

Tynemouth Software

TYNEMOUTH PET ROM/RAM BOARD USER GUIDE

INSTALLATION

The ROM/RAM board plugs into the 6502 CPU socket in place of original CPU. This should be socketed on all PET models. If not already fitted with a 6502 CPU, the original chip goes into the matching socket on the ROM/RAM board. Pin 1 is closest to the edge of the ROM/RAM board.

DIP SWITCH SETTINGS

The DIP switches on the ROM/RAM board select which parts of the system ROM and RAM are replaced. Note, the video RAM and the character ROM cannot be replaced as they have external connections to the video circuitry not accessible from the CPU socket

RAM SETTINGS

Switch 1 controls the RAM replacement mode. When enabled, 32K of RAM is provided over banks 1 and 2.

Switch 1	Bank 1 (0x0000-0x3FFF)	Bank 2 (0x4000-0x7FFF)
OFF	On board	On board
ON	Replaced	Replaced

ROM SETTINGS

Switch 2 controls the ROM replacement mode. When enabled, the PET's onboard ROM chips can be replaced by the supplied ROM. Which ROM image is used is selected by switches 3-5 – see later.

Switch 2	F000-FFFF (Kernal)	E000-E7FF (Editor)	D000-DFFF (BASIC)	C000-CFFF (BASIC)	B000-BFFF (BASIC/OPTION)	9000-AFFF (OPTION)
OFF	On board	On board	On board	On board	On board	On board
ON	Replaced	Replaced	Replaced	Replaced	Replaced	Replaced

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ROM SELECTIONS

Switches 3, 4 and 5 select the ROM set to be used. The supplied ROM chips will be one of the following.

2001 / 2001N ROM SET – (2001 / 2001N / 30XX / 40XX WITH 9" SCREEN)

This is suitable for PETs without CRTC chips, usually the machines with 9" screens. Switch 5 is not used.

Switch 3	Switch 4	ROM set
OFF	OFF	PET Tester (see below)
ON	OFF	BASIC 1 (** COMMODEORE BASIC **)
OFF	ON	BASIC 2 (### COMMODEORE BASIC ###)
ON	ON	BASIC 4 (** COMMODEORE BASIC 4.0 **)

CRCT ROM SET (40XX / 80XX WITH 12" SCREEN)

This is suitable for PETs with CRTC chips, usually the machines with 12" screens. Switch 5 is not used.

Switch 3	Switch 4	ROM set
OFF	OFF	40n50 (BASIC 4, 40 column, normal keyboard, 50 Hz mains)
ON	OFF	40n60 (BASIC 4, 40 column, normal keyboard, 60 Hz mains)
OFF	ON	80b50 (BASIC 4, 80 column, business keyboard, 50 Hz mains)
ON	ON	80b60 (BASIC 4, 80 column, business keyboard, 60 Hz mains)

UNIVERSAL SET

This contains both of the above.

Switch 3	Switch 4	Switch 5	ROM set
OFF	OFF	OFF	PET Tester (see below)
ON	OFF	OFF	BASIC 1 (** COMMODEORE BASIC **)
OFF	ON	OFF	BASIC 2 (### COMMODEORE BASIC ###)
ON	ON	OFF	BASIC 4 (** COMMODEORE BASIC 4.0 **)
OFF	OFF	ON	40n50 (BASIC 4, 40 column, normal keyboard, 50 Hz mains)
ON	OFF	ON	40n60 (BASIC 4, 40 column, normal keyboard, 60 Hz mains)
OFF	ON	ON	80b50 (BASIC 4, 80 column, business keyboard, 50 Hz mains)
ON	ON	ON	80b60 (BASIC 4, 80 column, business keyboard, 60 Hz mains)

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PET TESTER

The PET tester ROM on the 2001 and Universal ROM sets can be used to do some simple system testing. It cycles between showing two screens. Note: if you have a CRTC PET, power up using one of the CRTC BASIC ROM images, then switch to the PET tester and press the reset button on the ROM/RAM board to start the PET tester software.

The first screen shows a character map which should look like this:



If you are running an original 2001 PET, there will probably be lots of snow on the screen when this page is shown. If you press and hold the reset button, you should see a clear screen.

If you see a random pattern or stripes or a screen full of the same character, this indicates a fault in the video RAM or supporting circuitry.

If any of the graphics are wrong, distorted or flashing, this indicates a fault in the video ROM or supporting circuitry.

The second is a screen showing the result of testing the first 1K of RAM. 'G' or 'g' indicates a good byte, 'B' or 'b' indicates a RAM fault. If you get any 'B' or 'b' characters, you have a RAM fault in at least the first 1K of RAM (lucky you just bought a RAM replacement board eh, just click on switch 1 and you should get a screen full of 'G' or 'g').

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DOS WEDGE

All the BASIC 2 and BASIC 4 ROM images contain Nils Eilers DOS Wedge as an option ROM at 0x9000. To use this, type

```
SYS 36864
```

or it's easier to remember to type

```
SYS 9*4096
```

This provides some additional features to benefit disk drive operation.

For full information, see <http://petsd.net/wedge.php>

USEFUL COMMANDS

@\$ - show a directory

@ - show status info

@X? - show drive info

/name - loads a program

↑name - loads and runs a program

- show current device number

#n - change to accessing drive n

@C:dst=src - copy file src as file dst (within the same directory)

COMMANDS FOR REAL DISK DRIVES

@I - re-read current disk

@N:diskname - format a disk

@Dx=y - copy disk in drive y to drive x (dual drive units only)

COMMANDS FOR PETS D AND SD2PET DRIVES

@CD:image.d64 - load a disk image

@CD:/dirname - change to a directory

@CD← - change to parent directory / close disk image

@XE+ - set the option to hide .prg extensions (for this session only unless followed by @XW)

@XW - save options