



Datasheet

ArtistaMEDIA

Network Media Player

PA-09-xxx

Rev. 1.7
03.02.2011

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1 Revision History

Date	Rev.No.	Description	Page
16.07.2007	1.0	Initial release (preliminary)	all
08.05.2008	1.1	Added mechanical drawing. Added interface description	13, 6
14.05.2008	1.2	Added connector positions diagram	6
09.07.2008	1.3	Updated Distec logo, company info on last page and disclaimer	all
09.01.2009	1.4	Updated logo, header, footer and last page	all
22.07.2009	1.5	Updated header and footer 5.2 Corrected backlight connector name from CON6 to CON8	all 6
08.07.2010	1.6	Made pin numbering of CON1 similar to Molex pin numbering.	9
03.02.2011	1.7	Reviewed for new PCB revision 1.2	3, 4, 7

2 General Description

ArtistaMEDIA is the media player of the Artista product family. Compared to ArtistaUSB and ArtistaNet, which have been designed to show still images, ArtistaMEDIA has been designed to play back audio and video files.

ArtistaMEDIA is equipped with an Ethernet interface for configuration via a standard web browser and for media content updates via the ArtistaControlCenter (ACC) software. The latter can also be done via USB Flash Drives. The media files are locally stored on a Compact Flash card or an IDE Hard Disk Drive. TFT flat panels with LVDS interface and resolutions up to Full-HD (1920x1080) can be connected directly to the board.

Both hardware and software of ArtistaMEDIA have been developed by Distec.

3 Electrical Specification

Operation conditions

Item	Symbol	Condition	Min	Typical	Max	Unit	Note
Supply Voltage	V _{IN}		11.4	12	12.6	V	
Supply Current	I _{IN}	Board only		430		mA	(1)

(1) No display, inverter and storage devices attached. Video and audio file played over network connection.

**Maximum allowed power consumption display**

Item	Symbol	Min	Typical	Max	Unit	Note
+3.3V Display Power	I _{TF1}			2600	mA	(4)
+5.0V Display Power	I _{TF2}			2600	mA	(4)
+12V Display Power	I _{TF3}			1500 (3) 1900 (3)	mA	(4)

- (3) For ZW-03-100 (PCB1.1): 1500 mA
For ZW-03-100_A1 (PCB1.2): 1900 mA

(4) current limited by regulator

Maximum allowed power consumption of backlight inverter

Item	Symbol	Min	Typical	Max	Unit	Note
+12V Backlight Power	I _{BKL}			3500	mA	(5)

- (5) For ZW-03-100 (PCB1.1): fuse protected with a 5A fuse (specified according to UL 248-14 at 23°C)
For ZW-03-100_A1 (PCB1.2): fuse protected with a 6.3A fuse (specified according to UL 248-14 at 23°C)

4 Environmental Specification

Temperature

Item	Symbol	Min	Typical	Max	Unit	Note
ambient	t _A	0	-	+50	°C	(1)
non operating	t _{NO}	-20	-	+70	°C	

(1) It is the responsibility of the user to keep the ambient temperature within the above specification.



5 Interfaces

5.1 Connector Overview

#	Description	Type	Manufacturer	Comment
1	Internal Power Supply Connector	39-30-1040	Molex	(1)
2	External Power Supply Connector	2MJ-0402A120	Singatron Enterprise Co	(1)
4	Stereo Line Out	STX-3200-5NB	Kycon Inc.	Stereo Jack 3.5mm
6	Ethernet Port	47F Series	Yuan Dean Scientific Co.	Integrated Magnetics
8	Backlight Supply and Control	DF13-10P-1.25H	Hirose	
9	Compact Flash Header for Type I/II Cards	31 5610 050 500 871	AVX	see CF+ & CF SPECIFICATION
11	Display Data Connector	DF14-25P-1.25H	Hirose	
16	USB Socket Type A Single Port	KS-001-A	Nexus Components	
18	ArtistaMEDIA Keypad Interface	DF13-11P-1.25H	Hirose	
21	Artista Remote Control Board Connector	DF13-5P-1.25H	Hirose	
22	Touch Screen Conn.	DF13-5P-1.25H	Hirose	
24	Auxiliary Display Power Connector	DF14-5P-1.25H	Hirose	
26	Speaker Out Connector	B4B-XH-A	JST	
28	Parallel ATA Interface	1422V44BTZ1	Nexus Components	Male header 2x22 pins, straight, pitch 2mm (2)
BAT1	Battery Holder			for Coin Cell Battery CR2032

