

Series 3D2104 Development Kit Quick Start Guide



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Revision History

Revision	Date	Description
A	12/07/2018	Original Release

Introduction

These instructions describe how to connect the 3D2104 Display to its development board and how to connect the power, Ethernet, CAN bus, and RS-232 serial bus.

Equipment from Grayhill Included with 3D2104DEV-100 Kit

- 3D2104VT-100 Display
- 3D2104 Mounting Frame
- 3D2104 Development Stand
- 3D2104 Breakout Board
- 3D2104 35-pin DT cable to connect 3D2104 Display to Breakout Board
- USB to CAN adapter to provide CAN port for PC
- DB9 cable to connect CAN adapter port to 3D2104 Breakout Board
- 12VDC Universal Power Supply
- DB9 cable to connect PC serial port to 3D2104 Breakout Board *
- Ethernet cable to connect PC Ethernet port to 3D2104 Breakout Board *
- * These items are only provided on kits shipped after January 1, 2016
- Insert Card

The Insert Card directs users to the following links for downloading software development tools and product literature:

<http://www.grayhill.com/vui-builder/>

<http://www.grayhill.com/qt43d/>

Hardware Setup Instructions

The following steps describe how to set up the 3D2104 hardware. Take care to avoid damaging the development board. Note that the color of the cables shown in the pictures below may be different than the color of the cables provided.

1. Mount the 3D2104 Display to the mounting frame using the four provided thumb screws



2. Connect the 35-pin DT cable to Breakout Board. Be sure to match Pin 1 on the cable to Pin 1 on the Breakout Board. Note that this connector is keyed.



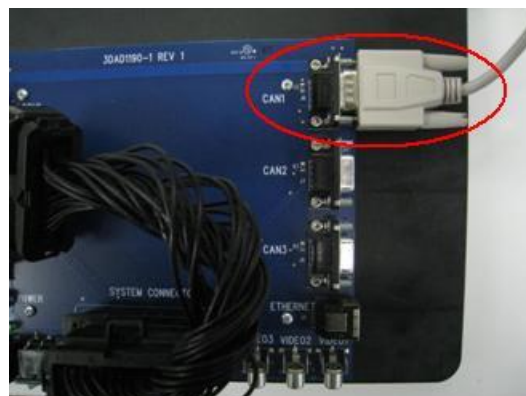
3. Connect the power cable to the Breakout Board.



4. Connect DB9 serial cable to Breakout Board COM 1 port.
5. Attach the other end of this cable to the serial port on the development PC.



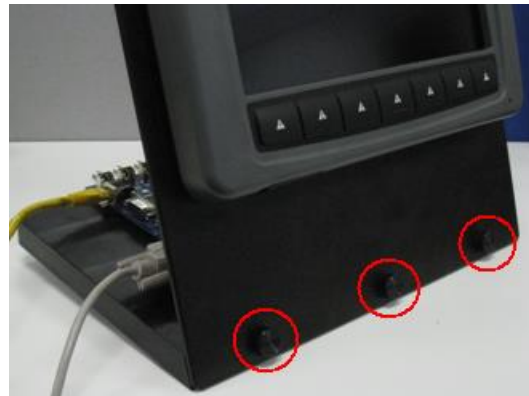
6. Attach the second DB9 cable to the CAN 1 port on the Breakout Board.
7. Attach the other end of this cable to the USB to CAN adapter.



8. Connect Ethernet cable to the Breakout Board.



9. Mount the frame with the 3D2104 Display to the Breakout Board using the 3 thumb screws provided.



10. Connect 35-pin DT cable to back of the 3D2104 Display. Note that this connector is keyed



PC to CAN-bus Interface

The Series 3D2104 Display device has three CAN bus interfaces that can be used for various purposes. The GridConnect USB-to-CAN adapter and software is a PC to CAN-bus interface that can be used for monitoring and sending messages on the CAN bus. The GridConnect software can be installed on the development PC as shown below:

1. Insert the disc or download the software from www.gridconnect.com and install the PCAN USB software.
2. A copy of the Dynamic Link Library (PCANBasic.DLL) provided with the USB PCAN adapter needs to be copied to the Windows PC. It is recommended that the DLL be copied to the same folder as the application (e.g., VUI Builder) that will be using it. Make sure that the 32-bit version is used as opposed to the 64-bit version of the DLL. (Note: The PCANBasic.dll file can be found in the folder “\PreRelease\PCAN-Basic v3.4 (CAN-FD Support)\Win32” on the disc. It’s also available on the GridConnect web site under “Support -> Product Packages -> PCAN-USB package”. Then look in the download file “usb.zip” under the folder “PCAN-Basic API\Win32\”.)

