303A-001 IFL P/T ADAPTER OPERATOR

Manual/User Note

Data I/O Corporation warrants to the original purchaser of the product described by this manual that the product was fully functional to the extent of its specification at the time of shipment from the factory. Data I/O further certifies that the equipment used to test the product was calibrated to standards that are traceable to the national bureau of standards as appropriate. Data I/O has made every attempt to ensure that the information in this document is accurate and complete. However, Data I/O assumes no liability for errors, or for any damages that result from use of this document or the equipment which it accompanies.

ORDERING INFORMATION

When ordering this manual, use Part Number 981-0135-003, which applies to Engineering Part Number 715-1962-003 and up.

IFL Manual/User Note Cross Reference Page

With each P/T adapter, you receive this P/T manual/user note (part number 981-0135) which you can insert in your LogicPak manual binder (either old or new style manual). Although the new P/T adapter manual/user notes differ in content and format from the previous P/T adapter manuals, all necessary operating information is contained in this document and the accompanying User Notes (part number 984-0135), your LogicPak Operator's manual (981-0142), or your programmer manual.

Since the LogicPak manual and all of the P/T adapter manuals have been redesigned, the following information is presented as a cross-reference for those who have purchased a LogicPak prior to February 1986 and who have purchased additional P/T adapters after February 1986. Adapter-specific information only is contained in this document. The current LogicPak Operator's manual and the original LogicPak manual provide all basic operating information pertaining to all P/T adapters. If you would like to order the new LogicPak Operator's manual or the separate LogicPak maintenance manual, contact your nearest Data I/O Customer Support Center. Refer to the following list for location of material not contained in this document:
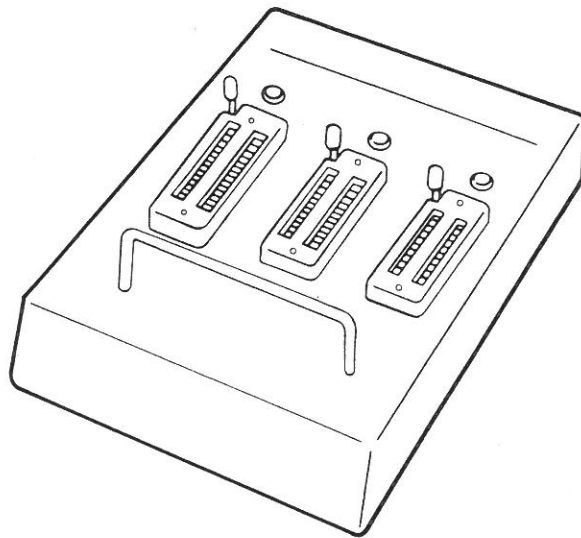
NOTE

In the LogicPak Operator's manual the P/T adapter manual is referred to as a user note.

Item	Location Old Manual	Location New Manual	Other
Environmental Specifications	Section 1.7	Introduction	
Warranty and Customer Support	Sections 1.8,1.9	Introduction	
Ordering	Section 1.11	Introduction	
Options	NA	Introduction	
Adapter Installation Procedures	Section 2.4	Getting Started	
Power Up	Section 3.2	Getting Started	
Basic Data Transfer Operations	Section 3.4	Sample Session	
System Commands	Section 3.5	System Commands	
Device List and Logic Diagrams	Appendix B	-	User Note (984-0135)
Calibration and Troubleshooting	Section 4		Maintenance Manual
Circuit Descriptions	Section 5		Maintenance Manual
Schematic	Appendix D		Maintenance Manual

Introduction

The 303A-001 IFL Programming/Testing (P/T) adapter consists of three zero-insertion force sockets with interface circuitry and EPROM (erasable, programmable read-only memory) mounted in a metal frame; see the following figure. The P/T adapter is used with the Data I/O 303A LogicPak to match programming electronics to the specific device family you are using. Any hardware and firmware unique to the 303A-001 programmable logic devices are resident in the P/T adapter; all other necessary hardware and firmware are in the LogicPak or in the programmer.

Description of Contents

This user note contains adapter-specific information pertaining to the 303A-001 P/T adapter. The following information is presented.

Specifications - This section provides the physical specifications of the 303A-001 P/T adapter.

Adapter-Specific Operating Information - This section contains operating or procedural information specific to the 303A-001 P/T adapter.

