Flash-56k

DSP Flash Programming Utility

Product of Domain Technologies, Inc.

Flash-56k Userís Guide,

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CHAPTER 1

Introduction

1.1 - Contents

Included with your Flash-56k programming kit, you should find the PP-JTAG unit, a parallel printer port cable, a 14-pin JTAG flat ribbon cable assembly, reference manual, and an installation CD.

FIGURE 1.1. Flash-56k package contents

1.2 - Flash-56k Software Installation Instructions

Please follow these instructions to properly install Flash-56k:

1. Open the Software Installation CD cover and insert the CD into your host computer's CD drive. If your computer has automatic CD detection enabled, the Domain Technologies installation menu should automatically pop up on your computer screen after a couple seconds. If not, then you will have to launch the Flash-56k installer (Setup.exe) manually using Windows Explorer. "Setup.exe" is located in Flash56K\Disk1\Setup.exe on the install CD.
2. Click on the Flash-56k menu item to install the software. Please note that if you are running Windows NT, Windows 2000 or Windows XP, you will have to

install the Windows I/O driver prior to installing the Flash-56k software. To install the Window I/O driver (NT/2K/XP systems only), click on the "Windows I/O driver", menu item.

3. After clicking on the Flash-56k menu item, InstallShield will ask for the product serial number. The product serial number can be found printed on the inside of the Software Installation CD cover. Enter all five characters for each of the five fields. If this is just a demo, enter five "1"s in each of the five fields to enable the software for evaluation mode.

CHAPTER 2

Operation of the Flash-56k

2.1 - Launching Flash-56k Utility

To run the Flash-56k, select Start, Programs, Domain Technologies, Flash56K from the Windows Start menu. When activated, the DSP56xxx Flash Utility application window appears on your computer's desktop. Click on the "PP-JTAG" button located inside the box entitled, "Emulator" to configure your system for use with the PP-JTAG pod. If you have the PP-JTAG cable attached to a port other than Port 1 (default), then select the appropriate printer port in the "Emulator" window. After making the above selections in the "Emulator" configuration box, click on the "Open" button to connect to the PP-JTAG pod.

2.2 - Flash-56k Configuration Menu

To configure Flash-56k for your specific target requirements, click on the "Options" button and the Flash-56k configuration menu will appear. The configuration menu allows you to add more devices to the JTAG scan chain. The top device listed in the JTAG config window is closest to TDO.

Click on the configuration menu's "Options" tab to configure the tool to name the log file, enable verification after programming, zero unused X memory to a specific value, start the DSP after programming, and register the DSP CLKIN frequency.

2.3 - Connecting PP-JTAG to the Target

The Flash-56k application programs the target DSP56xxx device by way of the device's JTAG port. When connecting to target application boards that share the JTAG port access between the standard 14-pin dual-row header and a DB-25 printer port connector on the target, make sure that the buffer disable shorting block is installed on the appropriate jumper to disable the target printer port buffer

prior to attaching the PP-JTAG, 14-pin emulator cable. Failure to disable contending buffers could damage the PP-JTAG pod or at the very least, render it inoperable.

2.4 - Programming the Flash Memory

To program internal Flash, click on DSP56xxx Flash Utility "..." button to select the desired Flash Image File you want programmed into the target device. Once selected click on either the "Auto Program" or "Program" button. "Auto Program" is used primarily in a production setting where, when activated, will automatically sense whether or not the PP-JTAG pod has been disconnected from the target and re-attached. Once the disconnect/re-connect sequence has been detected, it will automatically begin programming the target Flash without user intervention. The yellow/magenta status bar provides a convenient way to monitor programming status and completion. A counter is also provided to display the total number of devices programmed in a given session.

2.5 - JTAG connector pinout

The following table illustrates the pin arrangement for the JTAG debug cable. Please note that the JTAG debug cable is shipped with pin 8 "plugged" to prevent inserting the cable in backwards. Therefore, the target application board should have pin 8 removed, otherwise you will not be able to insert the cable..

