



User's Manual for

DATAMAN-848PRO2

Fast universal 8x 48-pindriver Stand-Alone concurrent multiprogramming system



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We continuously update our manual. You may find the latest version on our website (www.dataman.com).

Conventions used in the manual

References to the control program functions are in bold, e.g. **Load**, **File**, **Device**, etc.
References to control keys are written in brackets <>, e.g. <F1>.

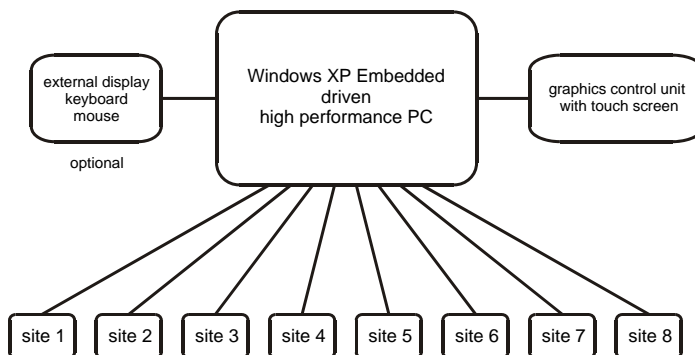
Terminology used in the manual:

Device	any kind of programmable integrated circuits or programmable devices
ZIF socket	Zero Insertion Force socket used for insertion of the target device
Buffer	part of the memory or disk used for temporary data storage
USB port	type of PC interface port
HEX data format	format of a data file which may be read with standard text viewers; e.g. byte 5AH is stored as characters '5' and 'A', which means bytes 35H and 41H. One line of this HEX file (one record) contains the start address and data bytes. All records are secured with a checksum.

Introduction

DATAMAN-848PRO2 is our extremely fast universal 8x 48-pin driver **Stand-Alone concurrent multiprogramming system** designed for high volume production programming with minimal operator effort and training. The devices are programmed at near theoretical maximum programming speed.

Block scheme of DATAMAN-848PRO2



DATAMAN-848PRO2 consists of eight independent, isolated, universal programming modules based on the **DATAMAN-48PRO2** programming hardware. The eight individual DATAMAN-848PRO2 sockets can run asynchronously (concurrent programming mode). Each programming module starts programming the moment the chip is detected to be inserted into the socket correctly - independently of the status of other programming modules. This results in seven programming modules working while you replace the programmed chip in the eighth.

A graphical control unit with touch screen provides basic control and easy monitoring of the programming flow.

Modular construction of hardware - the programming modules work independently – this allows for continuing operation should a part of the circuit become inoperable. It also makes service quick and easy.

Hands-free operation: asynchronous and concurrent operation allows a chip to begin programming immediately upon insertion. The operator merely removes the finished chip and inserts a new chip. Operator training is therefore minimized.

DATAMAN-848PRO2 supports all kinds and types of silicon technology found in today's and tomorrow's programmable devices, without requiring family specific modules. You

can be sure that new device support requires just the software to be updated and (if necessary) a simple package converter (programming adapter), therefore the ownership costs are minimized.

Using the built-in in-circuit serial programming (**ISP**) connector, the programmer is able to program ISP capable devices in circuit.

DATAMAN-848PRO2 provides very competitive pricing coupled with excellent hardware design for reliable programming. It is the best "value for money" programmer in its class.

DATAMAN-848PRO2 provides very fast programming times due to high-speed FPGA driven hardware and execution of time-critical routines taken care of inside the programmer. At the very least, programming speeds are faster than our competitors in this category and for many chips it is in fact much faster than our competitors. As a result, when used in production this programmer waits for an operator and not the other way round.

DATAMAN-848PRO2 provides two banana jacks, one for ESD wrist strap connection for easy-to-implement ESD protection and the second one for connection of the programmer to ground.

FPGA based totally reconfigurable 48 powerful TTL pindrivers provide H/L/pull_up/pull_down and read capability for each pin. Advanced pindrivers incorporate high-quality high-speed circuitry to deliver signals without overshoot or ground bounce for all supported devices. Pin drivers operate down to 1.8V so you'll be ready to program the full range of today's and tomorrow's advanced low-voltage devices.

DATAMAN-848PRO2 performs on each programming module, a device **insertion test** (wrong or backwards position) and **contact check** (poor contact pin-to-socket) before it programs each device. These capabilities supported by **overcurrent protection** and **signature-byte check** help prevent chip damage due to operator error.

DATAMAN-848PRO2 has a selftest capability which allows the diagnostic part of the software to thoroughly check the health of each programming module.

DATAMAN-848PRO2 has a built-in protection circuit for eliminating damage to the programmer and/or programmed device due to environment or operator failure. All ZIF socket pins of the DATAMAN-848PRO2 programmer are **protected against ESD** up to 15kV.

DATAMAN-848PRO2 performs programming **verification** at the **marginal levels** of supply voltage which obviously improves programming yield and guarantees long data retention.

Various **socket converters** are available to handle devices in PLCC, SOIC, PSOP, SSOP, TSOP, TSSOP, TQFP, QFN (MLF), SDIP, BGA and other packages.

It is important to remember that in most cases new devices will require **only a software update** because the DATAMAN-848PRO2 is based on the truly universal (DATAMAN-48PRO2) programmer. With our prompt service you can have new devices added to the current list within a matter of days!

The advanced design of the DATAMAN-848PRO2 Stand-Alone multiprogramming system, including protective circuits, original brand components and careful manufacturing with long burning-in periods allows us to provide a **three-year warranty** on parts and labor for the programmer (limited 25 000-cycle warranty on ZIF sockets). Although we take as much care as possible to integrate high quality components for the built-in computer, we can't provide the same level of warranty as we get from the suppliers of computer parts. Therefore it is a limited warranty of one year for all computer parts such as motherboard, CPU, HD, etc.

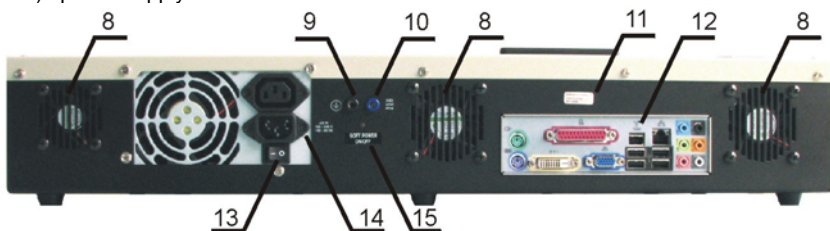
DATAMAN-848PRO2 elements

- 1) 48 pin ZIF socket
- 2) work result LEDs
- 3) power/sleep LED of site
- 4) YES! Button
- 5) ISP connector
- 6) graphical control unit with touch screen
- 7) fan grid (filter)



- 8) temperature controlled fans
- 9) banana jack for connection to ground
- 10) banana jack for ESD wrist strap connection
- 11) Windows XP Embedded serial number sticker
- 12) PC connectors – e.g. for display, keyboard, mouse...
- 13) power switch

14) power supply connector



Manipulation of the programmed device

After selection of the device you wish to work with you can insert it into the open ZIF socket (lever is up) and close the socket (lever is down). The correct orientation of the device in the ZIF socket is shown on the diagram near the ZIF socket on the programmers cover. The programmed device must only be removed from the socket when the BUSY LED is not illuminated.

Note: The programmer's protection electronics protect the target device and the programmer itself against either short or long-term power failures and partly against a PC failure. However, it is not possible to guarantee the integrity of the target device due to incorrect user-selected programming parameters. The target device may not be destroyed by forced interruption of the control program (turning off the programmer), but the contents of programmed cells may remain undefined. Don't remove the target device from the ZIF socket during operations with device (BUSY LED on).

In-system serial programming DATAMAN-848PRO2

Optimized advanced pindrivers deliver high programming performance without overshoot or ground bounce for all device technologies. Pin drivers operate down to 1.8V so you'll be ready to program the full range of today's and tomorrow's advanced low-voltage devices.

The ISP programming solution performs programming verification at the marginal levels of supply voltage, which obviously improves programming yield and guarantees long data retention.

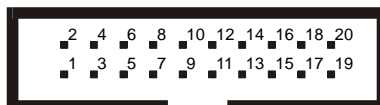
The ISP programming solution can also provide the power supply for the target system.

This ISP programming solution provides very competitive price but excellent hardware design for reliable programming.

The software provides full and detailed information for ISP implementation: Description of ISP connector pins for the currently selected chip, recommended target design around the in-circuit programmed chip and other relevant information.

