SONORE computer audio

the sound has to be in concert with the music....

i2s database - quick refrerence guide

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special thanks to:
Steve Nugent
http://empiricalaudio.com
and
Jord Groen
www.triplemaudioshop.nl
http://www.pinkfaun.nl/

Note: pin assignments are unconfirmed and for DIY use only

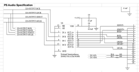
Company	Sonore	PS Audio	PS Audio	Mola Mola	M2Tech	Denafrips	Holo Audio	Holo Audio	DiDiT High-End	X-Sabre	Eleven	HiFime	Astin Trew
Pin #	Rendu SPDIF/i2s	DS, DS JR, Stellar	NuWave Phone Converter	Tambaqui	Evo Two, Evo Two Plus	Terminator I2S-A	Spring DAC	Spring DAC	i2s DACs	Pro DAC	XiAudio	i2s devices	i2s devices
1	SD (-) / DSD DATA R (-)	SD (-) / DSD DATA R (-)	SD (+) / DSD DATA R (-)	SD (+) / DSD DATA R (-)	SD (+) / DSD DATA R (-)	SD (-) / DSD DATA R (-)	SD (+) / DSD DATA R (-)	SD (+) / DSD DATA R (-)	SD (+) / DSD DATA R (-)	SD (+) / DSD DATA R (-)	SD (+) / DSD DATA R (-)	SD (+) / DSD DATA L (-)	
2	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	
3	SD / DSD DATA R	SD / DSD DATA R	SD / DSD DATA R	SD / DSD DATA R	SD / DSD DATA R	SD / DSD DATA R	SD / DSD DATA R	SD / DSD DATA R	SD / DSD DATA R	SD / DSD DATA R	SD / DSD DATA R	SD / DSD DATA L	
4	BCK / DSD BCK	BCK / DSD BCK	BCK / DSD BCK	BCK / DSD BCK	BCK / DSD BCK	BCK / DSD BCK	BCK / DSD BCK	BCK / DSD BCK	BCK / DSD BCK	BCK / DSD BCK	BCK / DSD BCK	BCK / DSD BCK	
5	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	
6	BCK (-) / DSD BCK (-)	BCK (-) / DSD BCK (-)	BCK (-) / DSD BCK (-)	BCK (-) / DSD BCK (-)	BCK (-) / DSD BCK (-)	BCK (+) / DSD BCK (-)	BCK (-) / DSD BCK (-)	BCK (-) / DSD BCK (-)	BCK (-) / DSD BCK (-)	BCK (-) / DSD BCK (-)	BCK (-) / DSD BCK (-)	BCK (-) / DSD BCK (-)	
7	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-) / DSD DATA R (-)	
8	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	
9	L/RCLK / DSD DATA L	L/RCLK / DSD DATA L	L/RCLK / DSD DATA L	L/RCLK / DSD DATA L	L/RCLK / DSD DATA L	L/RCLK / DSD DATA L	L/RCLK / DSD DATA L	L/RCLK / DSD DATA L	L/RCLK / DSD DATA L	L/RCLK / DSD DATA L	L/RCLK / DSD DATA L	L/RCLK / DSD DATA R	
10	MCLK	NOT USED	MCLK	MCLK	NOT USED	MCLK	NOT USED	NOT USED	MCLK	MCLK	MCLK	MCLK	
11	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	
12	MCLK (-)	NOT USED	MCLK (-)	MCLK (-)	NOT USED	MCLK	NOT USED	NOT USED	MCLK (-)	MCLK -	MCLK (-)	MCLK (-)	
13	NOT USED	NOT USED	NOT USED		NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	DSD Flag (+)	DSD/PCM	
14	NOT USED	NOT USED	NOT USED		NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	DSD Flag (-)	DSD128	
15	NOT USED	SCL - i2c	SCL - i2c			NOT USED	NOT USED	NOT USED	NOT USED	SCL	NOT USED	SCL - i2c	
16	NOT USED	SDA - i2c	SDA - i2c			NOT USED	NOT USED	NOT USED	NOT USED	SDA	NOT USED	SDA - i2c	
17	GND	GND	GND	GND	GND	GND	GND	GND	GND	NOT USED	GND	GND	
18	NOT USED	NOT USED	NOT USED		NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	5V	
19	GND	GND	GND	GND	GND	HOTP	GND	GND	GND	GND	GND	GND	
shell													
	22.5792MHz, 24.576MHz												
MCLK RATES	45.1584MHz, 49.152MHz	internal master clock	22.5792MHz, 24.576MHz	22.5792MHz, 24.576MHz	22.5792MHz, 24.576MHz	22.5792MHz, 24.576MHz	internal master clock	internal master clock	internal master clock		?	49.152MHz, 45.1584MHz	
VOLTAGE	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS		LVDS	LVDS	
CONNECTOR	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI		HDMI	HDMI	HDMI
COMMENTS	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	other specs avaialble		Eleven Spec	Hifime Spec	Unkown Spec

Company	Wyred4Sound	Gustard	Gustard		LKS	Gustard		Love Harmony					
Pin #	DAC-2 DSD	X12	U12		i2s devices	X20 + A20R		AX-D1					
1	SD / DSD DATA R	SD / DSD DATA R	SD / DSD DATA R		SD / DSD DATA L	SD / DSD DATA L		DSDR					
2	GND	GND	GND		GND	GND		GND					
3	SD (-) / DSD DATA R (-)	SD (-) / DSD DATA R (-)	SD (-) / DSD DATA R (-)		SD (-) / DSD DATA L (-)	SD (-) / DSD DATA L (-)							
4	BCK / DSD BCK	BCK / DSD BCK	BCK / DSD BCK		BCK / DSD BCK	BCK / DSD BCK		DSDL					
5	GND	GND	GND		GND	GND		GND					
6	BCK (-) / DSD BCK (-)	BCK (-) / DSD BCK (-)	BCK (-) / DSD BCK (-)		BCK (-) / DSD BCK (-)	BCK (-) / DSD BCK (-)							
7	L/RCLK (-) / DSD DATA L (-)	L/RCLK / DSD DATA L	L/RCLK / DSD DATA L		L/RCLK / DSD DATA R	L/RCLK / DSD DATA R							
8	GND	GND	GND		GND	GND		GND					
9	L/RCLK / DSD DATA L	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-) / DSD DATA L (-)		L/RCLK (-) / DSD DATA R (-)	L/RCLK (-) / DSD DATA R (-)		DSDBCK					
10	NOT USED	NOT USED	MCLK		NOT USED	MCLK							
11	GND	GND	GND		NOT USED	GND		GND					
12	NOT USED	NOT USED	MCLK (-)		NOT USED	MCLK (-)							
13	NOT USED	NOT USED	NOT USED		NOT USED	NOT USED							
14	NOT USED	NOT USED	NOT USED		DSDDE	NOT USED							
15	NOT USED	DSD detect	DSD detect		NOT USED	DSD detect							
16	NOT USED	NOT USED	NOT USED		NOT USED	NOT USED							
17	GND	GND	GND		GND	GND		GND					
18	5V out from the DAC	5V	5V		NOT USED	5V							
19	GND	GND	GND		GND	GND		GND					
shell													
MCLK RATES	internal master clock	internal master clock	1X or 2X			1X or 2X							
VOLTAGE	LVDS	LVDS	LVDS			LVDS		3.3V					
CONNECTOR	HDMI	HDMI	HDMI		HDMI	HDMI		HDMI					
COMMENTS	W4S Spec do not send 5V from source	Gustard Spec1	Gustard Spec1		LKS Spec	Gustard Spec2							

