5. Alignment and Adjustments (Electrical)

5-1 Preadjustment

5-1-1 Factory Mode

1. Do not attempt these adjustments in the Video Mode.

2. The Factory Mode adjustments are necessary when either the EEPROM (IC902S) or the CRT is replaced.

3. Do not tamper with the "Adjustment" screen of the Factory Mode menu. This screen is intended only for factory use.

5-1-2 When EEPROM (IC902S) Is Replaced

1. When IC902S is replaced all adjustment data revert to initial values. It is necessary to re-program this data.

2. After IC902S is replaced, warm up the TV for 10 seconds.

5-1-3 When CRT Is Replaced

Make the following adjustments after setting up
 purity and convergence:

White Balance
Sub-Brightness
Vertical Center
Vertical Size
Horizontal Size

5-2 Factory ("Service") Mode

5-2-1 Procedure for the "Adjustment" Mode

1. This mode uses the standard remote control. The Service Mode is activated by: (1) pressing the "FACTORY" service key on the local-keyboard, or (2) by entering the following remote-control sequence (within 2 seconds):

    STAND-BY →DISPLAY →MENU→ MUTE→ POWER ON

2. The "SERVICE (FACTORY)" message will be displayed. The Service Mode has three components: Adjustment, Option and Reset.

3. Access the Adjustment Mode by pressing the "VOLUME" keys (Up or Down). The adjustment parameters are listed in the accompanying table, and selected by pressing the CHANNEL keys (▲,▼).

4. Selection sequences for the PAL/SECAM B/G, L/systems:

    down or up key:
    AGC>TXP>AFW>SBT>SCT>SCR>STT>RG>GG>BG>TCT>SC>SL>PVS>PHS>NVS>NHS>CDL>BKS

5. The VOLUME keys increase or decrease the adjustment values, (stored in the non-volatile memory) when Adjustment Mode is cancelled.

5-2-2 Main Adjustment Parameters

Table 5-1 Main Adjustment Parameters			
FUNCTION	OSD ABBREVIATION	RANGE	INITIAL DATA
AUTO GAIN CONTROL	AGC	0 ~ 63 STEP	12
TELETEXT POSMON	TXP	0 ~ 13 STEP	5
AUTO FREQUENCY WINDOW	AFW	0 ~ 01 STEP	00
SUB BRIGHT	SBT	0 ~ 13 STEP	6
SUB CONTRAST	SCT	0 ~ 13 STEP	14" : 06 20/21" : 10
SUB COLOR	SCR	0 ~ 13 STEP	6
SUB TINT	STT	0 ~ 13 STEP	9
RED GAIN	RG	0 ~ 63 STEP	38
GREEN GAIN	GG	0 ~ 63 STEP	32
BLUE GAIN	BG	0 ~ 63 STEP	32
TELETEXT CONTRAST	TCT	0 ~ 38 STEP	00
S-CORRECTION	SC	0 ~ 63 STEP	14/20" : 00 21" : 11
VERTICAL SLOPE	SL	0 ~ 63 STEP	30
PAL VERTICAL SHIFT	PVS	0 ~ 63 STEP	27
PAL HORIZKONTAL SHIFT	PHS	0 ~ 63 STEP	40
NTSC VERTICAL SHIFT	NVS	0 ~ 63 STEP	38
NTSC HORIZONTAL SHIFT	NHS	0 ~ 63 STEP	22
CATHOD DRIVE LEVEL	CDL	0 ~ 07 STEP	14" : 03 20/21" : 06
BLACK STRETCHER	BKS	0 ~ 01 STEP	0

NOTE :   PVS, PVA, PHS, NVS, NVA,NHS parameters must be aligned using
             both the 50 Hz and 60 Hz vertical-field rates.

5-2-3 AGING Mode (Reference Only)

This pattern is used for pre-heating the CRT during manufacturing--it is accessed in the
factory by twice pressing the "FACTORY" key .

Even if the TV power is cut off, the Aging Mode is not cancelled.
The "AGING" marking is displayed on the screen.
The AGING mode is cancelled by repressing the "FACTORY" key.

