

## Introduction

Thank you for your purchase of the PBJ 512cc Memory Upgrade Board for your Tandy Color Computer 3. The 512cc has been designed to bring the Color Computer 3 to its maximum memory configuration using standard 256K dynamic RAM chips and is easily installed in your computer.

The 512cc is available with or without installed memory. If you purchased the board without memory, it is your responsibility to acquire and install the necessary RAM devices yourself. Refer to the section titled "Installing RAM on Your 512cc". If you purchased the board with 512K already installed, proceed directly to the section "Installing the 512cc In Your Computer".

## Installing Ram On Your 512cc Board

If you purchased the 512cc board without any memory you will need to acquire sixteen 256K by 1 bit dynamic RAM chips. These should have an access time of 120ns or faster. Recommended vendors and part numbers are listed below:

<u>Vendor</u>	<u>Part Number</u>
Mitsubishi	MSM4256P-12
Micron Technology	1257-12
Hitachi	HM50256P-12
NEC	D41256C-12
Texas Instruments	TMS4256-12

### \* \* \* CAUTION \* \* \*

Dynamic RAM devices are extremely sensitive to static discharge. Permanent damage may result from improper handling of the chips and/or board.

You should begin by preparing an uncluttered, flat surfaced work area such as a table or desk. Before handling any of the RAM chips or the board itself, make sure that you discharge any static electricity you may have accumulated by touching a grounded metal object. It is a good idea to do this periodically as you work.

Refer to Fig. 1 before installing any RAM devices on the board. Note the pin 1 location of each component as indicated by the notch in the IC package. As you install each IC, make sure that it is oriented correctly as shown in Fig. 1, and that all pins are firmly seated in the socket. Once all sixteen chips have been installed, visually check the entire board once more. Be absolutely certain that no chips are installed backwards, since applying power under this condition may damage the RAM or your computer. Once you are satisfied with your work, proceed to the next section.



