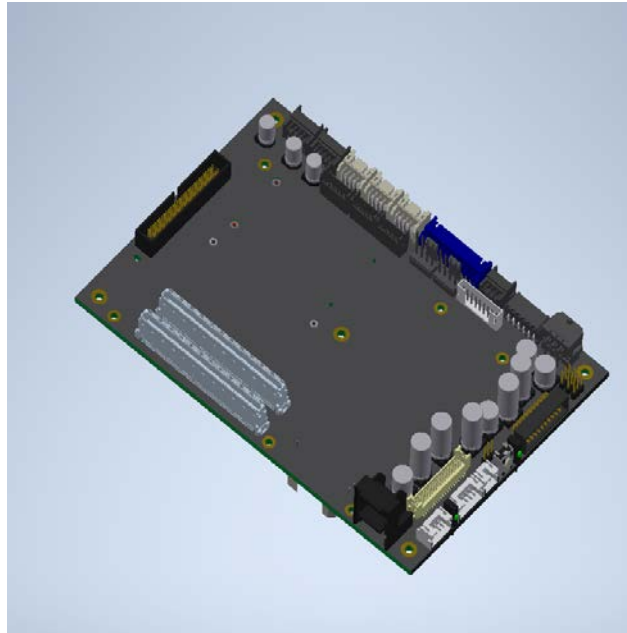



REVISIONS

REV	DESCRIPTION	DATE	APPROVED
-	Initial Release	May 10, 2019	May 10, 2019

**PROPRIETARY INFORMATION OF****Daisy Data Displays, Inc**

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Component Specification**ALL SHEETS MAINTAINED AT THE SAME REVISION LEVEL**

PART NUMBER(S): P310-005000		INITIAL APPROVAL DATE 5/10/2019	 COM Express Carrier Board
ENG Approval	David Reimer	May 10, 2019	
Approval Dept.	Greg Drapcho	May 10, 2019	
Approval Dept.	Approver	Date	
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES DECIMALS FRACTIONS 2 PL±XX ±XXXX		Daisy Data Displays, Inc. 2850 Lewisberry Road York Haven, PA 17370 717-932-9999	P310-005000
		SCALE: NONE	SHEET 1 of 10

Purpose

This document contains the specifications and pinouts for COM Express carrier board part number: P310-005000.

ESD Notice


Electrostatic Discharge can damage electronic components. Please observe safe ESD procedures when handling electronic components.

Power Notice

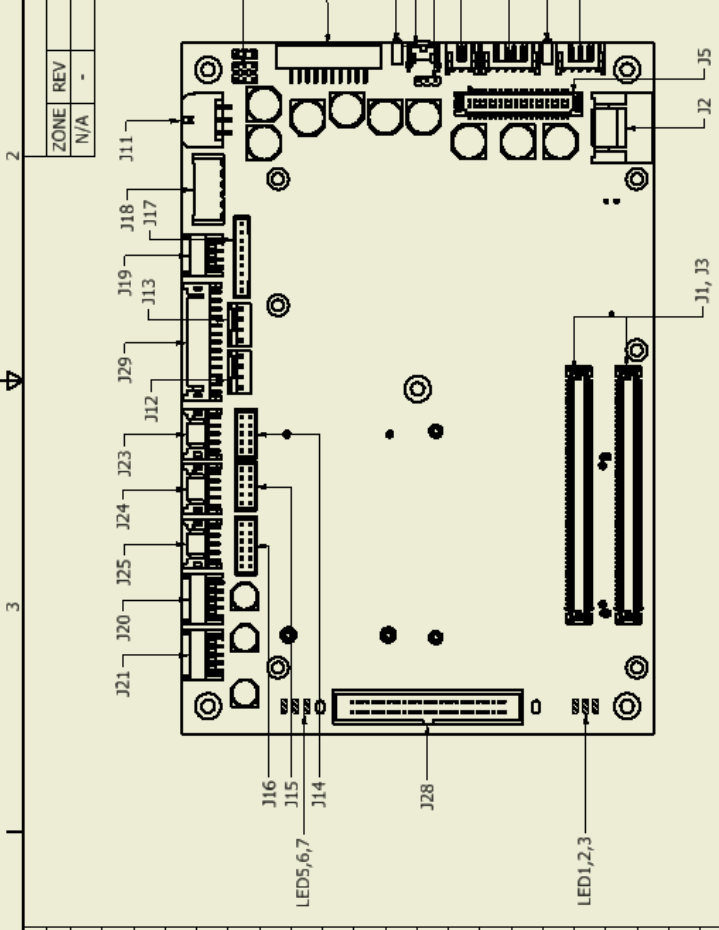
Some systems can have power and active signals from multiple sources. Please make sure all power and signal sources are de-energized before proceeding.

