

Service Manual

Colour Television 76 Cm WIDE STEREO

CHASSIS : CP-822F

MODEL : DTA-3220ZZ *

DTA-3220ZL *

DTA-32W9ZZ

DTA-32W9ZL

■ Specifications

CRT	76ERF042X
SYSTEM	PAL/SECAM-B/G,D/K,PAL-M,SECAM-L/L' NTSC-3.58/4.43 (Play back)
Main Voltage	230V AC, 50Hz
Power Consumption	Stand-by mode : 3.0Watts Normal operating mode : 150 Watts
Sound Output	10 + 10 Watts, 10% THD at RF 60% mod. (1kHz)
Speaker	15W 8ohm x 2 EA Maximum
Antenna Impedance	75 ohm unbalanced input (Din Standard)
Tuning System	Frequency Synthesize(FS) Tuning System
Tuner	UV 1316/A(Philips), DT5-BF18D(Partsnics), TECC2949PG35W(S/S), EL2782-105-B(Siel)
Number of Program	100 programs
Aux. Terminal	TV output) RCA type AV input jack Headphone jack
Remote Controller	R-22D06 with 2"AAA" type batteries TOP(5 Page memory) & FLOF(7 Page memory)
Teletext	- West option : English, German/Dutch/Flemish, French, Italian, Spanish/Portuguese, Swedish/Finnish/Danish, Hungarian, Rumanian, Turkish
OSD Language	- West:English, German, French, Italian, Spanish, Netherlands, Swedish,

Caution

: In this Manual, some parts can be changed for improving. their performance without notice in the parts list. So, if you need the latest parts information, please refer to PPL(Parts Price List)in Service Information Center(<http://svc.dwe.co.kr>)

DAEWOO ELECTRONICS Corp.

http : //svc.dwe.co.kr

Nov. 2003 □ □

TABLE OF CONTENTS

SAFETY INSTRUCTION	2
SPECIFICATIONS	3
CIRCUIT BLOCK DIAGRAM	4
ALIGNMENT INSTRUCTION	5
SCHEMATIC DIAGRAM	11
EXPLODED VIEW	12
PRINTED CIRCUIT BOARD	14
SERVICE PARTS LIST	17
APPENDIX (" Appendix is provided only by internet [http://svc.dwe.co.kr] ")	
IC DESCRIPTION	1
IC DC VOLTAGE CHARTS	18

SAFETY INSTRUCTION

WARNING : Only competent service personnel may carry out work involving the testing or repair of this equipment

■ X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not exceed the specified limit. The nominal value of the high voltage of this receiver is 29-31kv at max beam current. The high voltage must not, under any circumstances, exceed 35kv. (33kv : SAMSUNG CRT)
Each time a receiver requires servicing, the high voltage should be checked. It is important to use an accurate and reliable high voltage meter.

2. The only source of X-RAY Radiation in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.

■ SAFETY PRECAUTION

1. Potentials of high voltage are present when this receiver is operating. Operation of the receiver outside the cabinet or with the back board removed involves a shock hazard from the receiver.
 - 1) Servicing should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high-voltage equipment.
 - 2) Discharge the high potential of the picture tube before handling the tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled.

2. If any Fuse in this TV receiver is blown, replace it with the FUSE specified in the Replacement Parts List.
3. When replacing a high wattage resistor (oxide metal film resistor) in circuit board, keep the resistor 10mm away from circuit board.
4. Keep wires away from high voltage or high temperature components.
5. This receiver must operate under AC230 volts, 50Hz. NEVER connect to DC supply or any other power or frequency.

■ PRODUCT SAFETY NOTICE

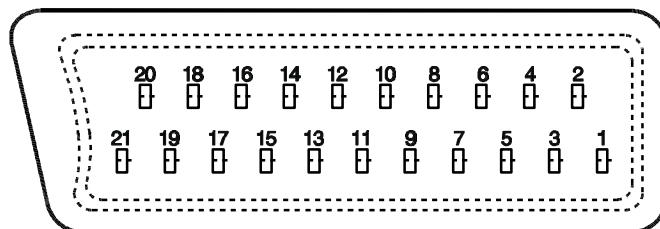
Many electrical and mechanical parts in this have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the X-RAY RADIATION protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements, electrical compo-

nents having such features are identified designated symbol on the parts list.

