FFC Cable, Digital Board to Front Display Board (0.5mm pitch)

12/9/2011 13:34

Digital Pin	Signal on Digital Board Connector **J17**	Direction <-- -->	Signal on Front Panel Connector **J2005**	Display Pin	Description of Signal NOTE: All logic signals are 1 = 3.3V ref.
50	GND	- - -	GND	50	System low-level ground reference
49	+3.3V	To-->	+3.3V	49	+3.3V AUX Power
48	+3.3S	To-->	+3.3S	48	+3.3V Standby Power
47	LCD_ADDR0	To-->	LCD_A0	47	Address Line to LCD Panel
46	GND	- - -	GND	46	System low-level ground reference
45	buffered RD_WR_L	To-->	RD_WR_L	45	Read/Write Line to LCD Panel
44	GND	- - -	GND	44	Parallel Data Bus To/From LCD Panel
43	buffered DATA<0>	<--Both-->	LCD_DATA<0>	43	
42	GND	- - -	GND	42	
41	buffered DATA<1>	<--Both-->	LCD_DATA<1>	41	
40	GND	- - -	GND	40	
39	buffered DATA<2>	<--Both-->	LCD_DATA<2>	39	
38	GND	- - -	GND	38	
37	buffered DATA<3>	<--Both-->	LCD_DATA<3>	37	
36	GND	- - -	GND	36	
35	buffered DATA<4>	<--Both-->	LCD_DATA<4>	35	
34	GND	- - -	GND	34	
33	buffered DATA<5>	<--Both-->	LCD_DATA<5>	33	
32	GND	- - -	GND	32	
31	buffered DATA<6>	<--Both-->	LCD_DATA<6>	31	
30	GND	- - -	GND	30	
29	buffered DATA<7>	<--Both-->	LCD_DATA<7>	29	
28	GND	- - -	GND	28	
27	LCD_E	To-->	LCD_E	27	Enables Data Read from LCD Display
26	LCD_RESET_L	To-->	SH7670_RESET_OUT	26	Reset to LCD Display
25	LCD_CS_L	To-->	CS5_L	25	Bus Cycle Select Line to LCD Display
24	GND	- - -	GND	24	System low-level ground reference
23	KEYPAD1	From<--	KEYPAD1	23	KEYPAD Button 1 is being pushed
22	KEYPAD2	From<--	KEYPAD2	22	KEYPAD Button 2 is being pushed
21	KEYPAD3	From<--	KEYPAD3	21	KEYPAD Button 3 is being pushed
20	KEYPAD4	From<--	KEYPAD4	20	KEYPAD Button 4 is being pushed
19	KEYPAD5	From<--	KEYPAD5	19	KEYPAD Button 5 is being pushed
18	KEYPAD6	From<--	KEYPAD6	18	KEYPAD Button 6 is being pushed
17	ENCODER_SW	From<--	ENCODER_SW	17	Dial is being pushed
16	ENCODER0	From<--	ENCODER0	16	Dial Rotation Indicator 0
15	ENCODER1	From<--	ENCODER1	15	Dial Rotation Indicator 1
14	FAULT_LED	To-->	FAULT_LED	14	Light FAULT LED
13	CLIP_LED	To-->	CLIP_LED	13	Light CLIP LED
12	LIMIT_LED	To-->	LIMIT_LED	12	Light LIMIT LED
11	PWR_LED	To-->	PWR_LED	11	Light POWER LED
10	+8V	To-->	+8V	10	+8V passed to LCD Module for LED BackLighting
9		To-->		9	
8	BACKLIGHT_CTRL	To-->	BACKLIGHT_CTRL	8	Enable for LCD Backlight
7	GND	- - -	GND	7	System low-level ground reference
6	VBUS	To-->	VBUS	6	+5V passed to USB Connector
5	GND	- - -	GND	5	System low-level ground reference
4	D-	From<--	D-	4	USB Data -
3	GND	- - -	GND	3	System low-level ground reference
2	D+	From<--	D+	2	USB Data +
1	GND	- - -	GND	1	System low-level ground reference

