

General Information

Also Covers
C-VT14 EKB
C-V14 EKB

Recommended Safety Parts

Item	Part No.	Description
(C-VT21EKW/C-Y21EK)		
9	102-321001-10	C.R.T. (ITC) (V501)
27	108-890214-02	DEGAUSSING COIL ASS'Y
	071-44B254-20	AC CORD
R807	013-159305-8E	FLAME PROOF FUSING R
R808	013-688305-8D	FLAME PROOF FUSING R
R813	013-688305-8D	FLAME PROOF FUSING R
R916	013-825305-92	HIGH VOLTAGE R
R933	013-228205-8A	FUSING R
R937	013-478205-8A	FUSING R
C805	123-471850-40	C CAP
C806	026-562160-41	METALLIZED POLYPROPYLENE CAP
		0.0056uF 1600V 5%
C807	026-152160-41	METALLIZED POLYPROPYLENE CAP
		0.0015uF 1600V 5%
C901	026-473272-A5	METALLIZED PAPER CAP
C917	123-222467-42	C CAP.
T802	101-220009-04	20"721" PAL FLYBACK
T901	001-419220-94B	SWITCHING TRANSFORMER
L902	001-190005-95C	LINE FILTER
BR901	130-310156-06	RECTIFIER
Q802	031-242499-00	TRANSISTOR
Q904	031-242498-00	TRANSISTOR
F901	082-223150-23	FUSE
S901	046-100007-00	POWER SWITCH
TH901	014-210290-01	PTC THERMISTOR
	061-520001-08	CRT SOCKET
(C-VT14EKW)		
19	102-31400-13	C.RT(ITC)37SX110Y22-DC05 (IRICO)(V501)
21	108-400141-03	DEGAUSSING COIL
32	071-448254-20	AC CORD
R807	013-338305-82	FLAME PROOF FUSING R
R808	013-109305-8E	FLAME PROOF FUSING R
R813	013-688305-SD	FLAME PROOF FUSING R
R915	013-825305-92	HIGH VOLTAGE R
R933	013-338305-82	FLAME PROOF FUSING R
R937	013-688205-80	FLAME PROOF FUSING R
C805	123-102850-40	C CAP
C806	026-562160-41	MET POLY. CAP.
C807	026-222160-41	MET POLY. CAP
C901	026-473272-A5	MET PAPER CAP.
C917	123-222487-42	C CAP.
T802	101-114002-04	FLYBACK TRANSFORMER
T901	001-419220-94	SWITCHING TRANSFORMER
L902	001-190005-95C	LINE FILTER
BR901	130-310156-06	RECTIFIER
Q802	031-242499-00	TRANSISTOR
Q904	031-242498-00	TRANSISTOR
F901	082-223150-23	FUSE
S901	046-100007-00	POWER SWITCH
TH901	014-210290-01	PTC THERMISTOR
(C-V14EKW)		
R807	013-338305-82	FLAME PROOF FUSING R
R808	013-109305-8E	FLAME PROOF FUSING R
R813	013-688305-8D	FLAME PROOF FUSING R
R916	013-625305-92	HIGH VOLTAGE R
R933	013-338305-82	FLAME PROOF FUSING R
R937	013-688205-8D	FLAME PROOF FUSING R
C901	026-473272-A5	MET PAPER CAP.
C917	123-222467-42	C CAP.
T802	101-114002-04	FLYBACK TRANSFORMER
T901	001-419220-94	SWITCHING TRANSFORMER
L902	001-190005-95C	LINE FILTER
Q802	031-242499-00	TRANSISTOR
Q904	031-242498-00	TRANSISTOR
F901	082-223150-23	FUSE
S901	046-100007-00	POWER SWITCH
TH901	014-210290-01	PTC THERMISTOR
	061-540019-01	CRT SOCKET
	570-M21402-01	INSTRUCTION BOOK

Adjustments

BEFORE ADJUSTMENT AND MAINTENANCE

- Don't short any two soldering points or connect any component while TV set is power on.
- Withdraw power plug before maintenance.
- In order to ensure safety all components replaced should be identical. (For further details, refer to the component name and component No. in PARTS LIST.)
- Must be warm up the set for 30 minutes or more and degauss CRT thoroughly with demagnetiser coil before adjustment.

EQUIPMENT FOR ADJUSTMENT

- Pattern Generator
- Digital voit meter
- Oscilloscope
- Demagnetiser

ADJUSTMENTS PROCEDURES

+B ADJUSTMENT

- Receive a standard colour bar signal.
- Select the NORMAL on embody on VIDEO MENU to set controls at normal condition.
- Connect digital voit meter between + of C811 and GND.
- Adjust VR901 until meter reading DC 110V ±0.25V.

RF AGC ADJUSTMENT

- Receive a broadcast.
- Turn the RF AGC VR (VR201) so that noise appears on the screen.
- Turn the RF AGC VR (VR201) until the noise disappears.
- Change the channel and check that the picture is normal.

