Specifications
Universal Package System for Data I/O Programmers
Adapts your programmer to all package types and all programming volumes

General Description

Data I/O®'s Universal Package System™ is a device socketing technology that supports today's expanding spectrum of programmable device packages. The system minimizes the number of pinout adapters needed to accommodate a wide range of packages, pinouts, and high pin-count devices, giving you greater flexibility. It also shortens signal paths for cleaner, more reliable programming signals, and makes device handling easy and error-free.

Supporting the 2900/3900 Programming Systems and the UniSite™ Universal Programmer with the PinSite™ Programming Module, the Universal Package System features interchangeable package-specific programming bases. Each base accommodates an extensive range of device package sizes within a specific package type. For example, the DIP base (standard with the 2900 and 3900) accommodates standard 300- to 600-mil DIP devices from 8 pins to 48 pins. Programming bases are also available for PLCCs, LCCs, SOICs, and PGAs. In addition, a Package/Pinout Interface (PPI) base supports all unique device packages, such as SDIPs, SOPs, QFPs, TSOPs, and memory cards. The bases easily attach to a spring-pin array connector on the 2900, 3900, and UniSite.

Features

PLCC Base

The PLCC base supports PLCC and JLCC devices with 20 to 84 pins. As shown in Figure 1, a circuit board in the base arranges the programming signals onto an expanding array of gold traces. These signals conduct to the devices through an elastomeric pad with gold-filled traces through the pad perpendicular to the pad surfaces. The device is centered over the proper traces and held down against the pad using a Data I/O MatchBook™ device carrier, a durable plastic template which makes SMD
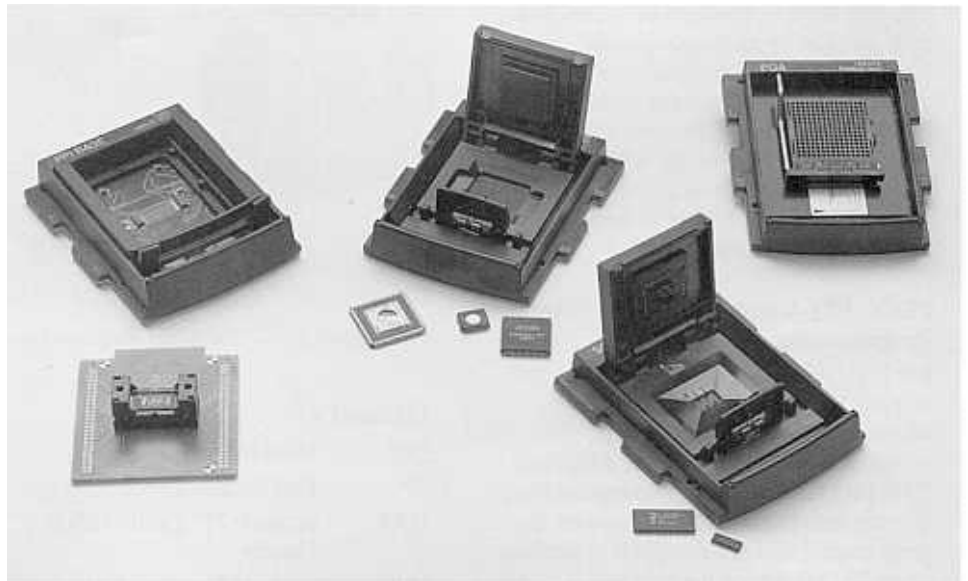
handling quick and error-free. The base includes a complete set of MatchBooks and spare elastomeric pads.

The elastomeric pads are designed to last from 3,000 to 5,000 device insertions, depending on package type.

Figure 1

LCC Base

The LCC base accommodates LCC devices with 20 to 84 pins. The socketing technology for LCC packages is very similar to the technology described for the PLCC base, but with slight differences in the base circuit board, the gold pad material, and the MatchBook dimensions.

SOIC Base

The SOIC base supports SOIC devices up to 56 pins in package widths of 150 to 530 mils. This base also uses the gold trace, gold pad, and MatchBook socketing technology. Each MatchBook in the set accommodates a different package width.

PGA Base

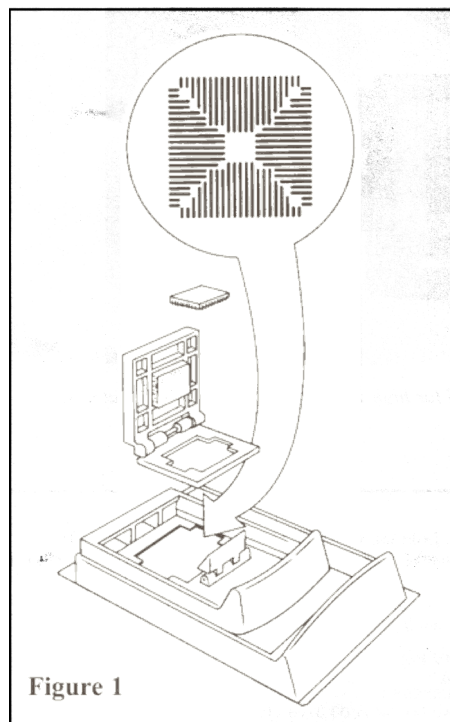The PGA base supports PGA devices with 28 to 88 pins. The base uses a single 15×15 ZIF socket for all package sizes.

