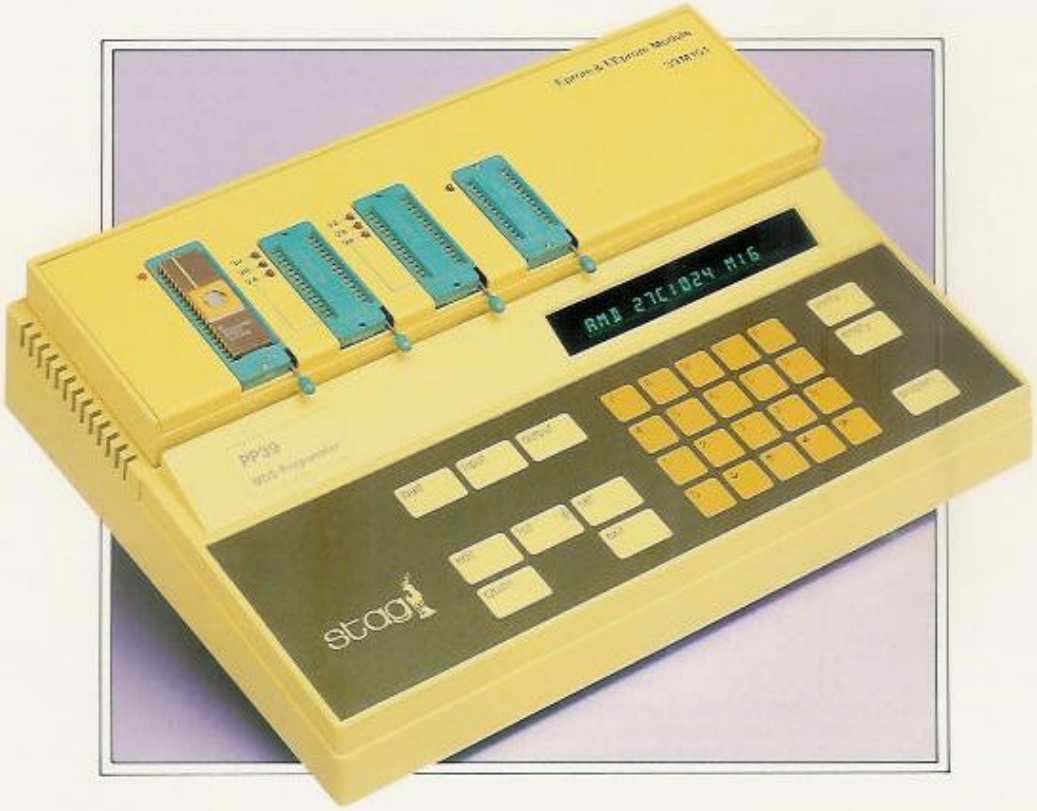
PP39
Portable MOS Programmer

For MOS PROMs, EPROMs, E^2PROMs, and Microcontrollers



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Versatile by Design

The PP39 uses a concise menu driven technique to manipulate a comprehensive range of program functions and editing facilities. This portable programmer is the ideal low cost unit for the development environment.

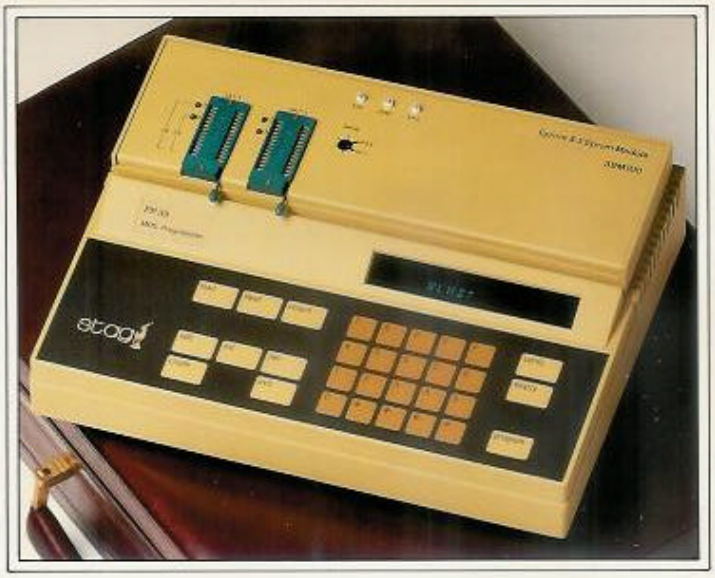
Extensive facilities for the design engineer

As a stand-alone unit or in remote control the PP39 with an integral RAM and RS232C interface offers an extensive range of development system features.

Device related functions include load, gang and set program, empty test, verify test, and set address boundaries.

RAM related functions include automatic manipulation of 8, 16 and 32 bit data, set I/O address limits including offset, checksum, CRC, and a powerful range of edit functions.

Below: the PP39 portable MOS programmer with the 39M100 module



Edit functions

List RAM

A feature that enables the data content of the RAM to be instantly displayed by simply entering a hexidecimal address value for any given location. The data can then be analysed without the danger of corrupting it.

