



Website: www.displaytech-us.com

Embedded Development Board Product Datasheet

EMBINT1828DEV

1.8", 2.2", 2.4" and 2.8" Integrated TFT
Development Board for Microchip Development
Tools

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1. Introduction

The Displaytech EMBINT1828DEV is a development board for the Displaytech INT018ATFT, INT022ATFT, INT024BTFT and INT028ATFT integrated driver boards. The EMBINT1828DEV interfaces with any Microchip PICTail Plus capable development board, such as the Explorer16 or the Starter Kit I/O Expansion Board.

The INT018ATFT, INT022ATFT, INT024BTFT and INT028ATFT integrated driver boards power and control a Displaytech DT018ATFT, DT022ATFT, DT024BTFT or DT028ATFT display. Each TFT module is mounted on the integrated board PCB on which is mounted a RAiO RA8872 controller with integrated touchscreen control and LED backlight power circuitry.

2. INT Module Auto-Initialization

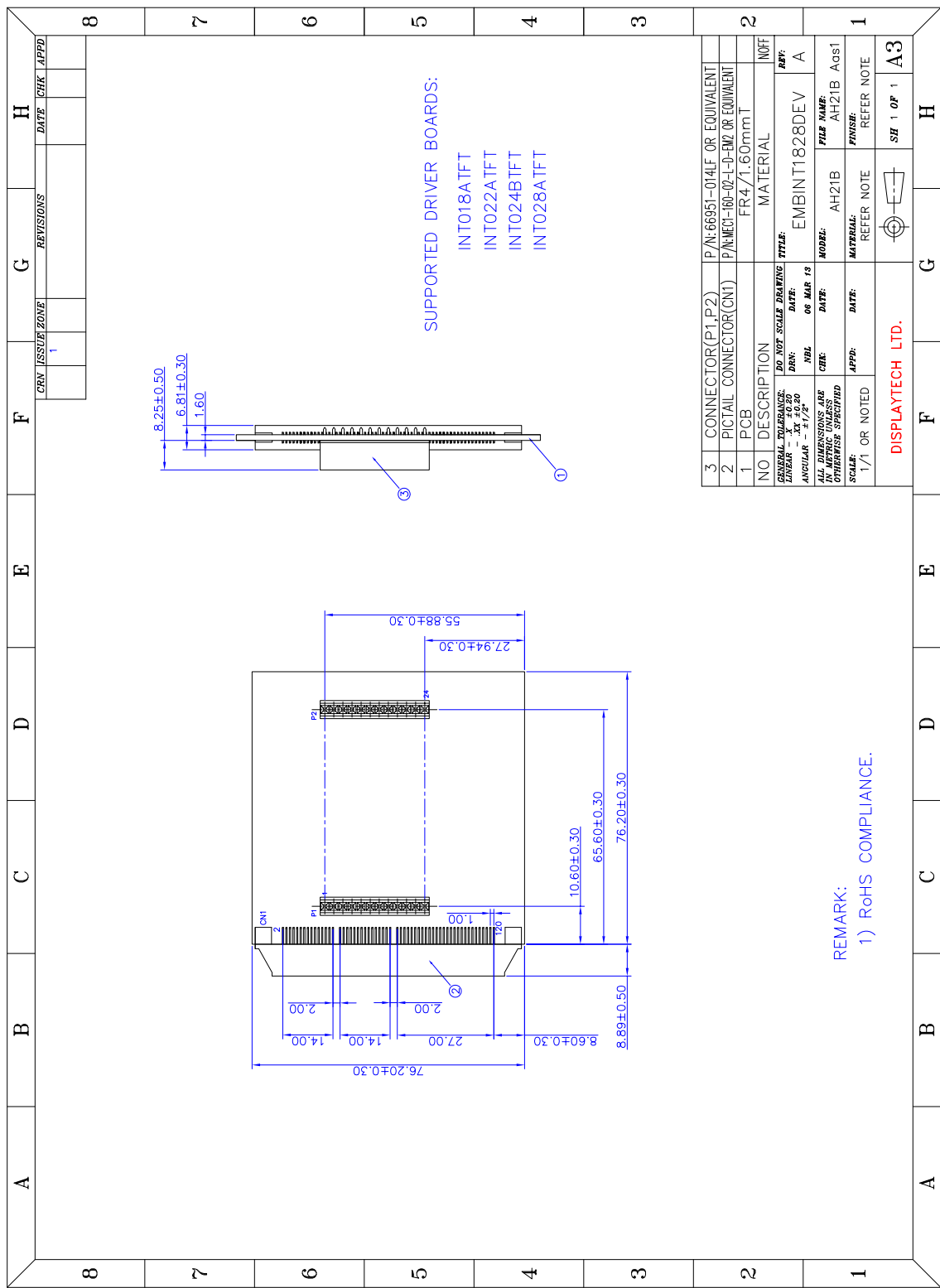
The RA8872 as well as the COG TFT Controller/Driver on-board the TFT module are automatically initialized upon power-up of the integrated module by an on-board ATmega8 microcontroller.

During the auto-initialization time, the PIC MCU should configure all I/O pins connected to the integrated board as inputs, as the on-board ATmega8 asserts control over these pins to configure the controller and driver. Please see the relevant integrated driver board datasheet for more details.