Specifications:

- a. Form Factor:
 - i. 6.51 x 5.5 x 1.125 in
- b. Supported COM Form Factor:
 - i. COM 2.0 Type 2 and Type 6
 - ii. Supported Sizes: 125x95 and 95x95
 - iii. Module Power - 25W (Maximum)
- c. Operating Voltage:
 - i. 15-28 VDC ($\pm 10\%$)
 - ii. 17-28V For Battery
- d. Temperature Range
 - i. Industrial Temperature Range
 - ii. Operating Temperature: -25 to 70 C
 - iii. Storage Temperature: -40 to 85 C
 - iv. 95% Non-Condensing Humidity
- e. Supported Processors:
 - i. Atom/Celeron/i3/i5/i7
 - ii. Fanless Operation when using low power CPU
 1. Less than 20W processor

SIZE		D3 Part Number:	REV
A		P310-005000	-
SCALE: NONE		SHEET 2	

REVISION HISTORY			
ZONE	REV	DESCRIPTION	DATE
N/A	-	INITIAL RELEASE	DR

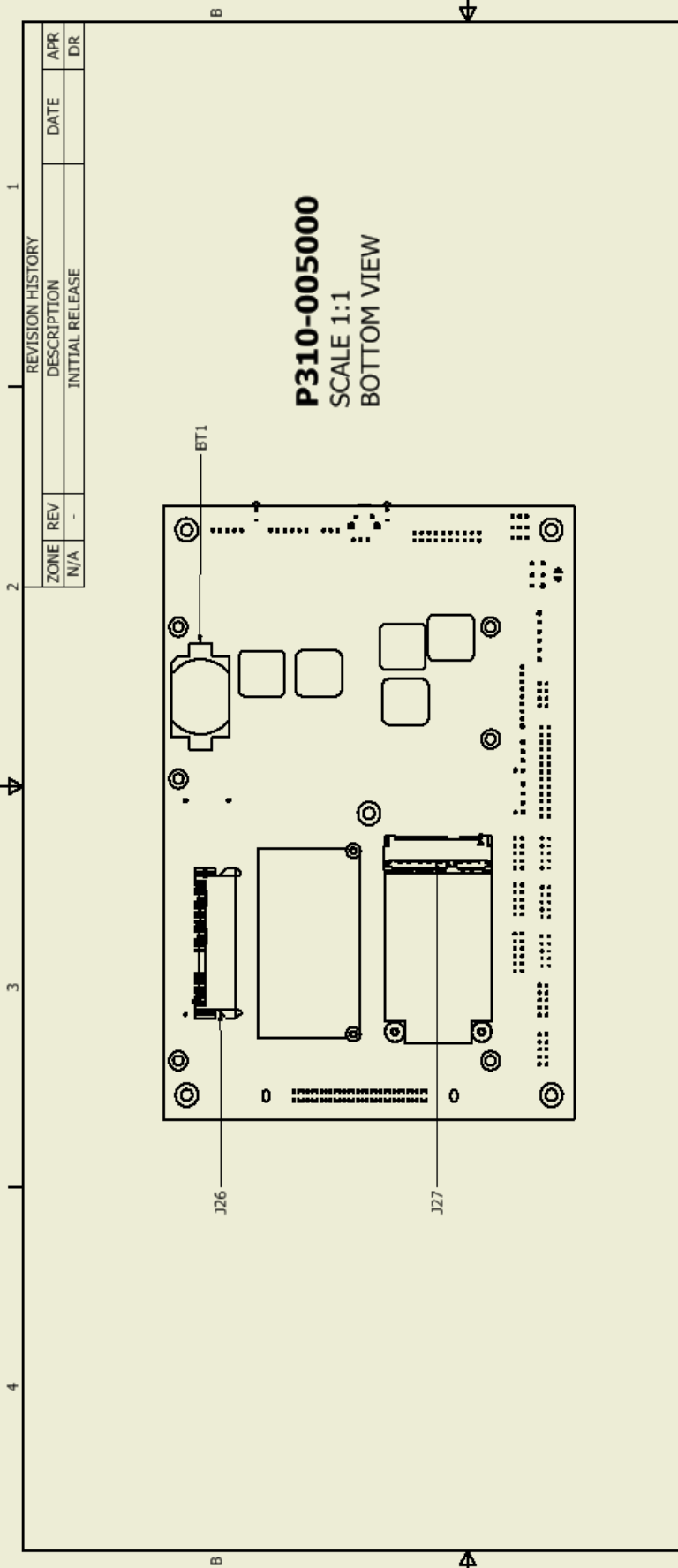


P310-005000 LAYOUT	
ITEM	FUNCTION
J1	COM EXPRESS ROW A/B
J2	SATA PORTS 1 & 2
J3	COM EXPRESS ROW C/D
J4	TOUCH SCREEN INPUT
J5	LVDS CONNECTOR
J6	LCD BACKLIGHT
J8	LVDS BLT CONTROL
J9	FRONT PANEL
J11	DC POWER IN
J12	FAN HEADER 1
J13	FAN HEADER 2
J14	COM PORT
J15	COM PORT
J16	AUDIO
J17	BATTERY
J18	POWER OUT
J19	PS/2 KEYBOARD/MOUSE