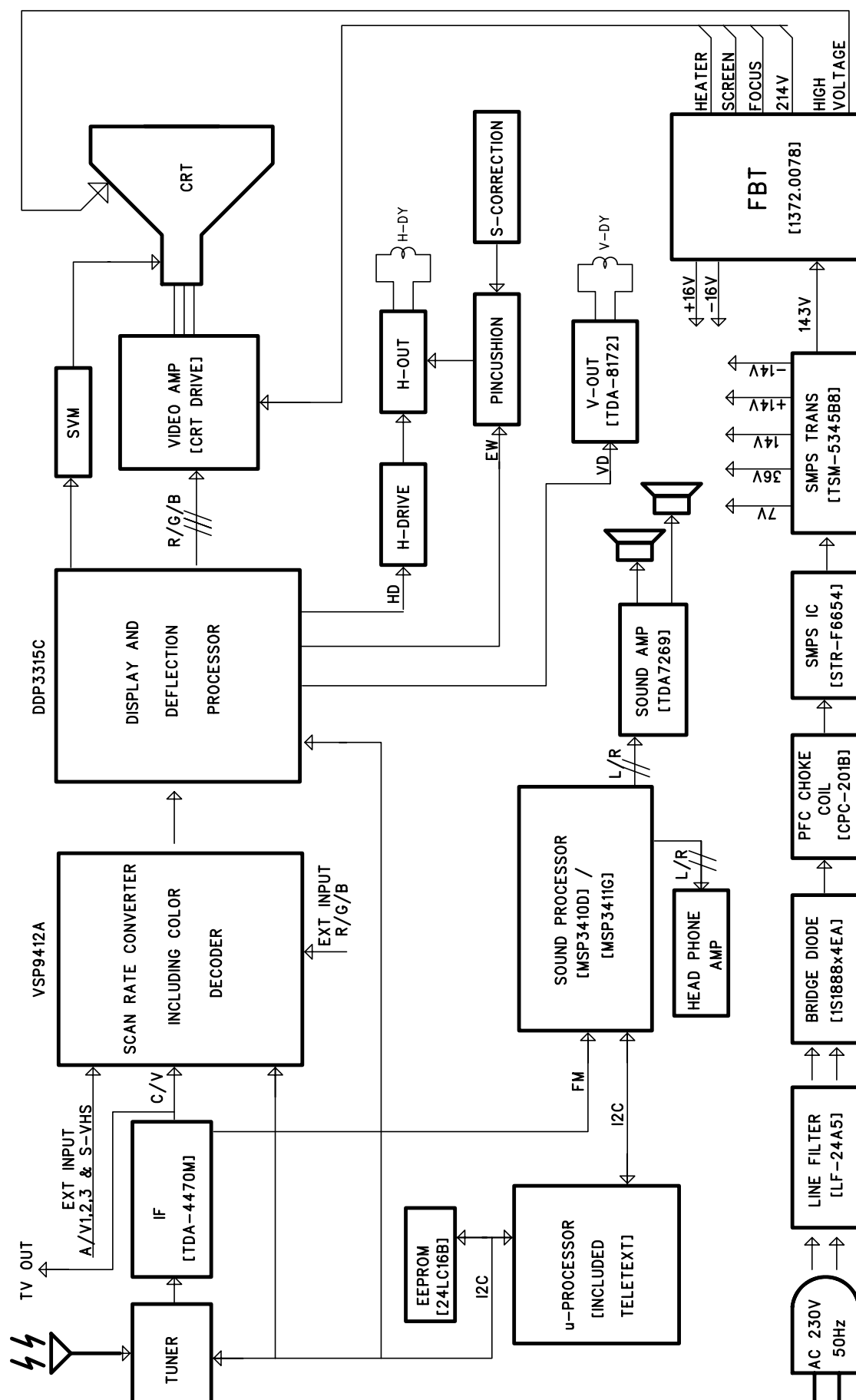
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create X-RAY Radiation.

SPECIFICATIONS

PIN	Signal Designation	Matching Value
1	Audio Out (linked with 3)	0.5Vrms, Imp < 1 k Ω (RF 60% MOD)
2	Audio In (linked with 6)	0.5Vrms, Imp < 10 k Ω
3	Audio Out (linked with 1)	0.5Vrms, Imp < 1 k Ω (RF 60% MOD)
4	Audio Earth	
5	Blue Earth	
6	Audio in (linked with 2)	0.5Vrms, Imp < 10 k Ω (RF 60% MOD)
7	Blue in	0.7Vpp \pm 2dB, Imp 75 Ω
8	Slow (Function) Switching	TV : 0-2V, PERI : 9.5 - 12V, Imp > 10 k Ω
9	Green Earth	
10	NC	
11	Green In	0.7Vpp \pm 2dB, Imp 75 Ω
12	NC	
13	Red Earth	
14	Rapid(Blanking) Switching Earth	
15	Red In, C In	0.7Vpp \pm 2dB, Imp 75 Ω
16	Rapid(Blanking) switching	Logic 0 : 0 - 0.4V, Logic 1 : 1 - 3V, Imp 75 Ω
17	Video Earth	
18	Rapid Blanking Earth	
19	Video Out	1Vpp \pm 2dB, Imp 75 Ω
20	Video In, Y In	1Vpp \pm 2dB, Imp 75 Ω
21	Common Earth	