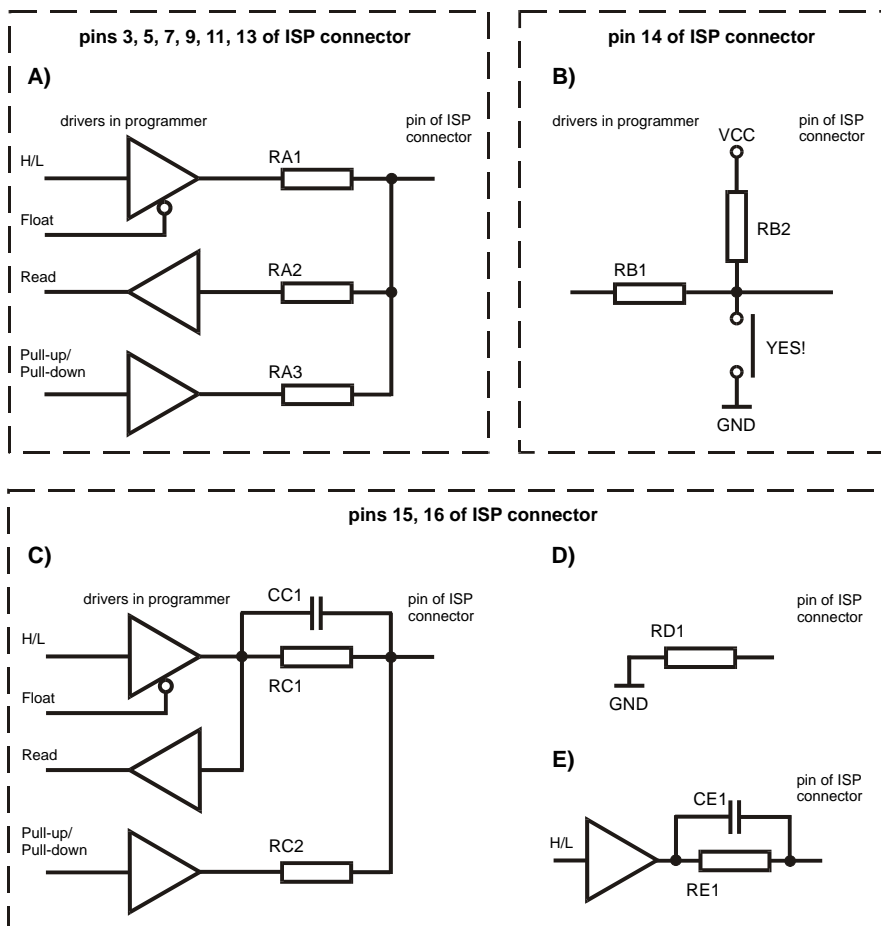
For general information, recommendations and directions about the ISP interface, see the manual section: **Common notes / ISP**.

Description of ISP connector



Front view at ISP connector.

H/L/read driver



RA1 180R, RA2 1k3, RA3 22k,
RB1 10k, RB2 10k,

CC1 1n, RC1 1k3, RC2 22k,
RD1 22k, CE1 1n, RE1 1k3,

C) Connection of pins 15 and 16 when are configured as logical signal needed for ISP programming

D) E) when pins 15 and 16 are configured as status of LED OK and LED ERROR

D) before first action with desired ISP device

E) after first action with desired ISP device

Notes: When LED OK or LED ERROR are illuminated, this status is presented as logical H, level of H is 1,8V - 5V depend on H level of desired ISP device.

When LED OK or LED ERROR are off, this status is presented as logical L, level of L is 0V - 0,4V.

The above mentioned values are provided to understand (and also to exactly calculate) the value of resistors which isolate (separate) the programmed chip and target system.

The specification of the ISP connector pins depends on the selected device which you want to work with. You can find the specification for the selected device in the control software for the programmer (Pg4uw), menu **Device / Device Info (Ctrl+F1)**. Note: the ISP programming (ISP) option of the respective device must be selected. It is indicated by the (ISP) suffix after the name of the selected device in the list.

These specifications correspond directly with application notes published by the device manufacturers. Application notes can be found at www.dataman.com.

Note: Pin no. 1 is identified by a triangle mark on ISP cable connectors.



DATAMAN-848PRO2 ISP cable

Warnings:

- Use only the **ISP cable provided**. When you use other ISP cables (other material, length...), programming may become unreliable.
- **DATAMAN-848PRO2 can supply power to the** programmed device (pin 1 of ISP connector) and the target system (pin 19 and 20 of ISP connector) with some limitations. (see Technical specification / ISP connector).
- **DATAMAN-848PRO2** applies the programming voltage to the target device and checks its value (target system can modify the programming voltage). If the programming voltage is different from expected, no action with the target device will be executed.

Selftest and calibration check

Warning:

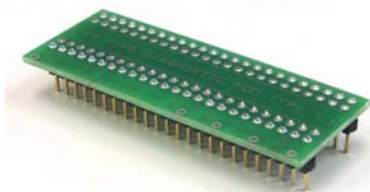
Selftest and calibration check can be run in engineering mode only.

This mode is available only when external display, keyboard and mouse are connected to DATAMAN-848PRO2.

If you feel that your programmer does not react according to your expectations, please run the programmer (ISP connector's) selftest using the Diagnostic POD (Diagnostic POD for ISP connectors #2), which is enclosed in the standard delivery package.

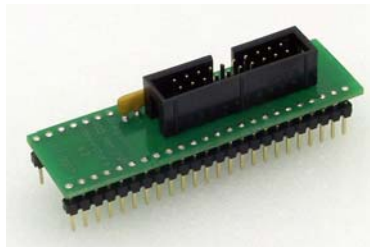
Selftest of the programmer

- Insert the **48 pin diagnostic POD - type I** into the ZIF socket of the programmer. Ensure correct orientation of the **48 pin diagnostic POD - type I** (see top side of POD).
- Run the selftest of the programmer in PG4UW menu (Programmer / Selftest plus).



Selftest of the ISP connector

- Insert the **Diagnostic POD for ISP connector #2** into the ZIF socket of the programmer. Ensure correct orientation of the **Diagnostic POD for ISP connector #2**.
- Interconnect the 20 pin connector of the **Diagnostic POD for ISP connector #2** with the ISP connector of the programmer using the ISP cable included in the delivery package. Ensure that the pins are interconnected properly (i.e. 1-1, 2-2, ..., 20-20).
- Run the selftest of ISP connector in the PG4UW menu (Programmer / Selftest ISP connector...).



Technical specification

Specification (DATAMAN-848PRO2 multiprogramming system)

- 8x universal programming modules (8x 48-pin DIL ZIF sockets and 8x ISP connectors)
- operation result LEDs, LED power
- line power input 100-240VAC/60W max.
- banana jack for ESD wrist strap connection
- banana jack for connection to ground

Specification (PC system inside the programmer)

- Microsoft Windows XP Embedded operation system
- PC Intel Core 2 Quad 2.66 GHz
- 2 GB RAM
- 320 GB HDD

SPECIFICATION (valid for each programming module)

HARDWARE

Base unit, DACs

- USB 2.0 high-speed compatible port, up to 480 Mbit/s transfer rate
- on-board intelligence: powerful microprocessor and FPGA based state machine
- three D/A converters for VCCP, VPP1, and VPP2, controllable rise and fall time
- VCCP range 0..8V/1A
- VPP1, VPP2 range 0..26V/1A
- autocalibration/selftest
- selftest capability

Socket, pindriver

- 48-pin DIL ZIF (Zero Insertion Force) sockets accept both 300/600 mil devices up to 48-pins
- pindrivers: 48 universal
- VCCP / VPP1 / VPP2 can be connected to each pin
- perfect ground for each pin
- FPGA based TTL driver provides H, L, CLK, pull-up, pull-down on all pindriver pins
- analog pindriver output level selectable from 1.8 V up to 26V
- current limitation, overcurrent shutdown, power failure shutdown
- ESD protection on each pin of the socket (IEC1000-4-2: 15kV air, 8kV contact)
- continuity test: each pin is tested before every programming operation

ISP connector

- 20-pin male type with miss insertion lock
- 6 TTL pindrivers, provides H, L, CLK, pull-up, pull-down; level H selectable from 1.8V up to 5V to handle all (low-voltage) devices.

- 1x VCCP voltage (range 2V..7V/100mA) , can be applied to two pins
- programmed chip voltage (VCCP) with both source/sink capability and voltage sense
- 1x VPP voltage (range 2V..25V/50mA)
- target system supply voltage (range 2V..6V/250mA)
- ESD protection on each pin of ISP connector (IEC1000-4-2: 15kV air, 8kV contact)
- two output signals, which indicate state of work result = LED OK and LED Error (active level: min 1.8V)
- input signal, switch YES! equivalent (active level: max 0.8V)

DEVICE SUPPORT (valid for each programming module)

Programmer

- EPROM: NMOS/CMOS, 2708, 27xxx and 27Cxxx series, with 8/16 bit data width, full support for LV series
- EEPROM: NMOS/CMOS, 28xxx, 28Cxxx, 27EExxx series, with 8/16 bit data width
- Flash EPROM: 28Fxxx, 29Cxxx, 29Fxxx, 29BVxxx, 29LVxxx, 29Wxxx, 49Fxxx series, from 256Kbit to 32Mbit, with 8/16 bit data width, full support for LV series
- Serial E(E)PROM: 24Cxxx, 24Fxxx, 25Cxxx, 45Dxxx, 59Cxxx, 25Fxxx, 25Pxxx, 85xxx, 93Cxxx, NVM3060, MDAxxx series, full support for LV series
- Configuration (EE)PROM: XCFxxx, XC17xxxx, XC18Vxxx, EPCxxx, AT17xxx, 37LVxx
- 1-Wire E(E)PROM: DS1xxx, DS2xxx
- PROM: AMD, Harris, National, Philips/Signetics, Tesla, TI
- NV RAM: Dallas DSxxx, SGS/Inmos MKxxx, SIMTEK STKxxx, XICOR 2xxx, ZMD U63x series
- PLD: Altera: MAX 3000A, MAX 7000A, MAX 7000B, MAX 7000S, MAX7000AE, MAX II
- PLD: Lattice: ispGAL22V10x, ispLSI1xxx, ispLSI1xxxEA, ispLSI2xxx, ispLSI2xxxA, ispLSI2xxxE, ispLSI2xxxV, ispLSI2xxxVE, ispLSI2xxxVL, LC4xxxB/C/V/ZC, M4-xx/xx, M4A3-xx/xx, M4A5-xx/xx, M4LV-xx/xx
- PLD: Xilinx: XC9500, XC9500XL, XC9500XV, CoolRunner XPLA3, CoolRunner-II
- other PLD: SPLD/CPLD series: AML, Atmel, AMD-Vantis, Gould, Cypress, ICT, Lattice, NS, Philips, STM, VLSI, TI
- Microcontrollers 48 series: 87x41, 87x42, 87x48, 87x49, 87x50 series
- Microcontrollers 51 series: 87xx, 87Cxxx, 87LVxx, 89Cxxx, 89Sxxx, 89LVxxx, all manufacturers, Philips LPC series
- Microcontrollers Intel 196 series: 87C196 KB/KC/KD/KT/KR/...
- Microcontrollers Atmel AVR: AT90Sxxxx, ATtiny, ATmega series
- Microcontrollers Cypress: CY7Cxxxxx, CY8Cxxxxx
- Microcontrollers ELAN: EM78Pxxx
- Microcontrollers MDT 1xxx and 2xxx series
- Microcontrollers Microchip PICmicro: PIC10xxx, PIC12xxx, PIC16xxx, PIC17Cxxx, PIC18xxx, PIC24xxx, dsPIC series
- Microcontrollers Motorola (Freescale): 68HC05, 68HC08, 68HC11, HCS08, HCS12 series
- Microcontrollers Myson MTV2xx, 3xx, 4xx and 5xx series
- Microcontrollers National: COP8xxx series
- Microcontrollers NEC: uPD78xxx series
- Microcontrollers Novatek: NT68xxx series
- Microcontrollers Scenix (Ubicom): SXxxx series
- Microcontrollers SGS-Thomson: ST6xx, ST7xx, ST10xx, STR7xx series
- Microcontrollers TI: MSP430 and MSC121x series