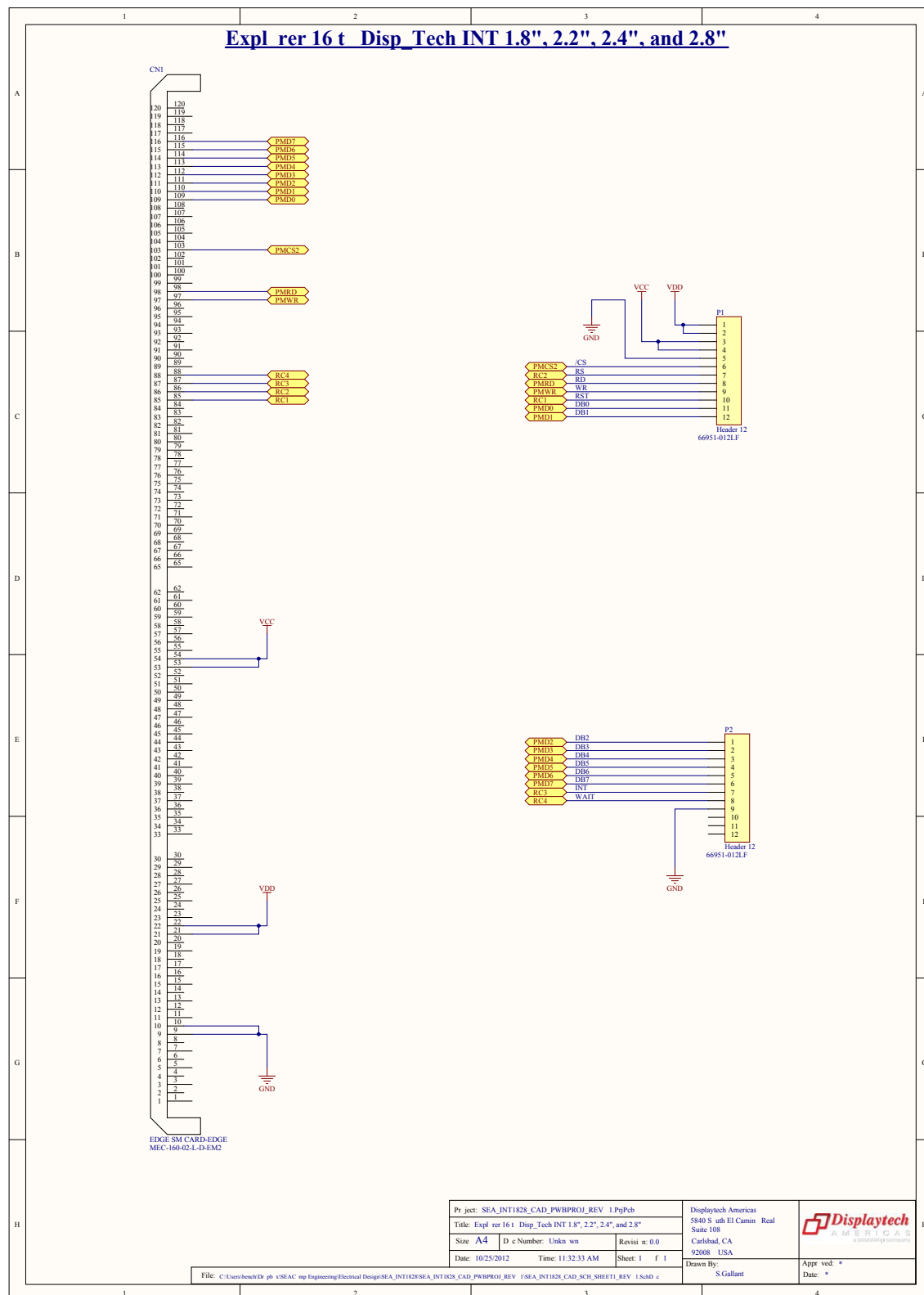
3. Pin Connection Table

Integrated Board Pin	PICTail Plus Pin #
1 (VDD 3.3v)	21
2 (VDD 3.3v)	21
3 (VCC 3.3v)	53
4 (VCC 3.3v)	53
5 (GND)	9
6 (/CS)	103 (PMCS2)
7 (RS)	86 (RC2)
8 (/RD)	98 (PMRD)
9 (/WR)	97 (PMWR)
10 (/RST)	85 (RC1)
11 (DB0)	109 (PMD0)
12 (DB1)	110 (PMD1)
13 (DB2)	111 (PMD2)
14 (DB3)	112 (PMD3)
15 (DB4)	113 (PMD4)
16 (DB5)	114 (PMD5)
17 (DB6)	115 (PMD6)
18 (DB7)	116 (PMD7)
19 (INT)	87 (RC3)
20 (WAIT)	88 (RC4)
21 (GND)	9
22 (NC / PWM)	-
23 (NC / VLED+)	-
24 (NC / VLED-)	-

4. Mechanical Drawing



5. Schematic



6. Bill of Materials

Manufacturer	Part Number	Quantity	Value	Designator	Comment
Samtec	MEC-160-02-L-D-EM2	1	MEC-160-02-L-D-EM2	CN1	EDGE SM CARD-EDGE
FCI	66951-012LF	2	Header 12	P1, P2	Header 12

7. Component Datasheets

Displaytech INT018ATFT	Link
Displaytech INT022ATFT	Link
Displaytech INT024BTFT	Link
Displaytech INT028ATFT	Link
Displaytech DT018ATFT	Link
Displaytech DT022ATFT	Link
Displaytech DT024BTFT	Link
Displaytech DT028ATFT	Link
RAiO RA8872 TFT Controller	Link
Ilitek ILI9163 COG TFT Controller/Driver	Link
Ilitek ILI9340 COG TFT Controller/Driver	Link
Ilitek ILI9341 COG TFT Controller/Driver	Link