FOCUS ADJUSTMENT

- Select the "NORMAL" in the VIDEO MENU to set controls at normal position.
- Adjust knob "FOCUS" on FBT to make the picture on the screen to be the most distinct.

SERVICE MODE

A service mode facilitates for TV chassis alignment and repair in the field. Following the below step to entry the service mode.

- Turn off the TV set main switch. (If the TV set at standby mode, turn on the set by remote control before turn off the main switch.)
- Press the volume-up and volume-down buttons on the front panel simultaneously.
- Turn on the main switch.
- Wait about 6 seconds and the TV will display the service mode OSD menu as follows:

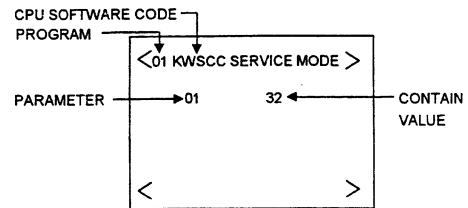


Fig. 1

- Release the volume-up and volume-down buttons.

NOTE:

- Entry the service mode only allow at the first 6 seconds of turn on the main switch. On the service mode the set can power on automatically and bypass the standby mode, it use for aging operation on mass production. Two ways to switch back to normal TV reception. One is using clear button, and the another way is pressing and hold on program up or down on front panel and then push main

- power switch to turn TV off and on.
- The current program number is displayed on the top left corner. The decimal value on the center of the second line is the parameter and the following is value.

The Program-up and Program-down buttons select parameters while Volume-up and Volume-down buttons adjust the current value of parameters.

Parameter	Description	Device	Minimum
Maximum			
1 Red Gain	↑ IC401	0	63
2 Red cut off (PAL)	↑	0	63
3 Green Gain	↑	0	63
4 Green cut off (PAL)	↑	0	63
5 Blue Gain	↑	0	63
6 Horizontal position	↑	0	63
7 Vertical position	↑	0	7
8 Vertical amplitude (50Hz)	↑	0	63
24 OSD Vertical position	↑	20	46
25 OSD Horizontal position	↑	0	32
26 Sub brightness	↑	0	16

• REPLACEMENT OF EEPROM

The CPU will automatic initialization the EEPROM contents when the blank new EEPROM is changed.

- Change of blank new EEPROM.
- Connect the main supply.
- Power ON the main switch.
- Press the remote stand-by button or program up button on the front panel.
- Wait 6 seconds and the TV will turn on automatically (The CPU will blocked the TV set 6 seconds for EEPROM initialization). The service mode OSD menu will displayed on screen. Adjust the parameter as requested.

The following adjustment steps are in the service mode.

ADJUSTMENT FOR WHITE BALANCE

- Receive a Black-White pattern RF signal.
 - Select "NORMAL" in VIDEO MENU to set Contrast and Brightness at normal position.
 - Enter service mode.
 - Set parameters of 2, 4 to value "32" and parameters of 1, 3, 5 to value "63"
- SCREEN ADJUSTMENT
 - Receive a PAL black pattern.
 - Find out the highest cut off line level between the pin 9. 12. 15 of IC501 and connect the probe of oscilloscope on the highest cathode.
 - Adjust SCREEN VR to have DC160V ±2V using the black level.

- Receive a Black-White pattern signal.
- Change the parameter 5 to value "45" and parameters 1, 3 to value "32".
- Adjust the values of G-cut off and R-cut off and R-gain G-gain separately to make the dark and bright area to white.
- Repeat above step 7. until both bright area and dark area meet white balance.

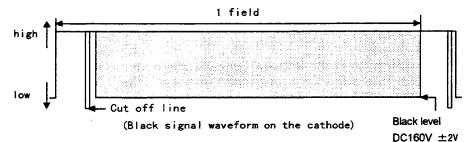


Fig. 2

HORIZONTAL AND VERTICAL POSITION ADJUSTMENT

- Receive a crosshatch pattern signal.
- Select the parameter 6 "Horizontal position"

- and adjust the horizontal position of the pattern for center.
- Select the parameter 7 "Vertical position" and adjust the vertical position of the pattern for center.