Company	Sonore	PS Audio	Auna	Empirical Audio	Audio-gd	K&K Audio	Musica Pristina	Channel Islands Audio	Sthal-Tek	Matrix			
Pin #	Signature Series DAC	PWD MKI/MKII, PWT	i2s Devices	Off-Ramp 5	i2s devices	Extreme RAKK	i2s devices	Transient MKII	i2s devices	X-SPDIF 2			
1	SD (-)	SD (-)	SD (-)	SD (-)	SD (-)	SD (-)	SD (-)	SD (-)	SD (-)	SD (-)			
2	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND			
3	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD			
4	BCK	BCK	BCK	BCK	BCK	BCK	BCK	BCK	BCK	BCK			
5	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND			
6	BCK (-)	BCK (-)	BCK (-)	BCK (-)	BCK (-)	BCK (-)	BCK (-)	BCK (-)	BCK (-)	BCK (-)			
7	L/RCLK (-)	L/RCLK (-)	L/RCLK (-)	L/RCLK (-)	L/RCLK (-)	L/RCLK (-)	L/RCLK (-)	L/RCLK (-)	L/RCLK (-)	L/RCLK (-)			
8	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND			
9	L/RCLK	L/RCLK	L/RCLK	L/RCLK	L/RCLK	L/RCLK	L/RCLK	L/RCLK	L/RCLK	L/RCLK			
10	NOT USED	MCLK	MCLK	MCLK	MCLK	NOT USED	MCLK	MCLK	MCLK	MCLK			
11	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND			
12	NOT USED	MCLK (-)	MCLK (-)	MCLK (-)	NOT USED	NOT USED	MCLK (-)	MCLK (-)	MCLK (-)	MCLK (-)			
13	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED			
14	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED			
15	NOT USED	SCL - i2c	SCL - i2c	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	SCL - i2c			
16	NOT USED	SDA - i2c	SDA - i2c	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	SDA - i2c			
17	GND	GND	GND	GND	GND	GND	GND	GND	GND	NOT USED			
18	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED			
19	GND	GND	GND	GND	auto on control / not used	GND	GND	GND	GND	GND			
shell													
				22.5792MHz, 24.576MHz	internal master clock for ESS								
MCLK RATES	internal master clock	22.5792MHz, 24.576MHz	22.5792MHz, 24.576MHz		DACs	internal master clock	internal master clock	22.5792MHz, 24.576MHz	22.5792MHz, 24.576MHz	22.5792MHz, 24.576MHz			
VOLTAGE	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS			
CONNECTOR	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI			
COMMENTS	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	other specs avaialble			

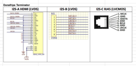
Company	Wyred4Sound	Pink Faun	Audiobyte	Audiobyte	Rockna	Rockna	Wadia	SMSL		JAVS	Singxer	SMSL	
Pin #	DAC-2	i2s devices	Silver / Black Dragon	Hydra, Hydra +, Hydra X	Wavedream DAC	Wavedream Trans	Intuition	X-USB i2s outut		i2s devices	SU-1	X-USB i2s input	
1	SD	SD	SD	SD	SD / DSD DATA L	SD / DSD DATA L	SD	SD		SD	SD	SD	
2	GND	GND	GND	GND	GND	GND	GND	GND		GND	GND	SD	
3	SD (-)	SD (-)	SD (-)	SD (-)	SD (-) / DSD DATA L (-)	SD (-) / DSD DATA L (-)	SD (-)	SD (-)		SD (-)	SD (-)	SD (-)	
4	BCK	BCK	BCK	BCK	BCK / DSD BCK	BCK / DSD BCK	BCK	BCK		L/RCLK	BCK	GND	
5	GND	GND	GND	GND	GND	GND	GND	GND		GND	GND	BCK	
6	BCK (-)	BCK (-)	BCK (-)	BCK (-)	BCK (-) / DSD BCK (-)	BCK (-) / DSD BCK (-)	BCK (-)	BCK (-)		L/RCLK (-)	BCK (-)	BCK (-)	
7	L/RCLK (-)	L/RCLK	L/RCLK	L/RCLK	L/RCLK (-) / DSD DATA R	L/RCLK (-) / DSD DATA R	L/RCLK	L/RCLK		BCK	L/RCLK	GND	
8	GND	GND	GND	GND	GND	GND	GND	GND		GND	GND	L/RCLK	
9	L/RCLK	L/RCLK (-)	L/RCLK (-)	L/RCLK (-)	L/RCLK / DSD DATA R (-)	L/RCLK / DSD DATA R (-)	L/RCLK (-)	L/RCLK (-)		BCK (-)	L/RCLK (-)	L/RCLK (-)	
10	NOT USED	MCLK	MCLK	MCLK	MCLK	MCLK	MCLK	MCLK		MCLK	MCLK	GND	
11	GND	GND	GND	GND	GND	GND	GND	GND		GND	GND	MCLK	
12	NOT USED	MCLK (-)	MCLK (-)	MCLK (-)	MCLK (-)	MCLK (-)	MCLK (-)	MCLK (-)		MCLK (-)	MCLK (-)	MCLK (-)	
13	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	FS0		NOT USED	DSD on out	GND	
14	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED		NOT USED	mute out	FS0	
15	NOT USED	NOT USED	?	?	?	?	?	DSD EN		NOT USED	SCL	DSD EN	
16	NOT USED	NOT USED	?	?	?	?	?	FS1		NOT USED	SDA	FS1	
17	GND	GND	GND	GND	GND	GND	GND	GND		GND	GND	NOT USED	
18	5V out from the DAC	16k to GND	5V	5V	5V	5V	5V	5V		DET i2s	5V	5V	
19	GND	GND	GND	GND	GND	GND	GND	FS2		GND	NOT USED	FS2	
shell													
MCLK RATES	internal master clock	22.5792MHz, 24.576MHz	?	49.152MHz, 45.1584MHz	?	49.152MHz, 45.1584MHz	?						
VOLTAGE	LVDS	LVDS or 3.3V TTL	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS		LVDS	LVDS	LVDS	
CONNECTOR	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI		HDMI	HDMI	HDMI	
COMMENTS	W4S Spec do not send 5V from source	other specs avaialble	Rockna Spec	other specs avaialble	Rockna Spec	Rockna Spec	Rockna Spec	SMSL Spec		JAVS Spec	Singxer Spec various specs available	SMSL Spec	

