

**MEMO576 RAM CARD**  
**—USER'S GUIDE—**

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-D00171231-

## FCC STATEMENT ON CLASS B

*This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:*

- \* Reorient or relocate the receiving antenna.*
- \* Increase the separation between the equipment and receiver.*
- \* Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- \* Consult the dealer or an experienced radio TV technician for help.*

## NOTICE

- (1) The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.*
- (2) Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.*

Thank you for purchasing the MEM0576 RAM card. The MEM0576 RAM card incorporates the latest in state-of-the-art DRAM capabilities and is designed to expand the memory of your IBM PC, PC XT, PC Portable and compatibles. One MEM0576 RAM card can increase your current system memory by 192K, 384K, 512K or 576K depending on the number of banks and type of DRAM chips utilized.

## Checklist

Your MEM0576 carton contains the following:

MEM0576 RAM Card (board)

MEM0576 User's Guide

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I. INTRODUCTION

The MEM0576 RAM card incorporates the latest in high speed dynamic RAM (DRAM) technology coupled with an exclusive Programmed ROM for configuration, address decoding and selection of the 3 banks of RAM. Both 256K x 1 DRAM and 64K x 1 DRAM can be utilized in each RAM bank allowing for maximum versatility for each independent user requirement. Configurations of 192K, 384K, 512K and 576K are available. The maximum configuration of two rows of 256K x 1 DRAM and one row of 64K x 1 DRAM allows the user a maximum addressable RAM bank of 576K bytes. All this in a package suitable for insertion in either a short slot or any other slot in your IBM PC, PC XT and PC Portable or compatibles. The MEM0576 RAM card is the state-of-the-art solution to your computer memory requirements.

Figure 1 shows the component layout of MEM0576.