TABLE 1. JTAG Connector Pinout

Pin #	Signal	Pin #	Signal
1	TDI	2	Gnd
3	TDO	4	Gnd
5	TCK	6	Gnd
7	nc	8	key (no pin)
9	$\overline{\text{RESET}}$[1]	10	TMS
11	Vcc[2]	12	nc
13	$\overline{\text{DE}}$[3]	14	$\overline{\text{TRST}}$[4]

Notes:

1. $\overline{\text{RESET}}$ is optional. It allows Flash-56k to reset the target device(s) if they enter a locked state.
2. Vcc is required to power the buffers of the Flash-56k PP-JTAG controller pod. Vcc is not required for proper operation of the SB-USB or SB-56K debug pods as they are powered from another source.
3. $\overline{\text{DE}}$ is not used by Flash-56K.
4. $\overline{\text{TRST}}$ is not required. If TRST is connected, Flash-56K will drive this line high during during programming operations.

CHAPTER 3

Schematics

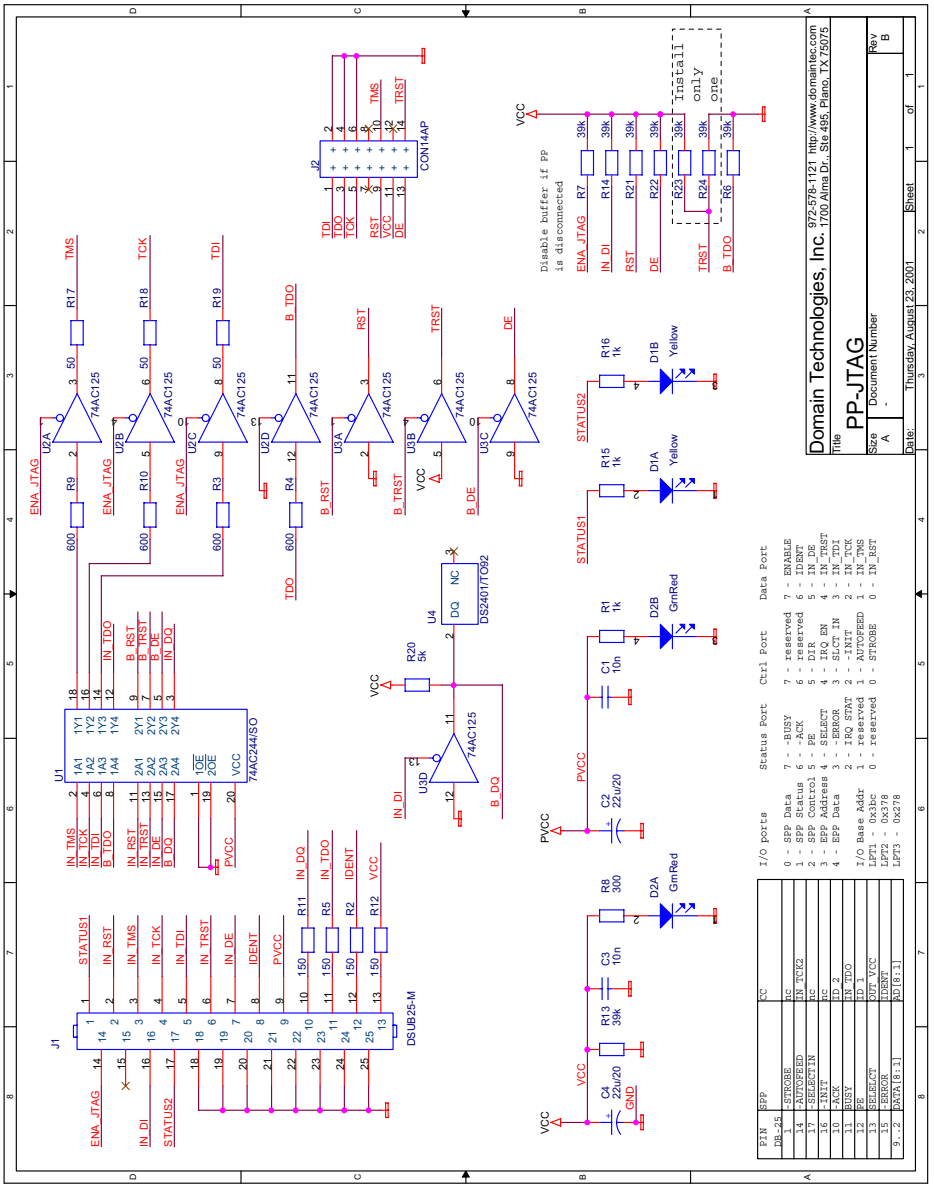

FIGURE 3.1. PP-JTAG