PS Audio Specification

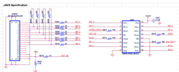


Denafrips Terminator

I2S-A HDMI (LVDS)	I2S-B (LVDS)	I2S-C RJ45 (LVCMOS)



JAVS Specification



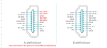
JAVS LINK2

Pin#	PCM Mode	DSD Mode	In/Out	
1	PCM Data +	DSD Left Data +	O	--> PCM Data / DSD-L Data +
2	GND			
3	PCM Data -	DSD Left Data -	O	--> PCM Data / DSD-L Data -
4	LRCLK +	DSD Right Data +	O	--> PCM L-R Clock / DSD-R Data +
5	GND			
6	LRCLK -	DSD Right Data -	O	--> PCM L-R Clock / DSD-R Data -
7	SCLK +	DSD Clock +	O	--> PCM Shift Clock / DSD Clock +
8	GND			
9	SCLK -	DSD Clock -	O	--> PCM Shift Clock / DSD Clock -
10	MCLK +		O	--> Master Clock +
11	GND			
12	MCLK -		O	--> Master Clock -
13	High Clock			--> Will be used with future products to indicate high sampling rate (384KHz, DSD256 etc)
14	Not Used			
15	DSD Status 0		O	--> Indicate PCM/DSD status (check table, below)
16	DSD Status 1		O	
17	GND			
18	+5V Output		O	--> With 2.2 ohm series resistor
19	Slave Status		I	<-- Connect to ground to enable signal output

High Clock	1	1	1	1	0	0	0	0
DSD Status 0	0	0	1	1	0	0	1	1
DSD Status 1	0	1	0	1	0	1	0	1
	DSD128	DSD64	N/A	PCM (<352.8K)	DSD512	DSD256	PCM 352.8K	PCM 384K

Matrix Specification

You can set IIS port definition through the bottom dip switch; can reverse polarity of IIS deferential signal, in order to adapt different definition of IIS device.switch on for A definition; switch off for B definition (B definition for all Matrix Audio products.), as shown below:



Pink Faun Spec

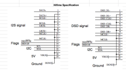
Pink Faun I2S Bridge HDMI connector pinout

Pin 1 = DATA +
Pin 2 = DATA Shield
Pin 3 = DATA -
Pin 4 = BCK/SCK+
Pin 5 = BCK/SCK Shield
Pin 6 = BCK/SCK-
Pin 7 = WS/LRCK/FS+
Pin 8 = WS/LRCK/FS Shield
Pin 9 = WS/LRCK/FS-
Pin 10 = MCLK +
Pin 11 = MCLK Shield
Pin 12 = MCLK -
Pin 13 = NC
Pin 14 = NC
Pin 15 = NC
Pin 16 = NC
Pin 17 = GND
Pin 18 = 10k to GND
Pin 19 = GND

1) The Pink Faun I2S bridge is deliverable both in LVDS and 3.3V TTL version
2) It is possible to have the WS/LRCK/FS pins inverted for PS audio pinout compliancy

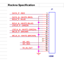
pink faun high-end audio

Hifime Specification



leave flags and i2c open if not used

Rockna Specification



5V_IN_OUT is a 5V capable input for the receiver and a 5V (or 3.3V) source for the transmitter.
Caution! Do not use this input as a power source, use only for detection (max 10mA, unless otherwise noted).
The shell is tied to Earth Ground.

Rockna Wavedream DAC
SD / DSD DATA L
GND
SD (-) / DSD DATA L (-)
BCK / DSD BCK
GND
BCK (-) / DSD BCK (-)
L/RCLK (-) / DSD DATA R
GND
L/RCLK / DSD DATA R (-)
MCLK
GND
MCLK (-)
NOT USED
NOT USED
?
?
GND
5V
GND

LKS Specification

1. I2S_DATA+ / DSD_DATA1+ 2. NC
3. I2S_DATA- / DSD_DATA1- 4. I2S_BCK+ / DSDCLK+
5. NC 6. I2S_BCK- / DSDCLK-
7. I2S_LRCK+ /DSD_DATA2+ 8. NC
9. I2S_LRCK- /DSD_DATA2- 10. NC
11~13. NC
14. DSDOE (=1:DSD Mode 0: PCM Mode)
15~16. NC 17. GND
18. NC 19. GND

SMSL Specification

I²S /DSD port definition Output:

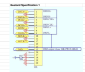
1:GND 6:BCK- 11:MCLK+ 16:FS1
2:DATA+ 7:GND 12:MCLK- 17:NC
3:DATA- 8:LRCK+ 13:GND 18:+5V
4:GND 9:LRCK- 14:FS0 19:FS2
5:BCK+ 10:GND 15:DSD-EN

I²S /DSD port definition Input:

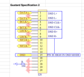
1:DATA+ 6:BCK- 11:GND 16:FS1
2:GND 7:LRCK+ 12:MCLK- 17:GND
3:DATA- 8:GNA 13:FS0 18:+5V
4:BCK+ 9:LRCK- 14:NC 19:FS2
5:GND 10:MCLK+ 15:DSD-EN

X-Sabre pro DAC

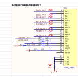
Gustard Specification 1



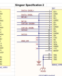
Gustard Specification 2



Singxer Specification 1

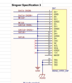


Singxer Specification 2

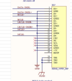


GUSTARD standard
Use PIN 15
SU-1 firmware V202
switch 3 on switch 4 on

Singxer Specification 3

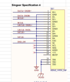


PS Audio standard
Automatic identification of DSD or PCM
SU-1 firmware V202
All switch off

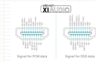


HOLO Audio standard
Automatic identification of DSD or PCM
SU-1 firmware V200
All switch off

