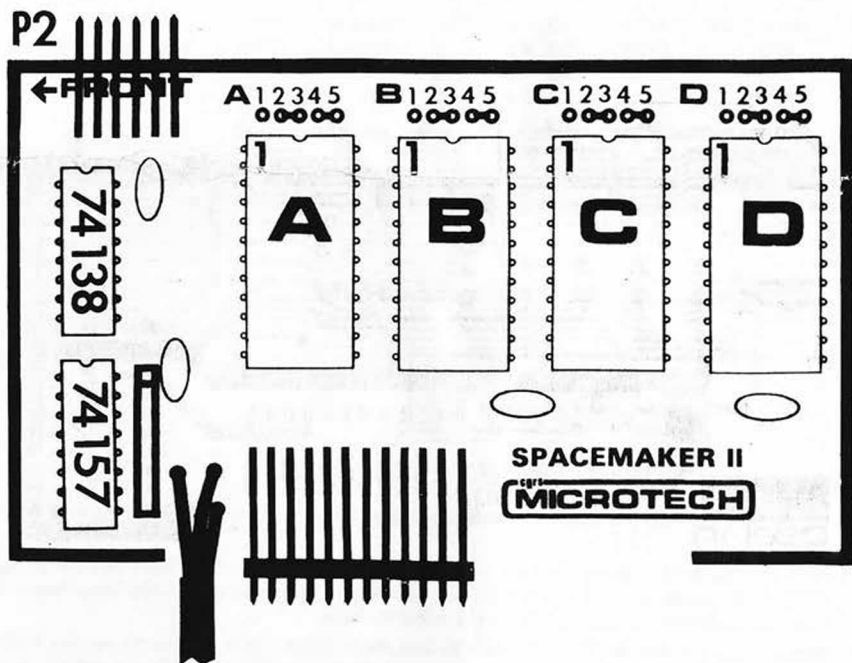


INSTRUCTION MANUAL

Spacemaker II



^{cg} MICROTECH

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DESCRIPTION

In the new Commodore Pets and CBMs, ROM expansion area is available in empty sockets on the main logic board. These sockets are addressed as 4 Kbyte blocks and are used by many of the software packages available for Pet and CBM. These include the Commodore Word Processors, the BPI business package, VISICALC from Personal Software, Inc., Rabbit from Eastern House Software, BASIC Programmers TOOLKIT from Palo Alto ICs, Sort from Matric Software, Inc., and many others. Several of these ROMs are to be installed in the same ROM socket within the Pet.

Spacemaker II is a utility device which allows switching of up to four ROMs into any socket from a single board. Since Spacemaker II is jumper programmable for each of its four ROM sockets, ROM type may be different for each socket. Switching can be done with a side mounted switch or via ROMDRIVER, an accessory device which allows software and keyboard control of ROM selection. Spacemaker II is also available for changing character sets with Math or Foreign language ROMs available from West River Electronics.

SET-UP

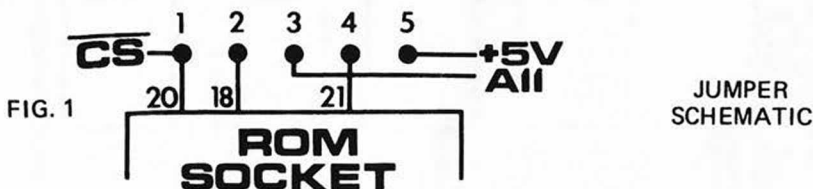
Spacemaker II is equipped with a set of jumpers for each ROM socket. Since each socket has a set of jumpers, different ROM types can be mixed on the same board.

Jumper posts are numbered 1 thru 5 and are located above each ROM socket. Jumpers must be properly installed to operate Spacemaker II. Depending on ROM type, jumpers are installed as follows:

MOS Tech.	2332	2-3, 4-5	MOS Tech.	2316	2-3, 4-5
Intel	2716	2-3, 4-5	TexasInst	2516	2-3, 4-5
Intel	2732	1-2, 3-4	TexasInst	2532	2-3, 4-5
Intel	2332	1-2, 3-4	Intel	2316E	1-2, 4-5
Intel	2758	1-2, 4-5			

NOTE: 2-3 means that pin 2 is jumpered to pin 3.

Spacemaker II boards are shipped with jumpers 2-3, 4-5 installed for use with Commodore 2332, Intel 2716, T.I. 2516, Commodore 2316, and T.I. 2532.



INSTALLATION

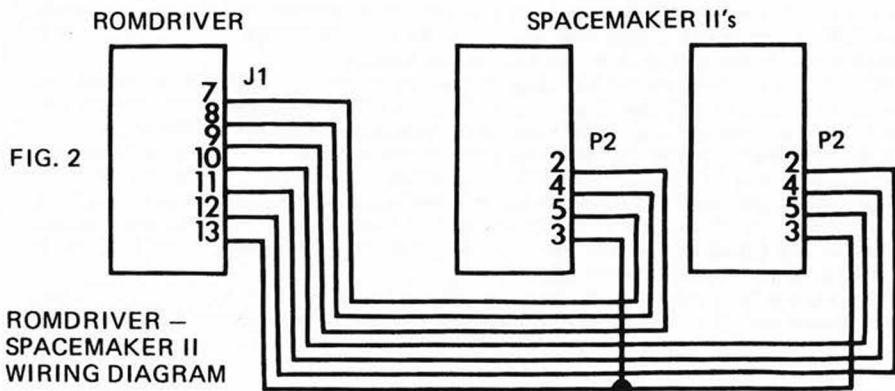
1. Verify that the ROM jumpers are installed properly according to ROM type (See SET-UP above).
2. With the black I.C. carrier still on the 24 pin Header Plug, insert the address conflicting ROMs into Spacemaker II. Be careful to orient pin 1 up (notch up). Avoid touching the pins* on the ROM and be careful not to bend the pins.
3. Remove the I.C. carrier from the header and insert Spacemaker II into the empty ROM socket such that the control header is nearest the front (2001) or the left (8032). See figure 2 for the address space assignment of each empty ROM socket in the Pet.
4. Peel the backing from the white plastic clip which holds the switch and attach it to the outside of the Pet.
5. You are now ready to operate, with a TWO ROM version of Spacemaker II, a two position switch selects the ROM desired. With the FOUR ROM version, a four position switch is used. ROM A is selected when the switch is opposite the wire cable.

