Voltage Tables for the DA100 (50Hz) and DA50W Chassis

56FW53H 66FW53H 66FW54H 76FW53H 76FW54H
66GF63H 66GF64H 76GF63H 76GF64H
28HW53H 32HW53H

These tables are for guidance only and voltages may vary from chassis to chassis

Sharp Electronics (UK) Limited - March 2003
Revision 1

IC1001 – Microprocessor

Type: *Thomson ST10R272L* *Sharp Part Number:* *RH-IX1686BMZZ*
Package: *SMD gull wing* *Price Code:* *AW*

This IC is the same type for all models (FW, GF and HW). To date, it has no alternative.

Pin	Name	I/O	Comment	DC Voltage
1	P5.13	I	Vertical Sync	0V
2	P5.14	I	AFT 1	0V
3	P5.15	I	AFT 2	0V
4	VBS	X	Ground	0V
5	XTAL1	I/O	Crystal	1.4V
6	XTAL2	I/O	Crystal	1.4V
7	VDD	I	Supply	3.3V
8	3.0	X	Not Connected	-
9	3.1	X	Not Connected	-
10	3.2	O	To primary IC	-
11	3.3	O	OPC LED	-
12	3.4	O	AGC Out	Variable
13	3.5	I	Not Connected	-
14	3.6	O	Stereo LED	-
15	3.7	I	OPC Input	Variable
16	3.8	O	AV Link (AV2)	-
17	3.9	I	AGC input	Variable
18	3.10	O	M3 clock	4.3V
19	3.11	I/O	M3 data	4.3V
20	3.12	I/O	Enable	4.3V
21	3.13	I/O	Service data	0V
22	3.15	X	Not Connected	-
23	A16	O	EPROM Address Line	-
24	A17	O	EPROM Address Line	-
25	A18	O	EPROM Address Line	-
26	A19	O	EPROM Address Line	-
27	VSS	X	Ground	0V
28	VDD	I	Supply	3.3V
29	A20	X	Not Connected	-
30	A21	X	Not Connected	-
31	A22	X	Not Connected	-
32	A23	X	Not Connected	-
33	RD	O	Read enable	-
34	WR/WAL	X	Not connected	-
35	READY	X	Not connected	-
36	ALE	O	All Logic Enable	4.3V
37	EA	X	Earth	0V
38	VDD	I	Supply	3.3V
39	VSS	X	Earth	0V
40	RPD	I	Control	-
41	D0	X	EPROM Data Line	-
42	D1	X	ERPOM Data Line	-
43	D2	X	EPROM Data Line	-
44	D3	X	EPROM Data Line	-
45	D4	X	EPROM Data Line	-
46	D5	X	EPROM Data Line	-
47	D6	X	EPROM Data Line	-
48	D7	X	EPROM Data Line	-
49	VDD	I	Supply	3.3V
50	VSS	X	Ground	0V
51	SELF1	I	Band switching control	-
52	BG/L	I	Band switching control	-
53	L/L'	I	Band switching control	-
54	RESOUT	O	Reset out	3.3V
55	ROT OUT	O	Rotation output	Variable
56	RES2OUT	O	Reset output 2	3.3V
57	HOUT	O	Horizontal mute control	0V
58	POH 7	I	Control	-
59	A0	O	EPROM Address Line	-
60	A1	O	EPROM Address Line	-
61	A2	O	EPROM Address Line	-
62	A3	O	EPROM Address Line	-
63	A4	O	EPROM Address Line	-
64	A5	O	EPROM Address Line	-
65	A6	O	EPROM Address Line	-
66	A7	O	EPROM Address Line	-
67	A8	O	EPROM Address Line	-
68	VSS	X	Ground	0V
69	VDD	I	Supply	3.3V
70	A9	O	EPROM Address Line	-
71	A10	O	EPROM Address Line	-
72	A11	O	EPROM Address Line	-
73	A12	O	EPROM Address Line	-
74	A13	O	EPROM Address Line	-
75	A14	O	EPROM Address Line	-
76	A15	O	EPROM Address Line	-
77	VSS	X	Ground	0V
78	VDD	I	Supply	3.3V
79	RSTIN	I	Reset input	5.0V
80	RSTOUT	O	Reset output	3.3V
81	NMI	I	Control	3.0V
82	P6.0	I	AV3 Select (RGB)	0V/5V
83	P6.1	I	AV2 Select	0V/5V
84	P6.2	I	AV1 Select	0V/5V
85	P6.3	I	SELV	-
86	P6.4	O	SCL2	4.3V
87	P6.5	X	Not connected	-
88	P6.6	X	Not connected	-
89	P6.7	X	Not connected	-
90	P2.8	X	Not connected	-
91	P2.9	I	From primary processor	-
92	P2.10	O	AL (AV link data)	Variable
93	P2.11	I/O	SDA1	4.2V
94	P7.0	O	SCL1	4.2V
95	P7.1	X	Not connected	-
96	P7.2	I/O	SDA2	4.2V
97	P7.3	O	AFT control	Variable
98	P5.10	X	Not connected	-
99	P5.11	X	Not connected	-
100	P5.12	I	Audio Protection (low active)	5V

