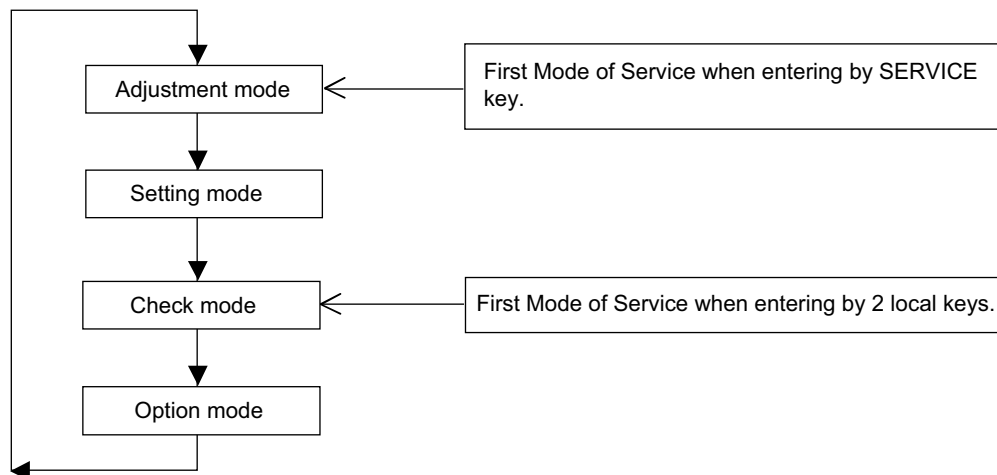


CHAPTER 4. SERVICE MODE

[1] SERVICE MODE

SERVICE MODE

1. Service mode is switched by SERVICE key, CH UP + VOL DOWN when reset.
2. Service mode is cancelled by SERVICE key during service mode.
3. Service mode can be switched to the following 4 modes via MENU key;



4. During Service mode, AFT operation is prohibited. The setting data for PLL is always set to f_0 data.
5. During Service mode, the following user data are set to default value and stored as last memory.
 PICTURE/TINT/COLOR/BRIGHT/SHARP/COLOR TEMP.(FAV.COLOR)
 BASS/TREBLE/BALANCE/MTS/FAO/SPEAKER/ENERGY SAVE/VIEW TIMER
6. During Service mode, OSD display for ON/OFF is toggled via [CH CALL] key.
 - At display OFF condition, if changing adjustment data, channel, input source, it remains display OFF.
 - At display OFF condition, if changing adjustment item, it returns to display ON.
7. During Service mode, the following operation are prohibited.
 CLOSED CAPTION/No signal BLUE SCREEN/AUTO INPUT
8. During Service mode, sound is muted except when selecting the following items.
 V23, M01~M06

Memory Map Data

Caution: to get into the service mode, one of the ways is press direct key for service items.

There is three stage of Service Mode data

First stage data from V01 ~ M06

to go into second stage of service mode data, press MENU key

Second stage data from F01 ~ F101

to go into third stage of service mode data, press MENU key

Third stage data from O01 ~ O34

Below is the contents of these data

First Stage				
Data	Service Mode	Function	Range	Default Data
V01	SUB-PICTURE	CONTRAST	0~127	127
V02	SUB-TINT	TINT	0~127	64
V03	SUB-COLOR	COLOR	0~127	64
V04	SUB-BRIGHT	BRIGHT	0~255	128
V05	SUB-SHARP	VIDEO-TONE	0~63	41
V06	V-SHIFT	V-SHIFT	0~7	4
V07	H-SHIFT	H-PHASE	0~31	16
V08	RF-AGC	RF-DELAY	0~127	127
V09	V-SIZE	V-SIZE	0~63	32
V10	V-SHIFT50	V-SHIFT(OFFSET)	-7~+7	0
V11	H-SHIFT50	H-PHASE(OFFSET)	-15~+15	0
V12	V-SIZE50	V-SIZE(OFFSET)	-31~+31	0
V13	PIF-VCO	VIF-VCO	0~63	32
V14	R-CUTOFF	R-CUTOFF	0~255	127
V15	G-CUTOFF	G-CUTOFF	0~255	127
V16	B-CUTOFF	B-CUTOFF	0~255	127
V17	R-DRIVE	R-DRIVE	0~127	64
V18	B-DRIVE	B-DRIVE	0~127	64
V19	SUB-COLOR(YUV)	COLOR	0~127	64
V20	SUB-TINT(YUV)	BASEBAND-TINT	0~127	64
V21	CC-POS	CC-POS	0~255	32
V22	SCREEN CUT OFF	CUT OFF	0~2	0
V23	SUB-VOL	A-ATT	0~127	127
V24	H-VCO	H-VCO	0~7	4
V25	S-TRAP	S-TRAP FINE ADJ	0~15	7
V26	VS-CORRECT	VS-CORRECTION	0~63	36
V27	VS-CORRECT OFFSET	VS-CORRECTION	-13~+13	0
V28	V LINEARITY	V-LINEARITY	0~63	35
V29	V LINEARITY OFFSET	V-LINEARITY	-13~+13	0
M01	MTS-ATT	ATT (MTS)	0~15	10
M02	MTS-VCO	VCO (MTS)	0~63	32
M03	MTS-FILTER	FILTER (MTS)	0~63	28
M04	MTS-WIDEBAND	WIDEBAND (MTS)	0~63	27
M05	MTS-SPECTRAL	SPECTRAL (MTS)	0~63	32
M06	SUB-VOL	VOL (MTS)	0~63	63