*WARNING: MOS ROMs and EPROMs are static sensitive devices. They can be destroyed or degraded by small amounts of static electricity. Touch a grounded surface (chassis) before handling the ROMs and never touch the pins of the ROM.

OPERATION

ROM selection can be done manually or under software control. Remote control signals are connected to the control header P2. These signals can override manual control. When the remote signals are not connected, Spacemaker II reverts to manual control.

For operation with ROMDRIVER, merely connect the ROMDRIVER output control lines to the control header of Spacemaker II. The suggested wiring for control of two Spacemaker IIs is shown in Fig. 2.



The control header pinout and function is as follows:

PIN 1: Circuit common.

PIN 2: DISABLE - Logic 0 on this line will disable all ROMs on the Spacemaker II.

PIN 3: MAN/REMOTE - Logic 0 selects remote control mode. Logic 1 or no connection selects manual control.

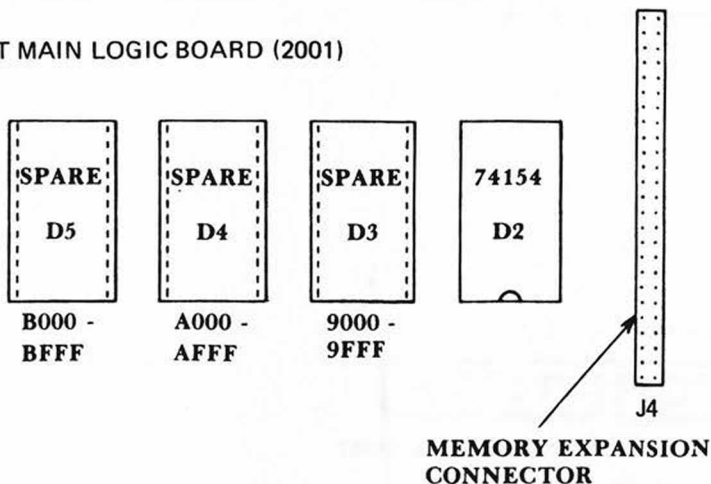
PIN 4: A control line - The A and B control lines select one

PIN 5: B control line - of four ROMs.

1 1	- U3, ROM A
1 0	- U4, ROM B
0 1	- U5, ROM C
0 0	- U6, ROM D
A B	

PIN 6: AUXSEL - Two Spacemaker IIs can be used to select between 1 of 8 ROMs. To do so, jumper AUXSEL of one board to AUXSEL of a second. On the second Spacemaker II, cut p.c. jumper trace J1 on the back of the Spacemaker II board.

FIG. 3 PET MAIN LOGIC BOARD (2001)



SOFTWARE CONTROL ACCESSORIES

Three valuable accessories are available for use with your Spacemaker II; ROMDRIVER, ROM I/O, and ROM I/O PACK.

ROMDRIVER is a small p.c. board assembly with ROM socket and latch that provides parallel output control lines designed to interface to the control header of Spacemaker II. ROMDRIVER can be used to provide software (keyboard) controlled switching of the ROMs. You can switch the active ROM by hitting a key on your keyboard and you can switch the active ROM in the middle of your own program under software control. ROM I/O software is available if you do not wish to write your own control routines.

ROM I/O is a special software package written to utilize ROMDRIVER to control the selection of ROMs. In addition to actually switching a utility ROM, ROM I/O will load any special "Chargot" routine into RAM. Many of the programs written for the Pet attach themselves to the operating system by modifying a special routine in lower RAM called "Chargot". Most programs modify "Chargot" in different ways such that the RAM routine must be changed when ROMs are switched. ROM I/O does this automatically and offers a menu driven, convenient method of changing utility ROMs. To make things easy, ROM I/O has a built-in "editor" so that the user can add or delete entries to his table of program utilities. ROM I/O is available on Commodore or PEDISK diskette.

ROM I/O PACK is a package of custom jumpers required to connect ROMDRIVER to a second Spacemaker II (ROMDRIVER comes with jumpers to connect one Spacemaker II).

PEDISK — Floppy Disk System for Pet

The PEDISK Floppy Disk System for the Commodore Pet is manufactured by CGRS Microtech. The PEDISK system provides a low cost yet powerful method of data and program storage for your machine.

The PEDISK II Disk Controller Board plugs into one of the BASIC ROM sockets along with the original ROM. It occupies the previously unusable memory space above the I/O to avoid conflicts with other accessories.

This small disk controller card then connects to a floppy disk drive via a flat cable. The disk drive can be mounted inside the Pet or in an external housing.

PEDISK II features the CRS/PDOS software package that allows sophisticated file handling; indexed, sequential, or index-sequential. Disk commands are RUN, LOAD, SAVE, OPEN, CLOSE, INPUT, and PRINT. Each command is merely preceded by a 1. Commands can be executed directly or from a program.

The PEDISK II controller uses standard IBM encoding allowing information to be transferred from other computer systems. The controller can operate with 5¼" or 8" drives.

For more information on PEDISK or any of the Spacemaker II accessories, CONTACT YOUR COMPUTER DEALER.

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