5-2-4 Option

NO	MODEL CODE	TTX	AUDIO	SYSTEM	ATS	TUNER	G-CODE	VPS PDC	AUTO CLOCK	S-MODE	SPEED	LAN	OSD LANG
1	TF14C53X/XEF			CF		1					OFF	EU	FRA
2	TF14C3D3X/XEF			CF		2					OFF	EU	FRA
3	TF14B5F3X/XEF	O	MONO	CF	ON	1	S/VIEW	PDC	OFF		OFF	EU	FRA
4	TF20C3DDF3X/XEF	O	MONO	CF	ON	2	S/VIEW	PDC	OFF		OFF	EU	FRA
5	TF21B3N3X/XEF	O	NICAM	CF	ON	2	S/VIEW	PDC	OFF	54%	ON	EU	FRA
6	TI14C5F3X/XEU	O	MONO	CI	ON	1	V/PLUS	PDC	OFF		ON	EU	ENG
7	TI14B53X/XEU			CI		1					ON	EU	ENG
8	TI21B5DF3X/XEU	O	MONO	CI	ON	2	V/PLUS	PDC	OFF		ON	EU	ENG
9	TI21B3N3X/XEU	O	NICAM	CI	ON	2	V/PLUS	PDC	OFF	80%	ON	EU	ENG
10	TX14C5F3X/XEG	O	MONO	CX	ON	1	S/VIEW	VPS	OFF		OFF	EU	DEU
11	TX20C5DF3X/CEG	O	MONO	CX	ON	2	S/VIEW	VPS	OFF		OFF	EU	DEU
12	TX21B3N3X/XEG	O	NICAM	CX	ON	2	S/VIEW	VPS	OFF	80%	ON	EU	DEU
13	TX50C5DF3X/XET	O	MONO	CX	ON	2	S/VIEW	PDC	OFF		OFF	EU	ITA
14	TX21B5DF3X/XET	O	MONO	CX	ON	2	S/VIEW	PDC	OFF		OFF	EU	ITA
15	TX21B3N3X/XET	O	NICAM	CX	ON	2	S/VIEW	PDC	OFF	80%	ON	EU	ITA
16	TX14C53X/XEP			CX		1					OFF	EU	ENG
17	TX21B3N3X/XEP	O	NICAM	CX	ON	2	S/VIEW	PDC	OFF	80%	ON	EU	ENG
18	TF21B5DF3X/AUT	O	MONO	CX	ON	2	S/VIEW	VPS	OFF		OFF	EU	GER
19	TF21B3N3X/AUT	O	NICAM	CX	ON	2	S/VIEW	VPS	OFF	80%	ON	EU	GER
20	TX14C5D3X/XEC			CX		2					OFF	EU	ESP
21	TX20C5F3X/XEC		MONO	CX	ON	1	S/VIEW	PDC	OFF		OFF	EU	ESP
22	TX21B5DF3X/XEC		MONO	CX	ON	2	S/VIEW	PDC	OFF		OFF	EU	ESP
23	TX21B3N3X/XEC		NICAM	CX	ON	2	S/VIEW	PDC	OFF	80%	ON	EU	ESP
24	TX14C53X/EDI			CX		1					OFF	EU	ENG
25	TX20C5D3X/EDI		MONO	CX	ON	2	S/VIEW	PDC	OFF		OFF	EU	ENG
26	TX21B3N3X/EDI		NICAM	CX	ON	2	S/VIEW	PDC	OFF	80%	ON	EU	ENG
27	TX14C53X/NSI			CX		1					OFF	EU	ENG
28	TX14B5F3X/NSI		MONO	CX	ON	1	S/VIEW	PDC	OFF		OFF	EU	ENG
29	TX21B5DF2X/NSI		MONO	CX	ON	2	S/VIEW	PDC	OFF		OFF	EU	ENG
30	TX21B3N3X/NSI		NICAM	CX	ON	2	S/VIEW	PDC	OFF	80%	ON	EU	ENG
31	TX14C53X/XEE			CX		1					OFF	EU	SWE
32	TX14C5F3X/XEE		MONO	CX	ON	1	S/VIEW	PDC	OFF		OFF	EU	SWE
33	TX21B5DF3X/XEE		MONO	CX	ON	2	S/VIEW	PDC	OFF		OFF	EU	SWE
34	TX21B3N3X/XEE		NICAM	CX	ON	2	S/VIEW	PDC	OFF	80%	ON	EU	SWE
35	TX14B5F3X/ELS		MONO	CX	ON	1	S/VIEW	VPS	OFF		OFF	EU	DEU
36	TX20C5DF3X/ELS		MONO	CX	ON	2	S/VIEW	VPS	OFF		OFF	EU	DEU
37	TX21B3N3X/ELS		NICAM	CX	ON	2	S/VIEW	VPS	OFF	80%	ON	EU	DEU
38	TX14C53X/EUE			CX		1					OFF	EU	ENG
39	TX20C5D3X/EUE			CX		2					OFF	EU	ENG
40	TW21B3N3X/BWT		NICAM	CW	OFF	2	S/VIEW	NONE	OFF	100%	ON	RUS	RUS
41	TW14C33X/BWT			CW	OFF	1	-	-	OFF		OFF	RUS	RUS
42	TW20C5D3X/BWT			CW	OFF	2						RUS	RUS
43	TW21B5DX/BWT			CW	OFF	2						RUS	RUS
44	TF15X53X/XEF			CF	OFF	1						EU	FRA
45	TW15X53X/BWT			CW	OFF	1						RUS	RUS

5-3 Reset

The Reset Mode is used during factory inspection.
Function Reset : After Factory Reset, the following items revert to their initial values.

1.	Volume	10
2.	Program Channel	1
3.	P-STD	CUSTOM
4.	Auto Power	OFF
5.	NR	OFF
6.	Reserved Timer Recording	ALL CLEAR
7.	Skip (Store/Clear)	ALL CLEAR

Caution : When the EEPROM is replaced, all items revert to their initial values.