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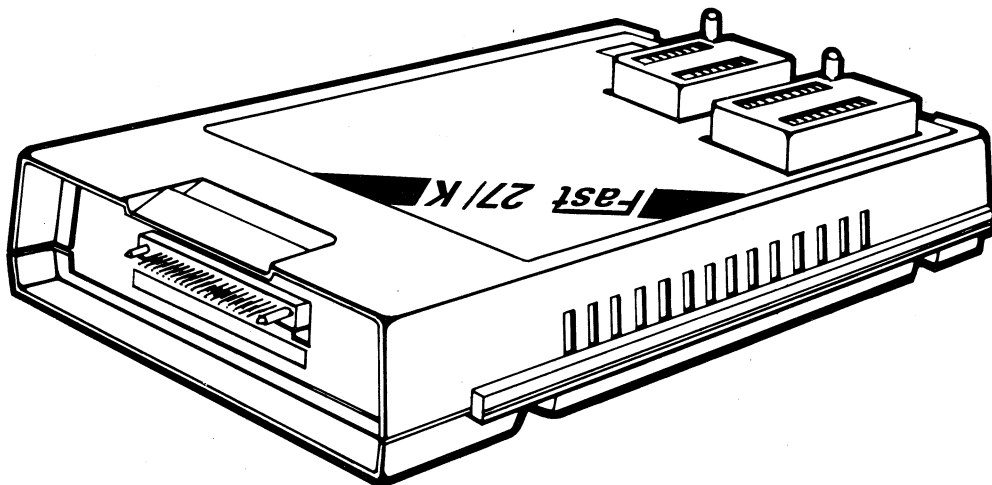
iUP-FAST 27/K
PERSONALITY MODULE
USER'S GUIDE

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PERSONALITY MODULE
USER'S GUIDE

Order Number: 164376-003

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REV.	REVISION HISTORY	DATE
-001	Original Issue.	2/84
-002	Upgrade to support the 27C64, 27128A, 27512, and 27513 EPROMs and the 2817A E^{2}PROM.	9/84
-003	Upgrade to support the 87C64 and 27C256 EPROMs and the 27916 KEPROM.	3/85

The iUP-Fast 27/K personality module is one of a series of personality modules used to adapt the Intel iUP-200A/201A universal programmer and the Intel personal development system (iPDS™) to a particular family of PROM devices. You cannot use the personality module without a universal programmer or an iPDS system.

NOTE

You must have one of the following configurations to use the Fast 27/K personality module:

iPDS system	Intel PROM programming software (iPPS-iPDS), version 1.4 or later
	iPDS-140 EMV/PROM adapter option
universal programmer:	
on-line	Intel PROM programming software (iPPS), version 1.4 or later
	model 200A/201A
off-line	model 201A

You can easily update your iUP-200/201 universal programmer to an iUP-200A/201A universal programmer with the iUP-200/201 U1 upgrade kit.

This manual supports the U2 upgrade to the iUP-Fast 27/K personality module. The U2 upgrade adds programming support for the 27C64, 87C64, 27128A, 27C256, 27512, and 27513 EPROMs, the 27916 KEPROM, and the 2817A E²PROM, while maintaining support for the 2764, 2764A, 27128, and the 27256 EPROMs.

The following publications contain additional information on using the personality modules.

● *iUP-200A/201A Universal Programmer User's Guide*, order number 164852
  This manual describes universal programmer operation.

● *iPDS™ Personal Development System User's Guide*, order number 162606
  This manual describes iPDS system operation.

● *iPPS PROM Programmer Software User's Guide*, order number 164861
  This manual describes the PROM programming software used for on-line operation of the universal programmer and the iPDS system.

● *Memory Components Handbook*, order number 210830
  This handbook contains all application notes, article reprints, data sheets, and other design information on RAMs, DRAMs, EPROMs, E²PROMs, and bubble memories.

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● The serial number of the product. On boards, this number is usually stamped on the board. On other products, the serial number is usually stamped on a label mounted on the outside of the chassis.

