PGM2000 Production Gang Programmer

PGM2000 is a stand-alone gang programmer designed to support popular microcontrollers. Its unique features allow you to quickly and securely duplicate devices, without worrying the master codes being overwritten or laying around in the production floor. Currently supported devices include the PIC family from Microchip Technology, SX devices from Ubicom (formerly Scenix Semiconductor) and the ST6 family from ST Microelectronics. Tentative future support includes general E(E)PROMs, microcontrollers from Zilog, Atmel, Motorola, etc.

PGM2000 Master Control Unit connected to a PIC program adapter for stand-alone duplication

Master Control Unit holds data securely

PGM2000 consists of a Master Control Unit (MCU) which connects to various programming adapters for duplicating devices. The Master Control Unit holds the data and configuration settings securely and is protected from accidental modifications with its secured menu functions.

Features

- Program up to 8 devices at one time
- Flash-based firmware allows easy device support updates
- Support devices from different manufacturers in dual-in-line and surface mount packages
- Data to be programmed are securely stored inside EEPROM memory of MCU and remain intact when power down
- Checksum verification alerts user of any data corruption
- 2x16 LCD displays function menus and program results
- Selectable program modes
- Program EEPROM memory of available devices
- Program specific data range
- Support sequential serialization (for Microchip PIC only)
- All option or configuration bits are programmed
- Adjustable Vdd, Vpp, Vdd_min and Vdd_max in 0.1V increments
- Verifies PICs at Vdd_min and Vdd_max
- Auto program cycle include blank check, program and two verifications; takes from 10 seconds to 2 minutes depending on memory size
- Comply to manufacturers' programming specifications
- PGM2000 MCU comes with AC adapter, parallel cable, software and printed user's guide

On-line Mode

- Parallel port interface
- Windows 95/98/2000/NT hosting software
- For downloading codes and fuse settings to the MCU
- Support binary, Intel hex and Motorola S files

LCD Display

```
PGM2000 Ver01.30
```

PGM2000 Power up - Briefly display the version of the resident firmware and then go to the DEVICE menu.

```
DEVICE1   16F877
CKSUM=15AC<AA01>
```

The numeral "1" after DEVICE and other function names indicates the memory area. PGM2000 can hold 2 sets of data and fuse settings (for PIC and Ubicom devices) at one time, in memory areas 1 and 2 respectively. The numeral indicates which memory area is currently active.
If data has been previously downloaded to the PGM2000 MCU, the device name and the checksum <ID>, if available, of the data will be displayed.

```
PROGRAM1 <READY>
           AUTO
```

```
BLANK CHECK1
```

```
VERIFY1
```

The PROGRAM menu displays the current active program mode and code protection setting.

```
ONLINE
```

Secured functions

```
CONFIG1
```

```
READ1
```

These functions are hidden from the operator in the display list. When activated, they can be used to overwrite data in the PGM2000 MCU in the stand-alone mode. For example, the READ function allows user to read data and configuration bits from a chip placed in the program adapter to the MCU, instead of downloading them via a host PC.

```
VOLTAGE SETUP1
```

Stand-alone Mode

- Basic operative functions for device duplication: Program, Blank Check, Verify. These functions will not overwrite data inside the MCU.
- Secured functions accessible to authorized personnel for modifying codes inside the MCU include:
  - DEVICE - Select device type to be programmed
  - PROGRAM - Select one of the available program modes
  - READ - Read the contents and configuration data from the device in the program adapter to the MCU
  - CONFIG - Display and/or specify configuration bits to be programmed
  - VOLTAGE SETUP - Adjust Vpp, Vdd, Vdd_min and Vdd_min used for duplication
- Automatic detection of program adapter against selected device type
- Duplicate, blank check or verify one to eight devices at one time
- Different program modes allow users to duplicate devices or patch data: AUTO - blank check, program and verify; NO BLANK CHECK - bypass blank check and perform program and verify functions only; NO CODE PROTECT - specify no code protection in Auto program mode; ALL CODE PROTECT - specify code protection in Auto program mode; CONFIG ONLY - program configuration bits only

