MATRIX PROGRAMMING SYSTEM

Programs up to 48 28F400 devices in under 5 seconds!!

MATRIX EP

Gang programming for all memory devices.

MATRIX UNIVERSAL

Universal Gang Programmer for memories, over 400 microcontrollers and programmable logic devices.

FEATURES

- 4 or 8 independent programmer sites in one box

- Systems can be linked together to make up to 48 centrally controlled sites

- Two levels of device support available: Memory and Universal

- Supports standard 5V and Low Voltage devices down to 1.8V, with +/-5% marginal verification

- Powerful and comprehensive software interface is easy to use

- Compatible with Windows® 95/98 and Windows® NT4

- Fast, accurate gang programming for maximum yield

- Intelligent auto-sensing of sockets for full automated Hands Free programming

- Intuitive use of LEDs indicate pass, fail, device continuity and busy status for each socket

- Full device security and configuration features

- Manufacturer approved algorithms

- Supports all popular file formats

- Password protected software feature avoids accidental editing of data or device configuration

- Interfaces to PC parallel port

- Universal Input Power supply 90-260V, 50/60Hz

- Full on-board diagnostics

- Fully software driven, with regular software updates and new algorithms on ICE Technology website

- Low cost passive package adapter modules available for PLCC, PSOP, TSOP, SOIC, QFP, BGA etc. devices up to 100 pins

A POWERFUL & FLEXIBLE

The Matrix Programming System offers robust, powerful and flexible programming solutions for the production environment.

Two levels of device support are available. The Matrix EP supports memories, including high-density flash devices, while the Matrix Universal offers gang programming solutions for a whole range of device types, including memory devices, standard and complex programmable logic and over 300 microcontrollers, without the need for costly, device specific modules or additional software.

Matrix programmers have either 4 or 8 sockets per unit. A unique and flexible feature of this system is that the boxes can be linked together using standard parallel cables to provide up to 48 programming sites, all controlled by one computer with no loss of programming speed.

MAXIMISE THROUGHPUT WITH

Production throughput is maximised with the Matrix system due to the superior programming speeds achieved. In addition, the user friendly software interface provides many features that allow you to keep production rates high and minimise downtime. Even if one device has a fault, the rest of the sites will continue the selected operation automatically. Auto-sensing, hands free operation also cuts out the need for the operator to continually go back to the PC keyboard.

PROGRAMMING TIMES ON THE

Device	Program	Verify
28F200B3	2.5	1.5
28F400B3	4.5	3
28F800B3	9	6
28F160B3	18	12
89C52	15	1

Times in seconds for 4 to 48 devices. Device support depends on model.

RELIABLE AND FAULT TOLERANT

The Matrix programming system has been designed to withstand the harshest of production environments and provide reliable service and performance.

The metal enclosure is well built and designed to last. The socket adapters connect to the base unit with ease and high quality Future-Bus connectors are used to ensure secure removal and replacement of socket modules.

Each individual programming site is completely independent of the rest, and so any problem device can be skipped while the rest of the devices proceed. Informative screen displays and LEDs on the box give the operator clear information on the progress of the selected task.

With independent programming sites, the job can even be continued if one of the sites develops a fault. A site can also be removed from the programmer and the rest of the sites will continue to function.

Full device insertion and continuity checks are performed on each site, reducing the risk of damage due to operator error.

POWERFUL, EASY TO USE

The software interface for the Matrix system is based upon the highly respected WinLV interface which ICE Technology developed for its single socket programmers, with many enhancements to make it ideal for the production environment. The software operates under Windows® 95/98 and Windows® NT4 (service pack 1 or higher). A demonstration copy of the software is available from our website at *www.icetech.com*, or from your dealer.

Project files store all of the parameters of the programming job, including the device manufacturer, device name, packaging, the screen display settings, programming settings, filename etc. The project settings can be protected with a password, which then disables any accidental modifications.

HANDS FREE OPERATION

The 'Hands Free' feature allows programming to start as soon as a device has been inserted and the socket locked into position. The programmer has auto-sensing which can tell when a device has been inserted.

Each socket has four LEDs that give clear feedback to the operator on the progress of the job, so there is no danger of the operator forgetting which are programmed and unprogrammed devices, as can sometimes happen with other concurrent programming systems.

This feature also speeds up throughput by minimising the number of steps the operator has to go through.

ALGORITHM UPDATES AND SUPPORT

With the Matrix programming system you never need to be out of date with new devices or updated programming algorithms. Regular software updates are posted to our internet site and are available for download at any time. 1 & 3 year update contracts are available.

We can also provide custom programming device support for devices that are not on our regularly scheduled list, or for any specific software requirements.

Technical support is always available from ICE Technology and our distributors through our website. Repairs and servicing are handled through our worldwide network.