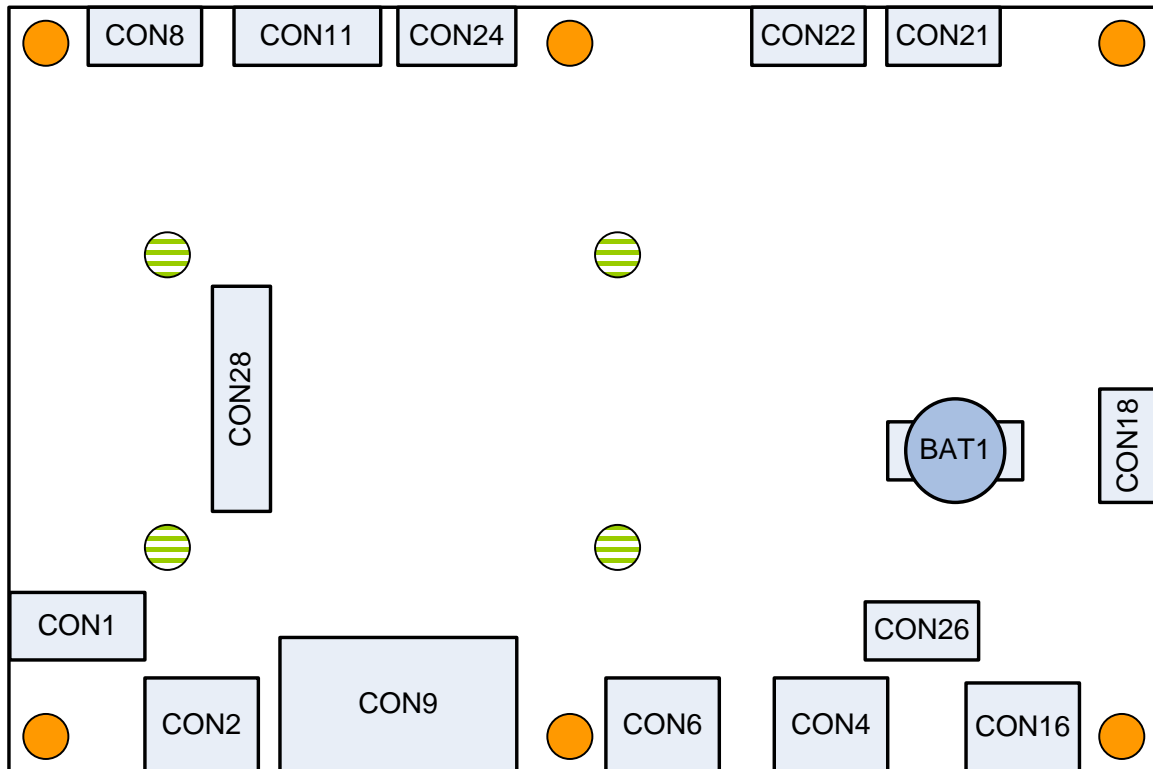
Remark: Connector type and manufacturer are indicative of the connectors actually used on the board.



(1) only one connector can be used for the main power supply at the same time

(2) Pin 20 removed



5.2 Connector Positions



-  Mounting Hole for Board
-  Mounting Hole for HDD (Bottom Mount)

5.3 Interface Description

5.3.1 Power Supply Input

CON1 or CON2 is the main power supply connector for the board. Both sockets have mating plugs that prevent from accidental polarity reversal.

5.3.2 Display Data and Display Power Supply

The display data connection is implemented as LVDS interface consisting of up to 10 differential data and clock lines.

Features:

- 18 bit or 24 bit per pixel
- Conventional or non-conventional data mapping
- Single channel or dual channel configuration
- Supports up to 165MHz pixel clock (suitable for up to WUXGA @ 60Hz)



Display power supply is split between CON11 and CON24. Each connector pin can carry up to 0.75A.