Note that because not all the pins are used on the microprocessor, voltages are only shown as necessary on the above table.

IC801 – Video Sync Processor (VDP)

Type: *Micronas VDP 3120C2* *Sharp Part Number:* *RH-IX1688BMN2*
Package: *DIL* *Price Code:* *BH*

This IC is the same type for all FW models. GF and HW models can be fitted with the VDP 3130 (part number RH-IX1858BMZZ). The voltage for this IC are similar.

Pin	Name	I/O	Comment	DC Voltage
1	TEST	X	Earth	0V
2	RESQ	I	Reset (RES1)	5.0V
3	SCL	I	Clock	4.6V
4	SDA	I/O	Data	3.9V
5	DSGND	X	Ground	0V
6	HCS	X	Not connected	1.4V
7	FSY	X	Not connected	1.3V
8	CSY	O	Composite sync	4.7V
9	MSY	X	Not connected	5.08V
10	INTLC	X	Not connected	2.5V
11	VPROT	I	Vertical protection	0.3V
12	SAFTEY	I	EHT safety	0.77V
13	HFLB	I	Horizontal fly back	0V
14	GND	X	Ground	0V
15	VSUPD	I	Supply	5.0V
16	GND0	X	Earth	0V
17	PR0	I	Not used	3.3V
18	PR1	X	Not connected	0V
19	PR2	X	Not connected	0V
20	PORT2	X	Earth	0V
21	PORT3	X	Earth	0V
22	PORT4	X	Earth	0V
23	PORT5	X	Earth	0V
24	PROT6	X	Earth	0V
25	DSGND	X	Earth	0V
26	RSW2	I	Not used	0V
27	RSW1	I	Not used	0V
28	SENSE	I	Not used	0V
29	GNDM	X	Earth	0V
30	VERTQ	X	Earth	0V
31	VERT	O	Vertical drive	1.7V
32	EW	O	East/west control	1.0V
33	XREF	I	Reference	2.3V
34	SVM	O	SVM output	4.5V
35	GND	X	Earth	0V
36	VSUP	I	Supply	5.14V
37	ROUT	O	Red output	4.6V
38	GOUT	O	Green output	4.6V
39	BOUT	O	Blue output	4.6V
40	VRD	I	Control	2.5V
41	RIN	I	Red input	0V
42	GIN	I	Green input	0V
43	BIN	I	Blue input	0V
44	FBLIN	I		0V
45	RIN2	I	From RGB SCART	0V
46	GIN2	I	From RGB SCART	0V
47	BIN2	I	From RGB SCART	0V
48	FBLIN2	I	From RGB SCART	0.47V
49	CLK20	X	Not connected	2.6V
50	HOUT	O	Horizontal drive	2.8V
51	XTAL1	I	Crystal	-
52	XTAL2	O	Crystal	2.4V
53	VSTBY	I	Supply	5.13V
54	CLK5	X	Not connected	3.6V
55	GNDF	X	Earth	0V
56	ISGND	X	Earth	0V
57	VRT	I	Control	2.6V
58	VSUPF	I	Supply	5.1V
59	VOUT	O	Video output	1.4V
60	CIN	I	Chrominance input	1.5V
61	VIN1	I	Front AV and front S-Video or composite	1.4V
62	VIN2	I	AV2 composite video	1.4V
63	VIN3	I	RGB SCART composite video	1.4V
64	VIN4	I	Tuner composite video	0V