● Your shipping and billing address.

● A purchase order number (for billing) if your Intel product warranty has expired.

● Any extended warranty agreements that apply.

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    TWX: (910) 952-1330

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The following cautions appear in this user's guide.

CAUTION

Do not switch the universal programmer's or iPDS system's power on or off   5
when a PROM device is installed in a socket of the personality module. Damage
to the PROM device may result.

CAUTION

Do not power on the system until you have read the powering on section in the   5
iUP-200A/201A Universal Programmer User's Guide or the *iPDS™ Personal
Development System User's Guide*.

CAUTION

The orientation mark on one end of the PROM device must be toward the top of   6
the socket. If a device is not oriented properly, it cannot be programmed and it
may be damaged.

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FIGURES

TABLES

GENERAL DESCRIPTION

The iUP-Fast 27/K personality module (shown in Figure 1) plugs into a compatible Intel PROM programmer (the iUP-200A/201A universal programmer or the iPDS™ system) and adapts it for programming a family of PROM devices.
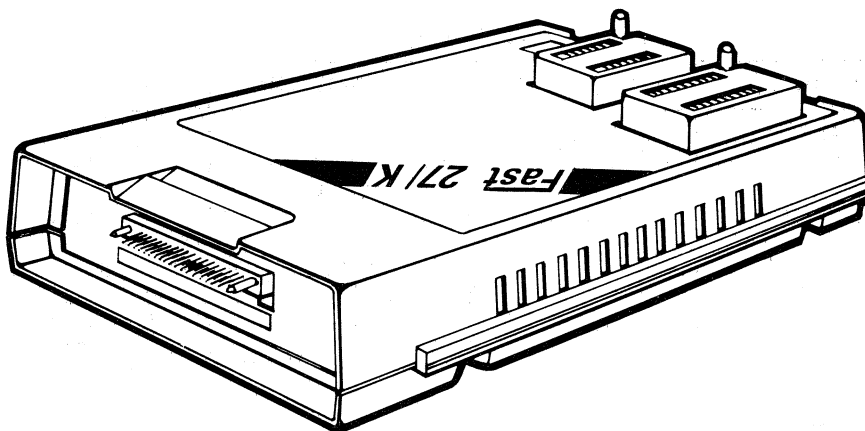
The iUP-Fast 27/K personality module is 7.75 inches deep by 5.5 inches wide by 2.0 inches high. It contains two 28-pin sockets, a hexadecimal display (0 through F), and a red LED that indicates when power is being applied to the socket(s). The program socket holds the device being programmed. The master socket is used by the module only in special instances while the universal programmer is in off-line mode. The hexadecimal display shows the PROM device type selected.

NOTE

You can use the iUP-201A universal programmer in either on-line mode or off-line mode. You can use the iUP-200A universal programmer or the iPDS system in on-line mode only.

The Fast 27/K personality module uses the int$_e$ligent Identifier™ to verify that the PROM device in the program/master socket matches the device type selected. The operation continues if the type selected matches the type installed.

If the PROM device identification is invalid, the device is treated as if it were the type selected. In some cases, if the identification is recognized as one supported by the Fast 27/K personality module but does not match the type selected, the error message WRONG DEVICE SELECTED is displayed.

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Figure 1 iUP-Fast 27/K Personality Module

APPLICABLE PROM DEVICES

The iUP-Fast 27/K personality module (with upgrade kits) provides support for several different PROM devices. Table 1 shows the PROM devices supported by the iUP-Fast 27/K personality module.

The 27513 EPROM is a 512K-byte design featuring paged addressing (four selectable pages of 16K by 8 bits). It brings software carrier capacity to microcontroller and 8-bit microprocessor architectures that are limited to 64K-byte total memory addressing.

The 27513's pages are numbered 0 through 3. Table 2 shows the addresses in the universal programmer or iPDS system that correspond to each page. The 27513 data sheet contains additional programming information.