J20	LAN 2 (CARRIER BOARD)
J21	LAN 1 (CPU BOARD)
J23	USB 2/3
J24	USB 4/5
J25	USB 6/7
JP1	LVDS BLT CTRL
JP2	BLT CTRL PWM/VOLTAGE
JP3	PWR BTN ENABLE
JP4	AUDIO ENABLE
LED1,2,3	LAN 1 LINK/ACT
LED4	TOUCH ACTIVATION
LED5,6,7	LAN 2 LINK/ACT
LED8	PWR INDICATOR
SW1	POWER SWITCH

P310-005000
SCALE 1:1
TOP VIEW

		2850 Lewisberry Road York Haven, PA 17370 Phone: 717.932.9999 Visit us at www.d3inc.net	
TOLERANCES ARE DIMENSIONS ARE IN INCHES FRACTIONS ± 1/32" DECIMALS .XX = ± .01 .XXX = ± .005 ANGLES ± 1°		APPROVAL DRAWN M. Ondeck CHECKED DATE 2/1/2012	
THIS DOCUMENT IS CONSIDERED PROPRIETARY TO D3 DISPLAYS, INC. THE USE OR REPRODUCTION OF THIS DOCUMENT IS PROHIBITED EXCEPT AS AUTHORIZED BY THE CORPORATION IN WRITING. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.			
TITLE PA,PCA,COM-E CARRIER BOARD		SIZE B DWG NO D302-000458 SCALE N/A	
SHEET 1 OF 2		REV 1	

SIZE A		D3 Part Number: P310-005000	REV -
SCALE: NONE		SHEET 3	



		2850 Lewisberry Road York Haven, PA 17370 Phone: 717-932-9599 Visit us at www.d3inc.net	
TITLE			
PA,PCA,COM-E CARRIER BOARD			
SIZE	DWG NO	D302-000458	REV
B			
SCALE	N/A		SHEET 2 OF 2

