AVDM-ES Overview

AVDM-ES is a range of expanding EtherSound™ based OEM products providing 2, 4, 8, 16, 32, 64 or 128 digital audio I/O with audio digital distribution over Ethernet and ultimate low propagation delay.

AVDM-ES cards include full network or local remote control management of channel assignment and provide GPIO, SPI Port and Serial interfaces to manage directly internal parameters and external devices for professional audio products.

AVDM-ES products enable network remote installation survey thank to its native integrated networked status report capability and to its general purpose I/O read/write function.

AVDM-ES is ready for next steps of EtherSound technology like gigabit, failsafe ring topology, multi sample rate management.

AVDM-ES is ready to accept third party firmware designs as well as other audio transmission and processing technologies

Mechanical Specifications
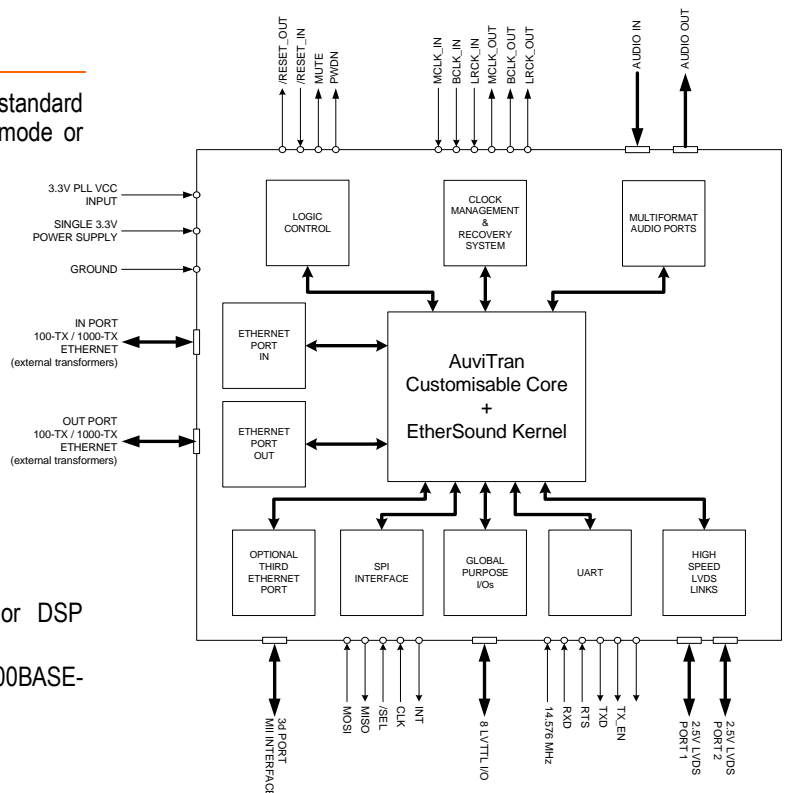
67,6mm x 42mm x 3mm (Actual Size)

Key Features

- Multi channel 24 bits of audio transmission over standard CAT5e or CAT5e Ethernet cable in bidirectional mode or unidirectional mode
- Dual 100BASE-TX / 1000BASE-TX Ethernet Ports
- Improved Jitter reduction Clock Recovery System
- Small form factor for easy integration
- Flash Memory for parameters saving
- Single 3.3V power supply
- Safe or dual boot capability
- Optional Third Ethernet Port
- Two LVDS High speed ports
- Multiple serial audio data format
- 8 General Purpose IO with remote control
- Serial interface UART for local or remote control
- Single SODIMM format connector
- High speed SPI interface for micro-controller or DSP connection
- Few outside components needed for Dual 100/1000BASE-TX Ethernet Port
- Fully Customizable for Custom Designs (FPGA)

Applications

- Product for fixed installation with high quality Audio distribution, paging and zone management:
  - Stadium, Opera, theatre, museum and arts centre
  - Shopping malls and arcades
  - Theme parks and resorts
  - Public Address: touring and fixed sound reinforcement
  - Broadcasting
  - Office blocks, corporate boardrooms and buildings PA
  - Government administrative offices
  - Exhibition and conference Centres
  - Schools, colleges and universities
- Product for Transportation public address
  - Train and bus stations terminals
  - Airport facilities and audio distribution
  - Cruise Ships paging including onboard entertainment and leisure centre audio facilities
- Product for Distribution, routing and control of audio for live and touring installation
  - Live broadcast PA/announcement
  - Live entertainment and concerts
  - TV and Radio Outside Broadcast
  - Electro acoustic music productions
  - Itinerant Museums and Theatres
- Product for Residential and small fixed installation
  - Home multi-zone audio
  - Apartment intercoms
  - Church and Houses of worship
  - Hotels, restaurants and bars
  - Sports and Fitness centres