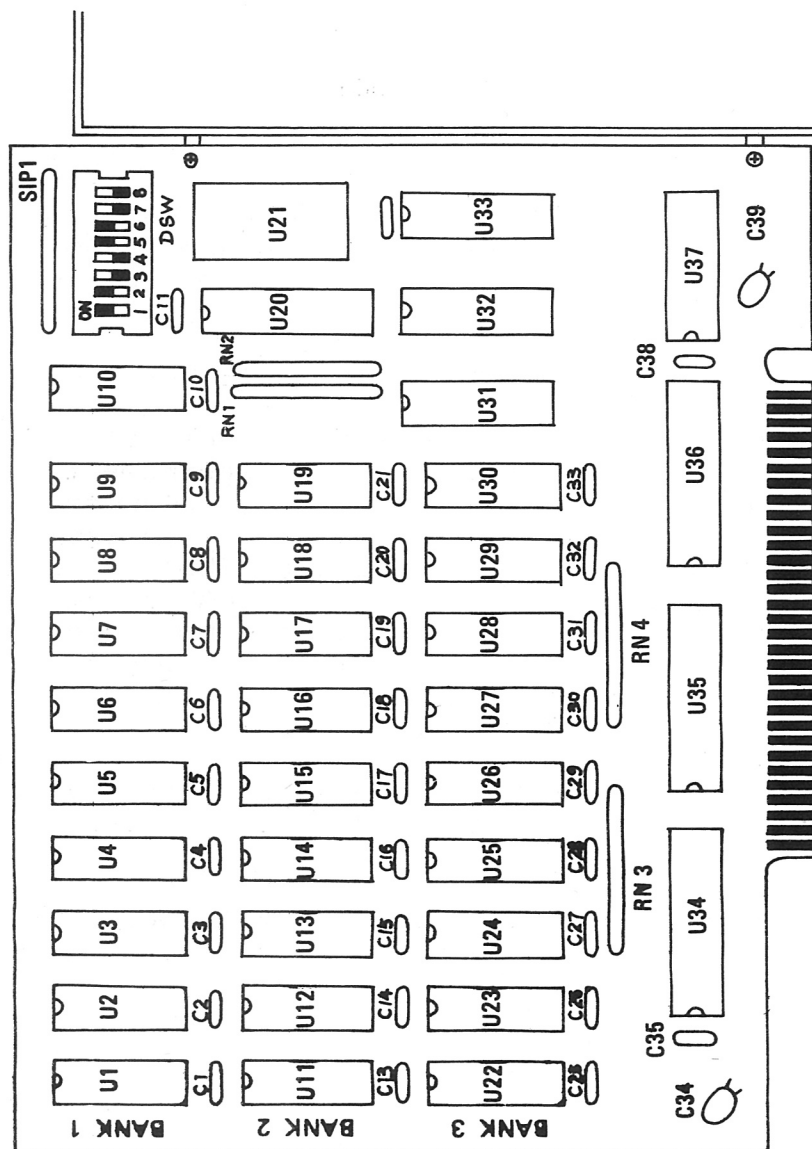


FIGURE 1. MEMO576 COMPONENT LAYOUT

## II. SYSTEM REQUIREMENTS

Your MEMO576 RAM card is designed to be utilized with an IBM PC, PC XT, PC Portable or compatibles. Your system should include a standard IBM PC or PC like motherboard. The MEMO576 RAM card is designed to supplement your existing memory, be it on the motherboard or a multi-function card, etc. The MEMO576 RAM card can also act as your only RAM for systems such as the "L" type where there is no provision for RAM on your motherboard.

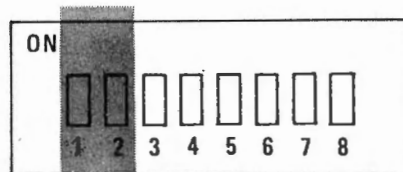
## III. SETTING DIP SWITCHES

To insure proper operation of your MEMO576 RAM card you need to correctly set both the on board DIP switches and the DIP switches on your system motherboard. If the DIP switches are not set correctly you will experience a problem when trying to access the additional RAM.

- A. DIP Switch Settings for Existing RAM (Motherboard, Multi-function card, etc.)

There are provisions on your MEMO576 RAM card for four user selectable configurations based on your existing system RAM. Set DIP Switches 1 and 2 on your MEMO576 as follows:

		(Starting Address on Your MEMO576)
S1	S2	Existing RAM in Your PC
OFF	OFF	OK
ON	OFF	64K
OFF	ON	128K
ON	ON	256K



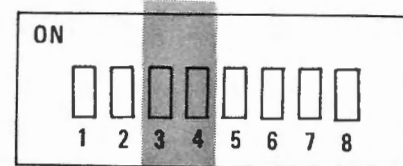
CAUTION: ALWAYS DETERMINE YOUR EXISTING RAM CAPABILITIES PRIOR TO SETTING THE DIP SWITCHES ON YOUR MEMO576 RAM CARD

B. DIP Switch Settings for new RAM (MEMO 576 Card)

Four user determined memory configurations are available on the MEMO576 RAM card:

DIP Switch Settings Bank 1 Bank 2 Bank 3

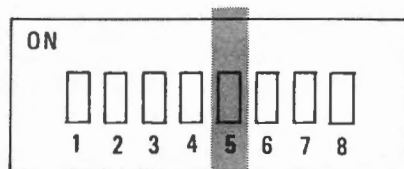
S3	S4					
OFF	OFF	Option 1	64K	64K	64K	= 192K
ON	OFF	Option 2	256K	64K	64K	= 384K
OFF	ON	Option 3	256K	256K	OK	= 512K
ON	ON	Option 4	256K	256K	64K	= 576K



CAUTION: NEVER MIX 256K DRAM AND 64K  
DRAM CHIPS IN THE SAME RAM  
BANK

#### C. DIP Switch 5 Setting

CAUTION: SWITCH 5 IS PRESET IN THE ON  
POSITION. CHECK TO MAKE SURE  
THAT YOUR MEM0576 RAM CARD IS  
PROPERLY SET.



#### D. Parity Check DIP Switch Settings

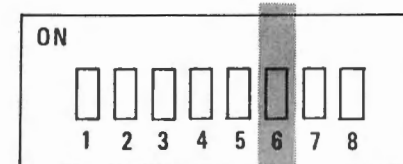
Two user selectable options; parity  
check enable and disable, are available  
on your MEM0576 RAM card.

#### DIP Switch Setting

S6

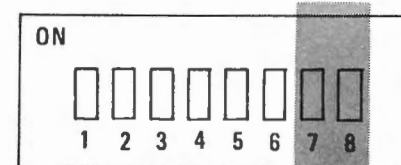
ON = MEMORY PARITY CHECK IS ENABLED

OFF = MEMORY PARITY CHECK IS DISABLED



#### E. DIP Switch 7 & 8 Settings

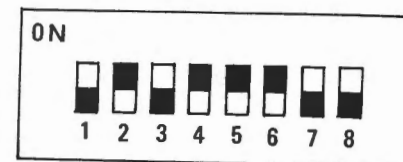
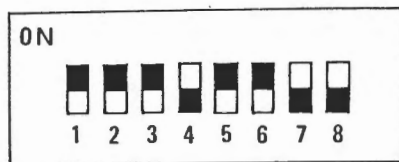
Note: DIP switch 7 & 8 are not used.