The Device Support List and the logic diagrams are in the User Notes, part number 984-0135, which accompanies this manual. The LogicPak Operator's manual, the maintenance manual, and your programmer manual provide all basic operation information; refer to these manuals for operation and programming information.

Specifications

The P/T adapter receives its power from the LogicPak and the programmer power supplies. Programming waveforms are generated from programmer supplies using the digital-to-analog converters (DAC). Controlling firmware is located on a circuit board in the P/T adapter. The physical specifications of the IFL P/T adapter follows. Environmental specifications for the P/T adapters and the LogicPak are identical and are contained in the LogicPak manual.

Weight: 0.30 kg. (10.5 oz.)
Dimensions: 16.6 X 12.3 X 2.1 cm. (6.54 X 4.84 X 0.81 in.)

Adapter-Specific Operating Information

Logic Fingerprint Test Limitations

The 303A-001 P/T Adapter has gone through two hardware revisions in order to better handle the programming and functional testing requirements of new IFL devices developed by the Signetics Corporation. Due to hardware changes needed to incorporate the 82S158/159 into the family of supported devices, the Fingerprint obtained for the 82S152/153 using the 303A-001 V01 may not be consistent with the Fingerprint using the 303A-001 version V02 or later. Thus, it may be necessary to re-learn previous Fingerprints for these devices. Due to hardware and software changes needed to incorporate the 24-pin Signetics devices into the family of supported devices, the 303A-001 V05 adapter has become incompatible with the LogicPak versions V01 and V02; the 303A-001 V05 is compatible with LogicPak versions V03 and later. Contact your Data I/O representative for details about updating your LogicPak if necessary.

Refer to your LogicPak Operator's manual for descriptions of the Logic Fingerprint test limitations and to User Note 984-0135-002 for the Device Support List which contains the Fingerprint limitations for each device supported by the 303A-001 P/T adapter.

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The information contained in this list is subject to change without notice.

USER NOTES

The following information is provided to supplement the 303A-001 Operator manual. This document provides important reference information that must be used in conjunction with the 303A-001 Operator manual. The numbers listed in the table below are part numbers and version numbers used by Data I/O to identify the configuration of the equipment shipped to you and the first column shows the configuration of the manual that was shipped with your equipment.

THIS USER NOTE APPLIES TO:

Manual Part No.	Model No.	Version No.
981-0135-001 and up	303A-001	V07

This User Note comes in an anti-static bag. The Device Support List accompanying this User Note provides logic device information specific to the 303A-001 P/T adapter.

SUMMARY OF CHANGES

This User Note provides the logic diagrams for the two new devices supported by the 303A-001 P/T adapter. Also included are the new device list for the 303A-001 P/T adapter and the Acceptance Test Procedure.

THE FOLLOWING IS INCLUDED IN THIS USER NOTE:

1. User Note
2. 303A-001 Device Support List
3. Logic Diagrams for TIFPGA529 and PLS179
4. Acceptance Test Procedure

PAGE REPLACEMENT PROCEDURE

1. Insert this User Note, the 303A-001 Device Support List and the Logic Diagrams behind the 303A-001 divider tab in the LogicPak manual 981-0142-004 or earlier or behind one of the blank divider tabs in the 981-0142-005 manual.

2. Use the Acceptance Test Procedure to assure proper functioning of the P/T adapter and then discard.

303A-001 FAMILY AND PINOUT CODES

The attached Device Support List provides a list of the devices that are supported by this P/T adapter. This list is arranged in alphabetical order by device manufacturer. If the device is manufactured by more than one manufacturer, the device is listed for each manufacturer. The 34-101-XXXX Data I/O part number may be the same for more than one listed logic diagram. For example, part number 34-101-0050 is the same logic diagram for the Signetics 82S104/105 and the Texas Instruments TIB82S105A.

CAUTION

Be sure you enter the proper family and pinout codes for the device you want to program. If you enter an incorrect family and pinout code, you may damage your device. Be aware that although you may enter an independently valid family code and an independently valid pinout code, when combined, may produce an invalid (illegal) combination. The correct combination for your device is published in this table. All family/pinout combinations not contained in this table are considered "illegal." Data I/O assumes no responsibility or liability for results produced by entry of "illegal" family/pinout combinations.

Key to Headings

An explanation of each of the column headings is given below.

