The Official Commodore ROM Genealogy

From the Commodore PET Users Club Newsletter, Volume 1, Number 10 (1980)

The PET/CBM computer has been around now for over two years, and like all products, it has "matured". Translated, that means there have been changes, especially in the important system software that is stored in the Read Only Memory, known as the ROMs. As you may have discovered, one of the ROMs in our "old 8K PETs" has a different "dash number" than more recent "old 8K PETs". Dave Jackson, a Senior Technician, compiled the list which we present here.

Please note that there is a fairly important change in the ROM for the 2022 and 2023 printers. The new ROM, part number 901472-04, provides significant improvements in the performance of the printer. If you have a pre-December, 1979 printer, chances are you'll need the new ROM. The best news is that Commodore is providing the replacement printer ROM at no cost! See your authorized Commodore dealer to get the new ROM.

When the PET 2001 first went into production September, 1977, there were two ROM Sets incorporated into the system. One ROM Set is the 6540 type ROM. This is a 28 Pin ROM which is manufactured by MOS Technology, Inc. You will find these ROMs in the following locations on the PET 2001-4K and 2001-8K Main Logic Board:

Location	ROM	Part Number	
H1	6540-019	901439-09 (-01 / 6540-011*)	(Basic)
H2	6540-013	901439-02	(Basic)
H3	6540-015	901439-03	(Edit)
H4	6540-016	901439-04	(Kernal)
H5	6540-012	901439-05	(Basic)
H6	6540-014	901439-06	(Basic)
H7	6540-018	901439-07	(Kernal)
A2	6540-010	901439-08	(Character ROM)

NOTE: There is an 019 ROM at the H1 location. On some earlier Main Logic Boards you will find a 6540-011 at H1. This ROM has been updated to an 019 due to an intermittent bug in the edit software. This ROM set is Basic Level II.

The other ROM Set incorporated into the PET 2001 is a type 2316B 24 Pin ROM. You will find these ROM's in the following locations on the PET 2001-4K and 2001-8K Main Logic Board:

Location	ROM	Part Number
H1	901447-09	901447-09 (901447-01*)
H2	901447-03	901447-03
H3	901447-05	901447-05
H4	901447-06	901447-06
H5	901447-02	901447-02
H6	901447-04	901447-04
H7	901447-07	901447-07
A2	901447-08	901447-08

NOTE: There is an 09 ROM at the H1 location. On some earlier Main Logic Boards you will find a 901447-01 ROM. This ROM has been updated to an 09 ROM due to an intermittent bug in the edit software. Like the 6540 ROM Set, this too is a Basic Level II ROM Set. To determine what the 6540 and 2316B ROMs listed above are capable of, I would refer you to the "PET User Manual" Model 2001-8.

The next two ROM Sets are Basic Level III ROMs. They are also Retrofit Kits for the 2316B and 6540 Basic Level II ROMs. The Basic Level III ROMs allow you to access machine language by using a SYS command. Basic Level III allows you to interface the Commodore 2040 Dual Floppy to your PET/CBM. Basic Level II ROMs will not allow you to interface the 2040 Dual Floppy to your PET. The Basic Level III Retrofit ROMs also clear up a bug in limiting the dimensions.

If your PET/CBM has the Basic Level II 6540 ROMs, you would use the following ROMs which come in the Retrofit Kit to upgrade to Basic Level III.

Location	ROM	Part Number
H1	6540-020	901439-13
H2	6540-022	901439-15
H3	6540-024	901439-17
H4	6540-025	901439-18
H5	6540-021	901439-14
H6	6540-023	901439-16
H7	6540-026	901439-19

If your PET/CBM has the Basic Level II 2316B ROMs, you would use the following ROMs which come in the form of a Retrofit Kit to upgrade your PET/CBM to Basic Level III:

Location	ROM	Part Number	
H1	901465-01	901465-01	(Basic)
H2	901465-02	901465-02	(Basic)
H3	901447-24	901447-24	(Edit)
H4	901465-03	901465-03	(Kernal)
H5	Blank		
H6	Blank		
H7	Blank		

To determine what the Basic Level III Retrofit ROMs are capable of, I would refer to the "CBM User Manual" Model 2001-16,16N,32,32N. Part number 320856-3.

The following ROM Sets are the ROMs that are currently being used in production. There are two sets of ROMs in use. If you have a graphic style PET, you should have the following ROMs in your unit:

Location	ROM	Part Number	
D3	Blank		
D4	Blank		
D5	Blank		
D6	901465-01	901465-01	(Basic)
D7	901465-02	901465-02	(Basic)
D8	901447-24	901447-24	(Edit)
D9	901465-03	901465-03	(Kernal)
F10	901447-10	901447-10	(Character ROM)

If your computer is a business style, you should have the following ROMs in your unit:

Location	ROM	Part Number
D3	Blank	
D4	Blank	
D5	Blank	
D6	901465-01	901465-01
D7	901465-02	901465-02
D8	901447-01	901447-01
D9	901465-03	901465-03

The ROMs in the graphic and business PET/CBM are Basic Level III ROMs. Again, I would refer you to the "CBM User Manual" Model 2001-16,16N,32,32N. Part number 320856-3.

The ROMs currently being used in production of the 2040 Dual Floppy are as follows:

Location	ROM	Part Number
ULI	901468-06	901468-06
UK1	Blank	
UH1	901468-07	901468-07
UK3	6530-02	901466-02

These ROMs are DOS Version I.

The 2022 and 2023 Printer went into production using a 901472-03 ROM at location UL1. This ROM has been updated to a 901472-04. By changing the 03 to 04 ROM, the following enhancement of features and error correction improvements were made:

1. Allow feed switch to generate a continuous feed instead of 5 lines at a time (901472-03) .
2. Head motor does not run when a Tractor Feed Printer performs a feed.
3. An extra carriage return is no longer printed after the first line of print after power-up.
4. Cummulative cooling delay time added for reverse field characters.
5. Added secondary address 7 to latch Printer into default upper/lower case mode instead of upper case/graphics mode to work with CBM business keyboard.
6. An enhanced character printed in the first column position no longer loses the first dot column at random.
7. Auto line count adjusted to 66 lines per page default including the page eject control character.
8. Corrections for the 6532 timer bug which caused overprinting (missed line feeds) on the friction feed version (901472-02) and were patched (901472-03) were assembled in line (901472-04).
9. In diagnostic mode, the character set printed is the 64 character ASCII set instead of 64 characters and an extra blank.
10. In diagnostic mode, the ready light is lit after the RAM and ROM tests are passed. Thus if a bad mechanism is attached, more data is given about the nature of the board.

I hope this information will be of great use to you.

See also http://penguincentral.com/retrocomputing/PET/petroms.pdf