

TWR-PXS20 QUICK START GUIDE

Introduction and Default Settings

The TWR-PXS20 features the PXS20 microprocessor (MCU). The PXS20 is a 32 bit embedded controller designed to support advanced driver assistance by integrating RADAR, CMOS imaging, LIDAR and ultrasonic sensors. The PXS20 also applies 3-phase motor controllers for use in hybrid electric vehicle (HEV) and industrial applications. This guide will show how to quickly connect the board to a host PC, and execute a demonstration application preloaded into FLASH memory. Default jumper positions for the TWR-PXS20 are shown in Figure 1 below.

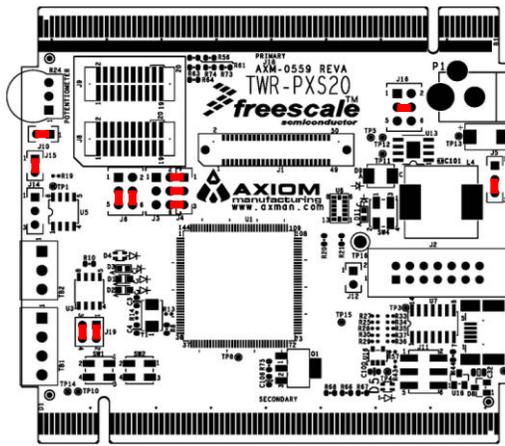


Figure 1: TWR-PXS20 Default Option Settings

Integrated OSJTAG

The TWR-PXS20 board applies an integrated, Open-Source JTAG (OSJTAG) providing application development and debug support. The OSJTAG may also be used to apply power to the target module; further simplifying development and debug. CodeWarrior Development Studio for MPC5xx, Ver 2.8 or later fully supports the OSJTAG debug connection.

Install CodeWarrior Development Studio

The TWR-PXS20 board ships with CodeWarrior Development Studio for MPC5xx Version 2.8. CodeWarrior Development Studio is a complete Integrated Development Environment (IDE) that provides a highly visual and automated framework to accelerate the development of the most complex embedded applications.

To install CodeWarrior, simply insert the CodeWarrior Development Studio DVD into a DVD drive. The installation will start automatically. If the installation fails to start, the installation program may be started manually. Open Windows Explorer and navigate to the DVD drive where the CodeWarrior disk is inserted. Double click on Launch.exe to launch the installer. Follow the on-screen instructions to install the CodeWarrior IDE and integrated programmer.



Web Site: www.axman.com

Support: support@axman.com

NOTE:

Install CodeWarrior Development Studio before connecting the target board to the host PC. Otherwise, the necessary USB drivers will not be available and the host PC will not recognize the board.

To Launch the Demo Program:

The TWR-PXS20 ships with a demonstration program preloaded into on-chip FLASH memory. The demonstration program uses the Push-Button switches and LEDs. The MCU also toggles output pins to the RS-485 and CAN transceivers.

1. Verify the option jumpers are set in default positions. Refer to Figure 1 above.
2. Connect the included type A to mini-B, USB cable between an open USB port on the host PC and the USB, type mini-B, connector on the target board. Follow the on-screen instructions to install the necessary USB drivers.
3. After the OSTJAG successfully enumerates, the dual LED at D4 will toggle RED / GREEN. This LED changes state approximately once every 2 seconds.
4. Press SW1 and notice the green LED at D1 turns ON.
5. Press SW2 and notice the green LED at D2 turns ON.
6. Using an oscilloscope, the user can verify a toggling output at TB2-1 of approx 100 kHz. A toggling output at TB3-1 can also be seen

The Quick Start CodeWarrior Project may be downloaded from the Axiom Manufacturing web site at www.axman.com/support.

Troubleshooting

If the demonstration application fails to function as indicated above, please follow the steps below before contacting Freescale Semiconductors. Please refer to the Technical Information Card (TIC) card included in the TWR-PXS20 kit for contact information.

- Ensure the option jumpers are set to default positions. Refer to Figure 1 above. Specifically, ensure the PWR_SEL option jumper is set correctly.
- Ensure the correct version of CodeWarrior is installed. Ensure the OSJTAG properly enumerated.

If the above Troubleshooting Tips fail to correct the problem, please contact Freescale Semiconductors for further assistance. Refer to the Technical Information Card (TIC) included in the kit for contact information.