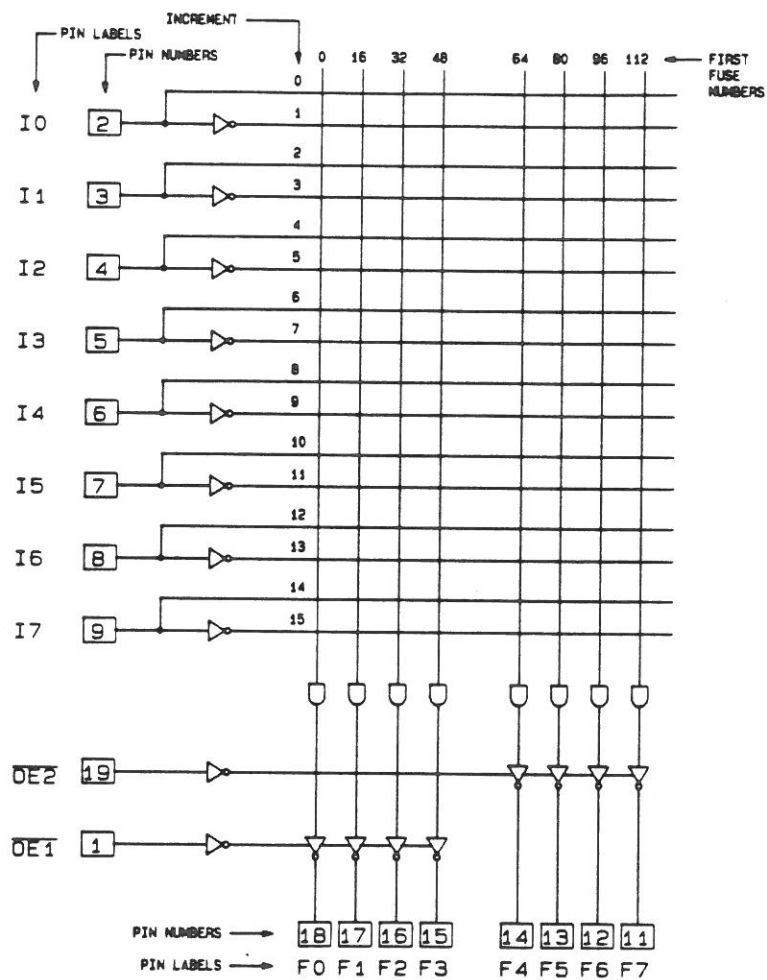|	
Device:	The number assigned by the device manufacturer.
Part Number:	The Data I/O part number used to identify device numbers that are the same for more than one manufacturer.
No. Pins:	Indicates the number of pins for each device.
Family/Pinout Code:	A 2-digit hexadecimal number that designates the programming algorithm (family) followed by a 2-digit hexadecimal number used to differentiate device types based on pin assignment and array size (pinout).
Minimum Version:	Defines the earliest version of the 303A-001 P/T adapter that can be used with the LogicPak to program that device.
Fingerprint Limitations:	Identifies those devices that have Logic Fingerprint Limitations.

303A-001 Device Support List

Device	Part Number	No. Pins	Family/Pinout Code	Minimum Version	Fingerprint Limitations
National					
PLA87X839/840	34-101-0057	24	95/70	V06	2
Signetics					
PLS100/101	34-101-0048	28	96/61	V05	2
PLS102/103	34-101-0049	28	96/62	V05	2
PLS104/105/105A	34-101-0050	28	96/63	V05	1,2,3
PLS151	34-101-0103	20	96/64	V06	1,2
PLS152/153/153A	34-101-0051	20	96/65	V05	1,2
PLS154/155	34-101-0052	20	96/67	V05	1,2,3
PLS156/157	34-101-0053	20	96/68	V05	1,2,3
PLS158/159	34-101-0054	20	96/66	V05	1,2,3
PLS161	34-101-0055	24	96/69	V05	2
PLS166/167/167A	34-101-0056	24	96/60	V07*	1,2,3
PLS168/168A	34-101-0062	24	96/74	V06	1,2,3
PLS173	34-101-0063	24	96/76	V06	1,2
PLS179	34-101-0116	24	96/77	V07	1,2,3
CK2605	34-101-0064	20	96/71	V06	1,2
Texas Instruments					
TIB82S105A	34-101-0050	28	99/63	V06	1,2,3
N82S105A	34-101-0050	28	99/63	V06	1,2,3
TIFPLA839/840	34-101-0057	24	99/70	V05	2
TIFPGA529	34-101-0017	20	99/72	V07	2