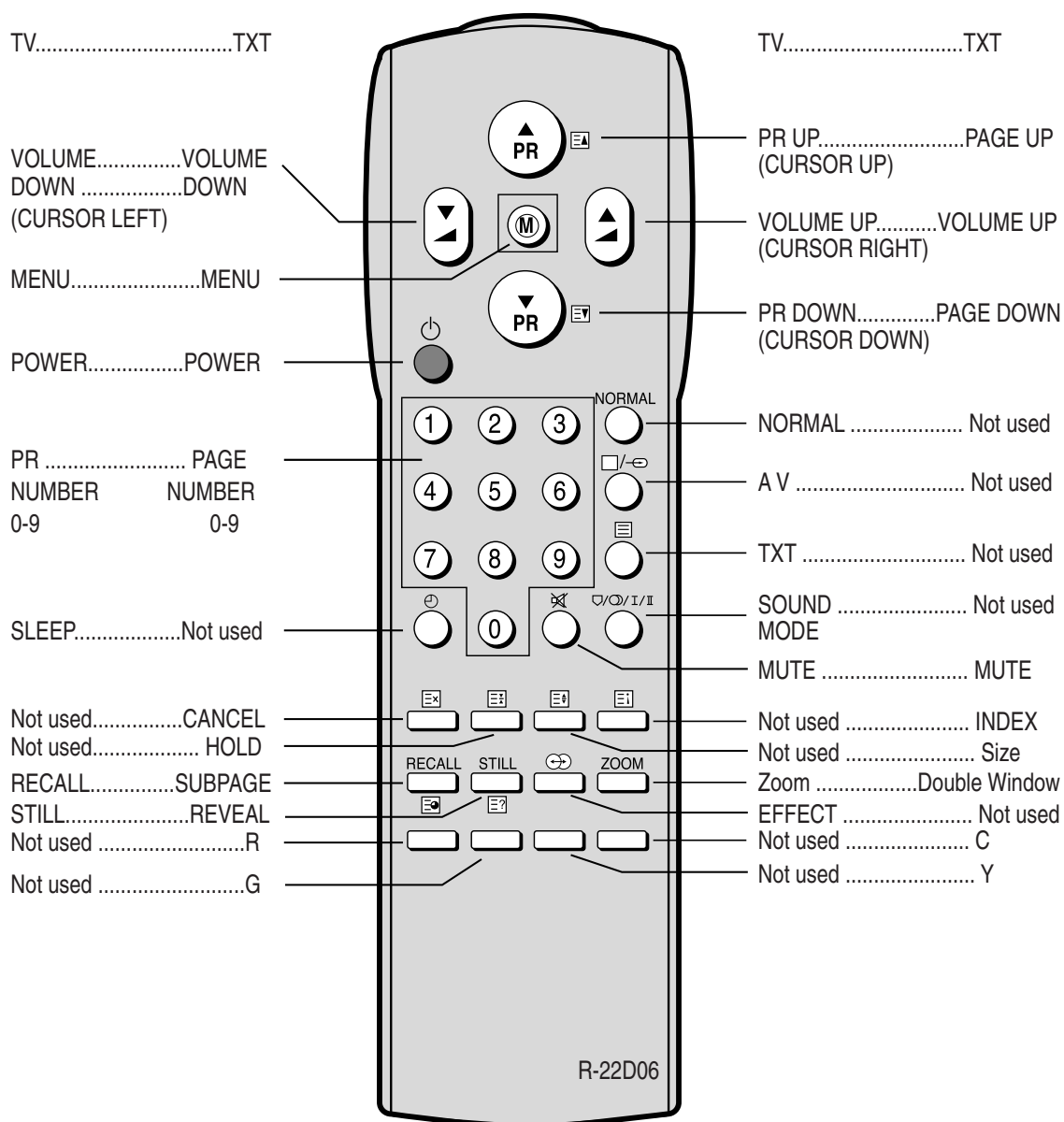
CIRCUIT BLOCK DIAGRAM



ALIGNMENT INSTRUCTIONS

■ User Remocon

1. R-22D06



IC MASTER MEMORY CONDITION TABLE FOR CP-822F CHASSIS

CONTROL	MODEL	BASIC	W/VIRTUAL DOLBY
Deflection	V. Slope	-015 (const.)	-015 (const.)
	V. Center	955	955
	V.Size	68	68
	S.Curve	027 (const.)	027 (const.)
	H.Center	-333	-333
	H.Width	40	40
	EW.Para	-040	-040
	EW.Cor Top	012	012
	EW.Cor Low	008	008
W/B	EW. Sym	-006	-006
	R Bias	330 (const.)	330 (const.)
	G Bias	330	330
	B Bias	370	370
	R Drive	400 (const.)	400 (const.)
	G Drive	370	370
	B Drive	370	370
	G2 Adjust	000	000
	Sub Bright	006	006
Opt1.	Double TEXT	-514 (can't see)	-514 (can't see)
	Wide Option	YES	YES
	* Tuner Is	DWE (opt.)	DWE (opt.)
	Flat Option	YES	YES
SVM	Svm SVG	003 (const.)	003 (const.)
	Svm SVD	004 (const.)	004 (const.)
	Svm SVDEL	012 (const.)	012 (const.)
	Svm SVCOR	009 (const.)	009 (const.)
BCL	Bcl Thres	580 (const.)	580 (const.)
	Bcl Tc	250 (const.)	250 (const.)
	Bcl Gain	511 (const.)	511 (const.)
Normal 1	Nor1 Bright	038	038
	Nor1 Cont	058	058
	Nor1 Color	042	042
	Nor1 Sharp	032	032
	Nor1 Tint	032	032
Normal 2	Nor2 Bright	038	038
	Nor2 Cont	038	038
	Nor2 Color	038	038
	Nor2 Sharp	032	032
	Nor2 Tint	032	032
Sound	Dolby 3411	NO	YES
OSD	OSD Contrast	400 (const.)	400 (const.)
	OSD Bright	000 (const.)	000 (const.)
Opt2.	Text Gain	YES	YES
	Tilt Option	YES	YES
	Transparent	NO	NO
	Vertical Angle	-769 (const.)	-769 (const.)
	Vertical Bow	-769 (const.)	-769 (const.)

* Tuner is	
DW	DAEWOO/PARTSNIC/SAMSUNG
PHI	PHILIPS
SIE	SIEL

ALIGNMENT INSTRUCTIONS

■ AFT

Standard B/G, D/K, I and L

