

SIIG, Inc.

USER'S MANUAL

MEMO 576

**8-bit memory expansion
card**

CONTENTS

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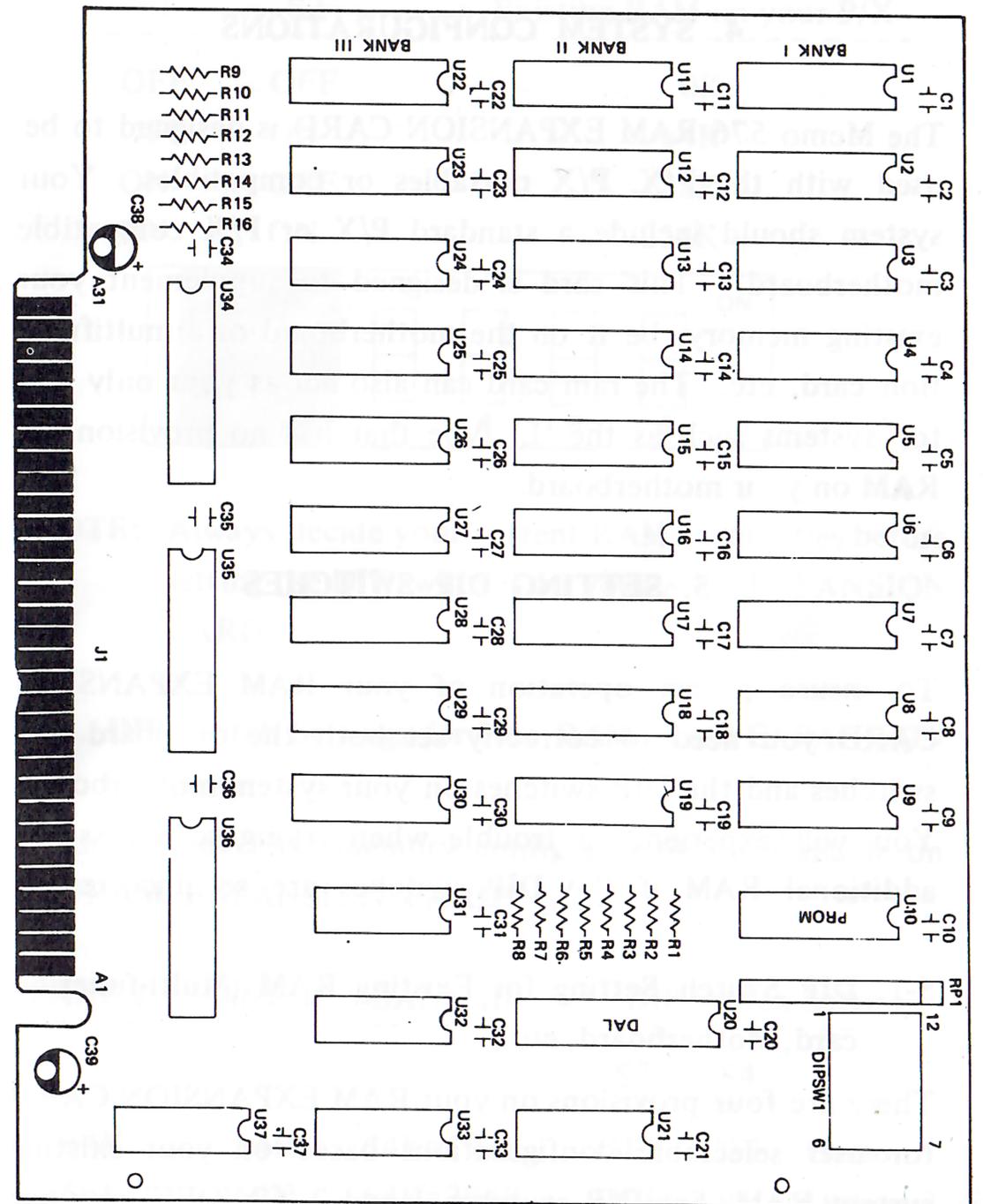
8-bit memory expansion card

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2. INTRODUCTION

Thank you for your smart choice of the Memo 576 RAM EXPANSION CARD. This ram expansion card united the latest in state-of-art Dyamic RAM capabilities and is designed to attach to the P/X, P/X portable and compatibles. One Memo 576 ram expansion card can increase your current system memory by 192K, 384K, 512K or 576K depending on the number of banks and types of DRAM chips used. This card incorporates the newest in high speed DRAM (dynamic ram) technology coupled with an exclusive PROM (Programmed ROM) for configuration, address decoding and selection of the three banks of RAM. Both 64K DRAM and 256K DRAM can be used in each RAM bank allowing for maximum multi-purpose 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 on BANK 1 & BANK 2 and one row of 64K x 1 DRAM on BANK 3 allows the user a maximum addressable RAM of 576K bytes. This card can insert into any slot of your P/X, P/X portables or compatibles to match the requirements of your computer memory.