Auto Adjustment Item

1. H-VCO
2. RF-AGC
3. PIF-VCO

Second Stage				
Data	Service Mode	Function	Range	Default Data
F01	SHPG	V-TONE	0/1	0
F02	SHPG-P	V-TONE	0/1	0
F03	SHPG-N3	V-TONE	0/1	0
F04	ABCL	ABCL	0/1	0
F05	BS	BS-OFF	0/1	0
F06	ABCL-G	ABCL-G	0/1	0
F07	SHP-AV	VIDEO-TONE(OFFSET)	-16~+16	0
F08	SHP-YUV	VIDEO-TONE(OFFSET)	-16~+16	0
F09	SHP-P	VIDEO-TONE(OFFSET)	-31~+31	0
F10	SHP-N3	VIDEO-TONE(OFFSET)	-31~+31	0
F11	RGB-CLIP	EXTRGB-CLIP	0/1	0
F12	E-SAVE	CONTRAST(OFFSET)	0~63	30
F13	FAO-VOL	A-ATT	0~127	120
F14	PIF-G	VIF-GAIN	0~7	5
F15	Y-DELAY(TV)	Y-DELAY	0~7	5
F16	Y-DELAY(AV-P)	Y-DELAY	0~7	5
F17	Y-DELAY(TV-N3)	Y-DELAY	0~7	5
F18	Y-DELAY(AV)	Y-DELAY	0~7	5
F19	Y-DELAY(AV-P)	Y-DELAY	0~7	5
F20	Y-DELAY(AV-N3)	Y-DELAY	0~7	5
F21	Y-DELAY(YUV)	Y-DELAY	0~7	0
F22	TINT-AV	TINT(OFFSET)	-32~+32	+6
F23	COL-AV	COLOR(OFFSET)	-32~+32	0
F24	COL-P	COLOR(OFFSET)	-31~+31	+24
F25	COL-N3	COLOR(OFFSET)	-31~+31	0
F26	R-DRI(R2)	R-DRI(OFFSET)	-32~+32	+8
F27	R-DRI(R)	R-DRI(OFFSET)	-32~+32	+3
F28	R-DRI(B)	R-DRI(OFFSET)	-32~+32	-2
F29	B-DRI(R2)	B-DRI(OFFSET)	-32~+32	-18
F30	B-DRI(R)	B-DRI(OFFSET)	-32~+32	-8
F31	B-DRI(B)	B-DRI(OFFSET)	-32~+32	+6
F32	V-FREE	V-FREE	0/1	1
F33	GAMMA	GAMMA	0~3	1
F34	H-FREE	H-FREE	0/1	0
F35	1W(TV)	V.WINDOW	0/1	0
F36	1W(AV)	V.WINDOW	0/1	1
F37	YLPF	YSW-LPF	0/1	0
F38	BS-D	BS-DISCHARGE	0~3	0
F39	BS-C	BS-CHARGE	0~3	0
F40	SL(TV)	S-SLICE DOWN	0~7	2
F41	SL(AV)	S-SLICE DOWN	0~7	2
F42	SL(YUV)	S-SLICE DOWN	0~7	0
F43	AFC2	AFC2-G	0/1	0
F44	VD(TV)	VSYN-DET	0~3	3
F45	VD(AV)	VSYN-DET	0~3	2
F46	VD(YUV)	VSYN-DET	0~3	0
F47	AS(TV)	AUTO-SLICE	0/1	1
F48	AS(AV)	AUTO-SLICE	0/1	1
F49	AS(YUV)	AUTO-SLICE	0/1	0
F50	FBP(TV)	FBP VTH	0/1	0
F51	FBP(AV)	FBP VTH	0/1	0
F52	FBP(YUV)	FBP VTH	0/1	0
F53	C.CLIP LEVEL	C.CLIP LEVEL	0/1	0
F54	PSW	PSW	0/1	0
F55	FAO-VOL	VOL	0~63	58
F56	CP	CHARGE PUMP	0/1	1
F57	CC LEVEL	CC LEVEL	0~31	0
F58	OSD POS-H	OSD POS	0~31	0
F59	OSD POS-V50	OSD POS	1~55	38
F60	OSD POS-V60	OSD POS	1~50	23
F61	OFFSET-ADJ-COL	COLOR	-32~+32	+10
F62	OFFSET-ADJ-TINT	TINT	-32~+32	+2