- 1) Set a Signal Generator with
 - RF FREQUENCY = 38.9 MHz,
 - RF OUTPUT LEVEL = $80 \pm 5\text{dBuV}$
 - Pattern = Color Bar
 - System = PAL-B/G
- 2) Connect the Signal Generator RF Output to TP2 (Tuner IF Output).
There must be no signal input to the tuner.
- 3) Set the L103 to TP1(I101, #22) with DC Voltage to $2.5V \pm 0.1V$

■ RF AGC

- 1) Set a TV Signal Generator(e.g. PM5418)with
 - RF FREQUENCY : 503.25 MHz, CH 25
 - RF OUTPUT LEVEL : ① 60 dBuV(TECC2949PG35W:Samsung/DT5-BF18D:Partsnic)
② 60 dBuV(UV1316/A:Philips/EL2782/105-B-Siel)
 - Pattern = Color Bar(or Philips patten)
- 2) Connect the Signal Generator RF output to Tuner input terminal.
Connect a Oscilloscope probe(or Digital Multi-meter) to P101(Tuner AGC input).
- 3) Set the voltage level to ① $3.0V \pm 0.1V\text{dc}$, ② $2.5V \pm 0.1V\text{dc}$ by adjusting the RB02 (Variable Resistor).

■ SCREEN (G2)

- 1) Set a Pattern Generator with - RF Frequency : 210.25MHz (10CH)
 - Pattern : RETMA
- 2) Select the "G2" in Menu
- 3) And a Horizontal Line will appear on the screen.
- 4) Adjust the SCREEN VOLUME on FBT barely to see the Horizontal Line.
- 5) Press the PR UP/DOWN keys to finish the SCREEN adjustment.

■ FOCUS

- 1) Apply a RETMA PATTERN signal.
- 2) Adjust the FOCUS VOLUME on FBT to obtain optimal resolution.

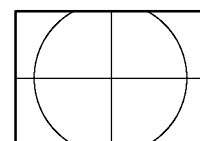
■ GEOMETRY

1. VERTICAL SLOPE (Fixed : Adjust if need be)

- 1) Apply a RETMA PATTERN Signal.
- 2) Set the TV to Normal I mode.
- 3) Adjust the higher semicircle and the lower semicircle to be the same, with the V.Slope by volume Up/Down keys.

