



# flexROM<sup>2K</sup>

*Apple II, II+, IIc, IIe*

User Guide

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## Thank You!

Thank you for supporting JD Micro by purchasing fleXrom<sup>2K</sup> - we hope that you enjoy using it as much as we enjoyed making it!

fleXrom<sup>2K</sup> is a 2KB ROM replacement that is pre-programmed with 64 different Apple II ROM images. Each ROM image is individually selected using the 6-way DIP switch on the top side of the module. The current master list includes:

- 35 x system ROM images (F8, F0, E8, E0, D8, D0 ROM) for the Apple II and Apple II+.
- 19 x character generator ROM images for Rev 7 Apple II+ (2316 SPCL).
- 4 x keyboard map ROMs for Apple IIc and IIe.
- 6 x peripheral card ROMs.

As the revision 7 Apple II+ motherboard used both 9316 ROMs and a 2716 compatible ROM, fleXrom<sup>2K</sup> supports both 9316 and 2716 ROM operating modes, again switch selectable using a 2 position switch on the underside of the module.

Before removing fleXrom<sup>2K</sup> from the ESD compliant packaging, please study the following [ESD Prevention](#) section of this guide.



## ESD Prevention

Whenever you open an Apple II or other electrical device, you are exposing its internal components to potential damage from the static electricity that builds up in your body through normal activity. Electrostatic discharge (ESD) occurs when static electricity is discharged from one conductor (such as your finger) to another conductor (such as an integrated circuit).

Ideally, installation should be carried out on a static-safe surface such as a grounded anti-static mat, while wearing an anti-static wristband. If you have these available, be sure to use them.

Following the guidelines below will reduce the risk of ESD damage to both your computer and the Xdrive2c components at installation time:

- Leave fleXrom<sup>2K</sup> in the ESD-compliant packaging until you are ready to install it.
- Ensure that the computer is turned off but leave the power cord connected to a grounded outlet. Even with the power turned off, the power cord acts as a ground for the computer system, protecting it from static electricity.
- Before removing the products from the ESD-compliant packaging, touch the metal case of the Apple II internal power supply to discharge static electricity that may have accumulated on your body.
- When handling fleXrom<sup>2K</sup>, avoid touching any electronic components on the PCB, or the pins on the board.

## fleXrom<sup>2K</sup> Hardware

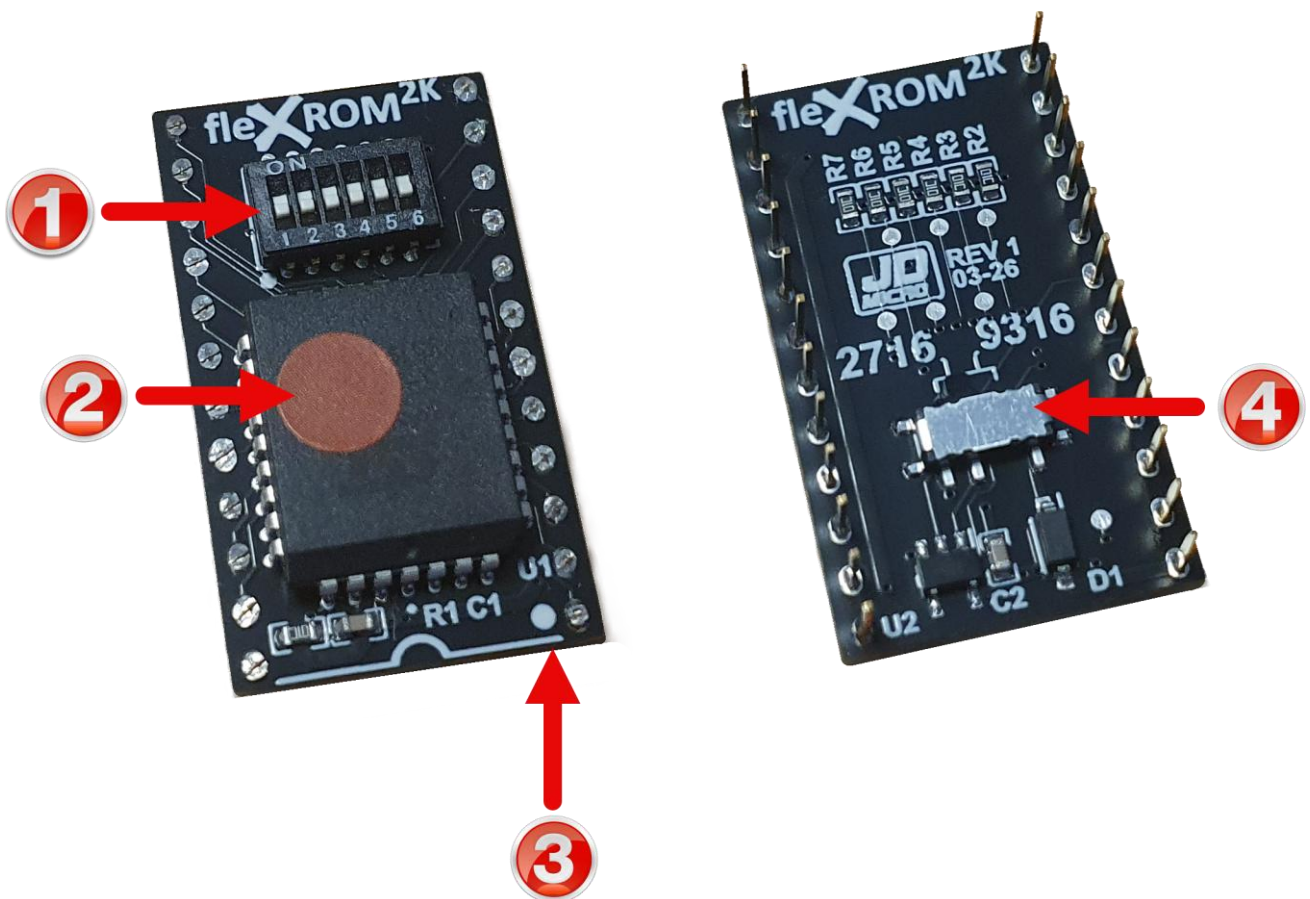
The fleXrom<sup>2K</sup> module is built around a 1Mbit flash memory device, which offers enough capacity to store 64 x 2KB ROM images.