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The Software

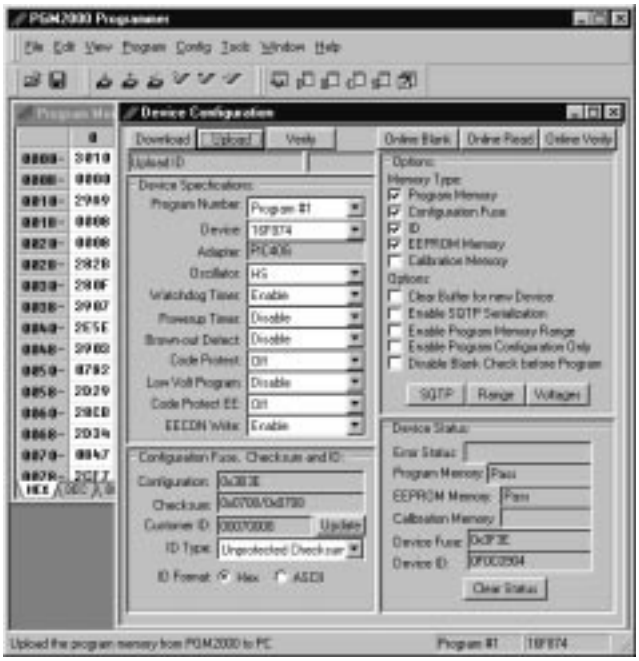
The PGM2000 software runs under Windows 95/98/2000/NT. Device Configuration is the main function window in addition to other windows for program memory, EEPROM data, etc. For ST6 family, only a DOS software is available at this time.

Function Buttons - click to activate the highlight functions

- Download - Download codes and fuse settings in PC buffer to PGM2000 MCU
- Upload - Read codes and fuse from MCU to PC buffer
- Verify - Compare codes and fuse from MCU against buffer
- Online Blank - Check if the device in the first socket of program adapter is blank
- Online Read - Read the codes and fuse from device in the first socket of program adapter to the PC buffer
- Online Verify - Compare codes and fuse from device in the first socket of program adapter against PC buffer

Device Specifications - Specify device type and configuration settings

Configuration Fuse, Checksum and ID - Specify customer ID used for the copied devices. Choose between the checksum or a user-specified value.



Sample PGM2000 software screen for the PIC family devices

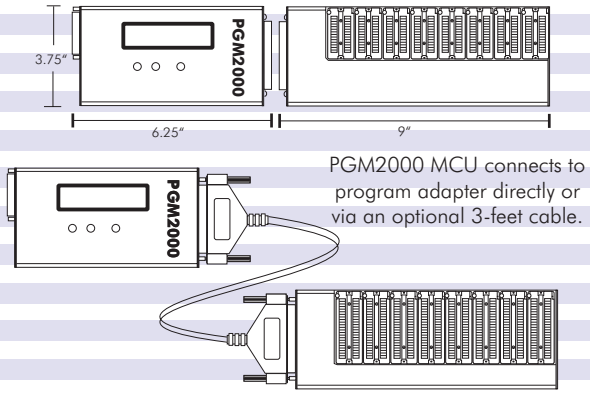
Options - **Memory Type**: Check the items to be included in the programmer function. If only "Program Memory" is checked when "Online Read" is activated, only program memory will be read from the chip to the PC. Options: Select optional functions like serialization and memory range by checking the item and specifying the parameters in the corresponding dialog box by clicking the button.

Device Status - Display the results of the programmer functions.

Program Adapters

Numerous 8-socket program adapters are available to work with PGM2000. They support different device families and package types from various IC manufacturers. These adapters are equipped with quality zero insertion force (ZIF) sockets, each capable of about 10,000 insertions. They can be plugged directly into the PGM2000 MCU via the 37-pin D-sub connectors or via an optional DB37 male-to-female cable. Either way will provide a secure connection for quick and reliable programming. Followed are the currently available adapters. The latest support is available on our web site at adv-transdata.com.