Edit RAM data

A feature that can be used in conjunction with 'list' in order to speed up the random selection of an address prior to entering new data. Alternatively the address range can be scanned in the edit mode by using the cursor keys. Data can be directly modified by using the hexadecimal keys in either 8, 16 and 32 bit modes making editing a fast and simple operation.

Fill RAM

All fill RAM functions are supported by the PP39 these are: fill entire RAM with UNPROGRAMMED state, fill entire RAM with PROGRAMMED state and fill RAM with an arbitrary hex variable between two pre-selected address limits.

String search

An automatic search of the RAM contents for a hex data string is simply performed by using the appropriate set commands. All address locations of the selected string as well as it's ASCII value may be displayed.

Insert

A data byte can be inserted into a particular location within the RAM. Data content in and above the selected address is repositioned one location higher. The integrity of all the re-located data caused by the insert will be preserved.

Delete

A data byte can be deleted from a particular location within the RAM. The existing data above the selected address is automatically repositioned one location lower.

Block Move

A block of data within the pre-selected address limits can be duplicated and relocated within the RAM without corrupting the original data.

Complement RAM data

RAM data bytes can be complemented by inverting the individual data bits. Complement will change 0 bits to 1 and 1 bits to 0.

Ease of operation

All stand-alone functions are controlled from the keypad, working interactively with the integral display to show the program sequence, edit functions, set-up parameters and visual confirmation of the operation performed. Red LEDs illuminate to indicate socket status.

RAM data can be entered from the keypad, loaded from a master device or input from peripheral equipment via the RS232C interface.

Programming with manufacturers approved algorithms and stringent in-program checks such as illegal bit, empty test and margin or normal verify tests, guarantee the quality of programmed devices and ensures low infant mortality.

Remote control as standard

The PP39 can be operated under remote control via an RS232C port located on the rear panel of the unit, allowing it to be interfaced with development systems and computers.

All major stand-alone functions can be duplicated under remote control. Convenient screen displays and the operational familiarity of personal computer make the PP39 the ideal development programmer for the design engineer.

Enhanced by Stag Com 1

A flexible option to further enhance remote control is Stag Com 1, a user friendly, menu driven software communication package. It provides additional features such as full screen editing in either hexadecimal or ASCII and graphic representation of gang/set configurations in 8, 16 and 32 bit modes.

Stag Com 1 was developed by Stag for the current range of PROM Programmers and operates from an IBM* PC or equivalent.

Time saving auto recall feature

Up to nine different sets of parameters can be configured and stored for recall later saving valuable setting-up time and risk of error in a multi-user environment.

Set-up parameters include device type, gang/set mode, device/RAM address limits, I/O address limits, format, baud rate, word length, stop bits and parity.

The last used set of parameters are automatically re-instated on power up.

JEDEC standard Electronic Identifiers are supported on all modules for automatic device set up. Alternatively selection can be made by entering a simple hexadecimal code from the keypad or by using the cursor keys to scan through an extensive library of manufacturers and their device type numbers.

Intelligent algorithms guarantee high speed programming

Throughput is enhanced by utilization of device manufacturers approved intelligent algorithms. These include Quick Pulse*, Flashrite* and SNAP* to guarantee superfast programming speeds in a single key operation.

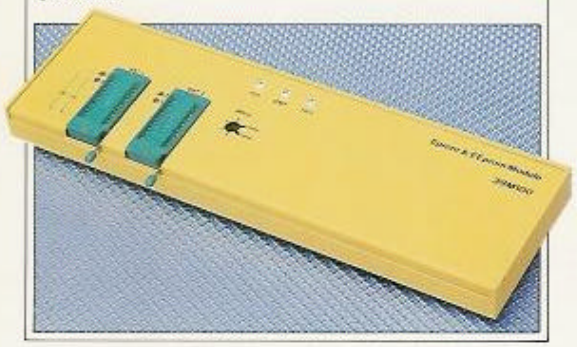
Device support of PP39 modules

The PP39 and its family of modules will program CMOS PROMs, and EPROMs, EEPROMs and microprocessors in all technologies, e.g. CMOS, HMOS and NMOS.

39M100

Supports CMOS PROMs, EPROMs and EEPROMs in 24 and 28 pin DIL packages. This two socket module allows mini-ganging of devices and easy manipulation of 8, 16 and 32 bit data configurations. Devices can be programmed individually, in pairs or in sets.

An on-board access time testing facility is available to screen out slow devices. Times of 100 to 600 ns are pre-settable and can be monitored on the test points provided.

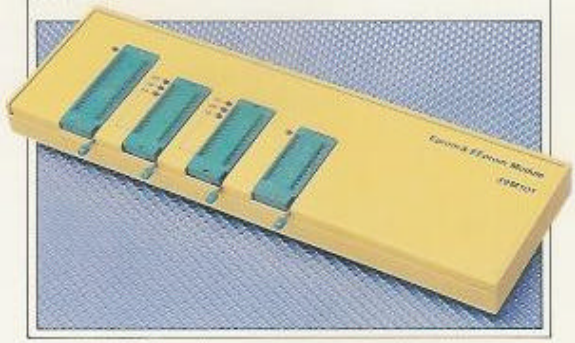


39M101

Supports CMOS PROMs, EPROMs and EEPROMs in 24, 28, 32 and 40 pin DIL packages (including 28, 32 and 40 pin megabit devices).