TOLERANCES DIMENSIONS ARE IN INCHES	APPROVAL	DATE
FRACTIONS ± 1/32"	M. Ondeck	2/1/2012
DECIMALS .XX ± .01	CHECKED	
XXX ± .005	THIS DOCUMENT IS CONSIDERED PROPRIETARY TO D3 DISPLAYS, INC. THE USE OR REPRODUCTION OF THIS DOCUMENT IS PROHIBITED EXCEPT AS AUTHORIZED BY THE CORPORATION IN WRITING. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.	
ANGLES ± 1°		

ITEM	P310-005000 LAYOUT
BT1	LAYOUT
J26	CMOS BATTERY
J27	SLIM SATA (SATA II)
	MINI PCI EXPRESS

Carrier Board Connector Pinouts

1. J1 and J3 COM express Rows A-D
 - a. Pinout not included
2. J2 – SATA Ports 1 and 2


PIN	SYMBOL	DESCRIPTION
1	GND	Ground
2	A+	Transmit+
3	A-	Transmit-
4	GND	Ground
5	B-	Receive-
6	B+	Receive+
7	GND	Ground

3. J4 – Touch Screen Input

PIN	SYMBOL	DESCRIPTION
1	LL	Lower Left (L.YL)
2	UL	Upper Left (Y.YH)
3	S	Sense
4	LR	Lower Right (X.XH)
5	UR	Upper Right (H.XH)

4. J5 – LVDS Connector

PIN	SYMBOL	DESCRIPTION
1	TXA0+	Positive differential LVDS data bit A0
2	TXA0-	Negative differential LVDS data bit A0
3	TXA1+	Positive differential LVDS data bit A1
4	TXA1-	Negative differential LVDS data bit A1
5	GND	Ground
6	GND	Ground
7	TXA2+	Positive differential LVDS data bit A2
8	TXA2-	Negative differential LVDS data bit A2
9	TXA3+	Positive differential LVDS data bit A3
10	TXA3-	Negative differential LVDS data bit A3
11	GND	Ground
12	GND	Ground
13	TXAC+	Positive LVDS clock for A channel
14	TXAC-	Negative LVDS clock for A channel
15	GND	Ground
16	GND	Ground
17	TXB0+	Positive differential LVDS data bit B0
18	TXB0-	Negative differential LVDS data bit B0
19	TXB1+	Positive differential LVDS data bit B1
20	TXB1-	Negative differential LVDS data bit B1
21	GND	Ground
22	GND	Ground
23	TXB2+	Positive differential LVDS data bit B2
24	TXB2-	Negative differential LVDS data bit B2
25	TXB3+	Positive differential LVDS data bit B3
26	TXB3-	Negative differential LVDS data bit B3
27	GND	Ground
28	GND	Ground
29	TXBC+	Positive LVDS clock for B channel
30	TXBC-	Negative LVDS clock for B channel
31	GND	Ground
32	GND	Ground
33	VDD 3.3V	Panel power supply 3.3V
34	VDD 3.3V	Panel power supply 3.3V

SIZE A		D3 Part Number: P310-005000	REV -
SCALE: NONE		SHEET 5	

35	VDD 3.3V	Panel power supply 3.3V
36	VDD 3.3V	Panel power supply 3.3V
37	VDD +5V	Panel power supply 5V
38	VDD +5V	Panel power supply 5V
39	VDD +5V	Panel power supply 5V
40	VDD +5V	Panel power supply 5V

5. J6 – LCD Backlight

PIN	SYMBOL	DESCRIPTION
1	V+	12 VDC
2	V+	12 VDC
3	GND	GROUND
4	GND	GROUND
5	ENABLE	BACKLIGHT ENABLE
6	CONTROL	BRIGHTNESS CONTROL

