

OPERATION MANUAL

303A-FPC Custom LogicFak Programming Adapter



## Section 1. INTRODUCTION

### 1.0 Overview

The 303A-FPC LogicPak programming adapter is a custom adapter designed to program the AMD's family of Field Programmable Controllers. The adapter contains the special hardware/firmware needed to implement the manufacturer-approved programming algorithms with a Data I/O Universal Programmer/LogicPak system. This manual will briefly describe the features unique to the 303A-FPC adapter. Please refer to the LogicPak or Universal Programmer manuals for more detailed information.

### 1.1 Supported Devices

The list of devices supported by this adapter and their associated family/pinout codes are shown below.

Device	Family/Pinout Code
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AMD 29PL141	97/79
29LPL141	97/79
29PL142	97/76

As new AMD FPC devices are developed, the adapter may be updated to support these these devices by replacing the EPROM in the adapter with a new version containing applicable firmware.

### 1.2 System compatibility

To use the 303A-FPC adapter, a LogicPak of revision V04 or greater is recommended. Also, the use of LogicPak requires certain programmer revisions which are outlined in section 1.3 of the LogicPak manual. Before installing the 303A-FPC adapter, make sure the programmer you are using meets the necessary compatibility criteria.

### 1.3 Field Applications Support

Data I/O has Field Applications Engineers throughout the world. They can provide additional information about interfacing Data I/O products with other systems and answer questions about our equipment.

#### 1.4 Warranty

The 303A-FPC adapter is warranted against defects in materials and workmanship. The warranty period of 90 days begins when you receive the equipment. For details on warranty coverage, see the warranty card provided with this manual.

#### 1.5 Service

For any servicing or warranty work to be done on your adapter, contact Data I/O Service Center Redmond (206-881-6444 X291).

#### 1.6 Ordering

To place an order for equipment, contact your Data I/O sales representative. Orders for shipment must include:

- o A description of the equipment (see the latest Data I/O price list or contact your sales representative for equipment and part numbers).
- o Purchase Order Number
- o Desired method of shipment
- o Quantity of each item ordered
- o Shipping and billing address of the firm, including ZIP code
- o Name of person ordering equipment

## Section 2. OPERATION

### 2.1 Data Entry

Each fuse in a programmable logic device is assigned a specific fuse number. Numbered fuse maps of each supported device are supplied in Appendix A. The data for the fuse pattern to be programmed into a logic device can be loaded into the programmer in any of three ways:

- (1) From a master device
- (2) Through the serial port (JEDEC logic device data transfer format)
- (3) Manually via the fuse editors in either front panel mode (select code EE) or terminal remote control (option "E").

### 2.2 Basic Operation

The basic operations that can be performed with the adapter, LogicPak and programmer are:

- o Load RAM from master device (or download data from host in JEDEC format)
- o Program device with RAM data
- o Verify RAM data against device data
- o Program device security fuse (if applicable)
- o Functionally test device

These operations can be performed from the programmer front panel or from a terminal in terminal remote control mode (select code E1). The following subsections illustrate operations from the programmer front panel. See the LogicPak manual for details on terminal remote control operations.

Prior to executing any load, program, or verify operation, the family and pinout codes for the selected device must be entered. The family and pinout codes for the supported devices are listed in subsection 1.1 of this manual. After the family/pinout codes have been correctly entered, the LED above the socket will light, and the device may be installed.

NOTE: Fuse operations (array load, program, or verify) will not be allowed on a device with a blown security fuse. Such an attempt will cause an "ERROR 39" to appear on the front panel or a "Security fuse blown" message to be displayed on the terminal. Functional testing can still be performed on the part during load or verify operations by disabling the fuse read/verify operations by selecting "E6" and entering "3" on the front panel or by selecting "6" and entering "3" from the terminal.

### 2.2.1 Load Ram From Master

Press: (Copy) (Device) (RAM) (Start)

Display: "FAM XX PIN XX" (enter codes if necessary)

Press: (Start)

On completion of the load, a sumcheck of the fuse data will be displayed.

### 2.2.2 Download data from host via serial port

Connect RS-232 cable from programmer serial port to host port. For complete information on serial interfacing, consult the LogicPak manual.

Enter the family/pinout codes for the desired device if necessary. This can be done by initialing any load, program or verify operation.

Press: (Select) (EB) (Start)

Initiate the transfer of data from the host. When the transfer is complete, a device sumcheck will be displayed.

### 2.2.3 Program device from RAM

Press: (Copy) (RAM) (Device) (Start)

Display: "FAM XX PIN XX" (enter codes if necessary)

Press: (Start)

The device will then be programmed and the fuse data verified. On successful completion of the operation, the fuse data sumcheck will be displayed.

#### 2.2.4 Verify Device with Ram

Press: (Verify) (Device) (Ram) (Start)

Display: "FAM XX PIN XX"

Press: (Start)

After the device has been verified, the fuse data sumcheck will be displayed.