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## Eagle Point Solution to a Frequently Asked Question

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### Commonly asked Support Questions for the HP 48GX Device

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**Summary:**

This document provides solutions to some of the more commonly asked support questions regarding the HP 48GX device and RAM cards.

**Product:** SMI Version 4 – Version 7

**Platform:** HP 48GX

**Related documents:**

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### General HP 48 SX/GX Maintenance

This procedure is good both for preventative maintenance for your hardware and for fixing the 48 when it will not perform routines that have worked in the past.

On the HP 48

1. Backup to the RAM card (if you have one), by hitting Shift-left [JOB]. This will back up all information in the 48 to the RAM card.

NOTE: This applies only to Version 5 cards or below. The v6 and v7 backs up each point stored to the RAM card automatically.

2. Next, back up all data to the PC.
3. After changing the batteries, clear the memory of the HP48 (hold down the [ON] [A] [F] keys all at the same time, then let go). It will say "Try to recover memory?" Respond NO [F]. Press Alpha-K-[ENTER] to re-start SMI.
4. When this finishes, restore your settings (instrument, elevations on/off, etc).

### RAM Card

Before changing the battery, transfer your data to the computer. You may need a TFR Kit. Change the RAM card battery every 8 months. Failure to change your RAM card battery will likely result in lost or corrupted data.

- (GPS) PINST no longer adjusts for HROD.
- (GPS) RCLGPSP now recalls first 21 job parameters to the stack.
- (GPS) CLRGPS clears all GPS localization variables.

## Frequently Asked Questions

### Q. My HP 48 calculator has locked up. How do I fix that?

Occasionally the HP 48 will lock up. The possibility of this happening averages about once every three months for various reasons. However, many have reported using the 48 for two years without a problem. Generally, the reason for a lockup is static electricity due to carpet or high-tension power lines. A black screen is often due to too much heat in the summer sun.

#### *Symptoms*

- Blue screen, can't turn off.
- Try to Recover Memory message appears.
- The hourglass is stuck for a long period of time.
- Calculator is locked up and beeps when any key is pressed.

#### *Solutions*

If the first solution does not work, continue down the list for more possible fixes. It is OK to leave the program card and the RAM card in the HP 48 during the following procedures.

1. Press ON and C at the same time (this is a soft boot and should return the calculator to the home menu).
2. Take the top right rubber boot off of the back of the 48GX. Using a paperclip or something small, push the reset button down. This should turn the calculator off.
3. Take out one battery and immediately put it back in. This should turn the calculator off. When the calculator turns on, press Alpha-K [ENTER] to get back into the SMI program.

#### *If All Else Fails*

1. Take the battery cover off.
2. Reverse the polarity of two of the three batteries. Yes, put two of the three batteries in backwards.
3. Click the ON key two or three times.
4. Place the batteries in correctly.
5. Press ON.
6. When the HP 48 displays "Try to Recover Memory", press NO (the F key).
7. For SMI version 6 or later, the SMI program should automatically initialize and you can skip this step. On version 5 and earlier programs, press Alpha-K [ENTER].

As you can see the solutions are the same in several different examples of lockups. Hopefully these examples will help in the event that your calculator locks up. Lockups are rare, but occasionally the 48 becomes tied in knots and we have help to untie it. Other possible causes of lockups include extreme heat or cold, static charge, pressing several keys at one time, or very low batteries.

### Q. I am receiving invalid RAM card data messages. What do they mean?

#### *RAM card not yet initialized*

New RAM cards will always give this message. Press Alpha-K [ENTER] which should automatically initialize the RAM card. If it doesn't, press Alpha-PINIT [ENTER] to initialize the card.

#### *Low battery in RAM card*

Change battery in RAM card. This should be changed every 6-8 months. To change the battery without data loss, leave the RAM card in the calculator with the calculator on.

#### *RAM card switch is in read-only position*

Note: Some RAM Cards will not have a Read/Write switch. Check the switch on the top of the card. If looking at the back of the HP 48 which would show the front of the card, the switch should be to the left. If it is not, flip the switch and turn USER on and press the JOB button.