IC305 – Multiple Sound Processor (MSP)

Type: *ITT MSP3410D PSD1P64* *Sharp Part Number:* *RH-IX1636BMZZ*
Package: *DIL* *Price Code:* *BD*

This IC is the same type for all FW models. To date, it has no alternative.

Pin	Name	I/O	Comment	DC Voltage
1	AUD CL OUT	X	Not connected	2.4V
2	NC	X	Not connected	0.5V
3	NC	X	Not connected	0.5V
4	D CTR OUT1	X	Not connected	1.4V
5	D CTR OUT0	X	Not connected	1.4V
6	ADR SEL	X	Earth	0V
7	STBY	I	Supply	5.0V
8	NC	X	Not connected	0.6V
9	SCL	I	Clock	4.5 to 4.9V
10	SDA	I/O	Data	3.7 to 3.9V
11	I2SCL	I/O	Pro Logic control	1.2V
12	I2SWS	I/O	Pro Logic control	1.3V
13	I2SDAOUT	I/O	Pro Logic control	1.4V
14	I2SDAIN	I/O	Pro Logic control	1.4V
15	ADR DA	X	Not connected	1.2V
16	ADR WS	X	Not connected	1.2V
17	ADR CL	X	Not connected	1.2V
18	DVSUP	I	Digital supply	5.0V
19	DVSS	X	Digital earth	0V
20	I2S DA IN2	X	Not connected	1.2V
21	NC	X	Not connected	0V
22	NC	X	Not connected	0V
23	NC	X	Not connected	0V
24	RESET	I	Reset in (RES2)	5.1V
25	DAC R	O	Headphone right	1.2V
26	DAC L	O	Headphone left	1.2V
27	VREF2	X	Earth	0V
28	DACM R	O	Main right	0V
29	DACM L	O	Main left	0V
30	NC	X	Not connected	0V
31	NC	X	Not connected	0.3V
32	NC	X	Earth	0V
33	SC2 OUT R	O	SCART 2 right	3.76V
34	SC2 OUT L	O	SCART 2 left	3.76V
35	VREF1	X	Earth	0V
36	SC1 OUT R	O	SCART 1 right	3.76V
37	SC1 OUT L	O	SCART 1 left	3.78V
38	CAPL A	I		6.85V
39	AHVSUP	I	Supply	8.0V
40	CAPL M	I		7.95V
41	AHVSS	X	Ground	0V
42	AGNDC	I		3.72V
43	SC4 IN L	I	Front left	3.15V
44	SC4 IN R	I	Front right	3.75V
45	ASG4	X	Earth	0V
46	SC3 IN L	I	RGB left	3.75V
47	SC3 IN R	I	RGB right	3.75V
48	ASG2	X	Earth	0V
49	SC2 IN L	I	SCART 2 left	3.75V
50	SC2 IN R	I	SCART 2 right	3.75V
51	ASG1	X	Earth	0V
52	SC1 IN L	I	SCART 1 left	3.55V
53	SC1 IN R	I	SCART1 right	3.55V
54	VREFTOP	I	Reference voltage	2.54V
55	MONO IN	X	Not used	0V
56	AVSS	X	Analogue earth	0V
57	AVSUP	I	Analogue supply	5.0V
58	ANA IN1+	I	FM input	1.49V
59	ANA IN-	X	Not used	1.47V
60	ANA IN2+	X	Not used	0V
61	TESTI01	X	Earth	0V
62	XTAL IN	I	Crystal	2.25V
63	XTAL OUT	O	Crystal	2.2V
64	NC	X	Not connected	0V

