TEXAS INSTRUMENTS

TI TestGuard™ for the TI-83 Plus

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Where to Find Installation Instructions

You can find detailed instructions on installing Flash applications at education.ti.com/guides.

Introduction

The TI TestGuard™ application is a tool that teachers can use to gain more control over their testing environments. TI TestGuard clears programs, lists, applications, and other stored data from students' calculators. However, teachers have the option to leave specific applications on students' calculators. In addition, TI TestGuard uses a password feature to confirm that the calculators have been cleared.

Previously, teachers have asked students to manually reset their calculators before an exam. However, some students learned how to display phony memory reset screens, allowing them to keep data on their calculators. With TI TestGuard, teachers can choose to remove all stored data from the students' calculators, leaving specific applications, if they want to.

Overview

What Is TI TestGuard?

TI TestGuard™ allows teachers to quickly remove unwanted data from students' calculators before they take tests. It is unlike other TI applications, in that it is designed as a tool for teachers, not students. Therefore, sharing the software with students could result in compromised functionality and effectiveness.

TI TestGuard does *not* just turn programs, lists, etc. off; it actually *deletes* them from a student's calculator. You should instruct your students to back up their calculators to a computer or to another calculator before you use TI TestGuard. All data that you choose to have cleared from the students' calculators will be *completely erased*.

Note | Any application (free or purchased) that students have downloaded from TI's web site can be downloaded again free of charge at any time.

Be aware that other teachers may require students to have certain applications on their calculators on the same day that you use TI TestGuard to clear the calculators. Talk to your students and other teachers to avoid a conflict. For example, you would not want to clear all applications for your exam if students needed to use the Periodic Table application in chemistry class later the same day.

What Are TI TestGuard's Features?

TI TestGuard runs on a teacher's TI-83 Plus and clears data from the following calculators:

- TI-83

- TI-83 Plus

- TI-89 with operating system (OS) 2.0 or higher

- TI-92 Plus with OS 2.0 or higher

When you set up TI TestGuard, you choose a password that will display on the student's calculator and you determine if you will remove data stored in RAM or archived memory, applications, or both. If you choose to clear applications, you have the option to specify applications that can remain on the student's calculator.

After you have set up TI TestGuard, you simply attach a unit-to-unit cable between the teacher's TI-83 Plus and the student's calculator, then start the application to clear the calculator. When the student's calculator has been cleared, a message displaying **Calculator Clear** and your password will appear. Clearing a student's calculator takes less than 10 seconds.

The password is one of TI TestGuard's security features. Changing your password regularly helps to minimize the possibility that a student has not intercepted it and devised a way to circumvent TI TestGuard. You should always change your password before each exam. Since changing your password is simple and only takes a few seconds, you should consider changing it periodically while you are clearing calculators for an entire class.

TI TestGuard Set Up Features

The teacher's TI-83 Plus must have at least 1500 bytes of free RAM to run TI TestGuard™ after you complete the set up.

The following table describes these TI TestGuard set up options:

- the password

- the kinds of data that will be cleared

- application names that can remain on the student's calculator

You do not have to complete the set-up in this order. You can set up or change any setting at any time without affecting the other settings.

TI TestGuard feature	Options
Password	You must set up a password. TI TestGuard will not execute without it. The password can contain: • up to 8 characters • any combination of the uppercase alphabetic characters (A-Z only) found on the face of the calculator • one or more spaces

TI TestGuard feature	Options
Mode	You can clear the following types of data:
	• *only* APPS (Applications - except those specified to be saved)
	• *only* RAM/ARC (All RAM and archived data)
	• BOTH (Everything: applications—except those specified, RAM, and archived data)
Application name(s) set up	Application names you set-up in this step allow the specified application(s) to *remain* on the student's calculator.
	• Coordinate clearing calculators with other teachers to avoid removing applications that students need to use in other classes later in the same day.
	• You can include as many application names in the list as you want as long as your TI-83 Plus has enough free RAM to store them.
	• If you have students whose calculators are localized into another language, you *must include those language applications* in the application name list to preserve the localization application.
	• You only need to complete this part of the set-up if you want to save specific applications on the student's calculator.
	• Selecting RAM/ARC will *not* remove any applications.

Retaining Applications

You do not have to set up application names that will remain on the students' calculators in order to run TI TestGuard™. However, if you allow your students to use certain applications during an exam, you must specify them in TI TestGuard's set up. These specified applications remain on the students' calculators; all others are erased when the TI TestGuard mode is APPS or BOTH.