2. VERTICAL CENTER

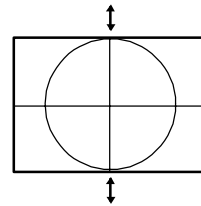
- 1) Apply a RETMA PATTERN Signal.
- 2) Set the TV to Normal I mode.
- 3) Adjust the center of the picture with the V.Center by volume Up/Down keys.



3. VERTICAL SIZE

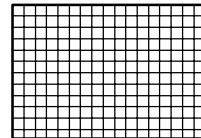
* The VERTICAL CENTER adjustment has to be done in advance.

- 1) Apply a RETMA PATTERN Signal.
- 2) Set the TV to Normal I mode.
- 3) Adjust the VERTICAL SIZE of the picture with the select V.size by volume UP/DOWN keys.



4. VERTICAL S-CORRECTION (Fixed : Adjust if need be)

- 1) Apply a CROSSHATCH PATTERN Signal.
- 2) Adjust the S-CORRECTION to obtain the same distance between horizontal lines with the S.Curve by volume UP/DOWN keys.



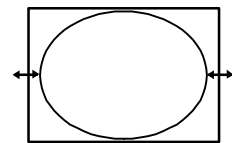
5. HORIZONTAL CENTER

- 1) Apply a RETMA PATTERN Signal.
- 2) Adjust picture centering with the select H.Center by volume UP/DOWN keys.

EW

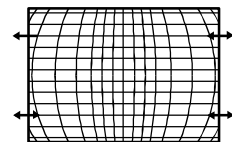
1. WIDTH

- 1) Apply a RETMA PATTERN Signal.
- 2) Adjust the horizontal width to make a perfect circle with the select H.Width by volume UP/DOWN keys.



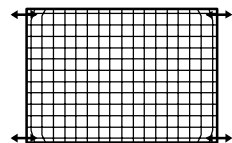
2. PARA

- 1) Apply a CROSSHATCH PATTERN Signal.
- 2) Adjust the vertical line to straight with the select E.W Para by volume UP/DOWN keys.



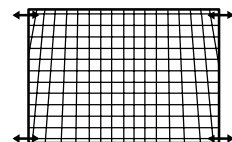
3. CORNER (Fixed : Adjust if need be)

- 1) Apply a CROSSHATCH PATTERN Signal.
- 2) Adjust the vertical line to straight with the select EW.Cor T by volume UP/DOWN keys.



4. SYMMETRY (Fixed : Adjust if need be)

- 1) Apply a CROSSHATCH PATTERN Signal.
- 2) Adjust the symmetrical balance to be suitable with the select EW Sym by volume UP/DOWN keys.



ALIGNMENT INSTRUCTIONS

■ WHITE BALANCE

1. RGB Reference R
2. Beam Reference LOW (288, 301 : 10Cd/ m²)
HIGH (288, 301 : 100Cd/ m²)
3. Adjust G, B Gain with select Menu G,B of BIAS, DRIVE of select Menu so that R, G, B Bars are on the center position of the analog meter. If R Analog meter is not on center, control the Brightness +/- of user Remocon so as R Analog meter to be on the center position.

■ SUB BRIGHT

1. Pattern : Retma
2. Adjust the SUB BRIGHT with the select Sub Bri by volume UP/DOWN keys.
so that only H-Center parts of picture can be seen.

■ DOUBLE TEXT CENTER

1. Pattern : Pattern RED
2. Select Menu
3. Select DT in SVC menu time to see the Double Text Picture.
(Left : RF Picture, Right : Text Picture)
4. Change the Double Text control keys volume UP/DOWN keys so that the left edge of text picture concur with the right edge of RF picture.

■ WIDE MODE

1. Locate the cursor on 'Wide' in SVC Menu.
2. 'Yes' changes the display to 16:9 mode.
3. 'No' change the display to 4:3 mode.

■ TUNER SELECTION

1. DWE : Partsnic Tuner or Samsung Tuner
2. PHI : Philips Tuner
3. SIE : Siel Tuner

■ FLAT MODE

1. Locate the cursor on 'FLAT' in SVC Menu.
2. 'Yes' changes the display to FLAT CRT mode.
3. 'No' change the display to Normal CRT mode.

ALIGNMENT INSTRUCTIONS

■ SVM (Scan Velocity Modulation)

1. SVM SVG : SVM Gain
2. SVM SVD : SVM Differentiator delay (0 = filter off)
3. SVM SVDEL : Delay of SVMOUT in steps of 12.5nS
2. SVM SVCOR : SVM coring value

■ BCL (Beam Current Limit)

1. BCL Thres : BCL threshold current
2. BCL TC : BCL time constant
3. BCL Gain : BCL loop Gain