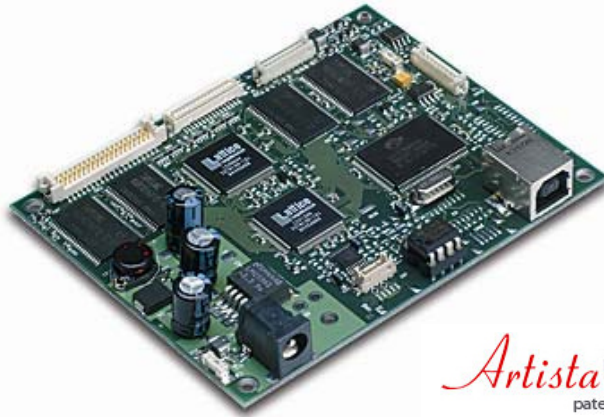


DATA SHEET

ArtistaUSB 800

TFT Display Controller with USB2.0 HighSpeed Interface

Product No. ZU-02-13x



*Artista*USB
patented invention

Rev 1.7

June 14, 2005

The information given in this document is carefully checked and believed to be reliable. However, Apollo takes no responsibility for any failure or product damage caused by the application of this information. Please check all connections carefully with the data sheet. Apollo products are not intended for use in systems in which failures of product could result in personal injury. All mentioned trademarks are registered trademarks of their owner.

All specifications are subject to change without notification.

Table of Contents

1	Revision History	3
2	General Description	3
3	Electrical characteristics.....	3
4	Connector pin assignment	4
4.1	Connector overview	4
4.2	Pin assignments	6
5	Dimensions.....	11
5.1	Series production PCB Rev1.1	11

1 Revision History

Date	Rev.No.	Description	Page
20.01.2005	1.0	initial release (preliminary)	
25.01.2005	1.1	added dimension of series production PCB Rev1.1	
21.02.2005	1.2	changed product name to ArtistaUSB	
15.03.2005	1.3	added new vendor calls	
26.04.2005	1.4	added Data Display AG USB Vendor ID, changed touch screen description	
09.05.2005	1.5	firmware version 2.01, max filter depth changed.	
17.05.2005	1.6	firmware version 2.02, minor fixes	
14.06.2005	1.7	superfluous sections deleted	

2 General Description

The Artista technology is providing an easy to use USB interface for TFT displays. The ArtistaUSB 800 is equipped with a common LVTTTL interface for a wide range of VGA TTL Displays. Please contact our sales department for informations about applicable displays.

The ArtistaUSB 800 is a self powered USB device which only needs a single 12V voltage supply. ArtistaUSB 800 also provides an integrated four wire resistive touch controller.

3 Electrical characteristics

Operating conditions*

Item	Symbol	Min.	Typ.	Max.	Unit	Note
Supply Voltage	V_{IL}		12.0		V	
Supply Current without Display	I_{IL}	-	210	260	mA	

Maximal allowed power consumption display*

Item	Symbol	Max.	Unit	Note
+3.3V display power on CN1 or CN13	I_{disp}	500	mA	

Maximal allowed power consumption backlight inverter*

Item	Symbol	Max.	Unit	Note
+12V backlight power on CN2	I_{BKL}	1.3	A	

Electrical Absolute Ratings*

Item	Symbol	Min.	Max.	Unit	Note
Supply Voltage	V_{IL}	0.2	16	V	(1),(2),(3)

(*) preliminary

Note (1) Within operating temperature

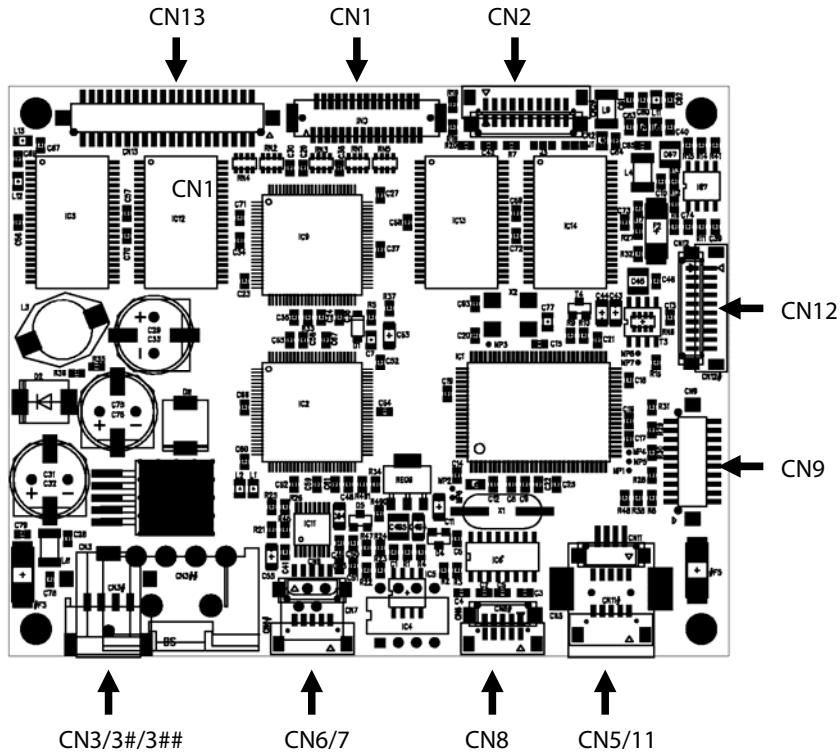
Note (2) Permanent damage to the device may occur if maximum values are exceeded.

Functional operation should be restricted to the conditions described under normal operating conditions.