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PPI Base

The Package/Pinout Interface (PPI) base accommodates all the unique device packages not supported by the other bases, as well as some devices with pin counts greater than the programmer's number of pin drivers. Packages supported include SDIPs, SOPs, TSOPs, QFPs, QUIPs, FPs, and memory cards. The PPI base is designed to accept low-cost, device- or package-specific interfaces which accommodate both current and future package styles. The PPI base can also be used to support custom packages, devices with special hardware or signal conditioning requirements, and higher volume programming requirements.

PLCC PPI Adapters Support Volume Programming Applications

For high volume applications, Data I/O offers a complete line of PLCC PPI adapters with hinge-top sockets, compatible with the UniSite, 3900, and 2900 programmers. These adapters plug directly into the PLCC PPI base on the programmer and are designed to provide up to 25,000 device insertions.
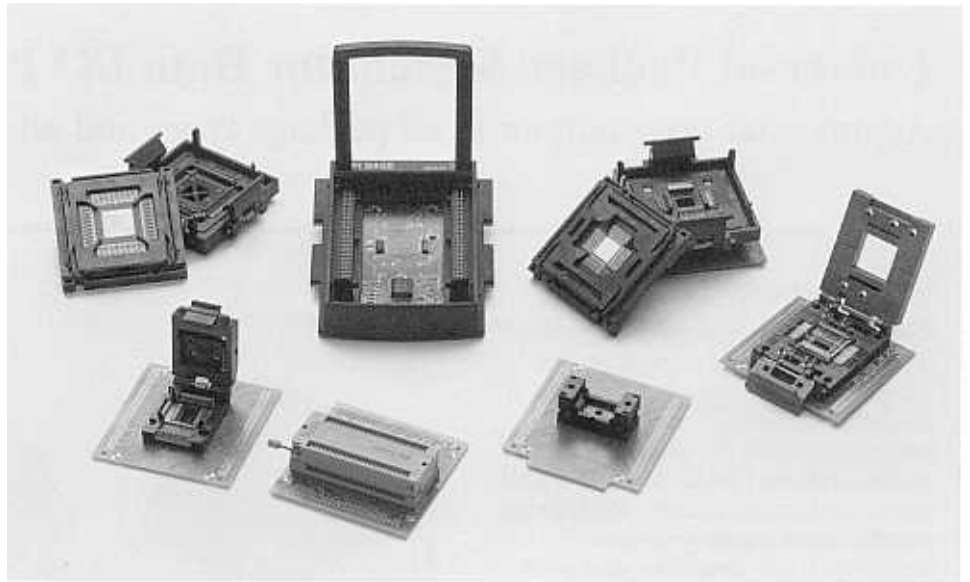
PPIs support a variety of unique device packages such as SDIPs, SOPs, QFPs, TSOPs, and memory cards.

Glossary

DIP	Dual Inline Package	PGA	Pin Grid Array
FP	Flat Pack	PLCC	Plastic Leaded Chip Carrier
JLCC	ceramic "J" Leaded Chip Carrier	PPI	Package/Pinout Interface
		QFP	Quad Flat Pack
LCC	ceramic Leadless Chip Carrier	QUIP	Quad Inline Package
		SDIP	Shrink Dual Inline Package
		SMD	Surface Mount Device
		SOIC	Small Outline Integrated Circuit
		SOP	Small Outline Package (same as SOIC)
		TSOP	Thin Small Outline Package
		ZIF	Zero Insertion Force
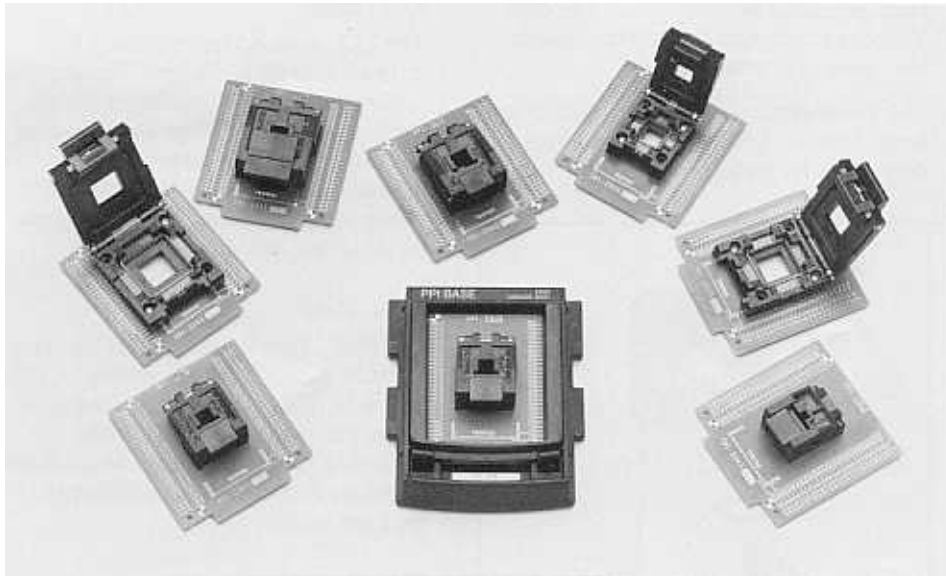
PLCC PPI adapters with hinge-top sockets are designed for high volume programming applications.

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