6. J8 – LVDS Backlight Control


PIN	SYMBOL	DESCRIPTION
1	V+	5V
2	RTN	DC Return
3	CNTRL	0 to 5V

7. J9 – Front Panel I/O

PIN	SYMBOL	DESCRIPTION
1	GPI0	General Purpose Input 0
2	GPI1	General Purpose Input 1
3	GP2	General Purpose Input 2
4	GPI3	General Purpose Input 3
5	GPO1	General Purpose Output 0
6	GPO2	General Purpose Output 1
7	GPO3	General Purpose Output 2
8	GPO4	General Purpose Output 3
9	HDD LED+	Hard Disk Drive LED +
10	HDD LED-	Hard Disk Drive LED -
11	PWR LED+	Power LED +
12	GND	DC Return
13	PWR SW	Power Switch
14	RST SW	Reset Switch
15	GND	DC Return
16	RSVD	Reserved
17	LED WLAN	Wireless LAN LED (Mini PCI Express)
18	W DISABLE	Wireless Disable (Mini PCI Express)
19	Key	No Pin
20	GND	DC Return

8. J11 – DC Power Input

PIN	SYMBOL	DESCRIPTION
1	V+	12-28 VDC
2	DC GND	DC Return
3	Earth	Earth Ground
4	V+	12-28 VDC
5	DC GND	DC Return
6	Earth	Earth Ground

SIZE A		D3 Part Number: P310-005000	REV -
SCALE: NONE		SHEET 6	

9. J12 and J13 – Fan Headers

PIN	SYMBOL	DESCRIPTION
1	GND	DC Return
2	12V	12 VDC
3	TACH	Tachometer
4	PWM	Pulse Width Modulator

10. J14 and J15 – COM Ports


PIN	SYMBOL	DESCRIPTION
1	DCD	Data Carrier Detect
2	DSR	Data Set Ready
3	RXD	Receive Data
4	RTS	Request To Send
5	TXD	Transmit Data
6	CTS	Clear To Send
7	DTR	Data Terminal Ready
8	RI	Ring Indicator
9	GND	Ground
10	KEY	Key

11. J16 – Audio Header

PIN	SYMBOL	DESCRIPTION
1	LOUT_L	Line Out – Left
2	LOUT_R	Line Out – Right
3	GND	Ground
4	GND	Ground
5	SPKR_L	Speaker – Left
6	SPKR_R	Speaker – Right
7	5V	5V DC
8	Beep	System Beep
9	MICIN_L	Microphone In – Left
10	MININ_R	Microphone In – Right
11	GND	Ground
12	MIC1_JD	Microphone - Detect

15. J17 – Smart Battery Control

PIN	SYMBOL	DESCRIPTION
1	V+	Voltage 9 to 16V
2	V+	Voltage 9 to 16V
3	V+	Voltage 9 to 16V
4	SCL_B1	SM Bus Clock
5	SDA_B1	SM Bus Data
6	TH1	Thermostat
7	GND	Ground
8	GND	Ground
9	GND	Ground

SIZE A		D3 Part Number: P310-005000	REV -
SCALE: NONE		SHEET 7	

16. J18 – Power Output

PIN	SYMBOL	DESCRIPTION
1	12VDC	12 VDC
2	RTN	DC Return
3	5VDC	5 VDC
4	RTN	DC Return
5	5VDC	5 VDC
6	RTN	DC Return

17. J19 – Keyboard and Mouse Header

PIN	SYMBOL	DESCRIPTION
1	5V	5 VDC
2	KBDAT	KEYBOARD DATA
3	KBCLK	KEYBOARD MOUSE
4	GND	DC RETURN
5	5V	5V
6	MSDAT	MOUSE DATA
7	MSCLK	MOUSE CLOCK
8	GND	DC RETURN

18. J20 and J21 – LAN (Ethernet) Headers

PIN	SYMBOL	DESCRIPTION
1	BI-DA+ (Transmit)	Bi-directional pair A+ (transmit +)
2	BI-DA- (Transmit)	Bi-directional pair A- (transmit -)
3	BI-DB+ (Receive)	Bi-directional pair B+ (Receive +)
4	BI-DC+	Bi-directional pair C+
5	BI-DC-	Bi-directional pair C-
6	BI-DB- (Receive)	Bi-directional pair B- (Receive -)
7	BI-DD+	Bi-directional pair D+
8	BI-DD-	Bi-directional pair D-
9	Shield	Earth Ground
10	Shield	Earth Ground