Notes
- You *must* include any appropriate language applications in the application name list so that students who use another language on their calculators will still have access to the translated text.
- Coordinate clearing calculators with other teachers to avoid removing applications that students have to use in other classes later in the same day.

When you specify the application names, you give TI TestGuard the application's file name. TI TestGuard will not delete those applications when you clear the student's calculator. Many file names contain upper and lowercase letters and may contain special characters (such as /, -, or :).

Warning! If you do not use the correct character case or special characters or if you add a space at the end of the name when you add the name to the application list, TI TestGuard deletes the application.

Example: You allow students to use the Periodic Table application on an exam. The application file name is PERIODIC.

If you type this in the TI TestGuard application name set-up . . .	TI TestGuard takes this action when it finds the Periodic Table application on the student's calculator:
periodic	Deletes
Periodic	Deletes
PERIODIC	Does not delete

Finding the Application File Name

Calculator	Keystrokes to find application file name
TI-83 Plus	[APPS]
	The application file names are displayed.
TI-89 or TI-92 Plus with OS 2.00 or later	[2nd] [VAR-LINK]
	TI-89: [2nd] [F7] TI-92 Plus: [F7]
	Use ⊙ and ⊙ to scroll to the application name.
	[F4] to select the application name.
	Press [ENTER]. The application file name is displayed on the command line.
	Press [CLEAR] to clear the name from the command line.
	Repeat steps 1 through 6 to find another application file name.

Note Some applications for the TI-89 and TI-92 Plus have sub-files. These file names are indented from the main application file name when you display a list of applications. You only need to specify the main application file name in the TI TestGuard setup to save the application.

Language Application File Names

Use the following file names when you include language applications in your TI TestGuard application name set up.

Language	TI-83 Plus	TI-89 or TI-92 Plus
Danish	Dansk	TIDAN
Dutch	Nederlan	TINED
Finnish	Suomi	TISUO
French	Français	TIFRA
German	Deutsch	TIDEU
Hungarian	Magyar	TIMAG
Italian	Italiano	TIITA
Norwegian	Norsk	TINOR
Polish	Polski	TIPOL
Portuguese	Portug	TIPOR
Spanish	Español	TIESP
Swedish	Svenska	TISVE

Clearing Students' Calculators with TI TestGuard

Keep the following precautions in mind:

- Coordinate clearing calculators with other teachers to avoid removing data that students have to use in other classes later in the same day.

- If you have left your calculator unattended, quickly check your TI TestGuard set up to make sure that your settings are current.

- Make sure that the student's calculator is on the home screen before you begin. TI TestGuard will not run correctly if any program or application is running on the student's calculator or if it is in Link/Receive mode. If the student's calculator displays **Waiting...** it is in Link/Receive mode. If you see moving vertical lines in the top right corner of the TI-83/TI-83 Plus or a **Busy** message on the command line of the TI-89/TI-92 Plus, a program is running.

- The student's calculator must have at least 2500 bytes of free RAM for TI TestGuard to operate. If the student's calculator does not have enough free RAM, TI TestGuard displays a memory error. In that case, you must manually remove data from RAM before you can run TI TestGuard.

- The student *cannot* press any keys on the calculator while TI TestGuard is running.

Setting Up TI TestGuard

Note | The teacher's TI-83 Plus must have at least 1500 bytes of free RAM after set up is complete to run TI TestGuard™.

The following sections show you how to set up

- the password

- the kinds of data that will be cleared

- application names that can remain on students' calculator

You do not have to complete the set-up in this order. You can set up or change any setting at any time without affecting the other settings.

Your setup is saved in an application variable (AppVar) named Applist. You can share this AppVar (and thus your setup) with another teacher who has TI TestGuard installed on a TI-83 Plus.
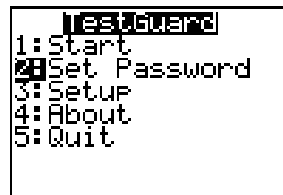
Selecting TI TestGuard

Note | To select a menu option, press the number or letter corresponding to the option or press ⊙ to highlight the option, then press ENTER.