Singxer Specification 4



LKS standard
Use PIN 14
SU-1 firmware V200
switch 2 on switch 4 on



Company / Device	Empirical Audio	Empirical Audio	Mhdt	Modified Hiface	Kingrex	Aqua	M2Tech	Area	Audio-gd
Pin #	Overdrive	Off-Ramp 1,2,3,4, Pace Car	USBridge	JK i2s Hiface		AQlink i2s devices	EVO, Vaughan	i2s devices	RJ45 inputs
1	BCK	BCK	BCK	BCK	BCK	DALE *1	SD	SD	SD
2	GND	GND	GND	GND	GND	MCLK *2	GND	GND	GND
3	SD	SD	SD	SD	SD	GND1	L/RCLK	L/RCLK	L/RCLK
4	GND	GND	GND	GND	GND	BCK	GND	GND	GND
5	L/RCLK	L/RCLK	L/RCLK	L/RCLK	L/RCLK	GND2	BCK	BCK	BCK
6	GND	GND	GND	GND	GND	L/RCLK	GND	GND	GND
7	MCLK	MCLK	MCLK	MCLK	MCLK	HL *3	MCLK	MCLK	MCLK
8	GND	GND	GND	GND	GND	SD	GND	GND	GND
9									
10									
shell									
MCLK RATES	49.152MHz, 45.1584 MHz	49.152MHz, 45.1584MHz	49.152MHz, 45.1584 MHz	22.5792MHz, 24.576 MHz			22.5792MHz, 24.576 MHz	22.5792MHz, 24.576 MHz	
VOLTAGE	3.3V	5V or 3.3V	3.3V @ 35mA	3.3V	3.3V	3.3V	3.3V	3.3V	
CONNECTOR	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45
COMMENTS	Empirical Audio Spec	Empirical Audio Spec	Empirical Audio Spec	Empirical Audio Spec	Empirical Audio Spec	Aqua Spec	M2Tech Specification	M2Tech Specification	M2Tech Specification

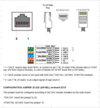
Company / Device	QLS		Pop Pulse	Teradak	Ayon	Northstar Design	MSB Technology	Lite Audio	Melodious Audio
Pin #	QA660	Model IV	PC-Link	X2	Skylla	MKII192, Extremo, DAC32	devices w/i2s	Dac 83	MX-U8
1	SD	SD / DSD DATA R	GND	GND	GND	MCLK GND	NETWORK	GND	GND
2	GND	GND	SD	MCLK	BCK	MCLK	NETWORK (-)	GND	MCLK
3	L/RCLK	L/RCLK / DSD DATA L	GND	GND	GND	L/RCLK GND	GND	L/RCLK (-)	GND
4	GND	GND	L/RCLK	L/RCLK	L/RCLK	L/RCLK	CAN BUS (-)	L/RCLK	SD
5	BCK	BCK / DSD BCK	GND	GND	GND	SD GND	CAN BUS	SD (-)	DSD refer to note
6	GND	GND	BCK	SD	SD	SD	GND	SD	BCK
7	MCLK	DSDOE	GND	GND	GND	BCK GND	MCLK	BCK (-)	DIN refer to note
8	GND	GND	MCLK	BCLK	?	BCK	MCLK (-)	BCK	L/RCLK
9									
10									
shell									
MCLK RATES						22.5792MHz, 24.576 MHz	22.5792MHz, 24.576MHz		
VOLTAGE						5V	LVDS, 250mv	LVDS	
CONNECTOR	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45
COMMENTS	M2Tech Specification	LKS Specification	Pop Pulse Specification	Teradak Specification	reported not working	order might be reversed	MSB Spec		Melodious Specification
									various specs available refer below

Company / Device	Yulong	Soundaware	YBA	Zanden Audio	Denafrips	Denafrips	Accuphase	APL HiFi	APL HiFi	Company / Device
Pin #	devices w/i2s	D100	Paasion Series	devices w/i2s	Terminator - i2sC	Terminator - i2sB	HS-Link	DSD-S DTR input	DSD-M DTR1-2 input	Pin #
1	GND				MCK	MCK	SD	DSD-R	GND	1
2	BCK				GND	MCK (-)	SD (-)	Audio analog mute enable (1=mute/0=unmute), 3.3V If unused connect to GND	SDATA/DSD-R (-)	2
3	GND				SD	LRCK	LRCK	DSD-L	SDATA/DSD-R (+)	3
4	SD				GND	LRCK (-)	BCK (-)	GND	LRCK/DSD-L (+)	4
5	GND				BCK	BCK	BCK	BCK	LRCK/DSD-L (-)	5
6	MCLK				GND	BCK (-)	LRCK (-)	GND	BCK (-)	6
7	GND				LRCK	SD	Key	MCK	BCK (+)	7
8	L/RCLK				GND	SD (-)	Key (-)	GND	DSD/PCM control DSD=1/PCM=0	8
9									GND	9
10									GND	10
shell										shell
MCLK RATES					22.5792MHz, 24.576MHz	22.5792MHz, 24.576MHz		22.5792MHz, 24.576MHz	internal master clock	MCLK RATES
VOLTAGE						LVDS	LVDS	single ended LVDS, 0.3V, 50 Ohms impedance	Balanced LVDS, 0.3V 110 Ohm impedance	VOLTAGE
CONNECTOR	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45 10 pin or 8pin	CONNECTOR
COMMENTS	Yulong Specification									COMMENTS

Empirical Audio Spec

I2S RJ-45 connector pinout
Pin 1 - SCLK
Pin 2 - SCLK return
Pin 3 - SDATA
Pin 4 - SDATA return
Pin 5 - L/RCLK
Pin 6 - L/RCLK return
Pin 7 - MCLK
Pin 8 - MCLK return

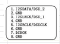
Aqua Specification



M2Tech Specification

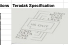
1) SDATA
2) GND
3) LRCK (FS)
4) GND
5) SCLK (BIT CLOCK)
6) GND
7) MCLK
8) GND

LKS Specification

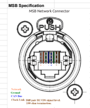


Pop Pulse Specifications

Teradak Specification



MSB Specification



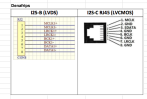
Melodious Specification 1

Melodious Specification 2

Yulong Specification

U18 I2S output pin From left to right
2:SCLK
4:DATA
6:MCLK
8:LRCK
1/3/5/7:GND

Denafrips



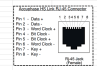
ALP Specification

DSD-S converter DTR input.
RJ-45 connector - 8 pins.
Accepts DSD64 (2.8MHz) and DSD128 (5.6MHz) only, no PCM.
All active data/clocks pins must be single ended LVDS level (about 0.3V) at 50 Ohms impedance.
Mute pin is 3.3V logic level.

1=DSD-R
2=Audio analog mute enable (1=mute/0=unmute). If unused connect to GND.
3=DSD-L
4=GND
5=Bit Clock (BCK)
6=GND
7=Master Clock (MCK). Must be 22.5792MHz or 24.576MHz.
8=GND

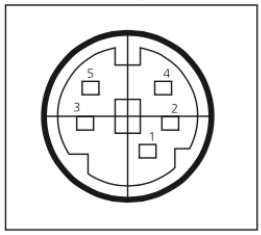
DSD-M converter DTR1 and DTR2 inputs.
RJ-45 connector - 10 pins. But RJ-45 8pin connector/cable can be used eventually too (pins 2-9 correspond to 1-8).
Accepts DSD64, DSD128 and PCM up to 384kHz/32bit in Philips I2S format.
No Master Clock is required.
All active data/clocks pins are Balanced LVDS standard at 110 Ohm impedance.
DSD/PCM selection control pin is 3.3V level. Please note that 5V is not acceptable and may damage the DSD-M.