Specifications and appearance are subject to change without notice

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Technical Specifications

DC Characteristics

Type	Parameter	Name	Min	Typ.	Max.	Unit	Condition
Power Supply	Digital Supply Voltage	VCC	3,1	3,3	3,5	V	
	PLL Supply Voltage	VCC_PLL	3,1	3,3	3,5	V	
	Center Tap Voltage	TVDD		1,2		V	
	Supply current	IVCC			TBD	mA	
Ethernet	Output high voltage, analog TRD+/-[2:1](3:0)	ETH_VOH	-	-	2,7	V	Pin Loaded by transformer and termination
	Output low voltage, analog TRD+/-[2:1](3:0)	ETH_VOL	Gnd-0,3	-	-	V	
Digital I/O	Voltage applied to all user Input		Gnd-0,3	-	Vcc+0,3	V	Driver in a high-impedance state
	Input High voltage	IO_VIH	2	-	-	V	
	Input Low voltage	IO_VIL	-	-	0,8	V	
	Output High voltage	IO_VOH	Vcc-0,4	-	-	V	
	Output Low voltage	IO_VOL	-	-	0,4	V	
	Output High current	IO_IOH	-	-	-16	mA	
	Output Low current	IO_IOL	-	-	16	mA	
LVDS	Differential input voltage	VID	100	350	600	mV	
	Input common mode voltage	VICM	0,3	1,25	2,2	V	
	Differential output voltage	VOD	250	350	450	mV	
	Input common mode voltage	VOCM	1,125	-	1,375	V	

PACKAGE DRAWING & DIMENSIONS

SYMBOL	MIN	NOM	MAX	UNIT
A	41,85	42,00	42,15	mm
A1		20,00		mm
A2		3,20		mm
D	67,45	67,60	67,75	mm
D1		15,35		mm
D2		1,80		mm
D3		1,50		mm
D4		4,20		mm
e		0,60		mm
e1	0,42	0,45	0,48	mm
e2		2,55		mm
e3	3,90	4,00	4,10	mm
e4	0,90	1,00	1,10	mm
h	0,90	1,00	1,10	mm
h1	--	--	2,00	mm
t1	1,00	--	--	mm
t2	6,00	--	--	mm
t3	2,30	--	--	mm
t4	2,30	--	--	mm
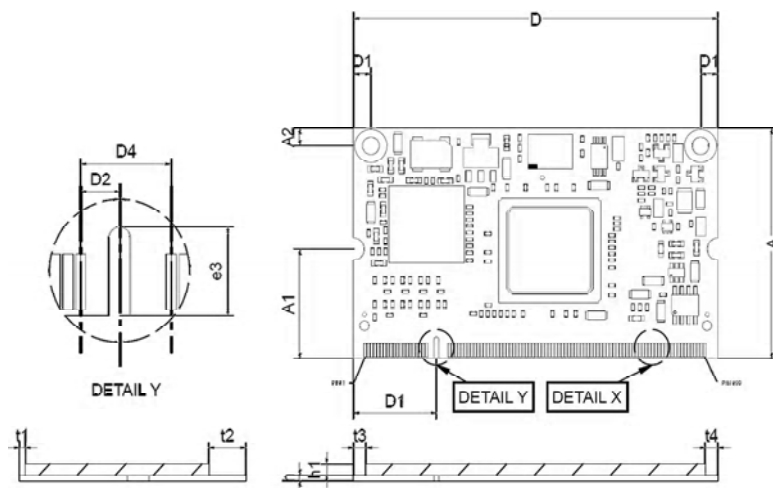
Audio Inputs and Outputs

	AVDM1	AVDM2	AVDM4	AVDM8	AVDM16	AVDM32	AVDM64	AVDM128
Max Number of Inputs / Outputs	1	2	4	8	16	32	64	128

Audio Specifications

Synchronisation PLL locking range	44.1 kHz to 48 kHz ± 2.5%

Synchronization

External clock synchronisation	Automatic from EtherSound network at 48 kHz or 44.1 kHz or External oscillator

Other Inputs/Outputs

GPIO Inputs & Outputs	0-8 LVTTL level input and uutput remotely configurable
Extension Interface	• SPI local interface for control and/or display • UART • 3rd Ethernet Port • Dedicated logic control

Development and Integration Environment

OS Supported	Windows 2000/XP
ES-Monitor	ES-Monitor enables to remotely set, control and monitor an EtherSound network and provides enhanced property pages to manage the AVDM-ES product specific parameters.
Development Tools	PC Telnet based development tools allowing access and control of all of the AVDM devices parameters.

Part numbers

AVDMx-ES with x in {1, 2, 4, 8, 16, 32, 64, 128} and x = number of inputs + number of outputs