Note that on the GF Pro Logic models pin 31 is used for the sub-woofer output.

IC1801 – Cathode Drive Amplifier (CDA)

Type:	*TEA5101A*	*Sharp Part Number:*	*RH-IX1416BMZZ*
Package:	*QIL*	*Price Code:*	*AN*
Type:	*STV5109*	*Sharp Part Number:*	*RH-IX1803BMZZ*
Package:	*QIL*	*Price Code:*	*AS*
Type:	*TDA6019JF*	*Sharp Part Number:*	*RH-IX1833BMZZ*
Package:	*QIL*	*Price Code:*	*AR*

TDA6109			
Pin	**Name**	**I/O**	**DC Voltage**
1	B input	I	3.18V
2	Reference	I	11.4V
3	G input	I	0V
4	R input	I	3.18V
5	Supply	I	168V
6	R sense	O	0.1V
7	R output	I	140V
8	Ground	X	0V
9	R feedback	I	131V
10	G output	I	133V
11	G sense	O	0V
12	G feedback	I	135V
13	B output	O	130V
14	B sense	O	0.1V
15	B feedback	O	134V

TEA5101			
Pin	**Name**	**I/O**	**DC Voltage**
1	B input	I	3.18V
2	Reference	I	11.4V
3	G input	I	0V
4	R input	I	3.18V
5	Supply	I	168V
6	R sense	O	0.1V
7	R output	I	140V
8	Ground	X	0V
9	R feedback	I	131V
10	G output	I	133V
11	G sense	O	0V
12	G feedback	I	135V
13	B output	O	130V
14	B sense	O	0.1V
15	B feedback	O	134V

STV5109			
Pin	**Name**	**I/O**	**DC Voltage**
1	R sense	I	2.6V
2	G sense	I	2.6V
3	B sense	I	2.6V
4	Ground	X	0V
5	I sense	O	5.6V
6	Supply	I	170V
7	B out	O	85V
8	G out	O	85V
9	R out	O	85V

IC301 / IC302 - Audio Amplifiers

Type: *Thomson TDA7480* *Sharp Part Number:* *VHITDA7480/-1*
Package: *DIL* *Price Code:* *AK*

This IC is the same type for all FW models. To date, it has no alternative.

Pin	Name	I/O	Comment	DC Voltage
1	-Ve	I	Negative supply	-18.0V
2	-Ve	I	Negative supply	-18.0V
3	-Ve	I	Negative supply	-18.0V
4	Output	O	PWM output	0V
5	Boot Diode	I	Boost diode	-7.0V
6	Boot	I	Boost	10.0V
7	NC	X	Not connected	0V
8	Feedback C	I	Feedback	0V
9	Frequency C	I	Freq control	-15.0V
10	Ground	X	Signal ground	0V
11	Input	I	Signal input	0V
12	Mute	I	<2.7V mute	5.1V
13	NC	X	Not connected	0.5V
14	+Ve	I	Positive supply	17.2V
15	V reg	I	Reference	-7.0V
16	+Ve	I	Positive supply	17.2V
17	-Ve	I	Negative supply	-18.0V
18	-Ve	I	Negative supply	-18.0V
19	-Ve	I	Negative supply	-18.0V
20	-Ve	I	Negative supply	-18.0V

IC702 - Primary Control

Type: *Thomson/SGS ST6203B* *Sharp Part Number:* *RH-IX1646BMZZ*
Package: *SMD gull wing* *Price Code:* *AL*

This IC is the same type for all FW models. To date, it has no alternative.
Note that the earth connection of the meter has to be taken at the negative end of the main smoothing block. A more convenient connection is the chopper transistor heatsink.