The following example illustrates using the iPPS PROM programming software to program the 27513 with the contents of a file named EXAMPL which resides on drive 1. The starting address of 8000 indicates that the contents of the file are copied to the 27513 beginning at address 0 on page 2.

   PPS> **COPY :F1:EXAMPL TO PROM(8000)**

NOTE

   The 27513 (page mode 512K-bit) EPROM is supported only in on-line mode.

   Refer to the SHIFT-LOCK 4 command in the *iUP-200A/201A Universal Programmer User's Guide* or the KEYLOCK command in the *iPPS PROM Programming Software User's Guide* for information on programming the 27916 KEPROM authentication locations.

   All of the above EPROM devices have an unprogrammed (blank) state of logic 1. Refer to the *Memory Components Handbook* for detailed technical information on programming these devices.

Table 1 iUP-Fast 27/K PROM Device Support

PROM Type	iUP-Fast 27/K	iUP-Fast 27/K-U1	iUP-Fast 27/K-U2
EPROM	2764 2764A 27128 27256	2764 2764A 27128 27128A 27256 27512 27513	2764 2764A 27C64 87C64 27128 27128A 27256 27C256 27512 27513
E²PROM		2817A	2817A
KEPROM			27916

Table 2 27513 Page Addresses

Page	27513 Address	Universal Programer/ iPDS™ System Address
0	0 - 3FFF	0000 - 3FFF
1	0 - 3FFF	4000 - 7FFF
2	0 - 3FFF	8000 - BFFF
3	0 - 3FFF	C000 - FFFF

iUP-FAST 27/K SOCKETS

The two 28-pin sockets are the program socket and the master socket (see Figure 2).

Program Socket

The program socket is used for all operations on PROM devices less than or equal to 32K bytes and for all on-line operations. When using PROMs larger than 32K bytes (i.e., 27512) in off-line mode, you must have a master PROM in the master socket during all operations.

Master Socket

The master socket is used only in off-line mode (iUP-201A universal programmer) and only for PROM devices greater than 32K bytes. Install the source PROM device in the master socket and the PROM device to be programmed in the program socket.

The master PROM is a buffer that you can modify with the iUP-201A universal programmer's DATA and FILL function keys. Refer to the *iUP-200A/201A Universal Programmer User's Guide* for more information on the off-line function keys.

iUP-FAST 27/K INDICATORS

The ACTIVE SOCKET LED indicates when power is being applied to the PROM device(s) and when the host PROM programmer is accessing a socket(s).

After you enter the type of PROM to be programmed or read (using either the iUP-200A/201A universal programmer or the iPDS on-line TYPE command or the iUP-201A universal programmer off-line DEVICE SELECT key), the personality module's hexadecimal display shows the PROM device type selected. The numbers displayed correspond to the following PROM device types:

