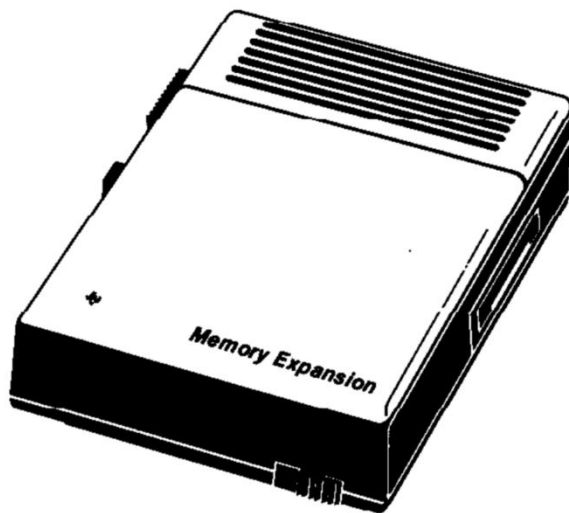


Texas Instruments
Home Computer
Accessory

Model PHP 2200

**Memory
Expansion**



Retrocomputing



INTRODUCTION

The Texas Instruments Memory Expansion unit increases the memory and accessory capabilities of the TI Home Computer. The unit adds 32K bytes of Random Access Memory (RAM) to the 16K bytes of RAM available with the computer. This expanded memory is designed for use with the TI Extended BASIC Solid State Software™ Command Module or any other Command Module designed to utilize the additional memory. (For information on whether or not the memory unit can be used with a module, refer to the module owner's manual.)

In addition to the add-on memory, the Memory Expansion unit is designed to increase the number of accessories which can be connected to the Home Computer. When the memory unit is attached to the computer, four other accessories can be connected in series to the right side of the unit and the computer console. For more detailed information, see the "Set-Up Instructions" section of this manual.

Note: To utilize the Memory Expansion unit, the TI Extended BASIC Command Module or another specialized Command Module **MUST** be inserted in the computer console. The TI BASIC computer language built into the computer cannot make use of the memory unit.

IMPORTANT

Record the serial number from the bottom of the Memory Expansion unit and the purchase date in the space below. The serial number is identified by the words "SERIAL NO." on the bottom case.
Always reference this information in any correspondence.

PHP2200

ModelNo.

SerialNo.

Purchase Date

SET-UP INSTRUCTIONS

Setting up the TI Memory Expansion is a simple process. The steps involved in connecting the unit to the Home Computer and then checking the operation are included in this section. Information about connecting accessory devices is also included. Please read this material completely before proceeding.

Note: No more than six accessories can be attached in series to the port on the right side of the computer console. If a *Solid State Speech*TM Synthesizer is attached to the computer, it must be connected to the console first, followed immediately by the Memory Expansion unit. Other accessories are connected in any order after the memory unit.

CAUTION

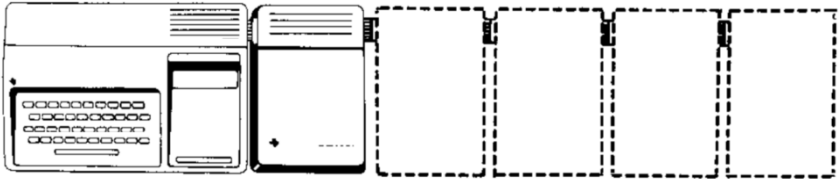
The electronic components of the Memory Expansion unit can be damaged by static electricity discharges. To avoid damage, do not touch the connector contacts or expose them to static electricity.

Once you've unpacked the unit, you're ready to connect the Memory Expansion unit to the Home Computer. (Save the packing material for storing or transporting the unit.)

Connecting the Unit

1. First, turn off the computer console and all attached devices.
2. The console connector on the Memory Expansion projects from the left side of the unit. Place the unit so that its connector is to the right of and parallel to the computer console (or Speech Synthesizer if it is attached).
3. A small sliding door protects the accessory connector on the right side of your computer (or Speech Synthesizer). Carefully slide this door upward so that the connector is visible.

4. Make sure the console and the Memory Expansion unit are parallel, with the connectors aligned. Then hold the console firmly with your left hand, and gently push the Memory Expansion connector onto the console (or Speech Synthesizer) connector.



**CONSOLE, MEMORY EXPANSION UNIT, OTHER ACCESSORIES
(CONNECTED IN ANY ORDER)**



**CONSOLE, SPEECH SYNTHESIZER, MEMORY EXPANSION UNIT, OTHER
ACCESSORIES (CONNECTED IN ANY ORDER)**

5. Plug the RS232 Interface cord into a 115-volt outlet.

CAUTION

Always disconnect the Memory Expansion unit before moving the computer console. The connectors between the console and accessory units are not designed to support the weight of the accessories. To prevent damage, always disconnect all devices before moving any part of your Home Computer system. For long distance moves, repack the accessories in their original packing material.

Testing the Memory Expansion

The procedure for checking the operation of the Memory Expansion unit involves these simple steps:

1. Turn on the monitor, console, and Memory Expansion unit. The master title screen appears.
2. Slide the TI Extended BASIC Command Module into the slot on the computer console.
3. Press any key on the console to make the master selection list appear, and then select TI EXTENDED BASIC.
4. Type the following command:

SIZE

and press ENTER. The screen should display two lines of information telling you the number of “bytes of stack free” and the number of “bytes of program free,” respectively. The amount of stack available varies depending on whether or not the disk is connected and the number of files being used. With the memory unit, the computer always has 24,512 bytes of program space available.