Pin	Name	I/O	Comment	DC Voltage
1	VDD	I	Supply	5.2V
2	OSCIN	I	Oscillator	2.5V
3	OSCOUT	O	Oscillator	2.5V
4	NMI	I	Remote input	5.0V
5	TEST	X	Grounded	0V
6	RESET	I	From reset	5.2V
7	PB7	I	From processor	5.2V
8	PB6	I	100Hz reference	0.48V
9	PB5	I/O	Key scan	5.2V
10	PB3	I/O	Key scan	0V
11	PB1	I/O	Key scan	0V
12	PB0	I/O	Key scan	0V
13	PA3	O	To processor	5.2V
14	PA2	O	Degauss	0V
15	PA1	O	Power control	0V
16	VSS	X	Ground	0V

IC501 - Vertical Output

Type: *Thomson TDA7480* *Sharp Part Number:* *VHITDA7480/-1*
Package: *DIL* *Price Code:* *AK*

This IC is the same type for all FW models. To date, it has no alternative.

Pin	Name	I/O	Comment	DC Voltage
1	-Ve	I	Negative supply	-13.1V
2	-Ve	I	Negative supply	-13.1V
3	-Ve	I	Negative supply	-13.1V
4	Output	O	PWM output	0V
5	Boot Diode	I	Boost diode	-2.1V
6	Boot	I	Boost	9.9V
7	NC	X	Not connected	0V
8	Feedback C	I	Feedback	0V
9	Frequency C	I	Freq control	-11.8V
10	Ground	X	Signal ground	0V
11	Input	I	Signal input	0V
12	Mute	I	<2.7V mute	5.0V
13	NC	X	Not connected	0V
14	+Ve	I	Positive supply	14.1V
15	V reg	I	Reference	0V
16	+Ve	I	Positive supply	14.1V
17	-Ve	I	Negative supply	-13.1V
18	-Ve	I	Negative supply	-13.1V
19	-Ve	I	Negative supply	-13.1V
20	-Ve	I	Negative supply	-13.1V

IC1003 - NVM

Type: *Xicor X25645S8* *Sharp Part Number:* *RH-IX1603BMZZ*
Package: *SMD* *Price Code:* *AV*

In the Dolby Pro Logic version of this chassis (models ending in 4) and the76GF63H, there is another NVM fitted. This is IC1004 and it is used as a teletext page store. It is not necessary to change this IC if you suspect a data corruption causing an operational problem on the set.

Pin	Name	I/O	Comment	DC Voltage
1	NC	X	Earth	0V
2	S1	X	Earth	0V
3	S2	X	Earth	0V
4	VSS	X	Earth	0V
5	SDA	I/O	Date	4.2V
6	SCL	I	Clock	4.2V
7	WP	I	Write protect	5.0V
8	VCC	I	Supply	5.0V

IC2401 - Megatext

***FW53H**

Type: *Siemens SDA5273-2* ***Sharp Part Number:*** *RH-IX1673BMZZ*

Package: *DIL* ***Price Code:*** *BE*

***FW54H (Pro-Logic Models)**

Type: *Siemens SDA5275-3* ***Sharp Part Number:*** *RH-IX1709BMZZ*

Package: *DIL* ***Price Code:*** *BG*

Note that a different type of IC is used for the Dolby Pro-Logic version of this chassis. It also has a page store (IC2402) associated with the Mega Text IC when used in the Pro-Logic set.