- Microcontrollers ZILOG: Z86/Z89xxx and Z8xxx series
- Microcontrollers other: EM Microelectronic, Fujitsu, Goal Semiconductor, Hitachi, Holtek, Princeton, Macronix, Winbond, Infineon(Siemens), NEC, Samsung, Toshiba, ...

Notes:

- For all supported devices see full **Device list** at www.dataman.com

Programmer, via ISP connector

- Serial E(E)PROM: IIC series, MW series, SPI series, KEELOQ series, serial data Flash, PLD configuration memories
- Microcontrollers Atmel: AT89Sxxx, AT90Sxxxx, ATtiny, ATmega series
- Microcontrollers Cypress: CY8C2xxxx
- Microcontrollers Elan: EM78Pxxx, EM6xxx series
- Microcontrollers EM Microelectronic: 4 and 8 bit series
- Microcontrollers Microchip PICmicro: PIC10xxx, PIC12xxx, PIC16xxx, PIC17xxx, PIC18xxx, PIC24xxx, dsPIC series
- Microcontrollers Motorola/Freescale: HC11 series, HC908 series (both 5-wire, All-wire), HCS08, HCS12
- Microcontrollers NEC: uPD7xxx series
- Microcontrollers Philips: LPC2xxx series, LPC series, 89xxx series
- Microcontrollers Scenix (Ubicom): SXxxx series
- Microcontrollers TI: MSP430 (both JTAG and BSL series), MSC12xxx series
- PLD: Lattice: ispGAL22xV10x, ispLSI1xxxEA, ispLSI2xxxV, ispLSI2xxxVE, ispLSI2xxxVL, M4-xx/xx, M4LV-xx/xx, M4A3-xx/xx, M4A5-xx/xx, LC4xxxB/C/V/ZC
- Various PLD (also by JAM player/JTAG support):
- Altera: MAX 3000A, MAX 7000A, MAX 7000B, MAX 7000S, MAX 9000, MAX II
- Xilinx: XC9500, XC9500XL, XC9500XV, CoolRunner XPLA3, CoolRunner-II

Notes:

- For all supported devices see full **Device list** at www.dataman.com.

Package support

- Support for all devices in DIP with default socket
- package support includes DIP, SDIP, PLCC, JLCC, SOIC, SOP, PSOP, SSOP, TSOP, TSOPII, TSSOP, QFP, PQFP, TQFP, VQFP, QFN (MLF), SON, BGA, EBGA, FBGA, VFBGA, UBGA, FTBGA, LAP, CSP, SCSP etc.
- support for devices in non-DIP packages up to 48 pins with universal adapters

Programming speed

Device	Size [bits]	Operation	Time
Am29DL640G (parallel NOR Flash)	400080Hx16 (64 Mega)	programming and verify	24 sec
K8P6415UQB (parallel NOR Flash)	400100Hx16 (64 Mega)	programming and verify	13 sec
K9F1G08U0M (parallel NAND Flash)	8400000Hx8 (1 Giga)	programming and verify	122.7 sec
QB25F640S33 (serial Flash)	800200Hx8 (64 Mega)	programming and verify	30.7 sec
AT89C51RD2 (microcontroller)	10000Hx8	programming and verify	14.4 sec
PIC32MX360F512L (microcontroller)	80000Hx8	programming and verify	16.2 sec

Conditions: PG4UW version 2.64

Notes:

- It is important to note, we always use random number patterns for programming speed tests. Some of our competitors use a "sparse" pattern, where only some non-blank data is programmed or they use data with only a few 0 bits (FE, EF, etc.). This

deceptive approach can "decrease" programming times considerably. If you plan to compare times, always ask which pattern they use.

- *The programming speed depends only slightly on the PC speed.*

SOFTWARE

- **Algorithms:** only manufacturer approved or certified algorithms are used.
- **Algorithm updates:** software updates are available regularly, approximately every 4 weeks, free of charge (Internet download). **OnDemand** versions of software are available for high priority chip support and/or bugs fixes. There are available nearly same day.
- **Main features:** revision history, session logging, on-line help, device and algorithm information.

Device operations

- **standard:**
 - intelligent device selection by device type, manufacturer or fragment of part name
 - automatic ID-based selection of EPROM/Flash EPROM
 - blank check, read, verify
 - program
 - erase
 - configuration and security bit programming
 - illegal bit test
 - checksum
 - interpret the Jam Standard Test and Programming Language (STAPL), JEDEC standard JESD-71
 - interpret the VME files compressed binary variation of SVF files
- **security**
 - insertion test, reverse insertion check
 - contact check
 - ID byte check
- **special**
 - production mode (automatic start immediately after device insertion)
 - lots of serialization modes (more types of incremental modes, from-file data , custom generator mode)
 - statistics
 - count-down mode

Buffer operations

- view/edit, find/replace
- fill/copy, move, byte swap, word/dword split
- checksum (byte, word)
- print

File load/save

- no download time because programmer is PC controlled
- automatic file type identification/recognition

Supported file formats

- unformatted (raw) binary
- HEX: Intel, Intel EXT, Motorola S-record, MOS, Exormax, Tektronix, ASCII-SPACE-HEX, ASCII HEX
- Altera POF, JEDEC (ver. 3.0.A), e.g. from ABEL, CUPL, PALASM, TANGO PLD, OrCAD PLD, PLD Designer ISDATA, etc.
- JAM (JEDEC STAPL Format), JBC (Jam STAPL Byte Code), STAPL (STAPL File) JEDEC standard JESD-71
- VME (ispVME file VME2.0/VME3.0)

GENERAL

- operating voltage AC 90-264V, 47-63Hz
- power consumption max. 300W active
- dimensions 625x465x115 mm (24.6x18.3x4.5 inch)
- weight (programmer) 14.9kg (32.85 lbs)
- temperature 5°C - 35°C (41°F - 95°F)
- humidity 20%..80%, non condensing

Package included

Standard accessories

- DATAMAN-848PRO2 programmer
- diagnostic POD for ZIF socket selftest of the programmer (1x)
- diagnostic POD for ISP connector selftest of the programmer (1x)
- ISP cable (8x)
- anti-dust cover for ZIF socket (8x)
- user manual
- software
- calibration test report
- transport box

Bonus pack:

- ESD wrist strap with cord and banana plug
- Vacuum pen
- USB FLASH drive

Additional services

- free technical support (phone/fax/e-mail).
- free lifetime software update via Web site

Programming a device

DATAMAN-848PRO2 can operate in two modes:

Engineering mode	for creating a project
Production mode	for mass production

Engineering mode

Warning:

This mode is available only when external display, keyboard and mouse are connected to the DATAMAN-848PRO2.

To switch to Engineering mode use **File / Switch to Engineering mode**.

This part of the software is focused on the quick and easy preparation of the project file for use in the production mode of the control software.

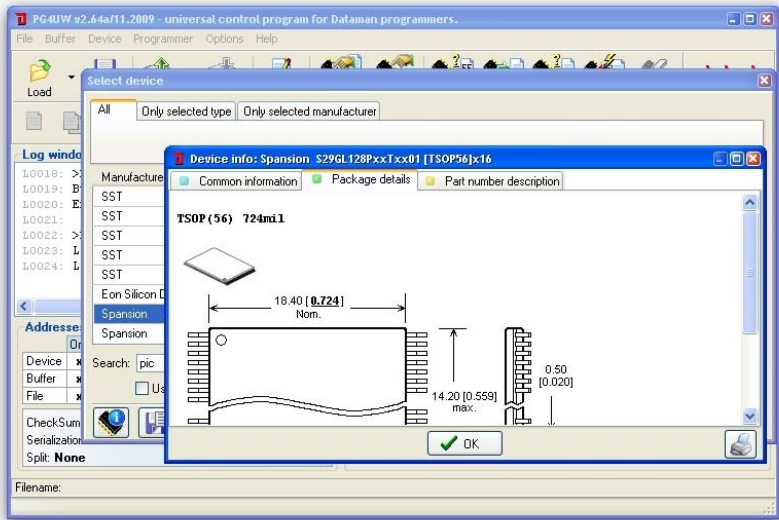
Each programming module is driven by an easy-to-use control program with pull-down menu, hot keys and on-line help. Selection of the device is performed by its class, by manufacturer or simply by typing a fragment of the vendor name and/or part number. It is the same time-proven software as used for other Dataman single-site programmers. Engineers can use all functions of this software and can make a project for mass production.