4. SYSTEM CONFIGURATIONS

The Memo 576 RAM EXPANSION CARD is designed to be used with the P/X, P/X portables or compatibles. Your system should include a standard P/X or P/X compatible motherboard. This card is designed to supplement your existing memory, be it on the motherboard or a multifunction card, etc. The ram card can also act as your only ram for systems such as the 'L' type that has no provision for RAM on your motherboard.

5. SETTING DIP SWITCHES

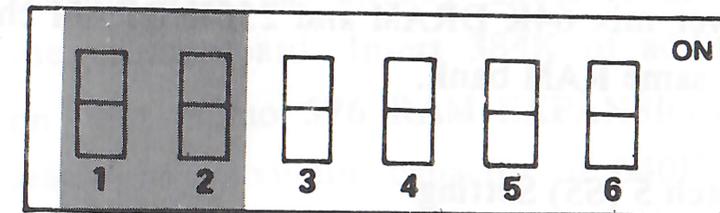
To insure proper operation of your RAM EXPANSION CARD you need to correctly set both the on board DIP switches and the DIP switches on your system motherboard. You will experience a trouble when trying to access the additional RAM if the DIP switches are set incorrectly.

5-1. DIP Switch Setting for Existing RAM (Multi-function card, Motherboard, etc.)

There are four provisions on your RAM EXPANSION CARD for user selectable configurations based on your existing system RAM. Set DIP switches 1 and 2 'ON/OFF' on your Memo 576 as follows:

DIP Switch Settings (Starting Address on Your Memo 576)

S1	S2	Existing RAM on your P/X
OFF	OFF	0K
OFF	ON	64K
ON	OFF	128K
ON	ON	256K

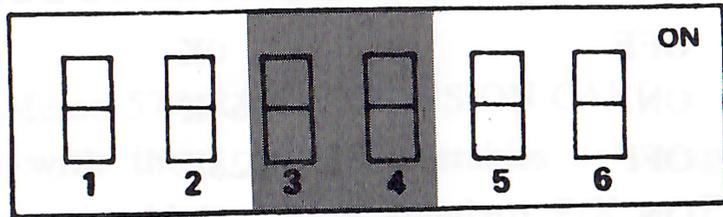


NOTE: Always decide your current RAM capabilities before setting the DIP switches on your RAM EXPANSION CARD.

5-2. DIP Switch Settings for New RAM (RAM EXPANSION CARD)

Four user decided memory configurations are available on the RAM EXPANSION CARD:

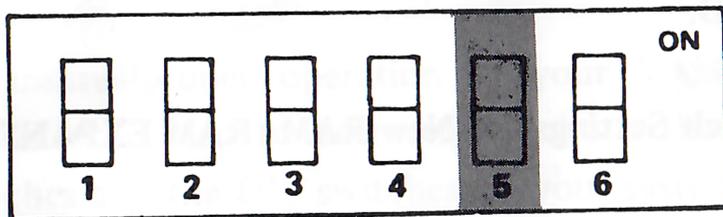
BANK I	BANK II	BANK III	DIP Switch Settings		
			S3	S4	
64K	64K	64K=192K	OFF	OFF	Option 1
256K	64K	64K=384K	OFF	ON	Option 2 ✓
256K	256K	0K=512K	ON	OFF	Option 3
256K	256K	64K=576K	ON	ON	Option 4



NOTE: Never mix 64K DRAM and 256K DRAM chips in the same RAM bank.

5-3. DIP Switch 5 (S5) Setting

NOTE: Switch 5 (S5) is present in the ON position. Check to make sure that your RAM EXPANSION CARD is set properly.



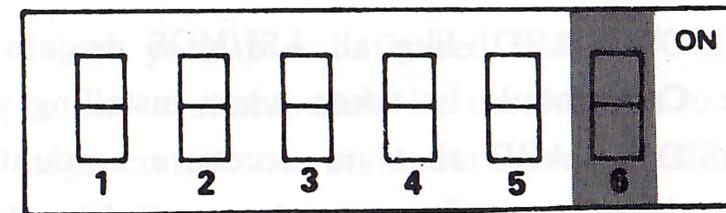
5-4. Parity Check DIP Switch Settings

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

DIP Switch Setting

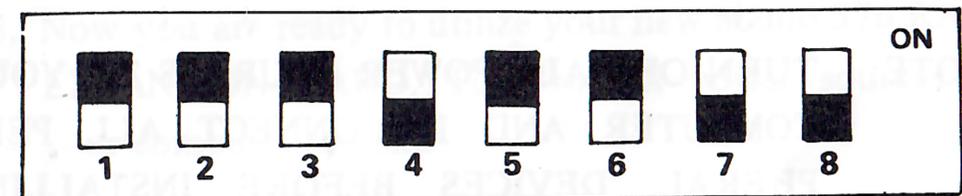
S6

- ON = memory parity check is enabled.
- OFF = memory parity check is disabled.