1=GND
2=DATA/DSD-R (-)
3=DATA/DSD-R (+)
4=LRCK/DSD-L (+)
5=LRCK/DSD-L (-)
6=BCK (-)
7=BCK (+)
8=DSD/PCM control. DSD=1/PCM=0
9=GND
10=GND



Company / Device Pin #	Acoustic Plan	Company / Device Pin #	Audio Alchmey devices w/i2s	April Music devices w/i2s	Perpetual Audio P-1A	Camolot ARTHUR	Channel Islands Audio Transient MKII	E&J Audio SE-1	Company / Device Pin #
1		1	L/RCLK	L/RCLK	L/RCLK	L/RCLK	L/RCLK	NOT USED	1
2		2	BCK	BCK	BCK	BCK	BCK	MCLK	2
3		3	SD	SD	SD	SD	SD	SD	3
4		4	MCLK	MCLK	MCLK	MCLK	MCLK	BCK	4
shell		5	see note	see note	see note	see note	see note	L/RCLK	5
		shell	GND	GND	GND	GND	GND	NOT USED	6
								GND	shell
MCLK RATES									
VOLTAGE			5V	5V	5V	5V	5V		
CONNECTOR	4 pin DIN		4/5 pin DIN	5 pin DIN	5 pin DIN	5 pin DIN	5 pin DIN	6 pin DIN	
COMMENTS	Acoustiv Plan Spec		Audio Alchemy Spec refer to AA pin types tab	Audio Alchemy Spec 256 x sample rate	Audio Alchemy Spec	Audio Alchemy Spec	Audio Alchemy Spec	EJ Audio Spec	

Audio Alchemy Spec



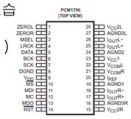
PIN1: Word Clock
PIN2: Bit Clock
PIN3: Audio Data
PIN4: Master Clock
PIN5: Not Connected
Shield Circuit Ground
Shield Circuit Ground

Note P5:sometimes de-emphisis

EJ Audio Spec

*기기후면 DIN단자 모습

1 : 미사용
2 : 마스터클럭(시스템클럭 SCK)
3 : 데이터클럭 (DATA)
4 : 비트클럭 (BCK)
5 : 워드클럭(LR클럭 LRCK)
6 : 미사용
*GROUND 는 DIN 단자 외곽 금속에 접지



Company / Device	CEC	Audio Logic	Muse	Sonic Fontiers	Assemblage	Company / Device
Pin #	TL-51X transport		Model 2+ DAC		DAC 3.1	Pin #
1	GND					1
2	BCK					2
3						3
4	L/RCLK					4
5						5
6	SD					6
7						7
8	de-emphisis					8
9	MCLK (output)					9
shell						shell
MCLK RATES	16.9344 only					MCLK RATES
VOLTAGE						VOLTAGE
CONNECTOR	D-SUB	D-SUB	D-SUB		D-SUB	CONNECTOR
COMMENTS	Superlink				i2se	COMMENTS
plese send info to: sonorejr@gmail.com						

Acronyms used in Audio Alchemy products			
DDE – Digital Decoding Engine, a digital to analogue converter			
DDS – Digital Drive System, a transport			
DTI – Digital Transmission Interface, a digital to digital processor			
CD transports	**i2s pin type**	**Image URI**	
DDS 1.0 (Sony drive based three blocks transport)		email image to sonorejr@gmail.com	
DDS 1.1	not included	http://blogs.c.yimg.jp/res/blog-4f-3d/auc_mk0403/folder/1231916/58/37958058/img_1?1368453413	
DDS 2.0 (aka DDS II Sony drive based transport)	not included	http://audiogo.ru/wp-content/uploads/2013/12/aa-dds-ii-back.jpeg	
DDS 3.0 (aka DDS III Sony drive based transport)	not included	http://kahlaudio.com/wp-content/uploads/2013/02/DSCN2417-1024x500.jpg	
DDS Pro (Pioneer Stable Platter drive based two blocks transport)	5 pin	http://img.canuckaudiomart.com/uploads/large/270846-audio_alchemy_dds_pro_with_free_camelot_i2s_cable.jpg	
CD players	**i2s pin type**	**Image URI**	
ACD-1		email image to sonorejr@gmail.com	
ACD-2	not included	https://s.yimg.com/aw/api/res/1.2/tbcz09uMB3S16uBFg2sc8g--/YXBwaWQ9eXR3YXVjdGlvbnNlcnZpY2U7aD00ODA7cT04NTtyb3RhdGU9YXV0bztzcj0xLjI7c3M9MS4yO3c9NjQw/http://nevec-img.zenfs.com/prod/tw_ec05-7/5184ae7d-caaf-47bf-b4eb-1e4842e9ee3e.jpg	
ACD Pro (Pioneer Stable Platter drive based player)	not included	http://img.usaudiomart.com/uploads/large/503148-audio_alchemy_acdpro_pioneer_stable_platter_cd_player_transport.jpg	
Digital Drive Controller	not included	http://product-images.highwire.com/4603068/6678-5.jpg	
Digital processors	**i2s pin type**	**Image URI**	
DDE 1.0 – 1-bit	4 pin	http://i488.photobucket.com/albums/rr246/naivan21c/AudioAlchemy2.jpg	http://audiogo.ru/
DDE 1.1	5 pin	http://img.photobucket.com/albums/v257/benjaminnelson/misc002.jpg	
DDE 1.2 – 20-bit, HDCD, TOSLink/BNC/XLR/I2s inputs (similar to DDE 3.0)		email image to sonorejr@gmail.com	
DDE 2.0 – 20-bit, TOSLink/3xBNC inputs	not included	http://img.canuckaudiomart.com/uploads/large/131811-audio_alchemy_dac_version_20.jpg	
DDE 3.0 – 20-bit, HDCD, TOSLink/BNC/I2s inputs (optional dithering and remote control processor)	5 pin	http://audiogo.ru/wp-content/uploads/2014/03/aa-dde3-backjpg.jpg	
DTI 1.0 – a jitter reducing processor	5 pin	http://audiogo.ru/wp-content/uploads/2013/11/audio-alchemy-dde-dti-2.jpg	
DTI 2.0 – a jitter reducing processor	5 pin	http://i30.servimg.com/u/f30/13/90/57/62/dti_re10.jpg	
DTI Pro – a jitter reducing processor	5 pin	http://img.canuckaudiomart.com/uploads/large/258230-audio_alchemy_dde_v30_and_dti_pro_hdcd_ready.jpg	
DTI Pro32 – a jitter reducing and dithering processor	5 pin	http://img.canuckaudiomart.com/uploads/large/183904-audio_alchemy_dti_pro_32.jpg	
DTI+ – a jitter reducing processor	not included	http://www.hifido.co.jp/photo/09/348/34840/b.jpg	
UltraDAC – Combination of a DTI and DAC-In-The-Box (DITB) in one chassis	not included	email image to sonorejr@gmail.com	
DAC-In-The-Box – an inexpensive DAC[3]	not included	http://www.hifidatabase.com/static/gallery/6/3196-dac-in-the-boxb.jpg	
Dac*Man – an inexpensive DAC with integrated analog audio cables	not included	http://www.hifido.co.jp/photo/07/012/01296/d.jpg	
EDI – Extended Digital Interface, an BNC in – I2S out jitter reducing processor	5 pin	email image to sonorejr@gmail.com	
XDP – Extended Digital Processor, an I2S input DAC	5 pin	http://www.audiocircle.com/image.php?id=27094	
Preamplifiers	**i2s pin type**	**Image URI**	
DLC – Digital Line Controller, a remote-controlled preamplifier	5 pin	http://images.audioasylum.com/usr/y2009/04/23119/acd3_005.JPG	
LIS – Line Input Selector, tape loop and input/output expander for the DLC		email image to sonorejr@gmail.com	
VAC-In-The-Box – A dedicated MM/MC phono preamplifier[4]	not included	http://img.canuckaudiomart.com/uploads/large/122537-phono_preamp__audio_alchemy_vacinthebox.jpg	
Amplifiers	**i2s pin type**	**Image URI**	
OM150 – 150Wpc (into 8 ohms),250Wpc (into 4 ohms) solid state stereo amplifier, class A up to 20W (40W into 4 ohms)	n/a	http://img.usaudiomart.com/uploads/large/557645-audio_alchemy_overture_om150_power_amp_150_wpc.jpg	
OM150.2 - 150Wpc (into 8 ohms),250Wpc (into 4 ohms) solid state stereo amplifier, class A up to 20W (40W into 4 ohms)	n/a		
OM90.1 – 90W (into 8 ohms), 160W (into 4 ohms) amplifier, class A at 8 ohms and 4 ohms	n/a		
OM50 - 50Wpc	n/a		
OM50.2 - 50Wpc	n/a		
Accessories	**i2s pin type**	**Image URI**	
HPA 1.0 – HeadPhone Amplifier, a dedicated headphone amplifier	not included	https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQvP_17oTTSPdXbLVdaeYPQqezpcoGY2uYJNPC8PvPMuzpTYSn2	
RW-1 – Remote Wand, an optional (DDE 3.0) or standard (DLC) remote control for Audio Alchemy gear	n/a		
VRE 1.0 – Visual Reality Engine, a composite to SVHS external comb filter	4 pin	http://audiogo.ru/wp-content/uploads/2013/11/audio-alchemy-vre-2.jpg	
Power	**i2s pin type**	**Image URI**	
Power Station One – a basic high-current power supply	n/a		
Power Station Two – an upgraded power supply that can power two separate Audio Alchemy products	n/a		
Power Station Three – an upgraded power supply that can supply higher current to a single Audio Alchemy product	n/a		
Power Station Four – a high-current dual-output power supply	n/a		
Power Station Five – a high-current power supply for DDE 1.2	n/a		
Power Station Automotive – a 12V input (car battery) dual-output power supply	n/a		
PSU 150M – an optional power supply for use an OM150 amplifier in dual mono mode	n/a		
Cables	**i2s pin type**	**Image URI**	
ClearLink – an interconnect cable	n/a		
ClearStream – an interconnect cable with built-in RF suppression circuit	n/a		
ClearStream Digital – a coaxial digital cable with built-in RF suppression circuit	n/a		
I²S – an I²S cable	n/a		
DST 1.0 – Data Stream Transceiver, an active digital cable with TOS/BNC input and BNC out	n/a		