#### *Bad connection with the program card*

Take out program card and re-insert it to insure a good connection. Press Alpha-K [ENTER]. If this is the reason for the invalid card data message, the program will not be able to run. The calculator will just be in the home menu. If the "K" program doesn't work, take the program card out and find the contacts on the bottom of the back of the card. They may be covered by a metal tab, but just slide the tab up the card. Take an eraser and erase the contacts with the grain of the contacts. In other words, use an up and down motion instead of side to side. Re-insert the card and press Alpha-K [ENTER].

### **Q. How do I resolve the HP 48 "low battery p(2)" message?**

#### *RAM Cards with a Separate Battery*

If you have an older type RAM card with a separate batter, simply leave the RAM card in the HP 48 (to maintain power to the card) and change the RAM card battery. It is a 3v-button battery that you can find in any camera shop. The model of the battery is CR2016. These RAM cards are distinguished by having a switch at the top of the card.

#### *RAM Cards with a Built-in 10-Year Battery*

The 10-year battery RAM card will draw power occasionally from the batteries of the HP 48. A low battery indication for the RAM card will happen when the calculator is not used for long periods of time, only used occasionally or because the batteries in the HP 48 are/were weak. If your batteries in your HP 48 are over two weeks old or you are not sure of their age, replace the AAA batteries in the HP 48. The batteries in the HP 48 need to be new or almost new. Weak batteries can run the calculator, but will not charge the RAM card battery. Changing the batteries in the HP 48 every month is a good idea for several reasons.

1. This assures that the batteries will be strong in the HP 48. Instability is many times more likely if the calculator does not get enough power.
2. If the battery in the RAM card requires the batteries to be strong to charge properly.
3. It is an opportunity to clear the memory in the HP 48. An HP 48 that has its memory cleared after battery changes will operate with much more reliability than one that does not.

#### *Recharging the 10-Year Battery*

1. Backup all data to PC
2. Turn off user:
  - o SMI Users press Shift-left USER
  - o TDS users need to exit program
3. (Optional) Turn off beep by pressing the following keystrokes:
  - o (Shift-Right I; D; press K seven times, C; K; C; F; F). This will turn off flags 57 and 56
4. Go into set alarm (Shift-Right 4; Q; [ENTER])
5. Set the time for 5 minutes after the time it shows. If shows 11:25 - set it for 11:30
6. Arrow down to repeat (Q; Q)
7. Set to repeat every 4 minutes (4; [ENTER]; [alpha]; M; [alpha]; F)
8. After you let this run overnight or the weekend, stop the alarm. (Shift-right 4; [ENTER]; C; F)

After the alarm is set, the calculator will keep itself on to constantly charge the ram card battery. Let the calculator run overnight. If it still says "low battery p(2)", contact Eagle Point to purchase a replacement RAM card. Before you leave for the weekend, set the 4-minute alarm to more fully recharge the battery.

### **Q. How do I upgrade/update my SMI HP 48 program card?**

1. Order the new/updated card.
2. When you receive the new card, backup all data to your PC.
3. Delete your RAM card ([DEL];{CRD};[ENTER]).
4. Put in your new card in port 1 and your RAM card (if you have one) in port 2.
5. Clear your Memory ([ON]-[A]-[F] at the same time then let go). Respond {NO}.
6. Press Alpha-K [ENTER] on the HP 48.
7. Upload jobs to your HP 48.
8. Send back your old card with the form that came with your new card.

#### *Policy Notes*

Eagle Point always sends out the new card first to allow you continue to work. You will only be charged the upgrade difference, unless you choose to keep the old card. We accept Amex, Visa, and Mastercard. You may also mail in a check with the item part number in the memo of the check. The following shipping methods will be an additional charge on upgrade orders: UPS Ground is \$19, 2nd Day is \$30, and overnight is \$40.

#### *Common Myths Dispelled*

No data is stored on your COGO, Data Collection, or Construction card. Also, while the amount of point storage is dependent on the size of the memory card, it is also dependent upon the data options set (e.g. elevations, notes, raw data and chains). RAM cards, cabling and hard cases designed for use with the HP 48 will work with any vendor's software.