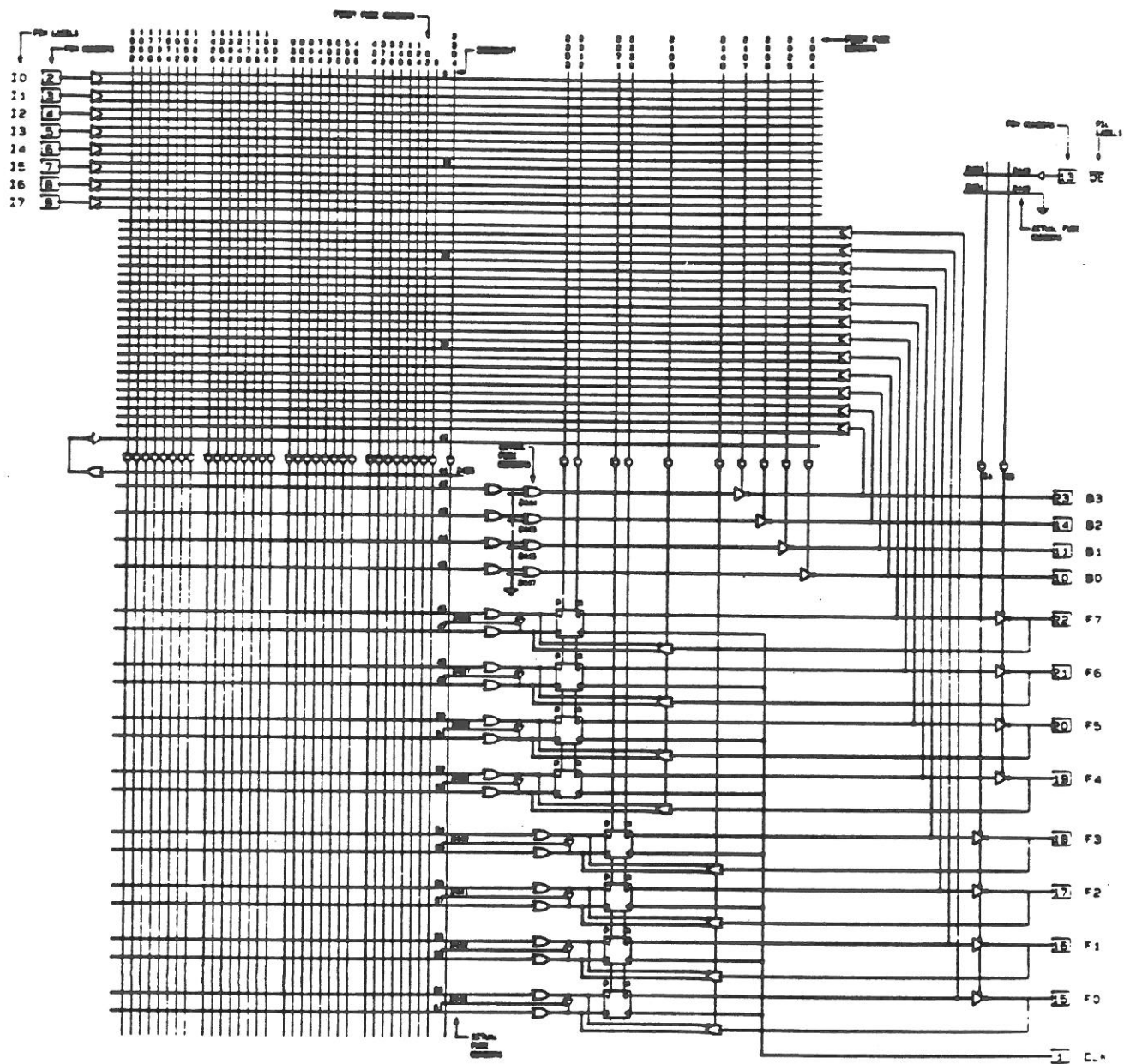NOTE: Support for Signetics devices PLS162 and PLS163 is provided on the 303A-162/163 P/T adapter.
*Introduced on V05, test fuse problem corrected in V07.

For a description of the Logic Fingerprint Test Limitations, refer to the LogicPak Operator's manual, Appendix B (part number 981-0142-005 or earlier).

FPGA529

NOTE: FUSE NUMBER = FIRST FUSE NUMBER = INCREMENT

34-101-0117

NOTE FUSE NUMBER = FIRST FUSE NUMBER + INCREMENT