Standard device-related commands (read, blank check, program, verify, erase) are boosted by some test functions (insertion test, connection check, signature-byte check), and some other special functions (autoincrement, production mode - start immediately after insertion of the chip into the socket).

All known data formats are supported. Automatic file format detection and conversion are done during loading of the file. It is possible to use Jam files (JEDEC standard JESD-71) and VME files

The rich-featured auto-increment function enables you to assign individual serial numbers to each programmed device - or simply increment a serial number, or the function enables you to read serial numbers or any programmed device identification signatures from a user created file.

The software also provides a lot of information about the selected device. As an example, the **drawings of all available packages**, explanation of **chip labeling** (the meaning of prefixes and suffixes on the chips).

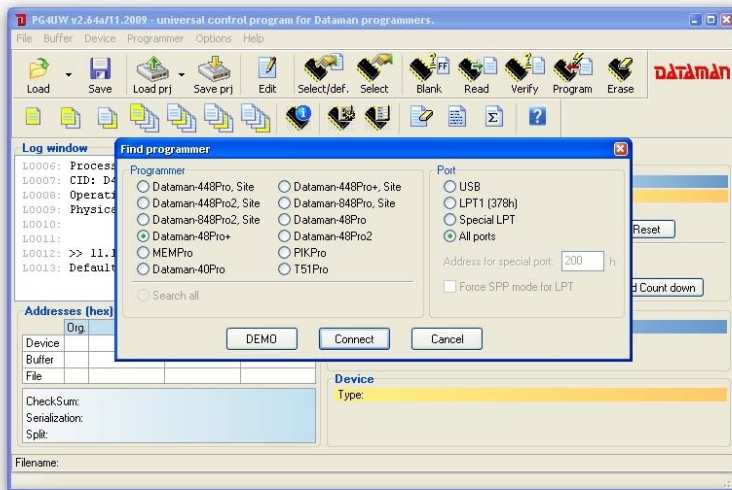


Make a project

1. Connect an external display, keyboard and mouse to the PC connectors on the back of the programmer, Turn on the programmer.

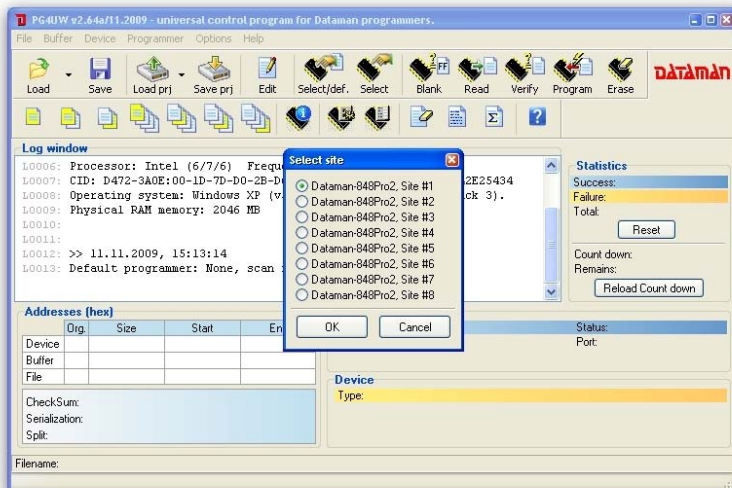


2. Run the control program: double click on the icon.
3. Find the DATAMAN-848PRO2 Site (programmer): **<Ctrl+F>** or right click on the panel **Programmer**



Select DATAMAN-48PRO2 site and then click on the “Connect” button.


4. Select site.

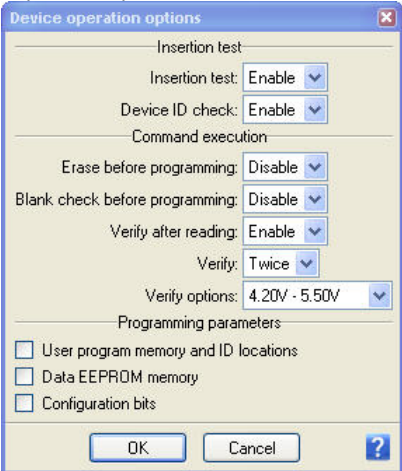


Select desired DATAMAN-48PRO2 Site# and then click the “OK” button



5. Select device: click on the icon and select the desired device

6. Load data into the buffer from file: click on the  icon.
7. Set Device operation options



Device operation options

Insertion test:

Insertion test: Enable

Device ID check: Enable

Command execution:

Erase before programming: Disable

Blank check before programming: Disable

Verify after reading: Enable

Verify: Twice

Verify options: 4.20V - 5.50V

Programming parameters:

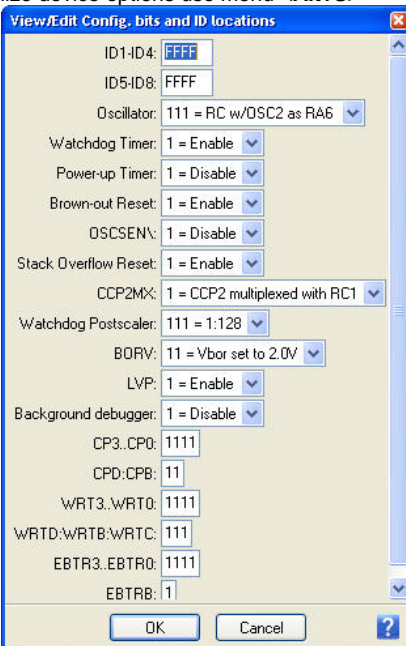
☐ User program memory and ID locations

☐ Data EEPROM memory

☐ Configuration bits

OK Cancel ?

- Set desired operations for the device and then click the “OK” button
8. To customize device options use menu **<Alt+S>**



View/Edit Config. bits and ID locations

ID1-ID4: FFFF

ID5-ID8: FFFF

Oscillator: 111 = RC w/OSC2 as RA6

Watchdog Timer: 1 = Enable

Power-up Timer: 1 = Disable

Brown-out Reset: 1 = Enable

OSCSEN: 1 = Disable

Stack Overflow Reset: 1 = Enable

CCP2MX: 1 = CCP2 multiplexed with RC1

Watchdog Postscaler: 111 = 1:128

BORV: 11 = Vbor set to 2.0V

LVP: 1 = Enable

Background debugger: 1 = Disable

CP3..CP0: 1111

CPD:CPB: 11

WRT3..WRT0: 1111

WRTD:WRTB:WRTC: 111

EBTR3..EBTR0: 1111

EBTRB: 1

OK Cancel ?

Set desired settings for the device and then click the “OK” button

Note: Menu Device operation options and <Alt+S> depend on the currently selected device.



9. Save project: click on the icon and select the destination folder, write a description for the project etc.

You can also make a project on other DATAMAN programmers (DATAMAN-48PRO2...). For more details see Help for PG4UW or "Dataman PRO series_manual". The latest manual may be found at www.dataman.com.

Production mode

Note: External display, keyboard and mouse are not needed in this mode.

This part of the software is focused on the easy monitoring of high-volume production operations via a graphical control unit with touch screen.

The user can control the following basic operations:

- load project file
- connect/disconnect programmer sites
- select desired device master operation (blank check, verify, program, erase)
- start/stop device operation on connected programmer sites
- set some advanced options to customize available settings, for example Automatic YES! Function
- create Job report
- create Problem report
- copy project file(s) from external drive (for example from network drive, USB key etc.) to the standalone's local [Projects] folder
- see the progress of device operation, including statistics information, serialization...

Step by step instruction

Starting the Stand-Alone multiprogramming system

1. **Check** if the power switch on the back of the programmer, near power supply connector is in position '0'.
2. **Plug** the power cord into the programmer's power supply connector and turn on the programmer using the power switch placed on the back of the programmer.
3. When the built-in computer is turned on the **operating system** will start booting-up, cooling fans should start to work, and the "**Please Wait**" screen should be displayed on the graphical control unit.
4. Loading of the operating system can take some time, normally no longer than 1 minute.
5. After the operating system has successfully started, the **Pg4uwMC** control program will start **automatically**. When the Pg4uwMC is ready to work the "**Welcome** screen" is displayed on the graphical control unit.
6. Click the **OK** button on the "**Welcome**" screen to continue. The main screen with menus and **Status** panel should appear on the graphical control unit.

Checking if the sites are ready to be connected

7. When **first starting** the Stand-Alone multiprogramming system, or when an error message **"Programmer Sites not found"** is displayed, then the programmer software must be reinitialized by the action **"Search for Programmers..."** available in the menu **"Programmer / Search for Programmers..."**.
8. In the dialog Search for Programmers use the button **"Search"** to search for present programmer sites. The result of the search will be displayed in the table Search results in the Search dialog. When the programmer sites are successfully found the programmer type and its serial number is shown in the table Search result. Detected programmers can be accepted by pressing/touching **Accept**. If no complete programmer was found, then the **"No Programmers found"** message will be displayed in the Search results table and the button Accept will be disabled.
9. If the search result is **"No Programmers found"**, please try turning off the Stand-Alone programmer using menu **"File / Shut down computer"**, turn off the power button on the back of programmer, **wait for 15 seconds** or more and start the programmer again. If the search result is still **"No Programmers found"**, please refer to the troubleshooting documentation.

