

## IN CIRCUIT SERIAL PROGRAMMING SYSTEM

### Brief Description:

Emerging Technologies, LLC. was called upon to develop an In Circuit Serial Programming (ICSP) system for a new line of products for an existing customer.

The system needed to be easy enough for non-engineers to be able to operate and flexible enough to accommodate the entire product line.

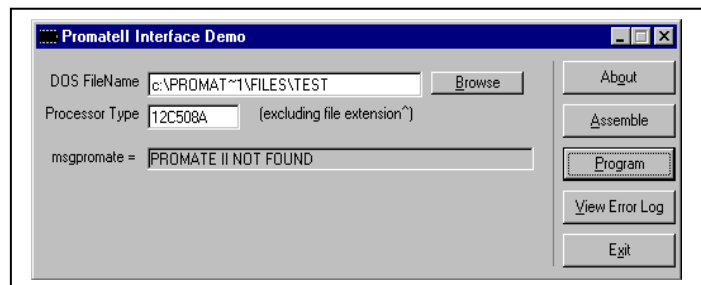
Emerging Technologies utilized a Microchip Promatell programmer and a modified version of ET's existing product (Promatell Interface Software) and custom designed and built spring contact style manual programming fixtures for each variation of product. The system allows users to connect the appropriate fixture to the programmer via HD15 computer cable. The firmware is selected by Browsing, as is common to most Windows applications. The operator can then download and program the part by holding the part onto the spring pin fixture and clicking the program button. The Visual Basic based interface provides feed back of the operation to the operator.

### Customer Benefit:

The customer was able to perform production programming of their devices using the Emerging Technologies, LLC. custom designed In Circuit Serial Programming system with very little knowledge of microcontroller programming. The programming operation was reduced to a few simple steps while allowing excellent flexibility to accommodate change. The system also can be used with Microchip's MPLAB allowing full capability for development by the engineers.

### Components Used:

- Microchip Promatell™ programmer.
- Microchip ICSP adapter.
- Existing Host Computer w/RS232 port Running WinNT.
- Custom Modular Spring Pin Fixtures.
- Modified version of Emerging Technologies, Microsoft™ Visual Basic 6.0.™, developed Promatell Interface application.



### Emerging Technologies, LLC.

#### Responsibilities:

- ✓ Functional Specification Generation
- ✓ Design / Engineering
- ✓ Fabrication
- ✓ Programming – Software
- ✓ Programming – Firmware
- ✓ Field Installation
- ✓ On-Site Commissioning
- ✓ Post Commissioning Support
- Other

#### Technologies:

- Embedded Computers
- ✓ Microcontrollers
- ✓ Visual Software
- ✓ Control Software
- Data Acquisition
- ✓ Computer Based Control
- ✓ Communications
- System Integration
- Other

#### Customer Category:

- OEM
- ✓ Industrial Manufacturer
- Custom Equipment
- Utility
- R&D

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