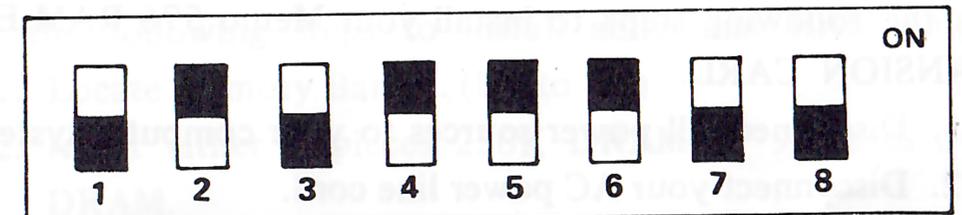
5-5. Examples of DIP Switch Settings

5.5.1 If your P/X has already 256K RAM installed on the motherboard. Insert 384K of additional RAM on your Memo 576 RAM EXPANSION CARD. to reach the maximum capacity of 640K. Your DIP switch setting will be as follows:



(DIP Switch on your mother board)

5.5.2 If your P/X has already 128K RAM installed on the motherboard. Insert 512K of additional RAM on your Memo 576 RAM EXPANSION CARD. to reach the maximum capacity of 640K. Your DIP switch setting will be as follows:



(DIP Switch on your mother board)

RAM EXPANSION CARD, like all LSI/MOS devices are static sensitive. Care should be taken when installing your RAM EXPANSION CARD that no excessive amount of static-electricity is present. To prevent any static related problem on your Memo 576 RAM EXPANSION CARD, always avoid touching the gold edge connectors. These connectors needed to be kept clean and static free to insure reliable operation of the ram expansion card as well as with all of your add on cards.

6. INSTALLATION PROCEDURE

NOTE: TURN OFF ALL POWER SOURCES TO YOUR COMPUTER AND DISCONNECT ALL PERIPHERAL DEVICES BEFORE INSTALLING YOUR RAM EXPANSION CARD.

Your RAM EXPANSION CARD is designed to be inserted in any available slot in your P/X, P/X Portable or compatibles. Ideally, a short slot can be used due to the space saving design of the card. By using a short slot you can optimize your system capabilities and free up a long slot for an additional add on card.

As the following steps to install your Memo 576 RAM EXPANSION CARD.

- 6-1. Disconnect all power sources to your computer system.
- 6-2. Disconnect your AC power line cord.
- 6-3. Remove the cover of your computer.

- 6-4. Insert your pre-configured RAM EXPANSION CARD in any available slot. Be careful not to touch the gold edge connector. Make sure your card is firmly seated in the chosen slot.
- 6-5. Replace the cover of your computer.
- 6-6. Re-connect your AC power line cord.
- 6-7. Check that all DIP switches on your RAM EXPANSION 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.
- 6-8. Now you are ready to utilize your new Memo 576 RAM EXPANSION CARD. Turn on all power sources to your computer system.

7. TO INSTALL ADDITIONAL RAM

Your Memo 576 RAM EXPANSION CARD can be expanded from 192K up to 576K. Please consult section 5 part 5-2. for details on memory chip configuration options. (see board layout)

NOTE: Use DRAM with access time 200ns or 150ns. As the following steps to install additional RAM chips:

- 7-1. Locate memory Bank I. (U1 to U9)
- 7-2. Insert either 9 pieces 256K DRAM or 9 pieces 64K DRAM.
- 7-3. Locate memory Bank II. (U11 to U19)

7-4. Insert either 9 pieces 256K DRAM or 9 pieces 64K DRAM.

7-5. Locate memory Bank III. (U22 to U30)

7-6. Insert either 9 pieces 64K DRAM or leave empty. (256K DRAM chips cannot be inserted in this bank.)

NOTE: Always insert RAM chips with the small horseshoe shaped indentation facing the top of your Memo 576 RAM EXPANSION CARD. RAM chips installed incorrectly may result in damage to the chips and to your RAM EXPANSION CARD.

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 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.

8. TROUBLESHOOTING

If your system does not boot up:

- 8-1. Turn off all power switches.
- 8-2. Disconnect your AC power line.
- 8-3. Check if your RAM Expansion Card is seated properly.
- 8-4. Check if your other cards are seated properly.
- 8-5. Check that DIP switches are set properly.

If your system still will not boot up:

- 8-6. Turn off all power switches.
- 8-7. Disconnect your AC power line.
- 8-8. Remove your RAM Expansion Card.
- 8-9. Reconnect your AC power line.
- 8-10. Turn on system. If your computer operates normally then the problem is on the RAM Expansion Card. Check that all DIP switches on your motherboard and your RAM Expansion Card are set properly. Check to make sure that all RAM chips are inserted properly.
- 8-11. If you still experience a problem with your RAM Expansion Card please return it directly to the dealer from which you purchased it.