Note (3) Inverter Power is not regulated. So absolute ratings are depending on Inverter Spec.

4 Connector pin assignment

4.1 Connector overview



CN#	Description	Type	Manufacturer
CN3	power supply	DC Power Jack 2.0mm	Kycon (KLD-SMT Series)
CN3#	power supply	DC Power, not fitted	JST S4B-PH-SM3-TB
CN3##	power supply	DC Power, not fitted	Molex 71233-005
CN5	USB	USB B-Type	Kycon (KUSB_SMT-BS-1-N)
CN11	USB	1.25mm pitch board to wire alternative to CN5, not fitted	Hirose (DF13 Series)
CN7	touch screen interface	1.25mm pitch FFC/FPC Connector, alternative to CN6, not fitted	DMC (KCA-4)
CN6	touch screen interface	1.25mm pitch board to wire	Hirose (DF13 Series)
CN1	TTL interface	1 mm pitch board to board	Hirose (DF9 Series)
CN13	TTL interface	1.25mm pitch board to wire	Hirose (DF13 Series)
CN2	inverter supply and control (internal use)	1.25mm pitch board to wire	Hirose (DF13 Series)
CN12	Programming interface	Do not use (for maintaining purposes only)	Hirose (DF13 Series)
CN8	serial data interface	RS232 / optional, not implemented in firmware, not fitted	Hirose (DF13 Series)
CN9	GPIO	not implemented in firmware, not fitted	Hirose (DF13 Series)

4.2 Pin assignments

CN3 Power supply connector		
Pin	Signal	Description
Center	+12V	+12V power supply
2	GND	Ground
3	-	Not connected

CN3# Power supply connector (alternative, not fitted)		
Pin	Signal	Description
1	GND	Ground
2	GND	Ground
3	+12V	+12V power supply
4	+12V	+12V power supply

CN3## Power supply connector (alternative, not fitted)		
Pin	Signal	Description
1	GND	Ground
2	GND	Ground
3	+12V	+12V power supply
4	-	Not connected

CN8 serial data interface (optional *)		
Pin	Signal	Description
1	TXD0	Data out
2	RXD0	Data in
3	TXD1	Data out
4	RXD1	Data in
5	GND	Ground

(*) optional not implemented in firmware, maybe in future or on request

CN7 touch screen interface		
Pin	Signal	Description
1	X+	X+ position input
2	Y+	Y+ position input
3	X-	X- position input
4	Y-	Y- position input

CN6 touch screen interface (alternative, not fitted)		
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	Ground

CN5 USB connector		
Pin	Signal	Description
1	VBUS	USB Bus Voltage (not connected)
2	D-	USB D-
3	D+	USB D+
4	GND	Ground

CN11 USB connector		
Pin	Signal	Description
1	VBUS	USB Bus Voltage (not connected)
2	GND	Ground
3	D-	USB D-
4	D+	USB D+
5	GND	Ground

CN1		TTL interface	
Pin	Signal	Description	
1	GND	ground	
2	CLK	display clock	
3	HSYNC	display horizontal sync	
4	VSYNC	display vertical sync	
5	GND	ground	
6	R0	red 0 (LSB)	
7	R1	red 1	
8	R2	red 2	
9	R3	red 3	
10	R4	red 4	
11	R5	red 5 (MSB)	
12	GND	ground	
13	G0	green 0 (LSB)	
14	G1	green 1	
15	G2	green 2	
16	G3	green 3	
17	G4	green 4	
18	G5	green 5 (MSB)	
19	GND	ground	
20	B0	blue 0 (LSB)	
21	B1	blue 1	
22	B2	blue 2	
23	B3	blue 3	
24	B4	blue 4	
25	B5	blue 5 (MSB)	
26	GND	ground	
27	DE	data enable	
28	+3.3V	+3.3V display power	
29	+3.3V	+3.3V display power	
30	NC	(not connected)	
31	NC	(not connected)	

CN13		
TTL interface		
Pin	Signal	Description
1	NC	(not connected)
2	NC	(not connected)
3	GND	ground
4	GND	ground
5	+3.3V	+3.3V display power
6	+3.3V	+3.3V display power
7	BKL_EN	5V
8	GND	ground
9	NC	(not connected)
10	NC	(not connected)
11	B0	blue 0 (LSB)
12	B1	blue 1
13	B2	blue 2
14	B3	blue 3
15	B4	blue 4
16	B5	blue 5 (MSB)
17	NC	(not connected)
18	NC	(not connected)
19	G0	green 0 (LSB)
20	G1	green 1
21	G2	green 2
22	G3	green 3
23	G4	green 4
24	G5	green 5 (MSB)
25	NC	(not connected)
26	NC	(not connected)
27	R0	red 0 (LSB)
28	R1	red 1
29	R2	red 2
30	R3	red 3
31	R4	red 4
32	R5	red 5 (MSB)
33	GND	ground
34	GND	ground
35	CLK	display clock
36	VSYNC	display vertical sync
37	DE	data enable
38	HSYNC	display horizontal sync
39	BKL_EN3.3	3.3V,
40	SVCC_ON3.3	3.3V,

CN2 inverter supply and control		
Pin	Signal	Description
1	+12V	+12V backlight power
2	GND	ground
3	BKL_EN	0 .. +5V, backlight enable
4	BR_CTRL	0 .. +5V, brightness control
5	NC	(not connected)
6	NC	(not connected)
7	+12V	+12V backlight power
8	+12V	+12V backlight power
9	GND	ground
10	GND	ground

5 Dimensions

5.1 Series production PCB Rev1.1