1. Press APPS. The APPLICATIONS menu is displayed.

2. Select **TestGard** from the menu. The TI TestGuard screen is displayed.

Setting the Password

The password that you set up on the teacher's TI-83 Plus appears on the student's calculator to verify that the student's calculator is cleared. The password can contain:

- up to 8 characters

- any combination of the uppercase alphabetic characters (A-Z only) on the face of the calculator

- one or more spaces

1. Select **2:Set Password**.

   The PassWord screen is displayed.

```
     TestGuard
1:Start
2:Set Password
3:Setup
4:About
5:Quit
```
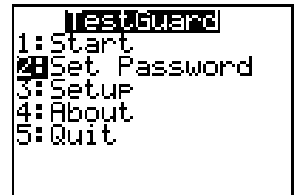
2. Enter a new password of up to 8 characters.

   - The calculator defaults to uppercase alpha-lock mode when this screen is displayed.

   - Press [DEL] to delete a character to the left of the cursor.

   - The first time a password is set up, no current password is displayed. Simply type a password at New= to set the initial password.

3. Press [ENTER] to accept the password.

4. Press [2nd] [QUIT] to return to the **TestGuard** screen.

```
  Password
Current=GALILEO
New=█



    "QUIT" to return
```
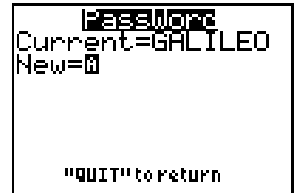
Setting Up Applications Allowed on an Exam

> **Note** You only need to complete this part of the set up if you want certain applications to remain on the calculator.

1. Select **3:Setup** to display the APPS/MODE screen.

```
  TestGuard
1:Start
2:Set Password
3:Setup
4:About
5:Quit
```
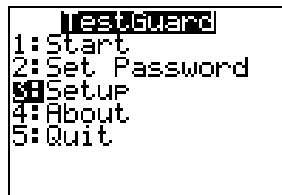
2. Press ENTER to select **APPS**.

```
APPS    MODE




"QUIT" to return
```

3. Type the name of the application that can remain on the students' calculators.

Warning! You must spell the application name correctly. Misspelling the application name will result in its being deleted from the students' calculators.

```
APPS      MODE




APP=█
```

Notes

- The calculator defaults to uppercase alpha-lock mode when this screen is displayed.

- Press ALPHA once to switch to lowercase alpha-lock or twice to turn alpha-lock off. Note the difference in the cursors:
  - █ Uppercase alpha-lock
  - █ Lowercase alpha-lock
  - █ No alpha-lock

- Use the divide key (÷) for a slash (/) and the minus key (−) for a dash (-).

- Press DEL to delete a character to the left of the cursor.

- Press 2nd [CATALOG] to access special characters.

- Do not add a space or spaces at the end of an application name that is less than 8 characters long.

- The list of application names is automatically alphabetized as you make entries

4. Press [ENTER] to add the application name to the list.

```
APPS   MODE




App=PERIODIC▨
```
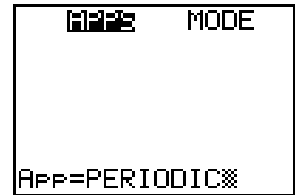
5. To add another application name, press [ENTER] and return to step 3.

```
APPS   MODE
▸PERIODIC




"QUIT" to return
```
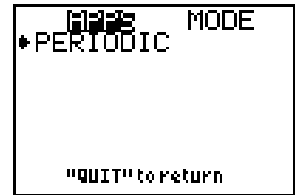
Note To delete an application from the list, use ⊙ or ⊙ to move the arrow to point to the application name and press [DEL].

Setting Up Types of Memory to Clear

In this step, you specify what to erase from the student's calculator. You can choose one of these options:

- erase only applications (other than those you specified above)

- erase only files stored in RAM and in archived memory

- erase all unspecified applications *and* all files stored in RAM and in archived memory

Note The default value for the mode is to delete all applications (except the ones specified to be saved).

1. Press ⊙ to highlight **MODE**. The types of files that can be erased are listed.

2. Select the type(s) of files to erase:

   APPS: (default setting) erases only unspecified applications.

   RAM/ARC: erases only programs, lists, etc. that are stored in RAM and in archived memory.

   BOTH: erases all unspecified applications *and* all files stored in RAM and in archived memory.

3. Press [2nd] [QUIT] to return to the **TestGuard** screen.

Clearing Students' Calculators with TI TestGuard

Before you clear students' calculators, make sure you have done the following:

- Coordinate clearing calculators with other teachers to avoid removing data that students have to use in other classes later in the same day.

- Check your TI TestGuard™ set up to make sure that your settings are current (especially if you have left your calculator unattended).

- Make sure that your calculator (the one with TI TestGuard on it) has at least 1500 bytes of free RAM.