Starting programmer sites

10. Each programmer site uses its own **hidden** control application **Pg4uw**.
11. To start the hidden applications of the control programmer sites, use menu **"Programmer / Connect Sites"**.
12. The **"Connecting sites"** indicator is displayed during connection of the sites. Additional information about the site connection progress is displayed for each site in the Status panel on the main screen.
13. Programmer sites are numbered from #1 to #8 in the direction of physical placement of the programmer sites from left to right.
14. When the connection process of the programmer sites is complete, the indicator **"Connecting Sites"** will be hidden. The status panel will contain information about each site.

Loading project file

15. When the site status after connection is **"Ready"** or **"No project file is loaded"** the user can begin the Load project operation which is accessible from the menu **File / Load project**. The project file can be loaded from the default directory **[Projects]** or from any other location, for example from a USB FLASH drive. For more details about the Load project function, refer to the chapter **"Menu File"** and Load project. When the Load project operation is **successful** for all Sites, the **"Ready"** status must be displayed in the status panel on the touch screen for all connected Sites. If there are some Sites with different status use the troubleshooting documentation to resolve the problem.

Selection of predefined device operation

16. Use the menu **"Device / Predefined operation"** to select the device Master operations.
 - The following Master operations are available:
 - Blank check
 - Verify
 - Program
 - Erase
 - For more details about the predefined device operations, see chapter **Menu Device / Predefined operation**.

Insertion of devices into the programmers sockets and start of device operations

17. Insert devices into the programmers sockets and press the **Run <operation>** button on the touch screen. <operation> means predefined operation, for example when the predefined operation is "Program device", the caption for the button will be "Run Program".
18. Selected device operation including sub-operations that are part of the predefined device operations will **start**. Progress of operations is displayed in the status panel for each programmer site.

You can use the special features of the Stand-Alone multiprogramming system, for example Count down or Statistics.

Software

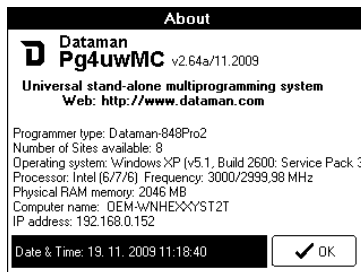
Detailed description of Graphical user interface with touch screen

Please Wait screen



The Please Wait screen is displayed on the standalone's built-in LCD screen as the first screen after powering up. The screen is shown during boot up of the operating system and launching of the standalone control software Pg4uMC.

Welcome screen (About screen)



The Welcome screen is displayed on the Stand-Alone built-in LCD screen after successful starting of the standalone control software. The screen can also be displayed by using the menu command **Help / About** for more information see **Help / About**.

The Welcome screen can be closed by clicking on the **OK** button.

LCD main screen

File Device Programmer Options Help			
Site	Status	Serialization	
#1	Ready		
#2	Ready		
#3	Ready		
#4	Ready		
#5	Ready		
#6	Ready		
#7	Ready		
#8	Ready		
Next serial value		Statistics	
None		Good:0	Fail:0 Total:0
Cdn: Disabled			
Device: Samsung K9G8G08U0M [TSOP48]			
Project: k9g8g08u0m.epi			
Checksum: DF019F85h			
		<input checked="" type="checkbox"/> Run Program	<input checked="" type="checkbox"/> Stop

Main screen consists of the following parts:

- Menu / File Device Programmer Options Help |
- Table with information about programmer sites (site and serialization status)
- Next serial value
- Statistics
- Recently selected device name
- Recent project name
- Checksum of data stored in data buffer for currently selected device
- Run Button... (... can be operation name, for example Program, Verify, Erase)
- Stop Button

Menu / File Device Programmer Options Help |

Each menu item represents one menu command. For detailed information about menu commands, refer to the chapter on menu command descriptions.

Table with information about programmer sites (site and serialization status)

This table contains key information about the current status of the programmers sites and serialization information for each Site. If serialization is not used, the Serialization column remains empty. Sites that are not connected, have '-' displayed in the Status column. Connected Sites have their Status displayed. Following are typical values:

- Ready means the programmer site is connected and ready to start any operation
- Present special status of connected Site means the site is connected but it is not selected (checked in dialog Select Sites). User selected device or project operations will not run on (unselected) Sites. User can set Site selection in the dialog 'Select Sites' accessible through menu command **Programmer / Select Enabled Sites**.
- No project file is loaded means the Site is successfully connected but no project file is loaded. It also means that no device is selected. The recommended action is "Load project".
- other text describes current status of Site(s), for example:
 >Loading data from disk to buffer'
 >Programming device... 85%
 >Programming device... OK
 >'Please insert a new device into socket'

Next serial value

When serialization is active the panel displays the current serialization mode and serialization number or label that will be used for the next device to be programmed. Recent serial numbers used for each device are displayed in the table Site and serialization status in the column Serialization.

Statistics

This panel contains information about the number of device operations processed and actual count down status. For more details see Statistics dialog (menu **Options / Statistics**).

Recently selected Device name

Manufacturer and name of any recently selected devices.

Recent Project name

Currently loaded project file name.

Checksum of data stored in the data buffer for the currently selected device.

Button Run... (... can be the operation name, for example Program, Verify, Erase)

Clicking on the button Run... will start the selected device operation for all connected programmer sites. The button can only be used when no device operation is running on any programmer site.

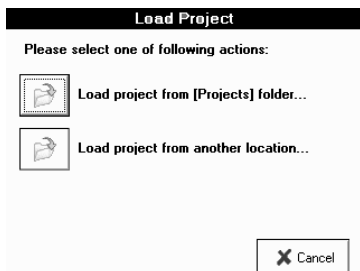
Button Stop

Clicking on the Stop button will stop executing the currently running device operation on all connected programmer sites.

Menu File

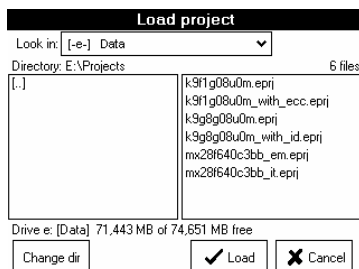
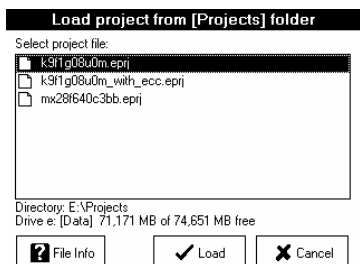
File / Load project

This menu command opens the dialog 'Load project', where the user can choose from which location the project file is to be loaded and load the selected project.



Two options are available:

1. Load project from [Projects] folder...
2. Load project from another location...



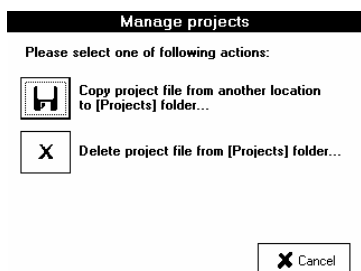
When option 1 is selected, a dialog with a list of project files present in the **[Projects] folder** will appear. The user can select the desired project and load the project by clicking the '**Load**' button. This dialog can be closed using the '**Cancel**' button. Also basic information about the selected project file can be displayed by clicking the '**File info**' button.

When option 2 is selected, a dialog with a list of project files on the specified drive and folder will appear. The user can select the desired drive, folder and project file and load the project by clicking on the '**Load**' button. The '**Change dir**' button is used to change the current directory to the directory selected in the '**Directory**' list on the left side of the dialog. When the folder **[..]** is selected, the '**Change dir**' button will jump up from the current directory one level (one folder).

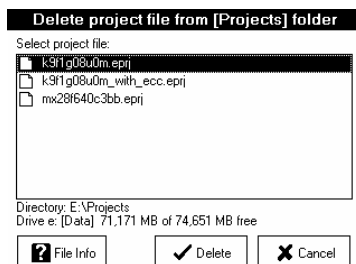
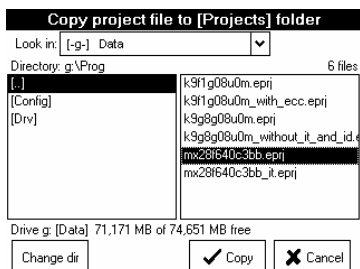
Note: The drive combo box is automatically refreshed each time it is dropped down. It is useful for loading project files from a USB key which can be plugged temporarily into the USB port of the standalone programmer and consequently the new drive letter assigned to the USB key will appear in the list of available drives.

File / Manage projects

Manage project dialog offers two options:



1. Copy project file from another location to [Projects] folder...
2. Delete project file from [Projects] folder...



When option 1 is selected, the dialog with a list of project files at the specified drive and folder will appear. The user can select the desired drive, folder and project file and copy the selected project to the **[Projects]** folder by clicking on **'Copy'**. The **'Change dir'** button is used to change the current directory to the directory selected in the **'Directory'** list on the left side of the dialog. When the folder **[..]** is selected, the **'Change dir'** button jumps from the current directory up one level (one folder).

Note: The drive combo box is automatically refreshed each time it is dropped down. It is useful for loading project files from a USB key, which can be plugged temporarily into the USB port of the standalone programmer and consequently the new drive letter assigned to the USB key will appear in the list of available drives.