F63	OFFSET-ADJ-TINT-YUV	BASEBAND-TINT	-32~+32	0
F64	WAIT MD TIME	(SLOW MODE)	0/1	1
F65	R-CUT-YUV	R-CUT(OFFSET)	-63~+63	0
F66	G-CUT-YUV	G-CUT(OFFSET)	-63~+63	0
F67	B-CUT-YUV	B-CUT(OFFSET)	-63~+63	0
F68	R-DRI-YUV	R-DRI(OFFSET)	-63~+63	0
F69	B-DRI-YUV	B-DRI(OFFSET)	-63~+63	0
F70	CONTRAST OFFSET	CONTRAST (OFFSET)	-63~+63	0
F71	CONTRAST YUV OFFSET	CONTRAST (OFFSET)	-63~+63	0
F72	B R I G H T OFFSET	B R I G H T (OFFSET) [0Ah	-63~+63	0
F73	BRIGHT AV2 OFFSET	B R I G H T (OFFSET) [0Ah	-15~+15	+1
F74	BRIGHT YUV OFFSET	B R I G H T (OFFSET) [0Ah	-63~+63	0
F75	TRAP	TRAP-FINE	0~3	2
F76	TRAP-P	TRAP-FINE	0~3	2
F77	TRAP-N3	TRAP-FINE	0~3	2
F78	AFC1-Gain-TV	AFC1-G AFC1 Gain Up 2	0~3	0
F79	AFC1-Gain-AV	AFC1-G AFC1 Gain Up 2	0~3	3
F80	AFC1-Gain-YUV	AFC1-G AFC1 Gain Up 2	0~3	3
F81	OM-DET	OM-Det	0/1	0
F82	B S - G a i n	BS-Gain	0/1	0
F83	C-ANGLE	C.ANGLE	0/1	0
F84	V-AGC	V AGC	0/1	0
F85	V-STD-TV	V STD DETOFF	0/1	0
F86	V-STD-AV	V STD DETOFF	0/1	0
F87	V-STD-YUV	V STD DETOFF	0/1	0
F88	HALF-H KILLER	HALF-H KILLER	0/1	1
F89	V - D L	V-DL Fine	0~3	0
F90	U - D L	U-DL Fine	0~3	0
F91	CTI Adj	CTI	0/1	1
F92	MCUVOUT	MCU VOUT	0/1	0
F93	AS-SPEED-DN	AS-SPEED-DN	0/1	0
F94	AS-SPEED-UP	AS-SPEED-UP	0/1	0
F95	CR-PEDESTAL-ADJ	Cr Pedestal Adj.	0~15	8
F96	CB-PEDESTAL-ADJ	Cb Pedestal Adj.	0~15	8
F97	SIF-BPF-WIDE	SIF BPF WIDE	0~3	1
F98	COL-SYSTEM	COL-SYSTEM	0: 11XX (AUTO) 1: 0011 (PAL-M) 2: 0111 (PAL-N) 3: 0110 (N358)	3
F99	Pow-Storage		0/1	1
F100	SIF45 GAIN DOWN	SIF45 GAIN DOWN	0/1	0
F101	S-TRAP OFF	S-Trap	0/1	1