FFC Cable, Digital Board to Power Supply Board (1mm pitch) 12/9/2011 13:34

Digital J8 Pin #	Signal on Digital Board Connector **J8**	Direction <-- -->	Signal on Power Supply Connector **SK1**	P/S SK1 Pin #	Description of Signal NOTE: All logic signals are 1 = 3.3V ref. *** Note pin # reversal *****
34	GND	- - -	GND-AUX	1	System low-level ground reference
33	MEASURE_SDA	<--Both-->	I2C_SDA	2	Data for I²C ("Measure Bus") for Reading Power Supply Data
32	MEASURE_SCL	To-->	I2C_SCL	3	Clock for I²C ("Measure Bus") for Reading Power Supply Data
31	GND	- - -	GND-AUX	4	System low-level ground reference
30	AUX_PWR_ON	To-->	AUX-ON	5	Enable Auxillary Power Supply (+12V, +18V, -18V)
29	PFC_ON	To-->	PFC-ON	6	Enable PFC (Power Factor Correction) - Main AC Power
28	ICV_ON	To-->	ICV-ON	7	Enable ICV Power To Amplifiers (+80V & -80V)
27	R_SHUNT	To-->	R-SHUNT	8	By-Pass of Inrush-Limiting Resistor (R142)
26	DUMP_INH	To-->	DUMP-INH	9	Disable ±80V Bleed Down Resistors (R254 & R257)
25	GND	- - -	GND-AUX	10	System low-level ground reference
24	DC+200	From<--	DC+200	11	At Least 200V Detected from PFC Output (+400 bus)
23	DC_OK	From<--	DC-OK	12	At Least 380V Detected from PFC Output (+400 bus)
22	AC_OK	From<--	AC-OK	13	AC Line Active (toggles @ Line $\pm V_{PK} > 100V$)
21	ICV_OK	From<--	ICV-OK	14	1 = ICV has completed soft-start; 0 = ICV Overcurrent tripped
20	GND	- - -	GND-AUX	15	System low-level ground reference
19	700_KHZ	To-->	SYSCLK+	16	700KHz Clock for PFC and ICV sync
18	700_KHZ_VBB	To-->	SYSCLK-	17	700KHz Clock for PFC and ICV sync - complement (inverted)
17	GND	- - -	GND-AUX	18	System low-level ground reference
16	+9S	From<--	+9	19	+9V Standby Power to Digital Processor Board
15	+9S	From<--	+9	20	
14	GND	- - -	GND-AUX	21	System low-level ground reference
13	+12V	From<--	+12	22	+12V Power to Digital Processor Board
12	+12V	From<--	+12	23	
11	+12V	From<--	+12	24	
10	+12V	From<--	+12	25	
9	GND	- - -	GND-AUX	26	System low-level ground reference
8	+18V	From<--	+18	27	+18V Power to Digital Processor Board
7	+18V	From<--	+18	28	
6	+18V	From<--	+18	29	
5	GND	- - -	GND-AUX	30	System low-level ground reference
4	-18V	From<--	-18	31	-18V Power to Digital Processor Board
3	-18V	From<--	-18	32	
2	-18V	From<--	-18	33	
1	GND	- - -	GND-AUX	34	System low-level ground reference