Display power supply level (can be configured by firmware modification):

- +3.3V
- +5.0V
- +12.0V

5.3.3 Audio Signals

Line Out:

- Stereo digital to analog converter with support for sampling rates up to 96 kHz
- Line Output Level (nominal): 1V into 10 kOhms
- Fully Differential Stereo Line Outputs

Speaker Out:

- up to 2 x 1W @ 8 Ohm (at THD+N = 10 %) in BTL (Bridge Tied Load) mode
- ESD and output short-circuit-to-ground protection
- Prevents switch-on/switch-off plops

5.3.4 Backlight Power Supply and Control

The backlight power and control port (CON8) directly connects to a DC-AC inverter / LED power supply for the display backlight. Additional control lines to switch the backlight on/off and to regulate the display brightness are available.

Features:

- up to 3.5 A (fused), specified according to UL 248-14 (at 23°C)
- Brightness control voltage in the range of 0 to 5V (actual range can be configured by firmware modification)
- Backlight On/Off voltage signal with 0V/5V (polarity can be configured by firmware modification)

5.3.5 Additional I/O Connectors

5.3.5.1 Parallel ATA Interface

- Direct support for hard disk drives with standard 44 pin connector (+5V power supply only)
- Other HDD types and additional Compact Flash Cards can be connected with a suitable adapter
- Storage device can be used to store video and audio data
- Supports PIO, multiword DMA, and Ultra ATA 33/66 (up to mode 4 timings on Ultra ATA)

5.3.5.2 Compact Flash Interface

- Direct support for Type 1 Compact Flash Cards
- Storage device can be used to store video and audio data
- DMA capability (if supported by CF-Card)
- Configured for True IDE Mode
- No hot-plug support

5.3.5.3 Touch Screen Interface

- Possibility to connect four-wire resistive touch screens
- Interrupt controlled for fast system response to user interaction

5.3.5.4 ARCB Interface

Provides connectivity to the Artista Remote Control Board. The ARCB is designed to check and monitor the system conditions of TFT display systems. This includes monitoring of panel power supply, inverter power supply, fan control, thermal monitoring and other monitoring features. Please see ARCB specification for details.

5.3.5.5 Keypad Interface

This interface can be used to connect to an I2C keypad controller. I2C address and system reaction to keypad interaction can be configured by firmware modification. In addition to that, an IR receiver can be connected to this Interface (firmware modification required, currently only RC5 is supported as protocol).



5.3.5.6 Ethernet Port

- Provides a network connection for content streaming, content updated, remote control and board configuration
- Support for 100BASE-TX and 10BASE-T using a single RJ-45 connection
- Half-duplex and full-duplex operation
- Auto-negotiation and parallel detection

5.3.5.7 USB Connector (Type A)

- Connects to standard USB-Sticks and other storage devices for content update
- On-board USB 2.0 Host for high speed (480Mbit/s), full speed (12Mbit/s) and low Speed (1.5Mb/s)
- Supports all transfer modes (control, bulk, interrupt, and isochronous)
- 4 Transmit (TX) and 4 Receive (RX) endpoints in addition to endpoint 0



Pin Assignments

CON1 – Internal Power Supply Connector			
Pin	Signal	Description	
1	GND		
2	GND		
3	VIN	Main Power Supply (+12V)	
4	VIN	Main Power Supply (+12V)	

CON2 – External Power Supply Connector			
Pin	Signal	Description	
1	VIN	Main Power Supply (+12V)	
2	VIN	Main Power Supply (+12V)	
3	GND		
4	GND		

CON4 – Stereo Line Out			
Pin	Signal	Description	
1	GND		
2	RIGHT OUT		
3	-		
4	-		
5	LEFT OUT		

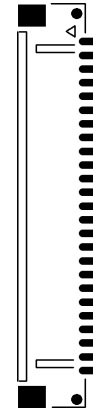
CON6 – Ethernet Port RJ45			
Pin	Signal	Description	
1	TR+		
2	TR-		
3	RX+		
4	-		
5	-		
6	RX-		
7	-		
8	-		

