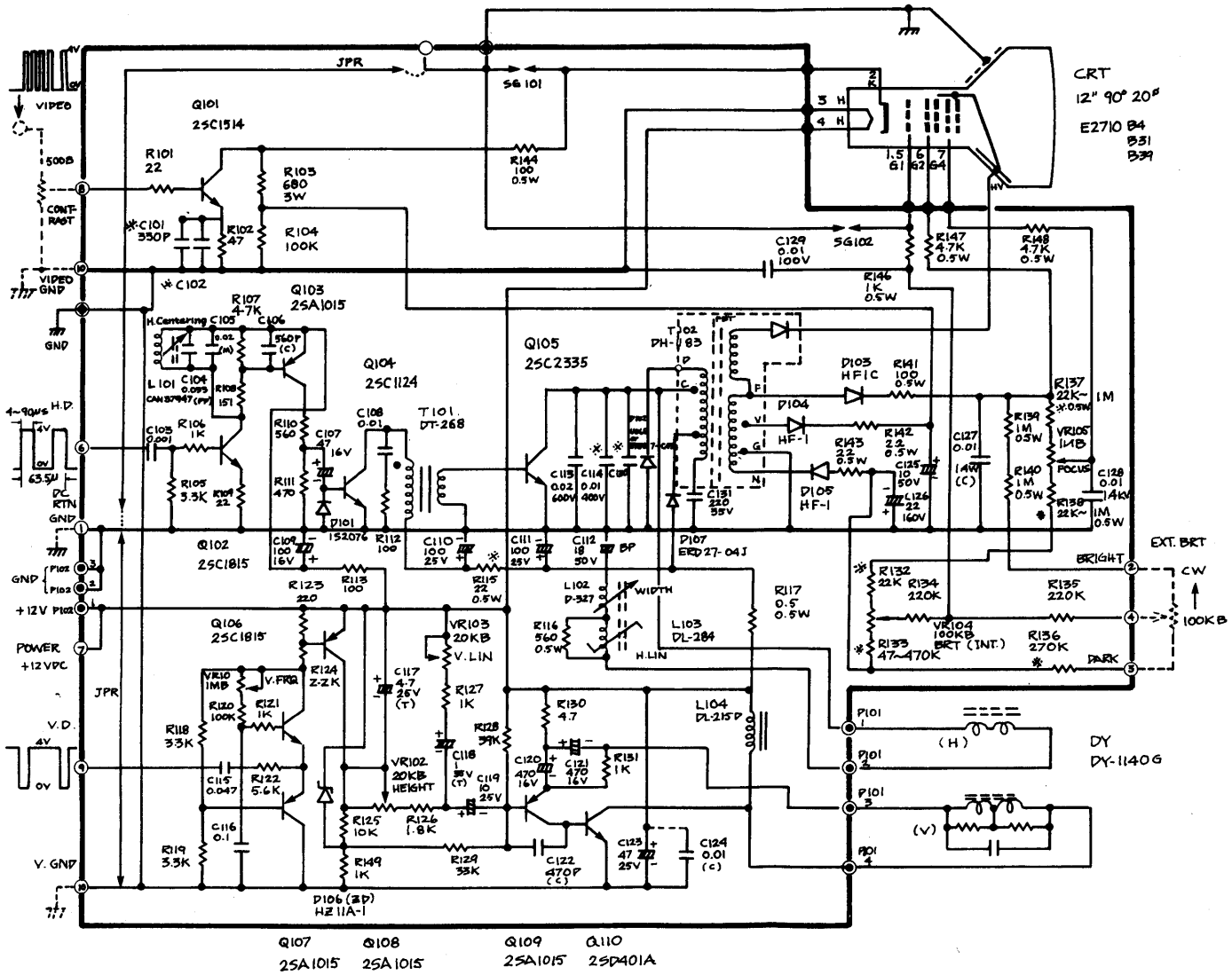
- NOTES:
- INTERFACE CONNECTOR
 - PIN CONNECTOR
 - ⊙ 1 PIN
 - DIRECT
 - * ADJUSTED

CIQ-12 AND 9
15VDC VERSION
CIRCUIT DIAGRAM

Assembly No. 542-299



PB-811 CIQ-12 AND 9 12VDC VERSION COMPONENTS LOCATION (COMPONENTS SIDE)	



- NOTES
- INTERFACE CONNECTOR
 - PIN CONNECTOR
 - 1 PIN
 - DIRECT
 - * ADJUSTED

Q107 25A1015
 Q108 25A1015
 Q109 25A1015
 Q110 25P401A

CIQ-12 AND 9
 12VDC VERSION
 CIRCUIT DIAGRAM