This module is equipped with four ZIF sockets. Two of the sites provide mini ganging of devices and easy manipulation of 8, 16 and 32 bit data configurations. Devices can be programmed individually, in pairs or in sets.

Another socket is dedicated to 40 pin devices and a further socket supports 28 pin multiplexed megabit devices.

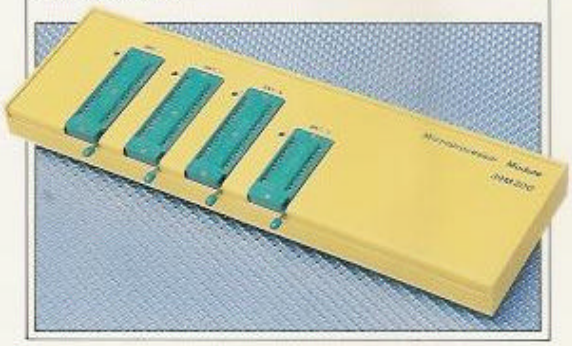


39M200

Supports single chip microcontrollers containing EPROM in both 28 and 40 pin DIL packages.

The module maintains all the edit functions associated with the 39M100 and 39M101 and has the added advantage of security fuse programming where applicable.

The 39M200 is also compatible with Stag's innovative 68MR00 Micro Reader which permits the reading of data within Motorola's 68705U3 and 68705R3 microcontrollers.



All PP39 modules are software controlled and completely self-contained. Software upgrades incorporating new devices are simply installed in the module.

Future PP39 modules

Future modules will support new packages styles such as surface mount LCC and PLCC devices, assuring long product life and low cost of ownership.

Features

- Complete stand-alone operation—satisfying all design and high speed programming requirements in a fully self contained cost effective unit.
- Extensive device support—the PP39 will program MOS memory devices from all leading CMOS PROM, EPROM, EEPROM, and Microprocessor manufacturers.
- Internal RAM 512K bits as standard with 4M-bits retrofittable expansion capability—data can be entered from the keypad, a master device(s) or via the interface and manipulated to suit and design requirements.
- Checksum and Cyclic Redundancy Check (CRC)—ensures accurate verification of downloaded RAM data or programmed parts.
- Choice of 8, 16 or 32 bit modes of operation—a valuable programming facility which is particularly useful when the PP39 is linked to a peripheral computer system.
- RS232C port fitted as standard—allowing simple interfacing with a host computer/terminal, PC or printer at up to 19,200 Baud.
- Remote control as standard—duplicating all major stand-alone functions.
- Enhanced remote control from Stag Com 1*—a user friendly, menu driven, software communication package operating from an IBM* PC or equivalent, ideal for creating data files and data archiving.
- All commonly used input/output formats are supported—including standard and extended formats as well as binary rubout, DEC Binary and Hex-ASCII.
- Firmware can be easily updated within the modules to support new device innovations—providing low cost of ownership.
- Automatic detection of faulty devices and connect errors—ensuring the high integrity of programmed parts.
- Red LEDs automatically illuminate to indicate the socket to be used for a pre-selected device.
- Performs illegal bit, empty check and verify tests—ensuring the quality of programmed devices.
- Up to nine different sets of parameters can be configured and stored for automatic recall later—saving valuable setting-up time in a multi-user environment.
- World wide sales and service support.

Specification

Top Panel

Custom membrane keypad for local operation:

16 Data entry keys: 0 to 9 and A to F
4 Cursor keys: Up/down and left/right
11 control keys: load, input, output, edit, list, c'sum, set, exit, verify, empty and program.

Display

16 green alphanumeric characters work interactively with keypad commands to show: the sequence of operations, programming and test parameters and to display the results of an operation.

LEDs

Red LEDs adjacent to pin 1 of each ZIF socket indicate the selected socket for test and programming.

RAM

512K-bits as standard with retrofittable expansion capability.

Interface

An RS232C port provides input, output and remote control of the PP39 with full handshake and XON/XOFF control. Interface parameters are entered via the keypad. Data can be transmitted at up to 19,200 baud.

Below: the PP39 rear panel

I/O formats

DEC Binary, Binary Rubout, Binary, Stag Hex, Tek Hex, Extended Tek Hex, Exorcisor, Extended Exorcisor, Intellec, Extended Intellec and Hex ASCII.

Audible alarm

The audible alarm is software selectable and is used to announce the end of a test/programming sequence or as a warning indicating operation errors.

Power

The on/off switch is located on the rear panel.
115V or 240V ±20% 50/60 Hz.

Physical Specification

Dimensions: 315mm x 230mm x 95mm
Weight: 2.8Kg
Shipping Weight: 4.9Kg

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Sophisticated systems for the discerning engineer

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