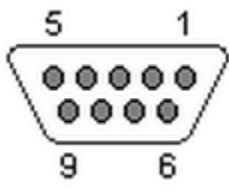
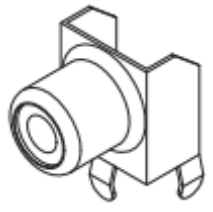
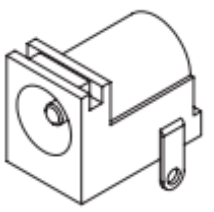



Appendix A

POWER REQUIREMENT

Voltage: 12V

Current: 1.5A

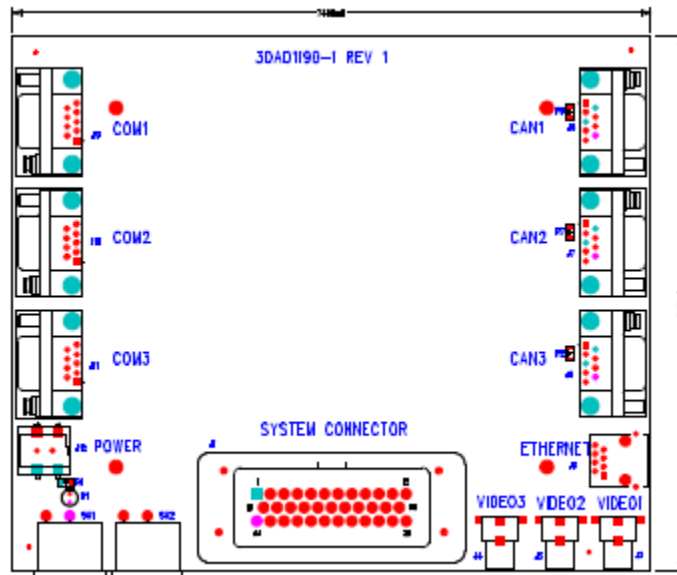
<p>J6, J7, J8, J9, J10, J11</p>  <p>TYCO 747844-6</p>	<p>J2, J3, J4</p>  <p>CUI RCJ-014-SMT</p>	<p>J12</p>  <p>CUI PJ-002AH</p>	<p>J11</p>  <p>TE CONN 555153-1</p>
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J1 MAIN CONNECTOR Mating Connector