0 = 2764	1 = 2764A/27C64/87C64	2 = 27128
3 = 27128A	4 = 27256/27C256	5 = 27512
6 = 27513	7 = 2817A	8 = 27916
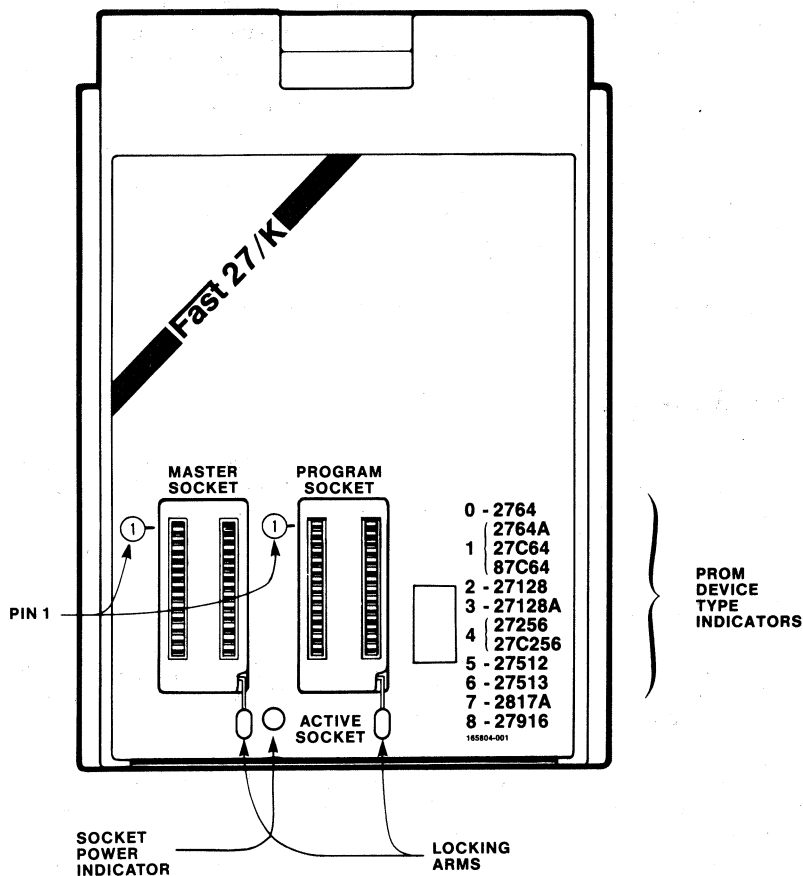
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Figure 2 iUP-Fast 27/K Personality Module Indicators

NOTE

When using the personality module in on-line mode, enter 2764A to select
PROM type 2764A, 27C64 or 87C64 and enter 27256 to select PROM type
27256 or 27C256.

Figure 2 shows the personality module indicators.

UNPACKING AND INSPECTION

Inspect the shipping carton immediately upon receipt for evidence of mishandling during transit. If
the shipping carton is severely damaged or water-stained, request that the carrier's agent be present
when the carton is opened. If the carrier's agent is not present when the carton is opened and the

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contents of the carton are damaged, keep the carton and packing material for the agent's inspection. For repairs to a product damaged in shipment, contact the Intel product service hotline as described in the Service Information section.

Intel recommends that, if they are in good condition, the shipping carton and packing material be saved for storage and shipment of the product.

The personality module and the upgrade kit are shipped separately. After upgrading, the personality module is ready for installation as described in the Installation in the Universal Programmer or iPDS™ System section.

INSTALLATION IN THE UNIVERSAL PROGRAMMER OR iPDS™ SYSTEM

The personality module plugs into the front panel connector of the universal programmer (see Figure 3) or the side door of the iPDS chassis (see Figure 4). No further connection is required. During installation and removal of the personality module, the universal programmer's or iPDS system's main power switch should be off.

NOTE

Before installing the personality module, verify that it supports the PROM device type to be programmed or read.

PROM DEVICE INSTALLATION

Perform the following steps to insert the PROM to be programmed or read.

[CAUTION]

Do not switch the universal programmer's or iPDS system's power on or off when a PROM device is installed in a socket of the personality module. Damage to the PROM device may result.

1. If the universal programmer or iPDS system is not already powered on, switch on the power switch and wait for the initialization procedure to complete. The *iUP-200A/iUP-201A Universal Programmer User's Guide* describes universal programmer initialization, and the *iPDS™ Personal Development System User's Guide* describes the iPDS system initialization.