#### *RAM Card Notes*

RAM cards are not required with any of the SMI products for the HP 48. They do, however, allow additional data security and more point storage. RAM cards are like your computer's hard drive. All jobs are stored there including the one you are working with. Occasionally, you will see "packing and saving" while collecting data in the field. This is keeping the RAM card data current. You may also manually initiate this updating procedure by pressing Shift-left JOB.

#### *Preventing Lockups*

1. When you are ready to change your batteries, do the following to prevent lockups:
2. Backup all data to the computer.
3. If you have a RAM card, press Shift-left [JOB].
4. Change the batteries in your HP 48.
5. Press [ON]-[A]-[F] to clear memory. Respond NO.
6. Press Alpha-K [ENTER].
7. Re-establish your defaults (e.g. instrument driver, elevations, notes, raw data, etc).

See the solution for "My HP 48 calculator has locked up. How do I fix that?" for additional information.

### **Q. Using BANKRCL to Recover Points (Version 5)**

All SMI Version 5 cards have the BANKRCL program. It can be used to recover points that are on a RAM card but don't show up in a job.

1. Get in the job that is missing points. If the job does not exist, follow the recovery steps in the troubleshooting chapter of the manual to recover memory. If the job still does not exist, create the job again with the same

name and the same number of points per bank. The number of points per bank is changed by pressing JOB NXT BANK. The default size is 50.

2. Determine the ports to search. 256K ram cards use ports 2-3. The 1MB cards use ports 2-9.
3. Determine the banks that need to be recovered. Divide the number of the point that is missing by the number of points per bank to get the port number. The only drawback to overestimating is that it takes longer. Example: If you are missing points 101 through 400, banks 3 through 8 need to be recovered.
4. Enter the port number to search, the bank to start searching for, and the ending bank of the search. Turn on ALPHA and type in BANKRCL and press ENTER.
5. Repeat the previous step for every port.
6. Store a point higher than the highest point in the job.
7. Send all jobs to the PC.
8. Delete the card using the CRD soft key in the DELETE menu.

#### *Example Situation*

Missing points 101-400, bank size 50, 256K RAM card.  
Turn on ALPHA and type in 2 3 8 BANKRCL and press ENTER.

#### **Q. How do I recover from low memory conditions (Version 4 and Version 5)?**

There are various symptoms of low memory. They are listed below in order from most severe to least severe. If there is no data on the HP 48 that is needed the easiest (but most drastic) solution is to follow the instructions in the Clear the Memory section below.

- User is prompted for objects to delete. The message looks like: "Out of Memory. Purge xxxx?" where xxxx is some object in the 48. Typical objects to be deleted are items on the stack, last stack, last arguments, variables in the HOME directory, etc. Follow the directions below starting with Step #1 in the Steps for Recovery section.
- User gets a "Out of Memory" message when trying to get into a menu. Follow the directions below starting with Step #2 in the Steps for Recovery section.
- User gets a "PVARs Error: Insufficient Memory" while saving data to the card. Follow the directions below starting with Step #2 in the Steps for Recovery section.
- User gets an "Out of Memory" message when trying to delete a job. Follow the directions below starting with Step #2 in the Steps for Recovery section.
- User gets an "Out of Memory" message when trying to copy a job. Follow the directions below starting with Step #1 in the Recovering Jobs from RAM Card.
- User gets an "Out of Memory" message when trying to send a job to another 48. Try sending just the points by using the PNTS soft key instead of the JOB soft key.
- For other situations not listed, follow the directions below starting with Step #2 in the Steps for Recovery section.

#### *Steps for Recovery*

1. Answer YES to all the questions about deleting objects except COGO. Do Not Delete COGO!
2. Press ON and C at the same time while the 48 is on.
3. Press J (Vars)

### *Removing Extra Variables From Home Menu*

4. Make sure COGO is the only soft key in the menu.
  - A. To get rid of a soft key without a folder tab:
    - a. Press Shift Lt and the soft key. The 48 will beep, display an error message, and put the name of the soft key on the stack.
    - b. If you have a HP48GX press Shift Lt Z to delete the softkey. If you have a HP48SX press Shift Lt DEL (the delete key). The soft key will disappear.
  - B. To get rid of a soft key with a folder tab:
    - a. Press Shift Lt and the soft key. The 48 will beep, display an error message, and put the name of the soft key on the stack.
    - b. Turn on ALPHA, type in PGDIR and press ENTER. The soft key will disappear.