## F. Examples of DIP Switch Settings

- SVI
1. Your PC XT has 256K RAM installed on the motherboard. Insert 384K of additional RAM on your MEM0576 RAM card, to reach the maximum capacity of DOS. (640K) Your DIP switch settings will be :



2. Your PC has 128K RAM installed on the motherboard. Insert 512K of additional RAM on your MEM0576 RAM card, to reach the maximum capacity of DOS. (640K) Your DIP switch settings will be:

## IV. HANDLING PRECAUTIONS

RAM cards, like all LSI/MOS devices are static sensitive. Care should be taken when installing your MEM0576 RAM card that no excessive amount of static-electricity is present. To prevent any static related problems on your MEM0576 RAM card, always AVOID TOUCHING THE GOLD EDGE CONNECTORS. These connectors need to be kept clean and static free to insure reliable operation of the MEM0576 RAM card as well as with all of your interface cards.

## V. INSTALLATION PROCEDURE



CAUTION: DISCONNECT ALL POWER SOURCES TO YOUR COMPUTER AND ALL PERIPHERAL DEVICES BEFORE INSTALLING YOUR MEM0576 RAM CARD

Your MEM0576 RAM card is designed to be inserted in any available slot in your IBM PC, PC XT, PC Portable or compatibles. Ideally, a short slot can be utilized due to the space saving design of the card. By using a short slot you can optimize our system capabilities and free up a long slot for an additional interface card.

To install your MEM0576 RAM card complete the following steps:

1. Turn off all power sources to your computer system.
2. Disconnect your AC power line cord.
3. Remove the cover of the computer.

4. Insert your preconfigured MEM0576 RAM card in any available slot. Be careful not to touch the gold edge connectors. Make sure your card is FIRMLY seated in the chosen slot.

5. Replace the cover of the computer.

6. Reconnect your AC power line cord.

You are now ready to utilize your new MEM0576 RAM card

CAUTION: CHECK THAT ALL DIP SWITCHES ON YOUR MEM0576 RAM CARD AND DIP SWITCHES ON YOUR MOTHERBOARD ARE PROPERLY SET FOR CORRECT SYSTEM COMPATIBILITY. CONSULT YOUR SYSTEM MANUAL FOR PROPER DIP SWITCH SETTINGS ON YOUR MOTHERBOARD.

## VI. INSTALLING ADDITIONAL RAM

Your MEM0576 RAM card can be expanded from 192K to a maximum configuration of 576K. Please consult section III part B. for details on memory chip configuration options. (see figure 1)

### Note:

Use DRAM with access time 200 ns or 150 ns.)

To install additional RAM chips complete the following procedure:

1. Locate memory Bank 1. (U1 to U9)
2. Insert either 9 pieces 64K DRAM or 9 pieces 256K DRAM.
3. Locate memory Bank 2. (U11 to U19)
4. Insert either 9 pieces 64K DRAM or 9 pieces 256K DRAM.
5. Locate memory Bank 3. (U22 to U30)

6. Insert either 9 pieces 64K DRAM or leave empty. (256K DRAM chips cannot be inserted in this Bank)

CAUTION: ALWAYS INSERT RAM CHIPS WITH THE SMALL HORSESHOE SHAPED INDENTATION FACING THE TOP OF YOUR MEM0576 RAM CARD. RAM CHIPS INSTALLED INCORRECTLY MAY RESULT IN DAMAGE TO THE CHIPS AND TO YOUR MEM0576 RAM CARD.

NOTE: When installing RAM chips be sure to check the leads on the chips. If they are bent out or in they may need to be adjusted before inserting in the sockets on your MEM0576 RAM card. After insertion, check to make sure that the pins have not been bent under or out. Finally, check the DIP switches to insure proper settings for the additional RAM.

## VII. TROUBLESHOOTING

If your system does not boot up:

1. Turn off all power switches.
2. Disconnect your AC power line.
3. Check if your MEM0576 is seated properly.
4. Check if your other cards are seated properly.
5. Check that DIP switches are set properly.

If your system still will not boot up:

1. Turn off all power switches.
2. Disconnect your AC power line.
3. Remove your MEM0576 RAM card.
4. Reconnect your AC power line.

5. Turn on system. If your computer operates normally then the problem is on the MEM0576 RAM card. Check that all DIP switches on your motherboard and your MEM0576 RAM card are set properly. Check to make sure that all RAM chips are inserted properly.
6. If you still experience a problem with your MEM0576 RAM card please return it directly to the dealer from which you purchased it.