CON8 – Backlight Supply and Control			
Pin	Signal	Description	
1	LCD_BKL_PWR	Backlight Power Supply (+12V)	
2	GND		
3	LCD_BKLT_EN	Backlight On/Off (0V/+5V)	
4	LCD_BR_CTRL	Brightness Control Signal (0-5V)	
5	-		
6	-		
7	LCD_BKL_PWR	Backlight Power Supply (+12V)	
8	LCD_BKL_PWR	Backlight Power Supply (+12V)	
9	GND		
10	GND		



CON9 – Compact Flash Header for Type I/II Cards		
Pin	Signal	Description
		50-Pin Compact Flash Type I Cards Slot Header (Pin Assignment according to CF SPECIFICATION Rev. 4.1 in True IDE Mode)


CON11 – Panel Data Connector		
Pin	Signal	Description
1	LCD_PWR	Switched Panel Power Supply
2	LCD_PWR	Switched Panel Power Supply
3	GND	
4	GND	
5	TXB3+	Primary LVDS Port
6	TXB3-	
7	TXBCL+	
8	TXBCL-	
9	TXB2+	
10	TXB2-	
11	TXB1+	
12	TXB1-	
13	TXB0+	Secondary LVDS Port
14	TXB0-	
15	TXA3+	
16	TXA3-	
17	TXACL+	
18	TXACL-	
19	TXA2+	
20	TXA2-	
21	TXA1+	
22	TXA1-	
23	TXA0+	
24	TXA0-	
25	LCD_BKLT_EN	Backlight On/Off (0V/+5V)



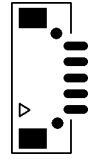
CON16 – USB Socket Type A Single Port		
Pin	Signal	Description
1	USB_VBUS	+5V USB V _{BUS} (protected)
2	USB_DM	
3	USB_DP	
4	GND	



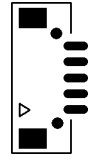
CON18 – ArtistaMedia Keypad Interface		
Pin	Signal	Description
1	I2C_CLK	Keypad Interface Clock
2	I2C_DATA	Keypad Interface Data
3	KEYPAD_INT_N	Keypad Interface IRQ
4	GND	
5	IR0	IR Signal
6	GND	
7	KEYPAD_3V	Keypad Power Supply +3.3V
8	KEYPAD_5V	Keypad Power Supply +5.0V
9	FACTORY_RESET_N	External Factory Reset
10	RESET_EXT_N	External Board Reset
11	GND	



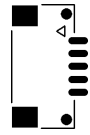
CON21 – Artista Remote Control Board Connector		
Pin	Signal	Description
1	I2C_CLK	ARCB Interface Clock
2	I2C_DATA	ARCB Interface Data
3	ARCB_INTN	ARCB Interface Interrupt
4	VCC_3.3V	
5	GND	



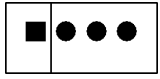
CON22 – Touch Screen		
Pin	Signal	Description
1	X+	X+ Position Input
2	Y+	Y+ Position Input
3	X-	X- Position Input
4	Y-	Y- Position Input
5	GND	



CON24 – Auxiliary Panel Power Connector		
Pin	Signal	Description
1	LVDS_OPT_N	LVDS Interface Option
2	LCD_PWR	Switched Panel Power Supply
3	LCD_PWR	Switched Panel Power Supply
4	GND	
5	GND	

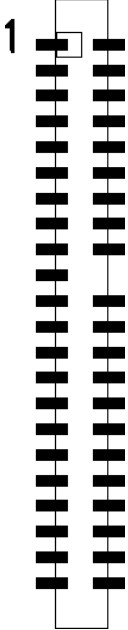


CON26 – Speaker Out Connector		
Pin	Signal	Description
1	OUT_LM	Left Channel Negative Output
2	OUT_LP	Left Channel Positive Output
3	OUT_RM	Right Channel Negative Output
4	OUT_RP	Right Channel Positive Output