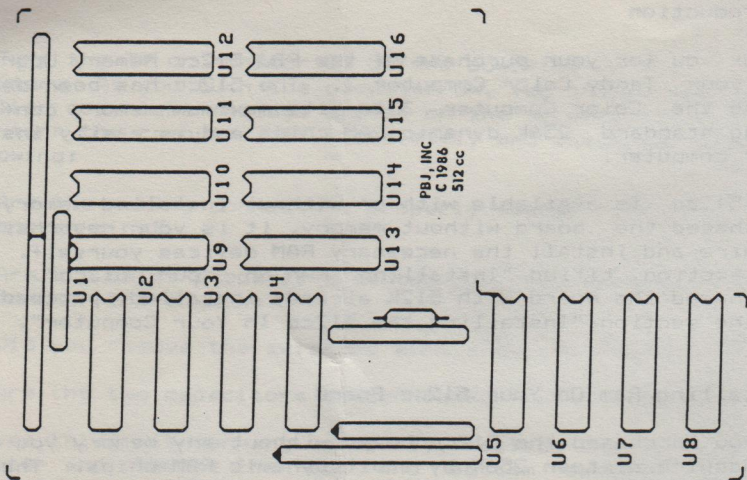


FIG. 1  
512cc Component Layout

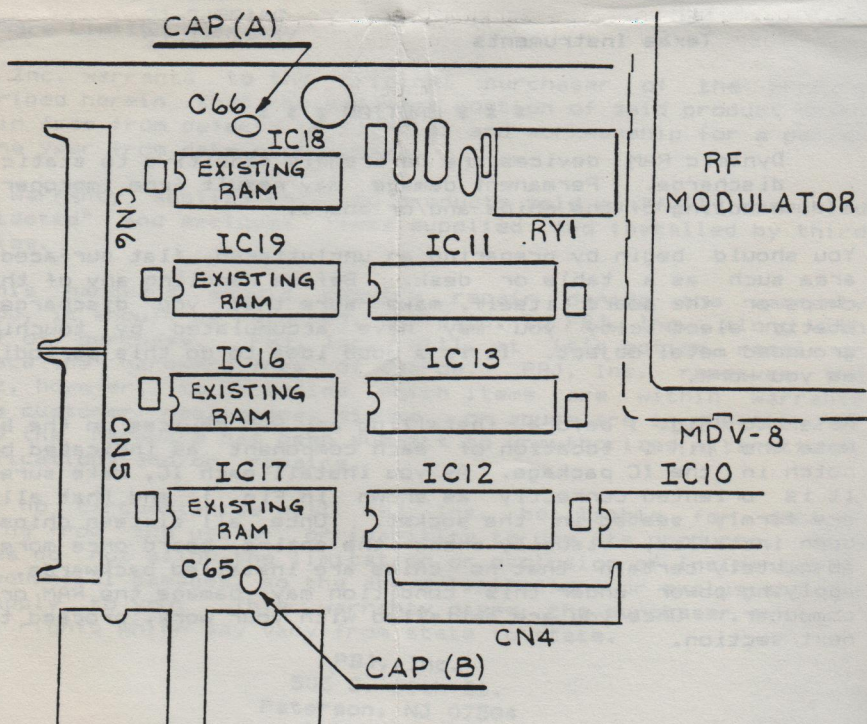


FIG. 2  
Computer Layout



## Installing The 512cc In Your Computer

You will need a few small tools to install the 512cc which are readily obtainable at Radio Shack or any other retail electronic supply store. Do not begin the installation unless the following tools are available:

- o Phillips screwdriver
- o Small flat blade screwdriver
- o Small cutting pliers

Before you install your 512cc Board in the computer, you should read all the instructions and be certain that you understand all the steps before actually attempting the installation.

1. Turn the computer and all peripherals OFF, and remove the computer's AC power cord from the outlet. You should also unplug the video cable, Multipak, or any cartridge you may have connected to the ROM Port.
2. Turn the computer upside down and locate the five (5) screws holding the top and bottom cover sections together. One of the screws is covered with a warranty security label. You should note that opening the case will void the warranty on your Color Computer 3. If you do not wish to void your warranty at this time, do not proceed any further.
3. Using a Phillips screwdriver, remove the five (5) screws. Then, while holding the top and bottom cover sections together, turn the computer upright. You will now be able to lift the cover off the computer and expose the motherboard.
4. Using Fig. 2 as a reference, locate the two (2) connectors on the motherboard, a long twenty-four (24) pin connector, and a shorter twelve (12) pin connector. These will be used to mount the 512cc Board on the motherboard.
5. Before you install the 512cc Board, you must remove the four existing 64K x 4 RAM chips from the motherboard. The location of these devices is identified in Fig. 2. Use a small screwdriver to pry the chips out of their sockets.
6. Next you must disconnect or remove two capacitors labeled CAP (A) and CAP (B) in Fig. 2. You can do this by simply clipping one or both of the leads of each capacitor with a small cutting pliers.
7. You are now ready to install the 512cc Board. Align the male pins on the 512cc Board so that they mate with the two female connectors on the motherboard. Once you are sure all pins are aligned, press down firmly until the board seats properly.
8. Before you reassemble the computer, you should test the installation. Reconnect the video output to your TV or Monitor and also connect the power cord to suitable outlet.



9. Turn the TV or Monitor ON before powering-up the computer. As you turn the computer ON, you should see the familiar copyright message appear on the screen, if you do not, turn the computer off immediately and check for the following:
  - a. Are the mating connectors properly seated with no bent or broken pins?
  - b. Are all chips properly oriented in their sockets with no bent or broken pins?
  - c. Did you remove the existing RAMS from the motherboard?
  - d. Are the two capacitors disconnected from the circuit?
10. If everything is working properly, replace the cover on the computer and secure the top and bottom sections by re-installing the five (5) screws you removed earlier. Reconnect all cables and peripherals. The installation is now complete.

#### **Hardware Limited Warranty**

PBJ, Inc. warrants to the original purchaser of the product described herein that the hardware portion of said product shall remain free from defects in material and workmanship for a period of one year from date of purchase.

This warranty applies only to products sold as "fully assembled and tested" and excludes items supplied and installed by third parties.

If this hardware should require repair during the warranty period, it should be returned, postpaid, to PBJ, Inc. along with proof of purchase. PBJ, Inc. will, at its option, repair or replace the hardware free of charge. PBJ, Inc. reserves the right, however, to determine which items are within warranty where customer negligence, misuse, or abuse are in question, or where the hardware has been subject to unauthorized alterations, modifications and/or repairs.

Under no circumstances will PBJ, Inc. be liable for damages arising from the use of, or inability to use its products. Some states do not allow the limitation or exclusion of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives the purchaser specific legal rights which may vary from state to state.

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