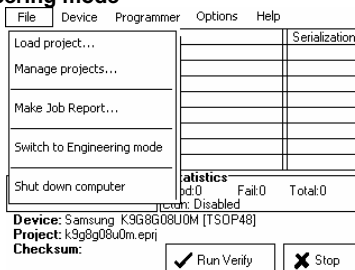
When option 2 is selected, the dialog with a list of project files present in the **[Projects]** folder will appear. The user can select the desired project and delete the selected project by clicking on the **'Delete'** button. The dialog can be closed using the **'Cancel'** button. Also basic information about the selected project file can be displayed by clicking the **'File info'** button.

File / Make Job Report...



When this menu command is selected, a **Job Report** will be created and displayed in the Job Report window. Before displaying the **Job Report**, the information message is displayed. The information message also contains information about the file name to which the Job Report will be saved.

File / Switch to Engineering mode



This command is used to start the Pg4uw control program in **Engineering mode**. In this mode the user can use the Pg4uw software to select any device from the list of supported devices, set options for the device, load data files for device, test the device operations on any programmer site and create a project file which can be used in production mode. More information about Engineering mode is available in the chapter Engineering mode.

To switch back to production mode just **close the Pg4uw** control program and run the program Pg4uwMC by double-clicking on the Pg4uwMC icon on the Desktop.

Note:

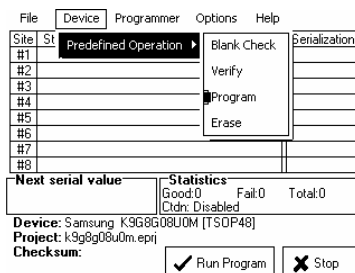
Engineering mode requires connection of an external VGA monitor, keyboard and mouse.

Do not use this menu option, without these peripherals connected and working.

File / Shut down computer

This command is used to close the control program and to shut down the built-in computer. It is similar to the command "Shut down" found in Microsoft Windows operating systems.

Menu Device



Device / Predefined operation

This menu allows the user to select the device Master operations. The following Master operations are available:

- Blank check
- Verify

- Program
- Erase

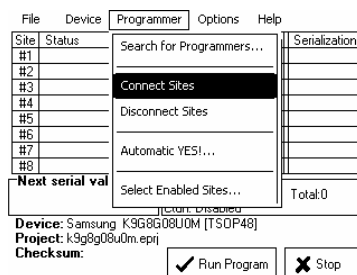
Each Master operation can consist of a sequence of one or more partial operations, for example the Program device operation can consist of the following sub-operations:

- 1.Erase
- 2.Program
- 3.Verify

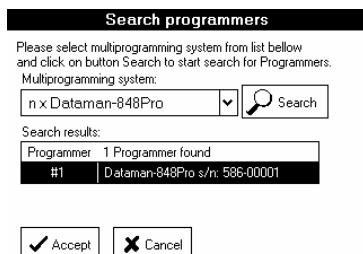
Selection of the sub-operations is stored in the Project file. For details about project file creation and usage, refer to the chapter on Engineering mode.

Preselected device operations can be started using the button Run <operation_name> displayed on the main screen.

Menu Programmer



Programmer / Search for programmers...



This menu command displays the dialog “**Search programmers**”, which is used to reinitialize the software configuration and to re-find available programmer sites. There is no need to use this menu command in normal operation. Situations, when the command is useful are:

1. when first starting DATAMAN-848PRO2 Stand-Alone multiprogramming system
2. when the error message “Programmer Sites not found” is displayed

In the dialog “**Search Programmers**” use the button “**Search**” to search for attached programmers. The result of the search will be displayed in the table **Search results** in the Search dialog. When the programmers sites are successfully found, the result shows the programmer type, and allows you to accept the new settings using the button

Accept. Otherwise the “**No Programmers found**” message will be displayed in the table **Search results** and the button **Accept** is disabled.

If the search result is “**No Programmers found**”, please try turning off the Stand-Alone programmer using the menu “**File / Shut down computer**”, then turn off the power button on the back of the programmer, wait for 15 seconds or more and start the programmer again. If the search result is still “**No Programmers found**”, please refer to the troubleshooting documentation.

Programmer / Connect Sites

This menu command starts the control applications for all available programmer sites. The “**Connecting Sites**” indicator is displayed during connecting of the sites. Additional information about the site connection progress is displayed for each site in the **Status** panel on the main screen.

Programmer sites are numbered from #1 to #8 in the direction of physical placement of sites from left to right.

When the connection process is complete the indicator “**Connecting Sites**” will be hidden. The **Status** panel will contain information about each site. The following status information are the most common:

- **Ready** means the programmer site is connected and ready to start any operation
- **Present** special status of the connected site means the site is connected but it is also not selected (checked in the dialog **Select sites**). The user selected device or project operations will not run on **Present** (unselected) sites. The user can set the site selection in the dialog ‘**Select sites**’ accessible through the menu command ‘**Programmer / Select Enabled sites**’.
- **No project** file is loaded – means the site is successfully connected but no project file is loaded. It also means that no device is selected. The recommended action is “**Load project**”.
- **other text** describes the current status of the site(s)

Programmer / Disconnect Sites

This menu command is used to disconnect all programmer sites and close the Programmer sites control applications. The command will apply only if no device operation is currently running on any of the connected sites. The command does not close the main control program. The Stand-Alone programmer and computer remains running.

Programmer / Automatic YES!...

This command displays the dialog “**Site settings**” with the Automatic YES! options.

Site settings

Automatic YES!
☐ On
☒ Off
☐ Use Project settings

✓ OK

✗ Cancel

Three modes of Automatic YES! function are available:

- On Automatic YES! Is always On
- Off Automatic YES! Is always Off
- Use Project settings Automatic YES! setting depends on the relevant settings set and stored in the project file

When Automatic YES! mode is **On** the programmers sites are scanning their device sockets after each device operation is completed. The control program can detect removal of the programmed device and insertion of a new device and afterwards automatically start (repeat) the recent operation on the new device. The operator does not need to press any key or button to program the next device.

When Automatic YES! mode is **Off** the operation on the next device can be started manually by pressing the YES! **button** near each programmer site. Each programmer site has its own YES! button.

The status of the active Automatic YES! function is displayed on the bottom left side of the LCD main screen with the label Automatic YES! Is On:

File Device Programmer Options Help			
Site	Status	Statistics	Serialization
#1	Please, insert a new device into sock		
#2	Please, insert a new device into sock		
#3	Please, insert a new device into sock		
#4	Please, insert a new device into sock		
#5	Please, insert a new device into sock		
#6	Please, insert a new device into sock		
#7	Please, insert a new device into sock		
#8	Please, insert a new device into sock		

Next serial value: None

Statistics: Good:8 Fail:0 Total:0
 Cdn: Disabled

Device: Macronix MX29F640C3BB [TSOP48]
Project: mx29f640c3bb.epi
Checksum: 7F800000h

✓ Run Program

✗ Stop

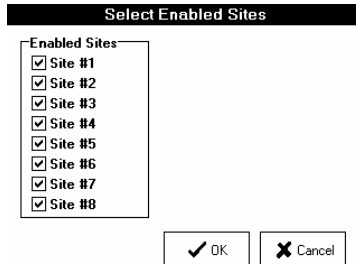
Automatic YES! is On

If the Automatic YES! function is Off, no label indicating the Automatic YES! status is displayed.

For more details about the Automatic YES! Feature, see the chapter on **Programmer / Automatic YES!** .

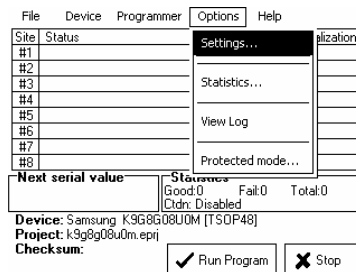
Programmer / Select Enabled Sites...

This command displays the dialog "Select Enabled Sites".



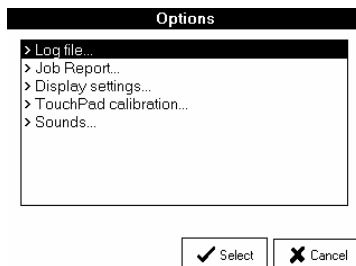
This dialog is used to select sites that are to be used. Each site is represented by one check box. If the check box #n is checked, it means the site #n is selected and device operations will run on that site. If the check box #n is unchecked, the site #n is unselected and so no device operations will run on the site. The sites can be set as selected or unselected anytime this is required, except during execution of a device operation.

Menu Options



Options / Settings...

This command displays the dialog “Settings” with a list of options that the user can choose from and set their properties and/or settings.



Log file...

Log file settings screen looks as follows:

Log file

Log file settings

☒ Rewrite Log file ☐ Append Log file

Log file name:
E:\Logs\reportmc.log

☐ Add date information to Log file name

Log file size limit

☒ Use Log file text truncating when file size limit is reached

Maximum Log file size: kB (200 kB..200000 kB)

Amount of truncated text:

The Log file is a text file containing information about the Pg4uwMC control program operation flow, which means information about loading project files, device operation types and device operation results.

The main **Log file** name in the Stand-Alone programmer can not be modified by the user, it has a defined value of **E:\Logs\reportmc.log** where drive E: is placed on the built-in disk of the Stand-Alone programmer.

The Multiprogramming system generates a few Log files. One main Log file for program Pg4uwMC and separate Log files for each of the running Programmer Sites. Each site has its own Log file. The name of the site's Log file has the same prefix as the name of the Log file specified in the edit box Log file. The file name prefix is followed by the number of the site in the form of **_#<Snum>**. All Log files are placed into the folder **E:\Logs\reportmc.log** where drive E: is found in the built-in disk of the standalone programmer.

The Log file names used are:

reportmc.log	Pg4uwMC main Log file
reportmc_#1.log	Site's #1 Log file
reportmc_#2.log	Site's #2 Log file
reportmc_#3.log	Site's #3 Log file
and so on...	