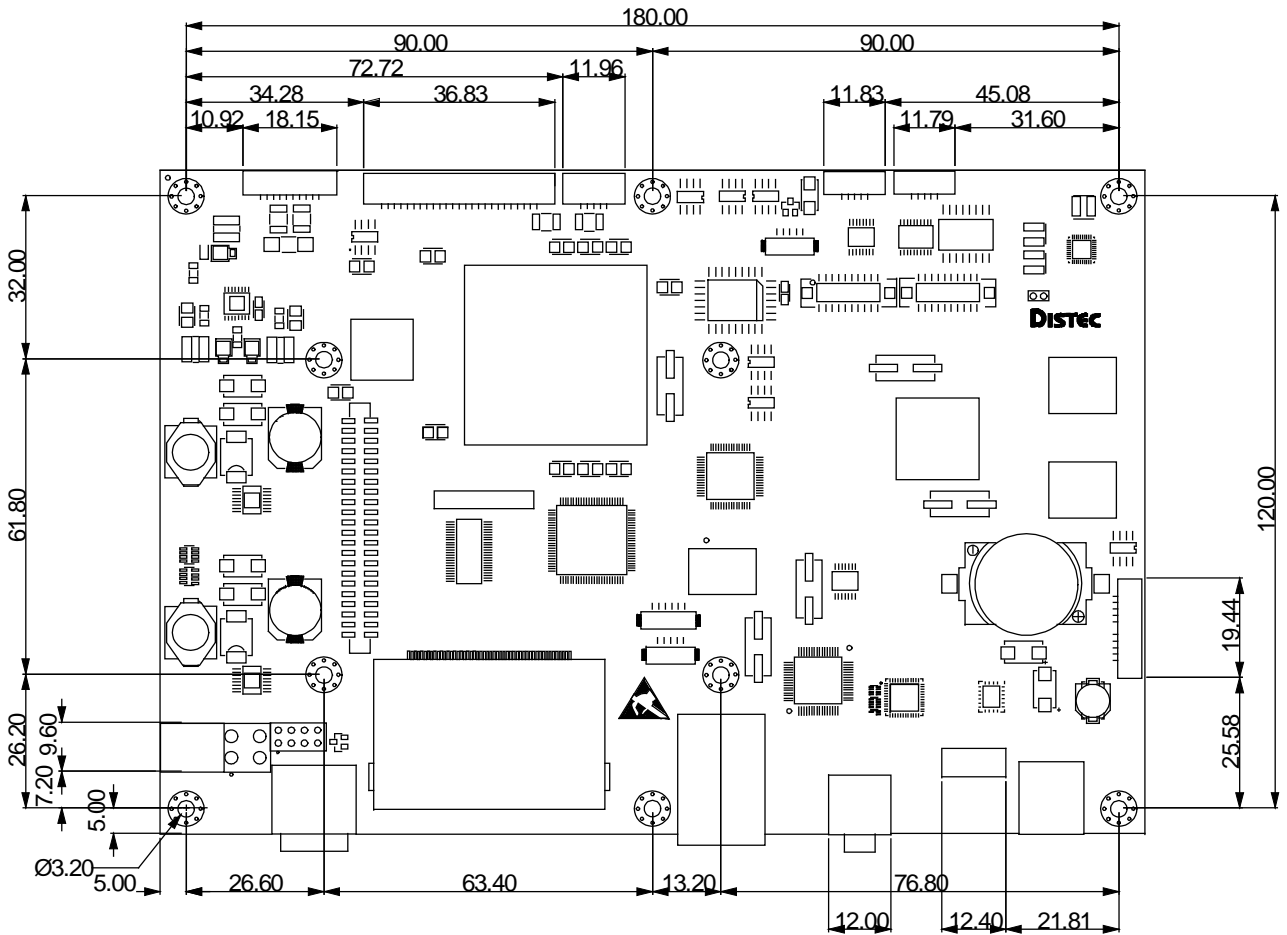
CON28 – HDD Header		
Pin	Signal	Description
1	IDE.RESETN	
2	GND	
3	IDE.DD7	
4	IDE.DD8	
5	IDE.DD6	
6	IDE.DD9	
7	IDE.DD5	
8	IDE.DD10	
9	IDE.DD4	
10	IDE.DD11	
11	IDE.DD3	
12	IDE.DD12	
13	IDE.DD2	
14	IDE.DD13	
15	IDE.DD1	
16	IDE.DD14	
17	IDE.DD0	
18	IDE.DD15	
19	GND	
20	-	not connected (Polarity Indicator)
21	IDE.DMARQ	
22	GND	
23	IDE.DIOW	
24	GND	
25	IDE.DIOR	
26	GND	
27	IDE.IORDY	
28	IDE.CSEL	
29	IDE.DMACK	
30	GND	
31	IDE.INTRQ	
32	GND	
33	IDE.DA1	
34	-	
35	IDE.DA0	
36	IDE.DA2	
37	IDE.CS0	
38	IDE.CS1	
39	IDE.DASPN	
40	GND	
41	VCC_5.0V	Power Supply +5.0V Logic
42	VCC_5.0V	Power Supply +5.0V Motor
43	GND	
44	-	