Pin	Name	I/O	Comment	DC Voltage
1	CLK	X	Not connected	1.1V
2	TSCQ	X	Not connected	2.0 to 2.3V
3	VS	I	Vertical pulse	0.V
4	HS	I	Horizontal pulse	0.1V
5	XOUT	O	Crystal	1.5V
6	XIN	I	Crystal	2.0V
7	GPO	X	Not connected	0V
8	TM	X	Grounded	0V
9	CVBS	I	Composite video	5.0V
10	VDD 1	I	Supply	5.0V
11	VDDA	I	Supply	5.0V
12	VSSA 1	X	Ground	0V
13	VDD 2	I	Supply	5.0V
14	RES	I	Reset In	2.9V
15	VDD 3	I	Supply	5.0V
16	AVREF	I	Reference voltage	2.9V
17	VDD 4	I	Supply	5.0V
18	A8	O	Used with IC2402	0.1V
19	A7	O	Used with IC2402	0.1V
20	A6	O	Used with IC2402	0.1V
21	A5	O	Used with IC2402	0.2V
22	A4	O	Used with IC2402	0.2V
23	A3	O	Used with IC2402	0.2V
24	A2	O	Used with IC2402	0.1V
25	A1	O	Used with IC2402	0V
26	A0	O	Used with IC2402	1.5V
27	A9	O	Used with IC2402	0V
28	A10	X	Not connected	3.5V
29	A11	X	Not connected	3.9V
30	RASQ	O	Used with IC2402	1.2V
31	WEQ	O	Used with IC2402	0V
32	D1	I/O	Used with IC2402	4.6V
33	D2	I/O	Used with IC2402	4.2V
34	D3	I/O	Used with IC2402	4.6V
35	D4	I/O	Used with IC2402	4.2V
36	VSS 4	X	Grounded	0V
37	CASQ	X	Not connected	4.6V
38	VSS 3	X	Grounded	0V
39	VBB	I	Reference	-1.9V
40	VSS 2	X	Grounded	0V
41	VSSA 2	X	Grounded	0V
42	RGB GND	X	Grounded	0V
43	VSS 1	X	Grounded	0V
44	R	O	Red output	0V
45	G	O	Green output	0V
46	B	O	Blue output	0V
47	BLAN	O	Blanking output	0.5V
48	CORQ	X	Not used	4.98V
49	M3CLK	I	Clock	4.98V
50	M3LDA	I/O	Data	0V
51	I2CEN	I	Data enable	0V
52	INTQ	X	Not connected	0V

IC201 - IF

Type: *Temic TDA4472 MFL* *Sharp Part Number:* *RH-IX1672BMZZ*
Package: *DIL* *Price Code:* *AP*

This IC is the same type for all models. To date, it has no alternative.

Pin	Name	I/O	Comment	DC Voltage
1	SIF	I	Sound IF	3.2V
2	SIF	I	Sound IF	3.14V
3	IS	X	Not connected	3.4V
4	GND	X	Earth	0V
5	SAGC	I	Sound AGC	1.8V
6	VIF	I	Video IF	2.24V
7	VIF	I	Video IF	2.2V
8	VAGC	I	Video AGC	2.4V
9	GND	X	Earth	0V
10	AGC	I	Overall AGC	0.8V
11	RF AGC	I	RF AGC	3.4V
12	VOUT	O	Video output	2.1V
13	ST	X	Not connected	0V
14	L/L	X	Not connected	0V
15	BL	X	Not connected	0V
16	GND	X	Earth	0V
17	C	I	PLL control	4.25V
18	PLL	I	PLL control	2.2V
19	AFC	X	Not connected	3.47V
20	VCO	I	VCO control	3.1V
21	VCO	I	VCO control	3.3V
22	AFC	I	AFT conrol	2.1V
23	+V	I	Supply	5.1V
24	FM	O	To AFT control	2.1V
25	AM	X	Not connected	0V
26	OFS	X	Not connected	3.5V
27	SOF2	X	Not connected	0V
28	SIF2	X	Not connected	0V