The following options can be set for the Log file creation:

- option **Append Log file** sets usage of the Log file. The Log file will be created after the first restart of the Pg4uwMC. For all following executions of thePg4uwMC, the existing Log file will be preserved and new data will be appended to the existing Log file.
- option **Rewrite Log file** sets the usage of the Log file. The Log file will be created after the first restart of the Pg4uwMC. For all other following executions of Pg4uwMC, the existing Log file will be rewritten and new Log file will be created. Data from the previous Log file will be deleted.
- Checkbox **Add date information to Log file name** allows the user to choose additional date information to be included in the Log file name. When the checkbox is checked, the program automatically adds the current date string into the Log file name through the following rules:

If log file name has format:

< log_file_name>.<log_file_extension>

The name with added date will be:

< log_file_name><-yyyy-mm-dd>.<log_file_extension>

The new part representing the date consists of yyyy - year, mmm - month and dd - day.

Example:

Log file name is **E:\Logs\reportmc.log**

The final log file name with added date will look like this (July, 7th, 2007):

E:\Logs\reportmc-2007-jul-07.log

Advanced options for the Log file size limit:

- option **Use the Log file text truncating when the file size limit is reached** - when checked the Log file size limit is on. This means that when the Log file size reaches the specified value, the part of the text included in the Log file will be truncated. When the option is unchecked the size of Log file is limited by free disk space only.
- option **Maximum Log file size** specifies the maximum size of the Log file in kBytes.
- option **Amount of truncated text** specifies the percentage of the Log file text which will be truncated after the Maximum Log file size is reached. The higher value means more text will be truncated (removed) from Log file.

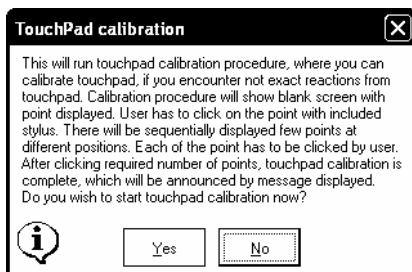
Display settings...



The Display settings dialog contains the check box **“Use invert display mode”**. When the checkbox is checked the LCD screen will be displayed in **“inverted”** mode. Otherwise it will be displayed in normal mode.

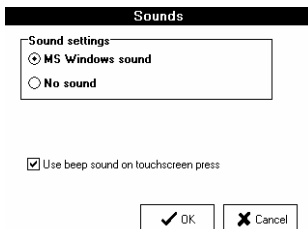
Touchpad calibration...

This command is used for calibration of the built-in touch pad, which is part of the built-in LCD touch screen.



The calibration of the touchpad is recommended if you encounter unexpected reactions from the touchpad. If the user confirms the dialog about touchpad calibration with the Yes button the calibration procedure will start. The calibration procedure will show a blank screen with points displayed. The user has to click on the point with a stylus. There will be sequentially displayed points at different positions. Each of the points has to be clicked by the user. After clicking the required number of points the touchpad calibration is complete, this will be announced by an information message.

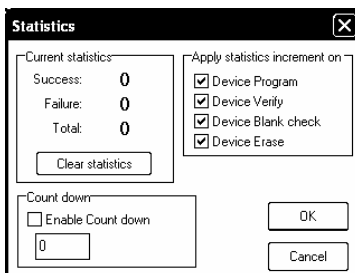
Sounds...



The Dialog **Sounds** settings allows the user to select the sound mode of the program. The program generates sounds after certain events, e.g. activities on device (programming, verifying, reading, etc.). The program generates sound also when warning or an error message is displayed. The user can now select sounds from the MS Windows system sounds (requires installed sound card), PC speaker or No sound.

The check box “Use beep sound on touch screen press” allows switching of the beep sound on or off. When the checkbox is checked the beep sound will be generated on each touch screen press, that the software detects. Otherwise no beep sound will be generated.

Options / Statistics...



This command displays the dialog “**Statistics**”. Statistics gives information about the actual count of device operations which were processed on the selected type device. If one device is corresponding to one device operation, e.g. programming, the number of device operations will be equal to the number of programmed devices. The statistics dialog contains the following options:

Check boxes: Program, Verify, Blank and Erase which define operations, after which statistics values increment.

Any selected and performed device operation will increment the **Total** counter and one of the **Success** or **Failure** counters depending on the device operation result (success or failure).

A combination of partial operations is counted as one operation only. For example, a Read operation including Verify after Read is one operation. A Program operation including Erase and/or Verify operations is counted as one operation.

The next function of the statistics is **Count down**. Count down allows checking of the number of device operations and then the number of devices on which device operations have to be performed. After each successful device operation the value of the count down counter is decremented. Count down has a user defined start number of devices to process. When the count down value reaches zero, it means the specified number of devices is complete and a user message about the complete count down will be displayed.

The check box **Enable Count down** sets the Count down activity (enable or disable). The edit box following the Enable Count down check box defines the initial value used for the count down counter

The actual statistics values are displaying in the main window of the control program in the Statistics panel.

Statistics panel contains:

three statistics values	Good, Fail, Total.
two Count down information values	Ctdn status and value.

Meaning of the values is as follows:

Good - number of operations which where successfully completed

Fail - number of operations which where not successfully completed

Total - number of all operations

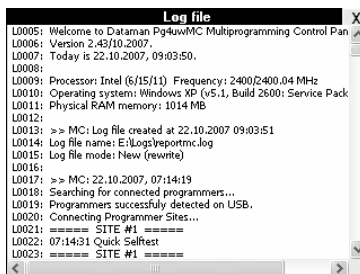
Ctdn - informs of the Count down activity (En (enabled) or Disabled)

Remains - informs of the remaining number of device operations to do

Notes: *When a project file is loaded all statistics values are set to zero and Ctdn is set to Disabled.*

For multiprogramming with the Pg4uWMC software the statistics information is also saved to the Job Summary report.

Options / View Log...



This command displays the contents of the current **Log window**. At the top right corner is the [x] button which is used for closing the Log window and displaying the main screen.

Options / Protected mode...

Protected mode is a **special mode** in which to run the program. When the program is in **Protected mode** there are certain program operations and commands that are

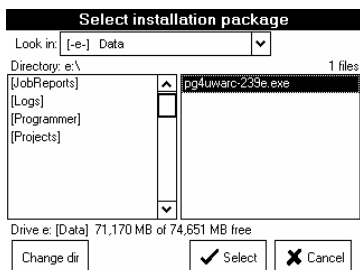
This menu command displays a short help on the built-in touch screen. The short help contains brief information about menu commands and basic operations with the use of the touch screen.

Help / Problem report...

This menu command “**Create problem report**” is used for writing more comprehensive diagnostic information to the **Log window** and consequently copying the **Log window** content to a problem report file. The Problem report is useful when an error occurs in the control program or programmer and that the user can not resolve and must contact Dataman support. In this case when a customer sends the request for support to Dataman it is a good idea to send the problem report. The Problem report can help Dataman to localize the cause of the error and resolve it sooner.

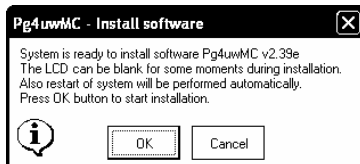
Help / Update software...

This important menu command allows users to perform software updates. After selecting this item the program will display the question “**Are you sure?**”. If the user confirms the question with **Yes**, the dialog “**Select installation package**” will be displayed.



In this dialog the user can browse for the “**pg4uward**” installation package they wish to install. The installation package can be copied beforehand to a shared Stand-Alone folder via the network, or it can be stored on a USB FLASH drive which can be plugged into the USB port of the Stand-Alone programmer. When a USB key is plugged into the USB port of the programmer a new drive letter assigned to the USB key will appear in the list of available drives in the dialog “**Select installation package**”. The user can then select this drive and run the installation package from the USB key.

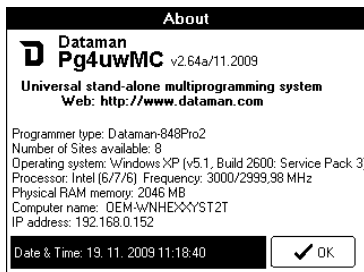
When the user confirms another confirmation dialog the update process will start.



During the update process the control program of the Stand-Alone programmer is closed, the LCD panel may be blank for some time, after installation is complete, an

automatic restart of the standalone programmer will be performed. The whole process should not exceed a time of 1-2 minutes.

Help / About...



The welcome screen is displayed on the standalone's build-in LCD screen after successful loading of the standalone control software. The screen can be also be displayed using the menu command '**Help / About**'. The welcome screen contains the following basic information:

- version of the control software currently installed
- programmer type
- number of Sites available
- operating system
- information about the processor and amount of installed RAM
- computer name and IP address
- system date and time

The welcome screen can be closed by clicking on the **OK** button.