### *Removing Unneeded Banks From Jobs*

5. Turn on ALPHA, type in COGO and press ENTER to get into the COGO directory. You will see a list of jobs and variables in the menu. Jobs that are directories in internal memory will have a folder tab on the soft key.
6. Press a folder tab soft key to get into a job directory. You will see a list of banks and variables. Soft keys with numbers on them are data banks. Banks with numbers less than 3000 are coordinate banks and banks with numbers greater than 3000 are raw data banks.
7. To know which point numbers correspond to bank numbers we need to know the bank size for the job we are in.
  - A. Press a soft key that has a number on it to recall the bank to the stack.
  - B. Turn on ALPHA, type in SIZE and press ENTER.
  - C. Divide the number by 30. This is the bank size (number of points per bank). The first point number of a bank is the bank number minus 1 times the bank size plus 1 ( $pt\# = (bank\#-1)*size+1$ ). For example if the bank size is 50, the first point in bank 4 is  $(4-1)*50+1 = 151$ .
8. Delete banks of points or raw data that are not needed.
  - A. Press Shift Lt and the soft key. The 48 will beep, display an error message, and put the name of the soft key on the stack.
  - B. If you have a HP48GX press Shift Lt Z to delete the softkey. If you have a HP48SX press Shift Lt DEL (the delete key).
9. Go back to step #5 and repeat for all the jobs that have folder tabs. You may need to press the NXT (next) key to see more jobs.

### *Removing Unneeded Jobs*

10. If there are jobs with folder tabs that are not needed anymore, turn on ALPHA, type in COGO and press ENTER to get into the COGO directory.
  - A. Press Shift Lt and the soft key. The 48 will beep, display an error message, and put the name of the soft key on the stack.
  - B. Turn on ALPHA, type in PGDIR and press ENTER. The soft key will disappear.
  - C. Repeat steps A and 9 until all unneeded jobs with folder tabs are deleted.
11. If you do not have a RAM card, skip to the Saving Jobs On The PC section.

### *Removing Unneeded Banks From RAM Card*

12. If you have a HP48GX press Shift Lt 2 and then the PORTS softkey. If you have a HP48SX press Shift Lt K. You will see a list of ports. The RAM card ports start with port 2.
13. Press the soft key that has a 2 on it. You will see a list of job banks. Because each job may have several banks, you will see the same job repeated on several soft keys.
  - A. Delete banks that are not needed.
  - B. Press Shift Lt and the soft key. The 48 will beep, display an error message, and put the name of the soft key on the stack.
14. If you have a HP48GX press Shift Lt Z to delete the softkey. If you have a HP48SX press Shift Lt DEL (the Delete key).
15. Repeat the previous step for all the banks that are not needed. You may need to press the NXT (next) key to see more banks.
16. Repeat steps #12 through #14 for every port (256K RAM cards have 2 ports numbered 2 and 3). In step 12, press the soft key that has a port number that hasn't been done yet instead of 2.

### *Recovering Jobs from RAM Card*

1. Turn on ALPHA, type in SAVE and press ENTER.
2. If your version is less than 4.311 skip this step and go to the next one. Press Shift Rt + (the plus key), type in 2, press the R key to move to the right, turn on ALPHA mode, type in INDEX and press ENTER. It should look like this: 2: INDEX On the HP48GX press Shift Lt Z to delete the index. If you have a HP48SX press Shift Lt DEL (the Delete key).
3. Run the K program by turning on ALPHA, typing in K and pressing ENTER.

### *Saving Jobs On The PC*

1. Press JOB and OLD to choose job to be sent to the computer.
2. Send the job to the computer in the normal manner.
3. Repeat these steps for all needed jobs until satisfied that all data has been sent to the computer.

### *Clear the Memory*

1. Delete the internal memory by holding down ON, A, and F at the same time while the 48 is on, letting go and answering NO to the "Try to recover memory?" question.
2. Run the K program by turning on ALPHA, typing in K and pressing ENTER.
3. Delete the RAM card by pressing the DEL key to get in the Delete menu and pressing the CRD soft key. Press ENTER to answer yes to the "ERASE CARD IN PORT 2?" question.