FFC Cable, Digital Board to Amplifier Boards A & B (0.5mm pitch) 12/9/2011 13:34

Digital Pin # J13&14	Signal on Digital Board Conn **J13** to **Amp A** Conn **J14** to **Amp B**	Direction <-- -->	Signal on Amp Board Connector **J-IN-1**	Amp Pin # J-IN-1	Description of Signal NOTE: All logic signals are 1 = 3.3V ref. *** Note pin # reversal ***
1	GND	- - -	PE	40	System low-level ground reference
2	MEASURE_SDA	<--Both-->	MEAS_I2C_SDA	39	Data for Measurement I2C Bus - Reads Temperature of Main Heat Sink
3	MEASURE_SCL	To-->	MEAS_I2C_SCL	38	Clock for Measurement I2C Bus - Reads Temperature of Main Heat Sink
4	GND	- - -	PE	37	System low-level ground reference
5	AMP_ENABLE_A AMP_ENABLE_B	To-->	ENABLE_IN	36	Enables Class D Amp Modulator (TDA8932) to start *switching* Note: _A or _B designator - A is signal going to Amp A, B to Amp B
6	GND	- - -	PE	35	System low-level ground reference
7	GND	- - -	PE	34	
8	GND	- - -	PE	33	
9	EHF_IRQ_A EHF_IRQ_B	From<--	ENF_INT	32	Interrupt (Open Collector) to Digital Controller when and EHF (Eccessive High Frequency) from a channel is detected
10	+3.3V	To-->	+3.3V	31	+3.3V Power to DACs, ADC, & I2C Interface Devices
11	AMP_MUTE	To-->	MUTE	30	0 = Enables Class D Amp Modulator (TDA8932) to start *modulating*
12	+8V	To-->	+8V	29	+8V Power regulated to provide 5VISENSE and 5VDAC
13	GND	- - -	PE	28	System low-level ground reference
14		- - -	DSP_SPARE	27	Spare Connection - not currently used
15	GND	- - -	PE	26	System low-level ground reference
16	PARA34_A PARA34_B	To-->	PARA34	25	High (+3V) puts Channels 3&4 (7&8 for Amp B) in Current Share Mode
17	PARA12_A PARA12_B	To-->	PARA12	24	High (+3V) puts Channels 1&2 (5&6 for Amp B) in Current Share Mode
18	SLOT_ID_A SLOT_ID_B	To-->	SLOT_ID	23	Address Bit for I2C Bus to Select between Amp A and Amp B GND'ed for Slot A, +3.3V for Slot B
19	DSP_RESET_OUT_L	To-->	RSTB	22	Reset (Low True) from Processor to DACs and ADC
20	GND	- - -	PE	21	System low-level ground reference
21	-18V	To-->	-VHC	20	-18V Power regulated to provide VSS (-15 Power for OP Amps) and VSSP (-15V Power to TDA8932s)
22	-18V	To-->	-VHC	19	
23	GND	- - -	PE	18	System low-level ground reference
24	350_KHZ	To-->	CLK350KHZB	17	Differential 350KHz Clock for Class D Modulators: TDA8932s
25	350_KHZ_VBB	To-->	CLK350KHZ	16	
26	GND	- - -	PE	15	System low-level ground reference
27	+18V	To-->	+VHC	14	+18V Power regulated to provide VDD (+15 Power for OP Amps) and VDDP (+15V Power to TDA8932s)
28	+18V	To-->	+VHC	13	
29	GND	- - -	PE	12	System low-level ground reference
30	V-I_MON_TDM_A V-I_MON_TDM_B	From<--	TMD_DOUT	11	V & I Data on TDM Bus being sent back to DSP on Digital Board
31	GND	- - -	PE	10	System low-level ground reference
32	LINE_OUT_TDM_A LINE_OUT_TDM_B	To-->	TDM_DIN	9	Audio Data on TDM Bus from DSP on Digital Board to DACs
33	GND	- - -	PE	8	System low-level ground reference
34	FS_AMP_A FS_AMP_B	To-->	TDM_FS	7	Frame Sync for TDM Bus with Audio Data and V/I Readings
35	GND	- - -	PE	6	Note: _A or _B designator - A is signal going to Amp A, B to Amp B
36	SCLK_AMP_A SCLK_AMP_B	To-->	TDM_SCLK	5	Clock for TDM Bus with Audio Data and V/I Readings
37	GND	- - -	PE	4	System low-level ground reference
38	AUDIO_SDA	<--Both-->	AUD_I2C_SDA	3	Data for Audio I2C Bus - Used to Configure DACs and ADC and also monitor for EHF Events
39	AUDIO_SCL	To-->	AUD_I2C_SCL	2	Clock for Audio I2C Bus
40	GND	- - -	PE	1	System low-level ground reference