Company / Device	BMC Audio	
BNC	**BNC i2s devices**	
1	MCLK	
2	BCLK	
3	L/RCLK	
4	SD	
MCLK RATES		
VOLTAGE		
CONNECTOR	BNC	
COMMENTS	Superlink	
BMC Specification		

master clock	MCLK					
serial data	SD	SDATA	SDIN	SDOUT	DACDAT	ADCDAT
word select	WS	LRCLK	left/right clock	frame select	frame sync	
bit clock	SCK	BCLK	SCLK	serial clock		

DIP SW	Description	Label	PS Audio, Denafrips, M2Tech, Aune, Mola Mola, Empirical Audio, Channel Islands Audio, Matrix Audio,Topping (default)	Audio Gd	Holo Audio	Gustard	L.K.S	Wyred4Sound
SW1	DSD_ON PIN 13	HP13	OFF	OFF	OFF	OFF	OFF	OFF
SW2	DSD_ON PIN 14	HP14	OFF	OFF	OFF	OFF	ON	OFF
SW3	DSD_ON PIN 15	HP15	OFF	OFF	OFF	ON	OFF	OFF
SW4	DSD_ON PIN 16	HP16	OFF	OFF	OFF	OFF	OFF	OFF
SW5	BCLK SIGNAL OPPOSITION	BCH	OFF	OFF	OFF	OFF	OFF	ON
SW6	DSD LR CHANNEL OPPOSITION	DCH	OFF	OFF	ON	OFF	OFF	OFF
SW7	LRLK SIGNAL OPPOSITION	LRCH	ON	ON	ON	OFF	OFF	ON
SW8	DATA SIGNAL OPPOSITION	DACH	ON	OFF	ON	OFF	ON	ON
SW9	MCLK CLOCK off = 22.5792/24.576, on = 45.1584/49.152	X2	OFF	OFF	OFF	OFF	OFF	OFF
SW10	5V Select on/off	5V_Pin18	OFF	?	OFF	?	?	OFF
	Updated: 11/04/2022							

DIP SW	Description	Label	PS Audio, Denafrips, M2Tech, Aune, Mola Mola, Empirical Audio, Channel Islands Audio, Matrix Audio	PS Audio (alt)	Audio Gd	Holo Audio	Gustard	L.K.S	Wyred4Sound
SW1	DSD_ON PIN 13	HP13	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW2	DSD_ON PIN 14	HP14	OFF	OFF	OFF	OFF	OFF	ON	OFF
SW3	DSD_ON PIN 15	HP15	OFF	OFF	OFF	OFF	ON	OFF	OFF
SW4	DSD_ON PIN 16	HP16	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW5	BCLK SIGNAL OPPOSITION	BCH	OFF	OFF	OFF	OFF	OFF	OFF	ON
SW6	DSD LR CHANNEL OPPOSITION	DCH	ON	OFF	OFF	ON	OFF	OFF	OFF
SW7	LRLK SIGNAL OPPOSITION	LRCH	ON	ON	ON	ON	OFF	OFF	ON
SW8	DATA SIGNAL OPPOSITION	DACH	ON	OFF	OFF	ON	OFF	ON	ON
SW9	MCLK CLOCK off = 22.5792/24.576, on = 45.1584/49.152	X2	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SW10	5V Select on/off	5V_Pin18	OFF	OFF	?	OFF	?	?	OFF
	Updated: 1/11/2021								

SONORE by Simple Design

the sound has to be in concert with the music....

