PBDS-BN

GETTING STARTED

Overview

The purpose of the PBDS-BN module is to act as a buffer and provide voltage level shifting between the target debug/ITP port and the ECM-20 or TRC-20 for Intel® Pentium® 4 and Xeon™ family processors and other future processors. This allows the ECM or TRC to work with a number of different processors using the ITP700 Debug Port specified by Intel Corporation.

The PBDS-BN is composed of two modules connected by ribbon cable:

PBD-BN: A personality module that resides between the ECM/TRC and the PBDI-BN. It provides power and signal conversion for the PBDI-BN.

PBDI-BN: An interface module that connects the PBD-BN to the target system's debug/ITP port and buffers the signals going back to the PBD-BN.

Note: The PBDS-BN is specifically designed for use with the ECM-20 or TRC-20. It is extremely important that the jumpers are in the correct position PRIOR to installation. Jumpers set in the wrong position may cause damage to the target system, processor, or base unit.

I/O Voltage Jumper Settings for Intel Pentium 4 and Xeon Family Processors

Figure 1 shows the JTAG I/O voltage produced by the PBDS-BN based on the PBD-BN module jumper settings for jumpers E9 and E10. The default positions are denoted by bold-faced text. These settings should be satisfactory for all Pentium 4 and Xeon family processors. Certain processors may require tracking of the GTL bus termination voltage (VTT) to define the JTAG I/O voltage. The default positions listed in Figure 1should satisfy current and future processor requirements.

Threshold and Filter Jumper Settings

Figures 2, 3, and 4 show jumper settings for threshold and filters integrated into the PBDI-BN module. The default settings are satisfactory for most targets and should not be modified. Please contact American Arium for additional information.

E9 Jumper Position	E10 Jumper Position	I/O Voltage
FIXED	1.25V	1.25V
FIXED	1.40V	1.40V
FIXED	1.70V	1.70V
FIXED	1.58V	2.58V
TRACKING VTT	1.25V	VTT + 0.015 Volts
TRACKING VTT	**1.40V**	**VTT + 0.165 Volts**
TRACKING VTT	1.70V	VTT + 0.465 Volts
TRACKING VTT	1.58V	VTT + 0.345 Volts

Figure 1: I/O voltage jumper settings for Pentium 4 and Xeon family processors. (Bold face type = default)

E1 Jumper Position	TDO Receive Threshold
1-2	**2/3 of target power -on voltage from Pin 22 of debug port**
2-3	1/2 of logic HI level set through E1/E2 of PBDS-700

Figure 2: Threshold and filter jumper settings for E1 jumper position. (Bold face type = default)

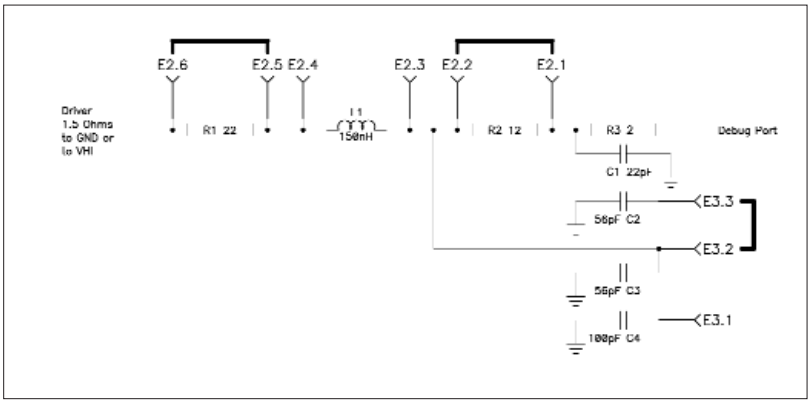

Figure 3: E2 and E3 configure an RLCR filter on TMS.

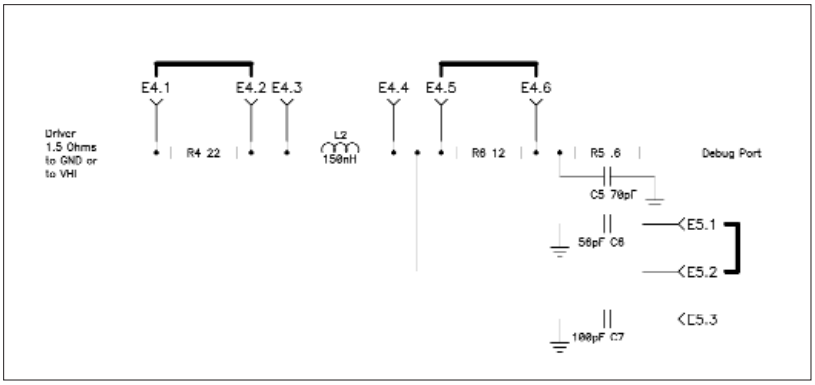

Figure 4: E4 and E5 configure an RLCR filter on TCK.