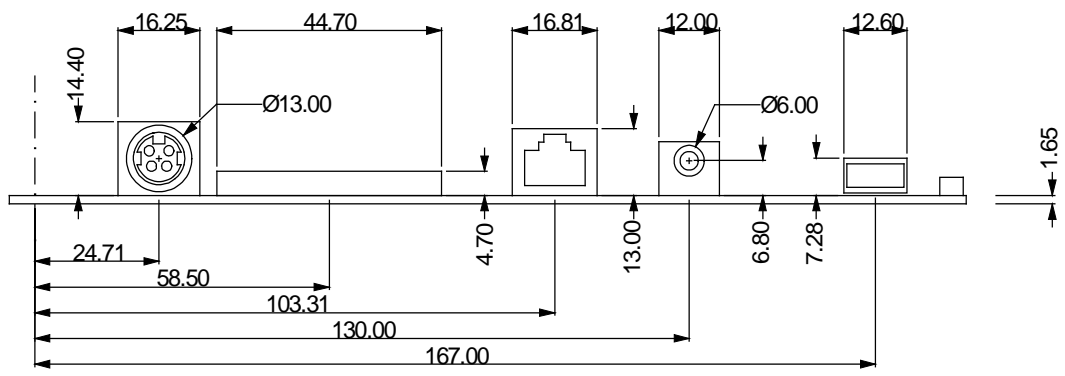


6 Mechanical Dimensions

6.1 Top View

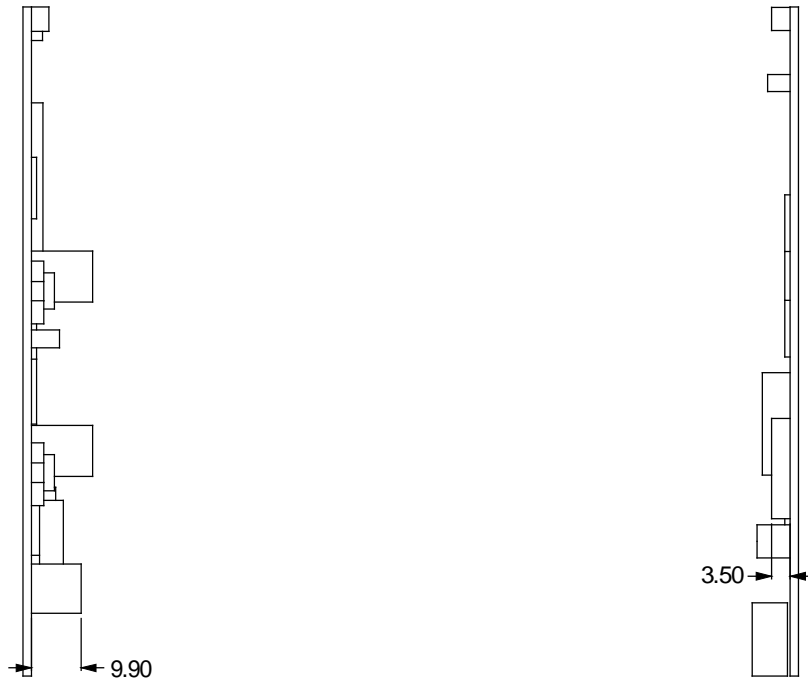


6.2 Front View





6.3 Side View



7 News and Updates for Artista Products

The latest version of drivers and software packages can be found on:

German Site: <http://www.distec.de/de/Downloads/Artista.html>

English Site: <http://www.distec.de/en/Downloads/Artista.html>

The latest version of documents can be found on:

German Site: <http://www.distec.de/de/Downloads/Docu.html>

English Site: <http://www.distec.de/en/Downloads/Docu.html>

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