WHAT WE DO: We offer a select line of products to improve your computer audio listening experience.

DACs and Interfaces	Sonore	Wyred4Sound	Wyred4Sound	PS Audio	PS Audio	K&K Audio	Audiobyte	Rockna	Wadia
PIN #	**Signature Series DAC**	**DAC-2**	**DAC-2 DSD**	**PWD MKI, MKII**	**PWD DSD**	**Extreme RAKK**	**Silver Dragon**	**Wavedream**	**Intuition**
1	SD (-)	SD (-)	SD (-) / DSD DATA R (-)	SD (-)	SD (-) / DSD DATA R (-)	SD (-)	SD	SD	SD
2	GND	GND	GND	GND	GND	GND	GND	GND	GND
3	SD	SD	SD / DSD DATA R	SD	SD / DSD DATA R	SD	SD (-)	SD (-)	SD (-)
4	BCK	BCK	BCK / DSD BCK	BCK	BCK / DSD BCK	BCK	BCK	BCK	BCK
5	GND	GND	GND	GND	GND	GND	GND	GND	GND
6	BCK (-)	BCK (-)	BCK (-) / DSD BCK (-)	BCK (-)	BCK (-) / DSD BCK (-)	BCK (-)	BCK (-)	BCK (-)	BCK (-)
7	L/RCLK (-)	L/RCLK (-)	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-)	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-)	L/RCLK	L/RCLK	L/RCLK
8	GND	GND	GND	GND	GND	GND	GND	GND	GND
9	L/RCLK	L/RCLK	L/RCLK / DSD DATA L	L/RCLK	L/RCLK / DSD DATA L	L/RCLK	L/RCLK (-)	L/RCLK (-)	L/RCLK (-)
10	NOT USED	NOT USED	NOT USED	MCLK	NOT USED	NOT USED	MCLK	MCLK	MCLK
11	GND	GND	GND	GND	GND	GND	GND	GND	GND
12	NOT USED	NOT USED	NOT USED	MCLK (-)	NOT USED	NOT USED	MCLK (-)	MCLK (-)	MCLK (-)
13	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED
14	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED
15	NOT USED	NOT USED	NOT USED	SCL - i2c	SCL - i2c	NOT USED	?	?	?
16	NOT USED	NOT USED	NOT USED	SDA - i2c	SDA - i2c	NOT USED	?	?	?
17	GND	GND	GND	GND	GND	GND	GND	GND	GND
18	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	5V	5V	5V
19	GND	GND	GND	GND	GND	GND	GND	GND	GND
shell									
MCLK RATES	internal master clock	internal master clock	internal master clock	22.5792MHz, 24.576MHz	internal master clock	internal master clock	?	?	?
VOLTAGE	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS
CONNECTOR	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI
COMMENTS	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	Rockna Spec pending tests	Rockna Spec pending tests	Rockna Spec pending tests

DACs and Interfaces	Gustard	Love Harmony	MSB Technology	Empirical Audio	M2Tech	Northstar Design	LKS Audio
PIN #	**X12**	**AX-D1**	**ALL DACS w/i2s**	**Overdrive**	**EVO, Vaughan**	**MKII192, Extremo, USB DAC32**	**Model IV**
1	SD / DSD DATA R	DSDR	NETWORK	BCK	SD	MCLK GND	SD / DSD DATA R
2	GND	GND	NETWORK (-)	BCK GND	SD GND	MCLK	SD GND
3	SD (-) / DSD DATA R (-)		GND	SD	L/RCLK	L/RCLK GND	L/RCLK / DSD DATA L
4	BCK / DSD BCK	DSDL	CAN BUS (-)	SD GND	L/RCLK GND	L/RCLK	L/RCLK GND
5	GND	GND	CAN BUS	L/RCLK	BCK	SD GND	BCK / DSD BCK
6	BCK (-) / DSD BCK (-)		GND	L/RCLK GND	BCK GND	SD	BCK GND
7	L/RCLK / DSD DATA L		MCLK	MCLK	MCLK	BCK GND	DSDOE
8	GND	GND	MCLK (-)	MCLK GND	MCLK GND	BCK	GND
9	L/RCLK (-) / DSD DATA L (-)	DSDBCK					
10	NOT USED						
11	GND	GND					
12	NOT USED						
13	NOT USED						
14	NOT USED						
15	DSD detect						
16	NOT USED						
17	GND	GND					
18	5V						
19	GND	GND					
shell							
MCLK RATES	internal master clock		22.5792MHz, 24.576 MHz	49.152MHz, 45.1584MHz	22.5792MHz, 24.576 MHz	22.5792MHz, 24.576 MHz	
VOLTAGE	LVDS	3.3V	LVDS, 250mv	3.3V	3.3V	5V	
CONNECTOR	HDMI	HDMI	RJ45	RJ45	RJ45	RJ45	RJ45
COMMENTS	Gustard Spec pending tests		MSB Spec			might be reversed	

DACs and Interfaces	Ayon	Lite Audio Dac 83	April Music	Audio Alchmey	Perpetual Audio	Camolot	E&J Audio	CEC	Audio Logic	Muse	Sonic Fontiers	Assemblage	DACs and Interfaces
PIN #	**SKYLLA**	**Dac 83**	**DACs w/i2s**	**ALL devices w/i2s**	**P-1A**	**ARTHUR**	**SE-1**	**TL-51X transport**		**Model 2+ DAC**		**DAC 3.1**	PIN #
1	BCK GND	GND	L/RCLK	L/RCLK	L/RCLK	L/RCLK		GND					1
2	BCK	GND	BCK	BCK	BCK	BCK	MCLK	BCK					2
3	L/RCLK GND	L/RCLK (-)	SD	SD	SD	SD	SD						3
4	L/RCLK	L/RCLK	MCLK	MCLK	MCLK	MCLK	BCK	L/RCLK					4
5	SD GND	SD (-)	NOT USED	NOT USED	NOT USED	NOT USED	L/RCLK						5
6	SD	SD						SD					6
7	GND	BCK (-)											7
8	GND	BCK						DEEM					8
9								MCLK (output)					9
10													10
11													11
12													12
13													13
14													14
15													15
16													16
17													17
18													18
19													19
shell			GND	GND	GND	GND							shell
MCLK RATES								16.9344 only					MCLK RATES
VOLTAGE		LVDS	5V	5V	5V	5V							VOLTAGE
CONNECTOR	RJ45	RJ45	5 Pin DIN	4/5 Pin DIN refer to tab	5 Pin DIN	5 Pin DIN	6 Pin DIN	D-SUB	D-SUB	D-SUB		D-SUB	CONNECTOR
COMMENTS	user modifiable		Audio Alchemy Spec 256 x sample rate	Audio Alchemy Spec	Audio Alchemy Spec	Audio Alchemy Spec	EJ Audio Spec	Superlink				i2se	COMMENTS