[CAUTION]

Do not power on the system until you have read the powering on section in the *iUP-200A/201A Universal Programmer User's Guide* or the *iPDS™ Personal Development System User's Guide.*

2. Select the PROM type to be programmed or read, using either the TYPE command (during on-line operation) or the DEVICE SELECT key (during off-line operation). The hexadecimal display next to the PROM designations on the personality module indicates the PROM type selected.
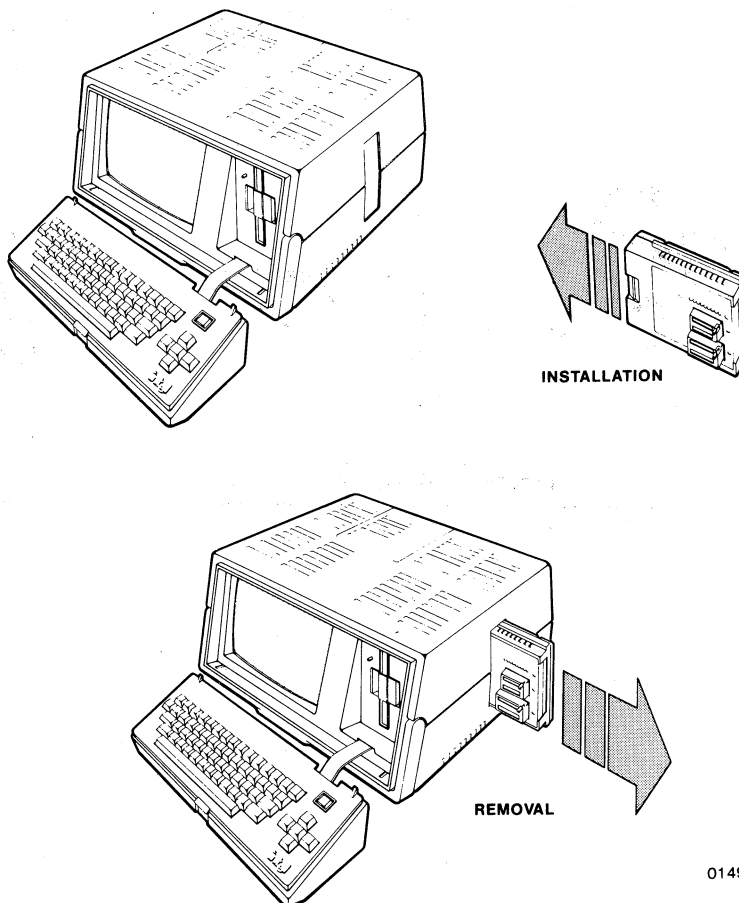
INSTALLATION