Adapter	IC Vendor	Package	ZIF Socket	Supported Devices
PIC1247GA	Microchip	DIP8/14/18	DIP28	PIC12C508(A)/509(A)/671/672,12CE518/519/673/674,16C505,16C554/558/620(A)/621(A)/622(A),16CE623/624/625, 16F627/F628,16C71/710/71/711/712/715/716/717,16F83/84(A)
PIC12G-SO	Microchip	SM8	SM14(200mil)	PIC12C508(A)/509(A)/671/672,12CE518/519
PIC505G-SL	Microchip	SN8/SL14	SL14(150mil)	PIC12C508A/509A,12CE518/519,16C505
PIC47G-SO	Microchip	SOIC18	SOIC28	PIC16C554/558/620(A)/621(A)/622(A)/61/71/710/71/711/715/717,16F83/84(A)
PIC47G-SS	Microchip	SSOP20	SSOP28	PIC16C554/558/620(A)/621(A)/622(A)/61/71/710/71/711/715/717,16F84A
PIC40G	Microchip	DIP28/40	DIP40	PIC16C62A(B)/63(A)/64A/65A(B)/66/67/642/662/72/73A(B)/74A(B)/76/77/773/774/745/765,16F870/871/872/873/874/876/877
PIC40G-SO	Microchip	SOIC28	SOIC28	PIC16C62A(B)/63(A)/66/642/72(A)/73A(B)/76/773/745,16F870/872/873/876
PIC40G-SS	Microchip	SSOP28	SSOP28	PIC16C62A(B)/63A/72(A)/73B/773,16F870/872
PIC40G-PL	Microchip	PLCC44	PLCC44	PIC16C64A/65A(B)/67/662/74A(B)/77/774/765,16F871/874/877
PIC40G-PQ	Microchip	PQFP44	PQFP44	PIC16C64A/65A(B)/67/662/74A(B)/77/774,16F874/877
PIC40G-TQ	Microchip	TQFP44	TQFP44	PIC16C64A/65A(B)/67/662/74A(B)/77/774/765,16F871/874/877
PIC5XG	Microchip	DIP18/28	DIP28	PIC16C54(A)(C)/55(A)/56(A)/57(C)/58B
PIC5XG-SO	Microchip	SOIC18/28	SOIC28	PIC16C54(A)(C)/55(A)/56(A)/57(C)/58B
PIC5XG-SS20	Microchip	SSOP20	SSOP28	PIC16C54(A)(C)/56(A)/58B
PIC5XG-SS28	Microchip	SSOP28	SSOP28	PIC16C55(A)/57(C)
PIC14G	Microchip	DIP28	DIP28	PIC14000
PIC14G-SO	Microchip	SOIC28	SOIC28	PIC14000
PIC14G-SS	Microchip	SSOP28	SSOP28	PIC14000
PIC17G	Microchip	DIP40	DIP40	PIC17C42A/43/44
PIC17G-PL	Microchip	PLCC44	PLCC44	PIC17C42A/43/44
PIC17G-PQ	Microchip	PQFP44	PQFP44	PIC17C42A/43/44
PIC17G-TQ	Microchip	TQFP44	TQFP44	PIC17C42A/43/44
PIC17BG-PL	Microchip	PLCC68	PLCC68	PIC17C752/756A
PIC17BG-TQ	Microchip	TQFP64	TQFP64	PIC17C752/756A
PIC17HG-PL	Microchip	PLCC84	PLCC84	PIC17C762/766
PIC17HG-TQ	Microchip	TQFP80	TQFP80	PIC17C762/766
PIC18G*	Microchip	DIP28/40	DIP40	PIC18C242/252/442/452
PIC18G-SO*	Microchip	SOIC28	SOIC28	PIC18C242/252
PIC18G-PL*	Microchip	PLCC44	PLCC44	PIC18C442/452
PIC18G-TQ*	Microchip	TQFP44	TQFP44	PIC18C442/452
PIC92XG-PL	Microchip	PLCC44	PLCC44	PIC16C923/924
PIC92XG-TQ	Microchip	TQFP44	TQFP44	PIC16C923/924
SX28G	Ubicom	DIP18/28	DIP28	SX18AC/28AC
SX28G-SO	Ubicom	SOIC18/28	SOIC28	SX18AC/28AC
SX20G-SS	Ubicom	SSOP20	SSOP28	SX20AC
SX28G-SS	Ubicom	SSOP28	SSOP28	SX28AC
SX48G-TQ	Ubicom	TQFP48	TQFP48	SX48BD
SX52G-PQ	Ubicom	PQFP52	PQFP52	SX52BD
ST6A	ST Micro	DIP16/20/28	DIP28	ST62T00(C)/01(C)/03(C)/08(C)/09(C)/10(C)/15(C)/20(C)/25(C)/30B
ST6B	ST Micro	DIP20/28/42	DIP48	ST62T32B/53B/55B/60B/63B/65B



PGM2000 MCU connects to program adapter directly or via an optional 3-feet cable.

* Available March, 2001

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