19. J23, J24, and J25 – USB Headers

PIN	SYMBOL	DESCRIPTION
1	+5V	5 VDC
2	+5V	5 VDC
3	D0-	Data 0 -
4	D1-	Data 1 -
5	D0+	Data 0 +
6	D1+	Data 1 +
7	GND	Ground
8	GND	Ground
9	Shield	Earth Ground
10	Shield	Earth Ground

20. J26 – Slim SATA Port

a. DATA


PIN	SYMBOL	DESCRIPTION
1	GND	Ground
2	A+	Transmit +
3	A-	Transmit -
4	GND	Ground
5	B-	Receive -
6	B+	Receive +
7	GND	Ground

b. POWER

PIN	SYMBOL	DESCRIPTION
1	V33	3.3v Power
2	V33	3.3v Power
3	V33	3.3v Power, Pre-charge, 2nd mate
4	Ground	1st Mate
5	Ground	2nd Mate
6	Ground	3rd Mate
7	V5	5v Power, pre-charge, 2nd mate
8	V5	5v Power
9	V5	5v Power
10	Ground	2nd Mate
11	Reserved	-
12	Ground	1st Mate
13	V12	12v Power, Pre-charge, 2nd mate
14	V12	12v Power
15	V12	12v Power

21. J27 – Mini PCI Express Card Slot

PIN	Function	PIN	Function
1	Wake#	2	+3V3_2
3	RSVD12	4	GND12
5	RSVD11	6	1V5_3
7	CLCKREQ#	8	UIM_PWR
9	GND6	10	UIM_DATA
11	REFCLK-	12	UIM_CLK
13	REFCLK+	14	UIM_RESET
15	GND5	16	UIM_VPP
17	RSVD10/UIM_C8	18	GND11
19	RSVD9/UIM_C4	20	W_DISABLE#
21	GND4	22	PERST#
23	PERNO	24	+3V3_AUX
25	PERP0	26	GND10
27	GND3	28	+1V5_2
29	GND2	30	SMB_CLK
31	PETNO	32	SMB_DATA
33	PETP0	34	GND9
35	GND1	36	USB_D-
37	RSVD8	38	USB_D+
39	RSVD7	40	GND8
41	RSVD6	42	LED_WWAN#
43	RSVD5	44	LED_WLAN#
45	RSVD4	46	LED_WPAN#
47	RSVD3	48	+1V5_1
49	RSVD2	50	GND7
51	RSVD1	52	+3V3_1

SIZE		D3 Part Number:	REV
A		P310-005000	-
SCALE: NONE		SHEET 9	

20. JP1 – LVDS Backlight Control

SETTING	FUNCTION
PIN 1-2	BACKLIGHT ENABLE (HIGH)
PIN 2-3	BACKLIGHT ENABLE (LOW)

21. JP2 – Backlight Control – PWM/Voltage

SETTING	FUNCTION
PIN 1-2	PWM
PIN 2-3	VOLTAGE

22. JP3 – Power Button Enable

SETTING	FUNCTION
PIN 1-2	ONBOARD POWER SWITCH ENABLE
PIN 2-3	ONBOARD POWER SWITCH DISABLE

23. JP4 – Audio Enable


SETTING	FUNCTION
PIN 1-2	AUDIO AMPLIFIER ENABLE
PIN 2-3	AUDIO AMPLIFIER DISABLE

Reorder Information:

P310-005000 COM Express Carrier board.

Revision History:

REVISION	CHANGE DESCRIPTION	DATE	AUTHOR
-	Initial	05/10/2019	DR

SIZE A		D3 Part Number: P310-005000	REV -
SCALE: NONE		SHEET 10	