REMOVAL
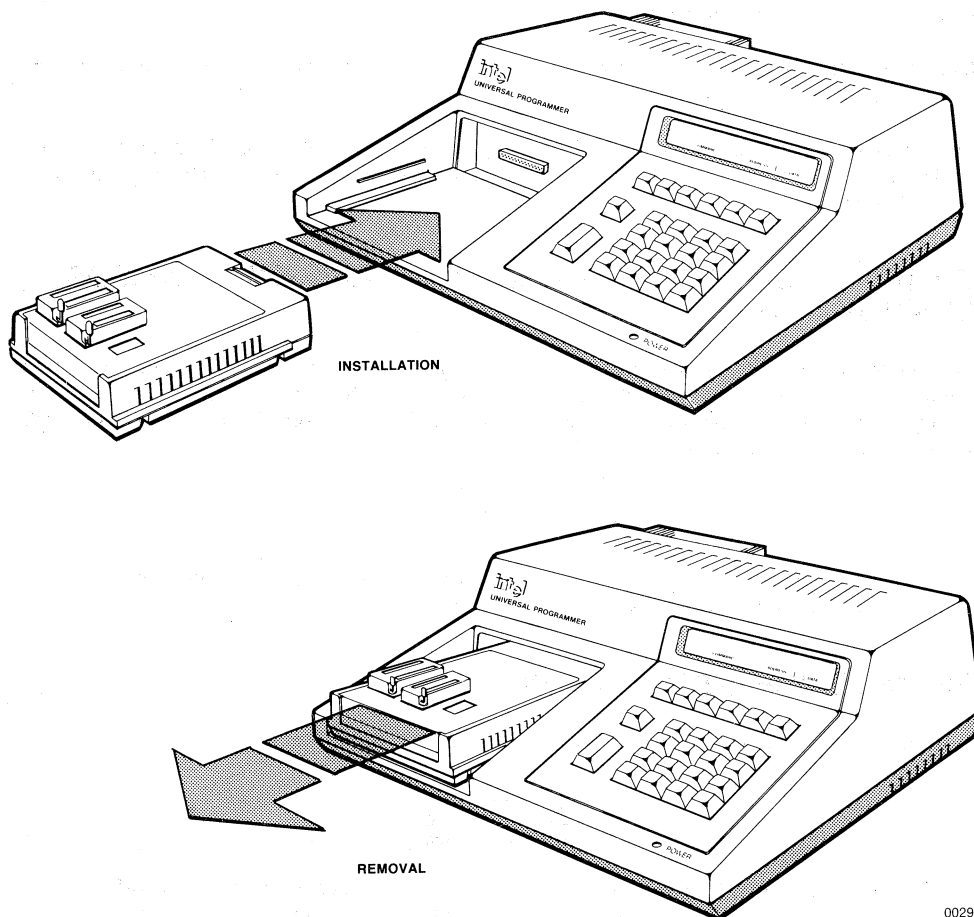
0029

Figure 3 Installation in the Universal Programmer

3. Raise the socket locking arm on the selected socket (see Figure 5).

4. Insert the device to be programmed into the socket. Pin 1 of the device must be inserted into the socket pin hole at the upper left corner of the socket. (Figure 2 shows the proper placement of pin 1.)

{ CAUTION }

The orientation mark on one end of the PROM device must be toward the top of the socket. If a device is not oriented properly, it cannot be programmed and it may be damaged.
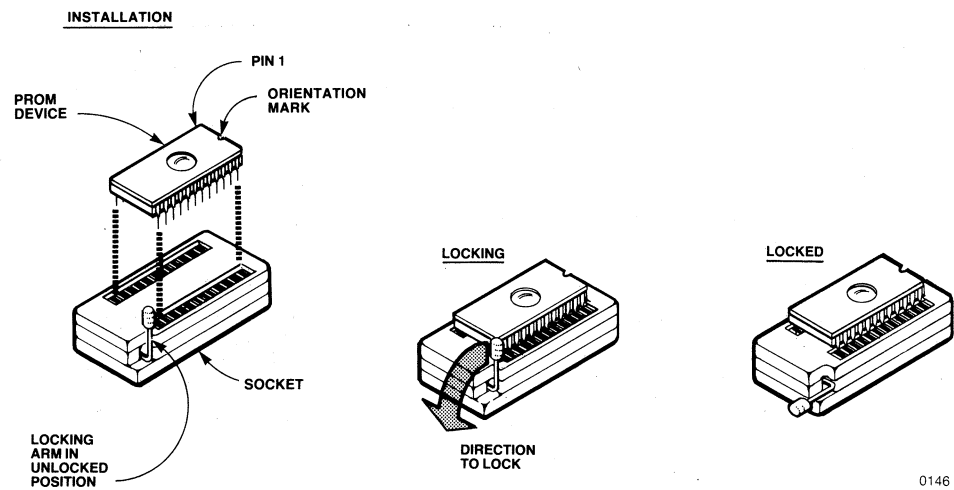
Figure 4 Installation in the iPDS™ Chassis

When a device is oriented incorrectly in the program socket, the error message CHECK
PROM INSTALLATION displays when the universal programmer or iPDS system tries to
access the device. If a device is oriented incorrectly in the master socket or if the PROM device
is installed in the program socket when it should be installed in the master socket, the error
message USE MASTER SOCKET displays.

5.   To secure the device in the socket, move the locking arm forward and down until it is parallel
     with the top of the personality module, as shown in Figure 5.

The PROM device is now ready for reading, programming, or verifying.

PIN 1

PROM
DEVICE

ORIENTATION
MARK

LOCKING

LOCKED

SOCKET

LOCKING
ARM IN
UNLOCKED
POSITION

DIRECTION
TO LOCK

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Figure 5 PROM Device Installation

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