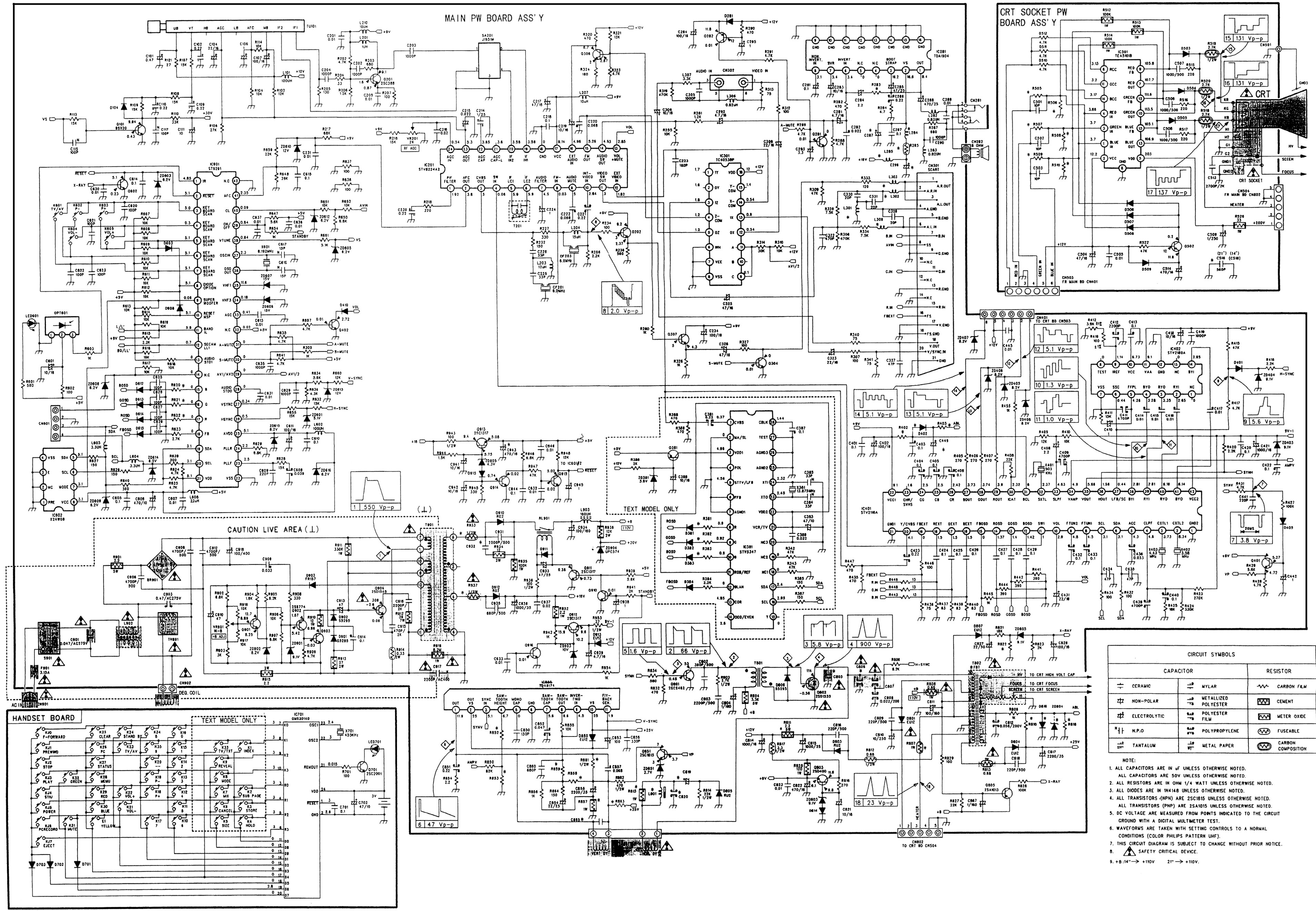
VERTICAL AMPLITUDE ADJUSTMENT

- Receive a crosshatch pattern signal.
- Change the parameter 8 "Vertical amplitude" to slightly overscan the screen.

ON SCREEN POSITION ADJUSTMENT

- Change the parameter 24 and 25 "OSD Vertical position and OSD Horizontal position" to make the arrows appear at four corner and at the center of horizontal and vertical position.

The End.



CIRCUIT SYMBOLS	
CAPACITOR	RESISTOR
CERAMIC	MYLAR
NON-POLAR	METALLIZED POLYESTER
ELECTROLYTIC	POLYESTER FILM
N.P.O.	POLYPROPYLENE
TANTALUM	METAL PAPER
	CARBON FILM
	CEMENT
	METER OXIDE
	FUSEABLE
	CARBON COMPOSITION

- NOTE:
- ALL CAPACITORS ARE IN μ F UNLESS OTHERWISE NOTED.
 - ALL RESISTORS ARE IN OHM 1/4 WATT UNLESS OTHERWISE NOTED.
 - ALL DIODES ARE IN 1N4148 UNLESS OTHERWISE NOTED.
 - ALL TRANSISTORS (NPN) ARE 2SC1815 UNLESS OTHERWISE NOTED.
 - ALL TRANSISTORS (PNP) ARE 2SA1015 UNLESS OTHERWISE NOTED.
 - DC VOLTAGE ARE MEASURED FROM POINTS INDICATED TO THE CIRCUIT GROUND WITH A DIGITAL MULTIMETER TEST.
 - WAVEFORMS ARE TAKEN WITH SETTING CONTROLS TO A NORMAL CONDITIONS (COLOR PHILIPS PATTERN UHF).
 - THIS CIRCUIT DIAGRAM IS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.
 - SAFETY CRITICAL DEVICE.
 9. +B: 14" $\rightarrow$ +110V 21" $\rightarrow$ +110V.