5. If only one line appears, giving the number of “bytes free,” the Memory Expansion unit may not be connected properly. Turn off both units, and carefully disconnect the memory unit. Reconnect the Memory Expansion unit, and repeat the test step above. If you still have difficulty, see “In Case of Difficulty” below.

SERVICE AND WARRANTY INFORMATION

In Case Of Difficulty

If the Memory Expansion unit does not appear to be working properly, check the following:

1. Power - Be sure the Memory Expansion is plugged in and the power switch is on (red dot visible).
2. Connector Separation - Check for proper alignment of the console and the memory unit (they should be parallel).
3. Program errors - Be sure all commands and statements are used as described in the appropriate manual. If the memory unit works properly when tested but not with a program, the difficulty may be with the program.
4. Home Computer - Check to see that the Home Computer works properly with all accessories disconnected.
5. If none of the above procedures corrects the difficulty, consult "If You Have Questions or Need Assistance" or see the "Maintenance and Service Information" section of the *User's Reference Guide*.

Exchange Centers (Local Service Options)

If your Memory Expansion unit requires service, instead of returning the unit to a service facility for repair or replacement, you may elect to exchange the unit for a factory-reconditioned Memory Expansion unit of the same model (or equivalent model specified by TI) by going in person to one of the exchange centers which have been established across the United States. **A handling fee will be charged by the exchange center for in-warranty exchanges of the Memory Expansion unit.** Out-of-warranty exchanges will be charged at the rates in effect at the time of the exchange. Please refer to the enclosed Exchange Service listing or call the Consumer Relations Department for exchange fee information and the location of the nearest exchange center.

If You Have Questions or Need Assistance

If you have questions concerning repair, or the availability of peripherals, accessories, or software, please call our Consumer Relations Department at 800-858-4565 (toll free within the contiguous United States except Texas) or 800-692-4279 within Texas. The operators at these numbers cannot provide technical assistance.

For technical questions about programming, specific applications, etc., you can call 806-741-2663. Please note that this is not a toll-free number, and collect calls cannot be accepted.

As an alternative, you can write to:

Consumer Relations Department
Texas Instruments Incorporated
P.O. Box 53
Lubbock, Texas 79408

Because of the number of suggestions which come to Texas Instruments from many sources containing both new and old ideas, Texas Instruments will consider such suggestions only if they are freely given to Texas Instruments. It is the policy of Texas Instruments to refuse to receive any suggestions in confidence. Therefore, if you wish to share your suggestions with Texas Instruments, or if you wish us to review any BASIC language program which you have developed, please include the following statement in your letter:

"All of the information forwarded here with is presented to Texas Instruments on a nonconfidential, nonobligatory basis; no relationship, confidential or otherwise, expressed or implied, is established with Texas Instruments by this presentation. Texas Instruments may use, copyright, distribute, publish, reproduce, or dispose of the information in any way without compensation to me."

THREE-MONTH LIMITED WARRANTY

THIS TEXAS INSTRUMENTS MEMORY EXPANSION WARRANTY EXTENDS ONLY TO THE ORIGINAL CONSUMER PURCHASER OF THE ACCESSORY.

WARRANTY DURATION

This Memory Expansion unit is warranted for a period of three (3) months from the date of the original purchase by the consumer.

WARRANTY COVERAGE

This Memory Expansion unit is warranted against defective materials and construction. **THIS WARRANTY IS VOID IF THE ACCESSORY HAS BEEN DAMAGED BY ACCIDENT, UNREASONABLE USE, NEGLIGENCE, IMPROPER SERVICE OR OTHER CAUSES NOT ARISING OUT OF DEFECTS IN MATERIALS OR CONSTRUCTION.**

WARRANTY DISCLAIMERS

ANY IMPLIED WARRANTIES ARISING OUT OF THIS SALE, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE ABOVE THREE-MONTH PERIOD. TEXAS INSTRUMENTS SHALL NOT BE LIABLE FOR LOSS OF USE OF THE PRODUCT OR OTHER INCIDENTAL OR CONSEQUENTIAL COSTS, EXPENSES, OR DAMAGES INCURRED BY THE CONSUMER OR ANY OTHER USER.

Some states do not allow the exclusion or limitation of implied warranties or consequential damages, so the above limitations or exclusions may not apply to you.

LEGAL REMEDIES

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

WARRANTY PERFORMANCE

During the above three-month warranty period, your Memory Expansion unit will be repaired or replaced with a new or reconditioned unit of the same or equivalent model (at TI's option) when the unit is returned either in person or by prepaid shipment to a Texas Instruments Service Facility listed below. The repaired or replacement unit will be warranted for three months from date of repair or replacement. Other than the cost of postage or shipping the unit to Texas Instruments, no charge will be made for the repair or replacement of in-warranty units.

Texas Instruments strongly recommends that you insure the unit for value, prior to shipment.

TEXAS INSTRUMENTS CONSUMER SERVICE FACILITIES

U.S. Residents

Texas Instruments Service Facility
2303 North University
Lubbock, Texas 79415

Canadian Residents

Geophysical Services Incorporated
41 Shelley Road
Richmond Hill, Ontario, Canada L4C5G4

Consumers in California and Oregon may contact the following Texas Instruments offices for additional assistance or information.

Texas Instruments Consumer Service
831 South Douglas Street
El Segundo, California 90245
(213) 973-1803

Texas Instruments Consumer Service
10700 Southwest Beaverton Highway
Park Plaza West
Beaverton, Oregon 97005
(503) 643-6758

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