These images are individually selectable using the 6-way DIP switch on the top side of the fleXrom<sup>2K</sup> module.

Additionally, the operating mode of the fleXrom<sup>2K</sup> module can be set from the mode switch on the underside of the module so that it can operate in either 9316 masked ROM or 2716 EPROM mode.

The required mode will depend on the ROM type that it is to replace – Apple II system ROMs were originally of the 9316 type and the revision 7 motherboard character ROM a 2716, but some clone manufacturers used 2716 EPROMs for everything.

Recommended settings for Apple hardware are tabulated in the installation section of this manual.



1. 6-way DIP switch for ROM image selection.
2. Color indicator for Flash image version (Brown = Version 1).
3. Pin 1 marking.
4. Mode switch – select 2716 or 9316 operating mode.

## fleXrom<sup>2K</sup> Installation

Installation of the fleXrom<sup>2K</sup> consists of the following steps.

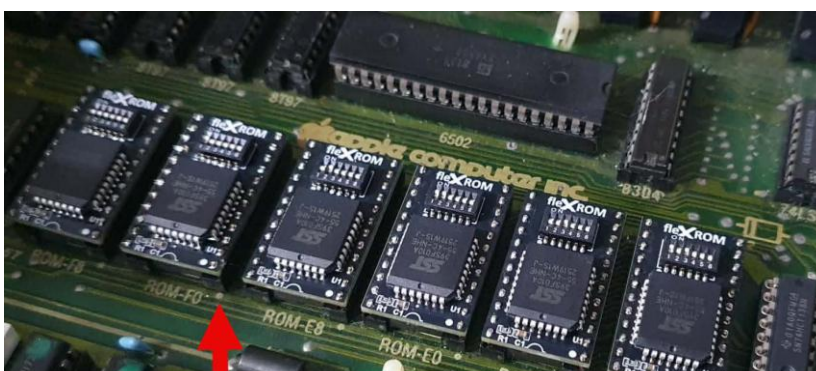
1. Locate your required ROM image from the tables in the [fleXrom2K ROM Images](#) section of this guide.
2. Set the DIP switch settings per the table for the required image.
3. Set the mode switch per the table for the required image.
4. Install the ROM ensuring that pin 1 is in the correct position.

Note that the operating mode listed is for a genuine Apple computer. In the case of the system ROM images some clone manufacturers used 2716 type ROMs. You wont damage anything by selecting the wrong type - if you have a clone motherboard and the recommended 9316 setting does not work, try switching to 2716 mode.

When installing the fleXrom<sup>2K</sup> module, ensure that pin 1 is in the correct location. The fleXrom<sup>2K</sup> module is reverse polarity protected but you do need to get this right for the computer to operate!

Take note of the pin 1 position on the old ROM before removing it (usually this is also marked on the motherboard).

The images below show the pin one position for Apple II+ system and character ROMs:



When installing the fleXrom<sup>2K</sup> module, ensure that all the pins are lined up with the socket before fully seating the module.



fleXrom<sup>2K</sup> ROM Images

White levers show the switch position. When the white lever is in the top position, the switch is ON (up). When the white lever is in the bottom position, the switch is OFF (down).