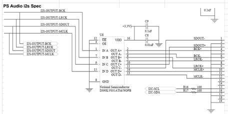
Sources	Sonore	Wyred4Sound	Empirical Audio	PS Audio	PS Audio	CIAudio	Audiobyte	Rockna
PIN #	**Rendu PCM / DSD**	**Music Server**	**Off-Ramp 5**	**PWT**	**NuWave Phone Converter**	**Transient MKII**	**Hydra**	**Wavedream**
1	SD (-) / DSD DATA R (-)	SD (-)	SD (-)	SD (-)	SD (-) / DSD DATA R (-)	SD (-)	SD	SD
2	GND	GND	GND	GND	GND	GND	GND	GND
3	SD / DSD DATA R	SD	SD	SD	SD / DSD DATA R	SD	SD (-)	SD (-)
4	BCK / DSD BCK	BCK	BCK	BCK	BCK / DSD BCK	BCK	BCK	BCK
5	GND	GND	GND	GND	GND	GND	GND	GND
6	BCK (-) / DSD BCK (-)	BCK (-)	BCK (-)	BCK (-)	BCK (-) / DSD BCK (-)	BCK (-)	BCK (-)	BCK (-)
7	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-)	L/RCLK (-)	L/RCLK (-)	L/RCLK (-) / DSD DATA L (-)	L/RCLK (-)	L/RCLK	L/RCLK
8	GND	GND	GND	GND	GND	GND	GND	GND
9	L/RCLK / DSD DATA L	L/RCLK	L/RCLK	L/RCLK	L/RCLK / DSD DATA L	L/RCLK	L/RCLK (-)	L/RCLK (-)
10	MCLK	MCLK	MCLK	MCLK	MCLK	MCLK	MCLK	MCLK
11	GND	GND	GND	GND	GND	GND	GND	GND
12	MCLK (-)	MCLK (-)	MCLK (-)	MCLK (-)	MCLK (-)	MCLK (-)	MCLK (-)	MCLK (-)
13	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED
14	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED
15	NOT USED	NOT USED	NOT USED	SCL - i2c	SCL - i2c	NOT USED	?	?
16	NOT USED	NOT USED	NOT USED	SDA - i2c	SDA - i2c	NOT USED	?	?
17	GND	GND	GND	GND	GND	GND	GND	GND
18	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	NOT USED	5V	5V
19	GND	GND	GND	GND	GND	GND	GND	GND
shell								
MCLK RATES	22.5792MHz, 24.576MHz	22.5792MHz, 24.576 MHz	22.5792MHz, 24.576MHz	22.5792MHz, 24.576MHz	22.5792MHz, 24.576MHz	22.5792MHz, 24.576 MHz	49.152MHz, 45.1584MHz	49.152MHz, 45.1584MHz
VOLTAGE	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS	LVDS
CONNECTOR	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI	HDMI
COMMENTS	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	PS Audio Spec	Rockna Spec pending tests	Rockna Spec pending tests

Sources		Gustard	Love Harmony	Mhdt	Empirical Audio	M2Tech			Modified Hiface		April Music	Audio Alchmey	CIAudio	Sources
PIN #		**U12**	**AX-D1**	**USBridge**	**Off-Ramp 1,2,3,4, Pace Car**	**hiFace EVO**			**JK i2s Hiface**		**CD Players w/i2s**	**ALL devices w/i2s**	**Transient MKII**	PIN #
1		SD / DSD DATA R	DSDR	BCK	BCK	SD			BCK		L/RCLK	L/RCLK	L/RCLK	1
2		GND	GND	BCK GND	BCK GND	SD GND			BCK GND		BCK	BCK	BCK	2
3		SD (-) / DSD DATA R (-)		SD	SD	L/RCLK			SD		SD	SD	SD	3
4		BCK / DSD BCK	DSDL	SD GND	SD GND	L/RCLK GND			SD GND		MCLK	MCLK	MCLK	4
5		GND	GND	L/RCLK	L/RCLK	BCK			L/RCLK		NOT USED	NOT USED	NOT USED	5
6		BCK (-) / DSD BCK (-)		L/RCLK GND	L/RCLK GND	BCK GND			L/RCLK GND					6
7		L/RCLK / DSD DATA L		MCLK	MCLK	MCLK			MCLK					7
8		GND	GND	MCLK GND	MCLK GND	MCLK GND			MCLK GND					8
9		L/RCLK (-) / DSD DATA L (-)	DSDBCK											9
10		MCLK												10
11		GND	GND											11
12		MCLK (-)												12
13		NOT USED												13
14		NOT USED												14
15		DSD detect												15
16		NOT USED												16
17		GND	GND											17
18		5V												18
19		GND	GND											19
shell											GND	GND	GND	shell
MCLK RATES		1X or 2X		49.152MHz, 45.1584 MHz	49.152MHz, 45.1584MHz	22.5792MHz, 24.576 MHz			22.5792MHz, 24.576MHz					MCLK RATES
VOLTAGE		LVDS	3.3V	3.3V @ 35mA	5V or 3.3V	3.3V			3.3V		5V	5V	5V	VOLTAGE
CONNECTOR		HDMI	HDMI	RJ45	RJ45	RJ45			RJ45		5 Pin DIN	4/5 Pin DIN refer to tab	5 Pin DIN	CONNECTOR
COMMENTS		Gustard Spec pending tests							user modifiable		Audio Alchemy Spec	Audio Alchemy Spec	Audio Alchemy Spec	COMMENTS

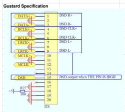
i2s database - quick refrerence guide
by: Jesus R
email: sonorejr@gmail.com
http://www.sonore.us

special thanks to:
Steve Nugent
http://empiricalaudio.com

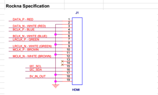
PS Audio i2s Spec



Gustard Specification

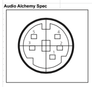


Rockna Specification



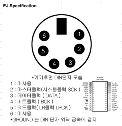
5V_IN_OUT is a 5V capable input for the receiver
and a 5V (or 3.3V) source for the transmitter.
Caution! Do not use this input as a power source,
use only for detection (max 10mA, unless otherwise noted).
The shell is tied to Earth Ground.

Audio Alchemy Spec

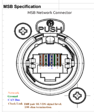


PIN1: Word Clock
PIN2: Bit Clock
PIN3: Audio Data
PIN4: Master Clock
PIN5: Not Connected
Shield Circuit Ground

EJ Specification



MSB Specification



LKS Audio	*
Ayon	*
Aquasound	*
Audio-GD	*