Administration of the built in PC

Introduction

- DATAMAN-848PRO2 Stand-Alone multiprogramming system is a powerful programmer equipped with the Windows XP Embedded operating system ("OS"). There are two major kinds of administration of the OS – network and local. The OS is configured with two users accounts
- **admin**
- **operator.**

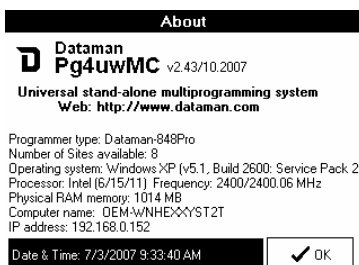
Credentials for the DATAMAN-848PRO2 Stand-Alone multiprogramming system users are:

	Login	Password
Administrator	admin	saadmin
Operator	operator	saoperator

Network administration

Connecting to the network

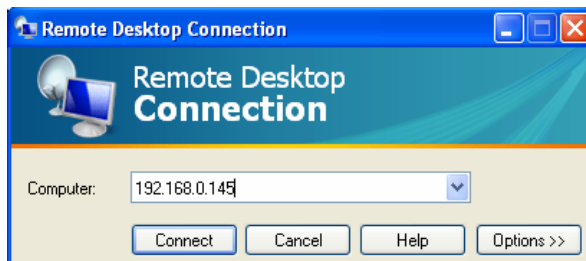
The OS in the programmer is configured for operating with a **TCP/IP** network. To obtain the correct IP address a properly configured **DHCP** server must be running in your local network during the programmers startup. After the programmer has started it will show the “Welcome”/“About” screen. On the bottom part of the screen in the line “**IP address:**” is the address obtained from the DHCP server. When the IP address is shown as **127.0.0.1**, then no network cable is connected, a DHCP server is not running when the programmer starts or there is some other kind of problem – please refer to the troubleshooting chapter.



Remote control

Remote administration of the DATAMAN-848PRO2 Stand-Alone multiprogramming system is performed through the Microsoft “**Remote Desktop Connection**” software. Remote desktop offers a fast and familiar way to update the software (control software and system), and to distribute project files ...

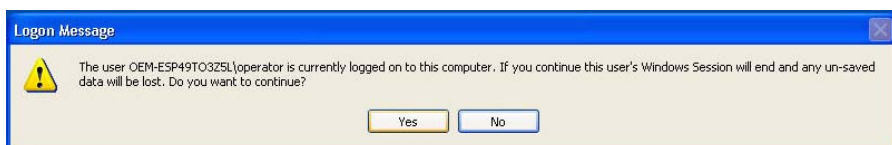
Find and run the “**Remote Desktop Connection**” program on your computer. In the “**Computer**” field enter the IP address shown on the “Welcome” screen of the standalone programmer.



When communication is established, enter the administrator credentials as shown opposite.



Because Windows allows only one user to be connected at a time the following message may be displayed.



Warning: Connecting to the programmer using the remote desktop sytem at a time when devices are being programmed will cause any actions to be immediately terminated – your devices may not be fully programmed. Please restart the computer after you finish remotly administering the system.

Because working through the remote desktop is similar to working on local station please continue to read the chapter "Local administration" for help on other features and commands.

Local administration

For local administration of the Stand-Alone programmer you **must have connected** a standard PS/2 keyboard, PS/2 mouse, and standard analog display with a resolution of at least 1024x768 and 32bit color support.

The operating disk drive is divided into three volumes. The first volume is named "**Recovery**" (C:) and contains software for the **OS recovery which will return the programmer to the state as shipped from Dataman**. Standard start time of the programmer is about 2 minutes. Should the programmer not start within 10 minutes it may be necessary to perform the OS recovery. Before going through with the operating system recovery please connect a monitor to the programmer and report what you see to Dataman support. For the next steps please refer to the "**Operating system**

recovery" chapter. The second volume is "**System**" (D:), and contains the **Windows XP Embedded** operating system.

Warning: *Do not delete, change files or perform any writes to the "Recovery" or "System" disk volumes.*

The third volume is named "**Data**" (E:). This volume contains the Programmers control software, Projects, Logs, Updates and Temp directories.

The directory Programmer is where the main control software is installed. In the **Logs** directory the log files from operations with devices are saved. When the OS update files are available they should be saved to the **Updates** directory. Your project files should be in the **Projects** directory. Exact update steps will be distributed along with the operating system updates.

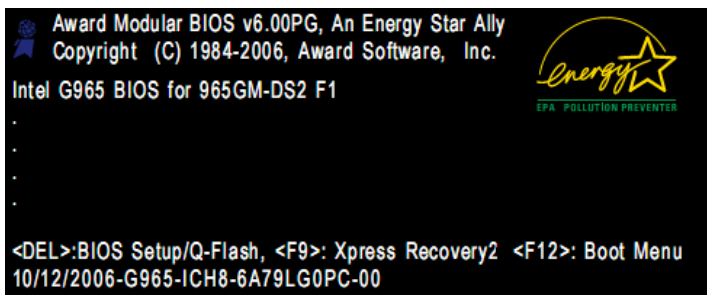
For programmer reliability the operating system is **configured with write filters** on the "**Recovery**" and "**System**" disks. As a side effect of these filters any configuration changes to the operating system will be **lost** after a restart or shutdown of the programmer.

Operating system recovery

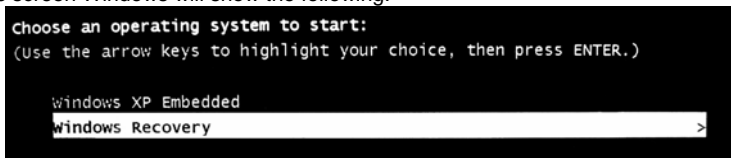
The Recovery OS **performs a reset** of the programmers operating system to a state as it was **shipped from Dataman**.

Before initiating the system recovery connect a monitor to the programmer and report what you see to the Dataman support team.

To perform the operating system recovery you must have a keyboard, mouse and display connected to the programmer. Turn on the programmer, the BIOS screen will show:



After this screen Windows will show the following:



With the arrow keys (up or down) select "**Windows Recovery**" and press **Enter**. The recovery system will be started. **Please be patient** as this can take about four minutes to complete. Then the **EULA** license will show.

Please **read** this license agreement carefully, **close** the window, press "**A**" if you accept this agreement.

Accepting the agreement starts the **formatting of disk D:**, and installation of the control program (recovery **deletes the Programmer directory** on disk E:, and creates a new one). The directories Updates and Temp will also be erased and recreated. When recovery is complete you should see the message "**System recovery completed.**". Press any key and the system will restart. The first startup of the operating system after recovery may take a bit longer as one additional restart is performed.

Troubleshooting and warranty

Troubleshooting

We really want you to enjoy our product. Nevertheless, problems can occur. In such cases please follow the instructions below.

- It might be your mistake in not properly operating the programmer or its control program Pg4uw.
 - Please read carefully all the enclosed documentation again. Probably you will find the answer right away.
 - Try to install programmer and Pg4uw on another computer. If your system works normally on the other computer you might have a problem with the first PC. Compare differences between both computers.
 - Ask your in-house guru (every office has one!).
 - Ask the person who already installed the programmer.
- If the problem persists, please call the local dealer, from whom you purchased the programmer, or call DATAMAN direct. Most problems can be solved by email, fax or phone.
 - **E-mail** – Complete and submit the "**TECHNICAL SUPPORT REQUEST**" available from our website www.dataman.com. Include everything that you consider being relevant about the programmer, software and the target device.
 - **Mail/fax** – Print and complete the "**RETURNS FORM**" available from our website www.dataman.com. Include everything that you consider being relevant about the programmer, software and the target device. Send the completed form by mail or fax to DATAMAN (fax number in the control program, menu **Help / About**) or to your local dealer.
 - **Phone** - Call your local dealer or DATAMAN's customer support center **(+44 (0) 1300 320719)**.
- If your programmer is diagnosed as defective, consult your local dealer or DATAMAN about the pertinent repair center in your country. Please carefully include the following items in the package:
 - Defective product
 - Completed "**RETURNS FORM**" available from our website www.dataman.com.
 - Photocopy of a dated proof of purchase

Without all these items we cannot admit your programmer for repair.

Note:

You may find the "**DEVICE PROBLEM REPORT**" form:

- at our Internet site (www.dataman.com), section Support / Problem report.

If you have an unsupported target device

If you need to program a target device which is not supported by the control program , please do not panic, follow these steps:

- Look in the device list for the latest version of the control program found on our website Your new target device may already be included in this latest version! If it is listed then download and install the new version of the control program.
- Contact DATAMAN directly by completing and submitting the "**TECHNICAL SUPPORT REQUEST**" available from our website www.dataman.com. We may need to request data sheets and samples of your target device. Any samples will be returned to you after we include your target device in a new version of the Pg4uw control software.

Warranty terms

The manufacturer, Dataman Programmers Ltd, gives a guarantee on failure-free operation of the DATAMAN-848PRO2 programmer and all its parts, materials and workmanship for **three years** from the date of purchase. This warranty is limited to 25,000-cycles on the DIL ZIF socket or 10,000-cycles on other ZIF sockets). Although we take as much care as possible to integrate high quality components in the built-in computer, we can't provide a higher warranty than we get from the suppliers. So there is a limited warranty of one year on all computer parts such as Motherboard, CPU, HD, ...

If the product is diagnosed as defective, Dataman Programmers Ltd will repair or replace the defective parts at no charge. Parts used for replacement and/or the whole programmer are warranted for the reminder of the original warranty period only.

For repair within the warranty period, the customer must be able to prove the date of purchase.

These warranty terms are valid for customers who purchase a programmer directly from Dataman. The warranty conditions of Dataman resellers may differ depending on the target country law system or the Dataman reseller's warranty policy.

The warranty does not apply to products that are damaged through wear and tear or mechanically damaged. Equally, the warranty does not apply to products opened and/or repaired and/or altered by personnel not authorized by Dataman, or to products that have been misused, abused, accidentally damaged or that were improperly installed.

For unwarrantable repairs you will be billed according to the costs of the replacement materials, service time and carriage. Dataman or its distributors will determine whether the defective product should be repaired or replaced and judge whether or not the warranty applies.

Please also see the Troubleshooting section.

Manufacturer:

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Maiden Newton
Dorset
DT2 0AE
United Kingdom

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