## System ROMs

ROM Name	Mode	DIP Switch
Adrian Black DeadTest F8	9316	
APPLE II - 341-0004 - INTEGER BASIC F8	9316	
APPLE II - 341-0003 - INTEGER BASIC F0	9316	
APPLE II - 341-0002 - INTEGER BASIC E8	9316	
APPLE II - 341-0001 - INTEGER BASIC E0	9316	
APPLE II - 341-0016 - PROGRAMMER'S AID #1 D0	9316	
APPLE II+ - 341-0020 - APPLESOFT BASIC F8 (AUTOSTART)	9316	
APPLE II+ - 341-0015 - APPLESOFT BASIC F0	9316	
APPLE II+ - 341-0014 - APPLESOFT BASIC E8	9316	
APPLE II+ - 341-0013 - APPLESOFT BASIC E0	9316	
APPLE II+ - 341-0012 - APPLESOFT BASIC D8	9316	
APPLE II+ - 341-0011 - APPLESOFT BASIC D0	9316	
ITT2020 - 341-0026-00 - PALsoft BASIC F8	9316	
ITT2020 - 341-0025-00 - PALsoft BASIC F0	9316	
ITT2020 - 341-0024-00 - PALsoft BASIC E8	9316	

ITT2020 - 341-0023-00 - PALsoft BASIC E0	9316	
ITT2020 - 341-0022-00 - PALsoft BASIC D8	9316	
ITT2020 - 341-0021-00 - PALsoft BASIC D0	9316	
Apple II J+ - 341-0047- F8	9316	
Apple II+ - Freeze's Integer BASIC Non-Autostart F8	9316	
LOCKBUSTER F8	9316	
MONITOR+ D8	9316	
Bryan F8	9316	
Coldstart F8	9316	
Coldstart Shift F8	9316	
Kiosk F8	9316	
Smartport F8	9316	
Lowercase F8 Autostart ZROM	9316	
Lowercase Basic D8 ZROM	9316	
CPM F8	9316	
DOCTOR WATSON D0	9316	
THE INSPECTOR D8	9316	
FORTH.1 ROM D0	9316	

<b>FORTH.1 ROM D8</b>	9316	
<b>FORTH.1 ROM E0</b>	9316	

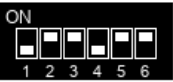



## Character ROMs

**IMPORTANT!** fleXrom<sup>2K</sup> can be used to replace the 2316 SPCL character ROM used on revision 7 motherboards **ONLY!** It is not compatible with the 2513 character generator used on earlier boards. The fleXrom<sup>2K</sup> module may be damaged if installed in a pre-rev 7 motherboard!






ROM Name	Mode	DIP Switch
Character ROM - II+ Apple 341-0036	2716	
Character ROM - II+ Lowercase Videx	2716	
Character ROM - II+ Lowercase ZROM	2716	
Character ROM - II+ Dan Paymar	2716	
Character ROM - II+ Blippo Black	2716	
Character ROM - II+ Byte	2716	
Character ROM - II+ Colossal	2716	
Character ROM - II+ Count	2716	
Character ROM - II+ Flow	2716	
Character ROM - II+ Katakana	2716	
Character ROM - II+ Outline	2716	
Character ROM - II+ Pigfont	2716	
Character ROM - II+ Pinoccio	2716	
Character ROM - II+ Slant	2716	
Character ROM - II+ Stop	2716	

<b>Character ROM - II+ Gothic</b>	2716	
<b>Character ROM - II+ Roman</b>	2716	
<b>Character ROM - II+ Esperanto</b>	2716	
<b>Character ROM - J+ Apple 341-0053</b>	2716	

## Keyboard Map ROMs

ROM Name	Mode	DIP Switch
<b>Apple IIc IIe Keyboard ROM 341-0150A - UK QWERTY only</b>	2716	
<b>Apple IIe Keyboard ROM - 342-0132-B - US QWERTY only</b>	2716	
<b>Apple IIe Keyboard ROM - 342-0132-C - US QWERTY only</b>	2716	
<b>Apple IIc and IIc+ Keyboard ROM - US QWERTY only</b>	2716	

## Peripheral Card ROMs

ROM Name	Mode	DIP Switch
<b>Apple 341-0065-A - Super Serial Card</b>	2716	
<b>SoftSP ROM for Super Serial Card V5</b>	2716	
<b>Apple 341-0026-00 - Graphics Tablet Interface Card</b>	2716	
<b>Apple 341-0080-B - ProFile 5MB RW-Z8 ROM</b>	2716	
<b>Apple 342-0270 - Mouse Card</b>	2716	
<b>Mockingboard D Card</b>	2716	