Misc. Connector Pin-Outs

Power Harness, Amplifier A

J-HV Pin #	Amplifier Board Connector **J-HV**	Direction <-- -->	Signal on Power Supply Connector **PL1**	PL1 Pin #	Description of Signal *** Note pin # reversal **
6	+80V	From<--	+80V	1	+80V Rail for Amplifier Output Stage
5	+80V	From<--	+80V	2	+80V Rail for Amplifier Output Stage
4	PwrGnd	To-->	PwrGnd	3	High-Current Ground Return
3	PwrGnd	To-->	PwrGnd	4	High-Current Ground Return
2	-80V	From<--	-80V	5	-80V Rail for Amplifier Output Stage
1	-80V	From<--	-80V	6	-80V Rail for Amplifier Output Stage

Power Harness, Amplifier B

J-HV Pin #	Amplifier Board Connector **J-HV**	Direction <-- -->	Signal on Power Supply Connector **PL2**	PL1 Pin #	Description of Signal *** Note pin # reversal **
6	+80V	From<--	+80V	1	+80V Rail for Amplifier Output Stage
5	+80V	From<--	+80V	2	+80V Rail for Amplifier Output Stage
4	PwrGnd	To-->	PwrGnd	3	High-Current Ground Return
3	PwrGnd	To-->	PwrGnd	4	High-Current Ground Return
2	-80V	From<--	-80V	5	-80V Rail for Amplifier Output Stage
1	-80V	From<--	-80V	6	-80V Rail for Amplifier Output Stage

Fan Connectors, Digital Board **J9 = Amp A (Fan #1), J10 = Amp B (Fan #2), J11=Power Supply (Fan #3)**

Conn. Pin #	Signal - Digital Board Connectors **J9,10,11**	Direction <-- -->	Description of Signal
1	Gnd	To-->	Ground Return for Fan current
2	TACH1, 2 & 3	From<--	Tachometer output from Fan - used to determine fan speed. 10K pull-up to 3.3V
3	PWM1, 2, 3	To-->	Pulse-width Modulated control signal to regulate fan speed
4	+12V	To-->	12VDC rail - supplies power to fan

Speaker Output Connectors, Amplifier A **(Long Harness, Direct Solder into Speaker Terminal board)**

Conn. Pin #	Signal on Amp Board @ **J-AMP-OUT**	Direction <-- -->	Color (solders into terminal board)	Description of Signal
1	V_OUT_1	To-->	Red	Power Amp Output, Ch 1
2	V_OUT_2	To-->	Yellow	Power Amp Output, Ch 2
3	GND	To-->	Black	Output Return, Ch 1
4	GND	To-->	Green	Output Return, Ch 2
5	GND	To-->	Violet	Output Return, Ch 3
6	GND	To-->	Grey	Output Return, Ch 4
7	V_OUT_3	To-->	Orange	Power Amp Output, Ch 3
8	V_OUT_4	To-->	White	Power Amp Output, Ch 4

Speaker Output Connectors, Amplifier B **(Short Harness, Direct Solder into Speaker Terminal board)**

Conn. Pin #	Signal on Amp Board @ **J-AMP-OUT**	Direction <-- -->	Color (solders into terminal board)	Description of Signal
1	V_OUT_1	To-->	Red	Power Amp Output, Ch 5
2	V_OUT_2	To-->	Yellow	Power Amp Output, Ch 6
3	GND	To-->	Black	Output Return, Ch 5
4	GND	To-->	Green	Output Return, Ch 6
5	GND	To-->	Violet	Output Return, Ch 7
6	GND	To-->	Grey	Output Return, Ch 8
7	V_OUT_3	To-->	Orange	Power Amp Output, Ch 7
8	V_OUT_4	To-->	White	Power Amp Output, Ch 8