UNIVERSAL PACKAGE ADAPTER MODULES
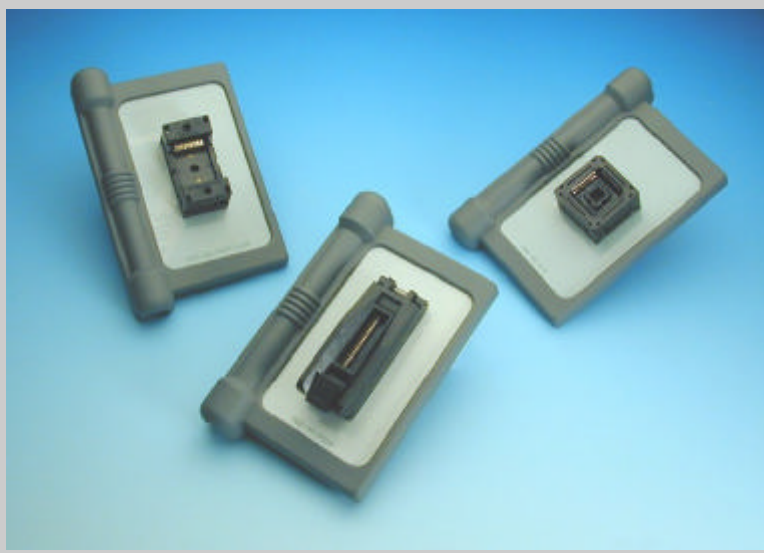
custom made modules can be developed upon request. For a full list of the package types available please contact your dealer or check our website.

The modules connect to the programmer base station through high quality 96-pin Future-Bus connectors, which ensure correct insertion and minimise the chance of damage occurring to the pins. Custom moulded handgrips facilitate the insertion and removal of the modules.

A full range of passive package adapter modules is available for the Matrix programming system. These modules do not have any active components, and so cost is minimised while reliability is maximised.

For most devices, the module is not device specific, thus reducing the overall number of modules needed. This represents a major saving in the cost of ownership of the Matrix Programming System compared to other Gang programmers.

Package types supported currently includes PLCC, PSOP, TSOP, SOIC, QFP and BGA up to 100 pins. More package types, plus higher pin-count devices are planned for future support, and

DEVICE SUPPORT

Matrix Programming System - Universal
- ✓ 8 and 16 bit Memory: EPROM, Flash, Paged EPROM, Parallel & Serial EEPROM, Serial EPROM and Flash, up to 128Mbit
- ✓ NOVRAM and BPROMs
- ✓ Programmable Logic: PAL & GAL, PEEL, PALCE etc.
- ✓ Complex PLDs: Xilinx EPLD, Vantis MACH, Altera MAX, including Altera JAM support
- ✓ Peripheral Devices: PSD, Intel FWH etc.
- ✓ Over 300 microcontrollers: 8748/51/196, PIC, 89Cxxxx, 89Fxx, 87LPCxx, AVR, SAB-C5xx, XA-G3, ST62, Z86, MC705/711, W78Exx, COP8, TMS320/370 etc.

Matrix Programming System - Memory
- ✓ 8 and 16 bit Memory: EPROM and Flash up to 128Mbit, Paged EPROM, Parallel & Serial EEPROM, FPGA Configuration Serial EPROM and Serial Flash
- ✓ NOVRAM

For a full and up to date listing of all supported devices, just check our website or contact your local distributor. The list of supported devices is being updated continually, and new algorithm releases are available from our website

ENVIRONMENTAL

CE Compliance :
The Matrix complies to the requirements of the Low Voltage Directive 73/23/EEC and EMC directive 89/336/EEC. It was tested to and met the following harmonised standards:
- • EN55022 Emission Test (Class A)
- • EN50082-1 Immunity Tests

Safety Standards :
- • UL1950, TUV EN60950
- • Meets FCC Level B and CE Level A

Operating Temperature :
- • +41ºF to +104ºF (+5ºC to +40ºC)

Humidity :
- • 20% to 80% RH non-condensing

Electrical Requirements :
- • Operation Voltage: 90 to 264VAC
- • Frequency Range: 50 to 60Hz
- • Power Consumption: 65W (max)

PHYSICAL SPECIFICATIONS

Matrix 4-way:
- • Dimensions: 385 x 305 x 115 mm (15"x12"x4½")
- • Weight: 8Kg (17lb)

Matrix 8-way:
- • Dimensions: 715 x 305 x 115 mm (28"x12"x4½")
- • Weight: 15Kg (37lb)

- • Software runs under Windows® 9x/NT4 on any PC with ECP parallel port
- • Hard-Disk requirement: approx 6MB

Package Includes:
- • Programmer base unit
- • IEC universal mains cable
- • Parallel Cable
- • Installation Guides
- • Windows® 9x/NT PC software
- • Fault diagnostic software

ORDERING INFORMATION

Matrix Programming System with Memory only support:
- • 4 Sockets: MATRIX-EP-4
- • 8 Sockets: MATRIX-EP-8

Matrix Programming System with Universal support:
- • 4 Sockets: MATRIX-4
- • 8 Sockets: MATRIX-8

Package Modules need to be ordered separately; full details and all other pricing information can be obtained from our web page or your local dealer.

Designed & Manufactured by:

ICE Technology Ltd. Sheffield. UK

Distributed by:

www.icetech.com