Third stage				
Data	OPTION FUNCTION	DATA = " 0"	DATA =" 1"	Default Data
O01	DEMO	DEMO DISABLE	ENABLE	1
O02	DOWNLOAD	V-CHIP OP DISABLE	ENABLE	0
O03	V-CHIP	V-CHIP DISABLE	ENABLE	0
O04	SPEAKER	SPEAKER DISABLE	ENABLE	1
O05	FAO	FAO DISABLE	ENABLE	1
O06	P.PREF	P.REF DISABLE	ENABLE	1
O07	UNIV+	UNIV+ DISABLE	ENABLE	0
O08	VIEW TIMER	VIEW TIMER DISABLE	ENABLE	1
O09	EZ-SETUP	EZ-SETUP	AUTO PRESET	0
O10	* PON-CH	POWER-ON DISABLE	ENABLE	0
O11	FAV-COL	FAV-COL	COL-TEMP	1
O12	COMPONENT	COMPONENT DISABLE	ENABLE	1
O13	AV	AV DISABLE	ENABLE	1
O14	AV2	AV1	AV2	1
O15	MTS	MTS DISABLE	ENABLE	1
O16	TONE-CTRL	S-ADJ DISABLE	ENABLE	1
O17	AUTO-OFF	AUTO-OFF DISABLE	ENABLE	1
O18	LAST POWER	STANDBY MODE	POWER OFF CH	0
O19	SETUP-FLAG	NO SET UP	AUTO SET UP	1
O20	AV-FR	"0"=NO AV "1"=REAR "2"=FRONT "3"=REAR & FRONT		3
O21	AV3/S-IN	AV3/S-IN DISABLE	ENABLE	0
O22	COMB	COMB DISABLE	ENABLE	0
O23	AUTO-INPUT	AUTO-INPUT DISABLE	ENABLE	1
O24	CLOCK	CLOCK DISABLE	ENABLE	1
O25	LED	SEMEX MODEL	SPC MODEL	0
O26	FLAT	FLAT DISABLE	ENABLE	1
O27	BASS BOOST	BASS BOOST DISABLE	ENABLE	0
O28	DSE	DSE DISABLE	ENABLE	0
O29	SRS	SRS DISABLE	ENABLE	0
O30	WHITE-OUT	WHITE-OUT DISABLE	ENABLE	1
O31	FORCE-COL	Disable	Enable	0
O32	H-SYNC JUDGE	Disable	Enable	1
O33	INIT-LANG	ENGLISH SPANISH PORTUGUESE	0 1 2	0
O34	LANG-SEL	Bit 0: Spanish Bit 1: French Bit 2: Portuguese	Range: 1 ... 7	7

* POWER ON BY CH-UP / DOWN KEY.

■ SELF ADJUSTMENT

H-VCO

1. When there is H-VCO self-adjustment key input for adjustment item H-VCO, self-adjustment is performed.
2. H-FREE(1chip) is set to 1.
3. H-OUT is set by intelligent monitor output.
4. IM input is set as TIM input.
5. H-VCO(1chip) data is changed so that the number of input pulse is 125 inside 8ms interval.
6. When adjustment completed, OSD display and H-VCO self-adjustment status data of EEPROM are updated.
7. H-FREE(1chip), intelligent monitor output and IM input mode are recovered.

RF-AGC

1. When there is RF-AGC self-adjustment key input for adjustment item RF-AGC, self-adjustment is performed.
2. AGC-OUT is set by intelligent monitor output.
3. IM input is set as AD input.
4. By decreasing RF-AGC (1chip) data from current RF-AGC adjustment value to 0, AFT input voltage becomes the maximum setting value.
5. Increase RF-AGC(1chip) data, when AFT input voltage is at (max. 0.3V) point, adjustment is completed.
6. When adjustment completed, OSD display and RF-AGC self-adjustment status data of EEPROM are updated.
7. Intelligent monitor output and IM input mode are recovered.

PIF-VCO

1. When there is PIF-VCO self-adjustment key input for adjustment item PIF-VCO, self-adjustment is performed.
2. VIF-DEF(1chip) is set to 1.
3. AFC is set by intelligent monitor output.
4. IM input is set as AD input.
5. VIF-VCO(1chip) data is changed so that input voltage becomes 2.5V.
6. When adjustment completed, OSD display and PIF-VCO self-adjustment status data of EEPROM are updated.
7. VIF-DEF(1chip), intelligent monitor output and IM input mode are recovered.