HOUSING: DEUTSCH DT16-18-SA-K004

TERMINAL: DEUTSCH 0462-201-16141

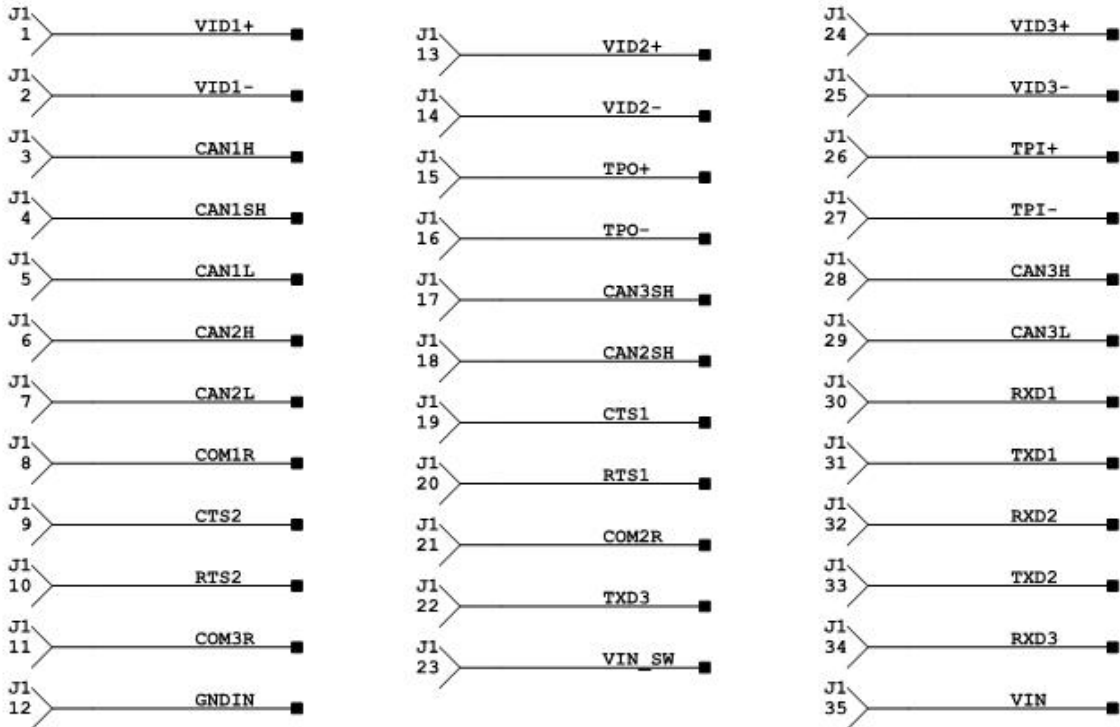
BOARD LAYOUT



SCHEMATIC

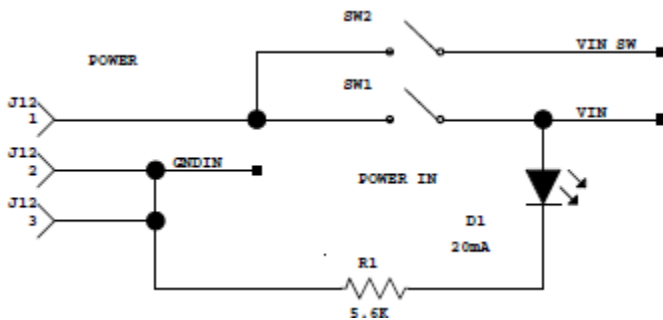
SYSTEM CONNECTOR (J1)

SYSTEM CONNECTOR



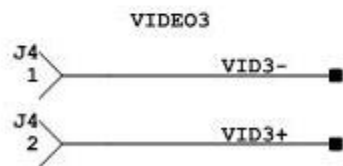
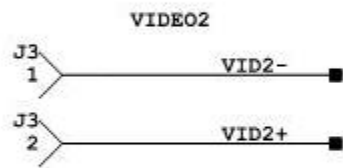
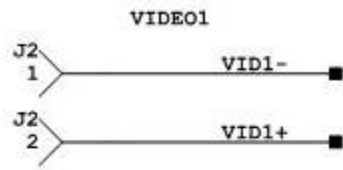
POWER SWITCHES

VBAT (SW1), VSW (SW2)

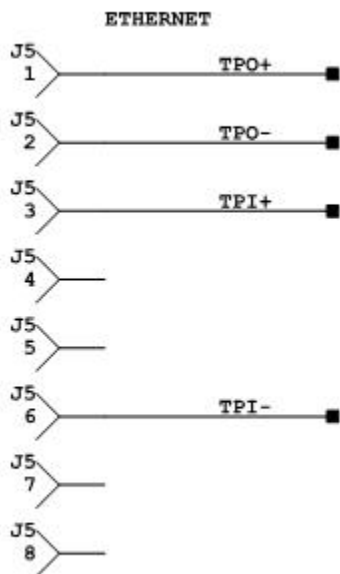


VIDEO INPUTS

VIDEO1 (J2), VIDEO2 (J3), VIDEO3 (J4)

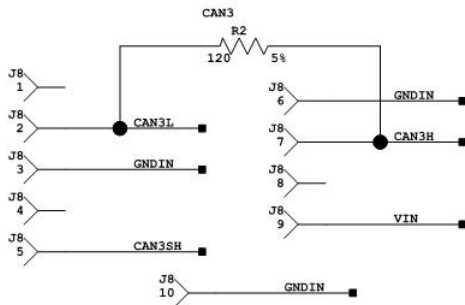
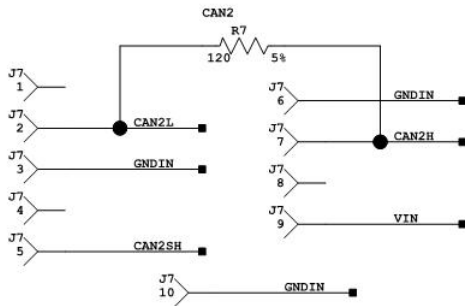
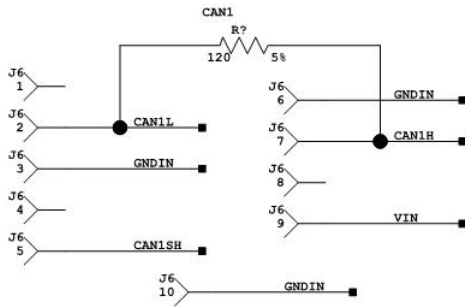


ETHERNET CONNECTOR (J5)



CAN CONNECTORS

CAN1 (J6), CAN2 (J7), CAN3 (J8)



RS232 CONNECTORS

COM1 (J9), COM2 (J10), COM3 (J11)