1. Make sure that the student's calculator is on the home screen before you begin.

Note | TI TestGuard will not run correctly if any program or application is running on the student's calculator or if it is in Link/Receive mode. If the student's calculator displays **Waiting...** it is in Link/Receive mode. If you see moving vertical lines in the top right corner of the TI-83/83 Plus or a **Busy** message on the command line of the TI-89/92 Plus, a program is running.
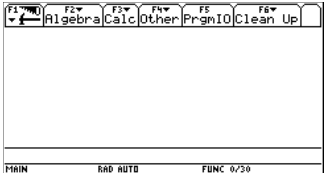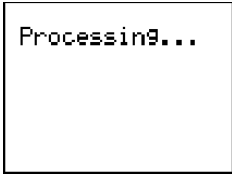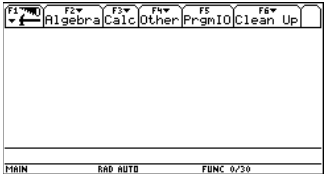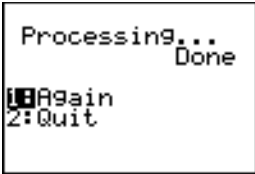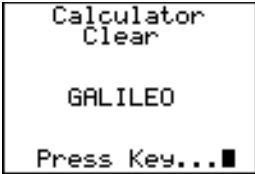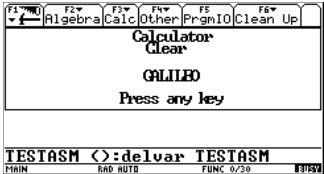
---

2. Select **TestGard** on the teacher's calculator. (See [Selecting TI TestGuard](#).)

3. Connect the teacher's TI-83 Plus calculator to the student's calculator using a unit-to-unit cable.

4. Select **1:Start** to start TI TestGuard.

   The teacher's calculator displays Processing…. When the processing is complete, the teacher's calculator displays Processing...Done and options to quit or run TI TestGuard again.

Note
- The student's calculator must have at least 2500 bytes of free RAM for TI TestGuard to operate. See [TI TestGuard Application Errors](#) for more information.
- The student cannot press any keys on the calculator while TI TestGuard is running.

5. Verify that the student's calculator has been cleared. The student's calculator displays your password and Calculator Clear to confirm that the calculator has been cleared.

	Teacher's TI-83 Plus	**Student's TI-83 or TI-83 Plus**	**Student's TI-89 or TI-92 Plus**
A	TestGuard 1:Start 2:Set Password 3:Setup 4:About 5:Quit	■	F1▼ Algebra Calc Other PrgmIO Clean Up MAIN RAD AUTO FUNC 0/30
B	Processing...	■	F1▼ Algebra Calc Other PrgmIO Clean Up MAIN RAD AUTO FUNC 0/30
C	Processing... Done 1:Again 2:Quit	Calculator Clear GALILEO Press Key...■	F1▼ Algebra Calc Other PrgmIO Clean Up Calculator Clear GALILEO Press any key TESTASM <>:delvar TESTASM MAIN RAD AUTO FUNC 0/30 BUSY

Notes	• When you clear RAM/ARC or BOTH on the TI-89 or TI-92 Plus, the calculator displays a progress bar after the student presses a key on the Calculator Clear screen.
	• When you clear RAM/ARC or BOTH on the TI-83 or TI-83 Plus, the calculator displays a MEM Cleared (TI-83) or RAM Cleared (TI-83 Plus) screen after the student presses a key on the Calculator Clear screen.
	• When you clear RAM/ARC or BOTH, the calculator's contrast may change.
	• Localized calculators are automatically reset to English. Students with localized calculators will have to reset their calculator's language (assuming that the teacher preserved the language application).

1. To clear another student's calculator, disconnect the cable from the student's calculator and connect it to the next student's calculator.

```
Processing...
          Done

1:Again
2:Quit
```

Teacher's TI-83 Plus

2. Select **1:Again** to run TI TestGuard again.
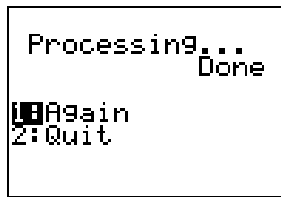
3. To quit TI TestGuard, select **2:Quit**, then select **5:Quit** from the TI TestGuard home screen.

```
Processing...
           Done

1:Again
2█Quit
```

```
 ▐TestGuard▌
1:Start
2:Set Password
3:Setup
4:About
5█Quit
```

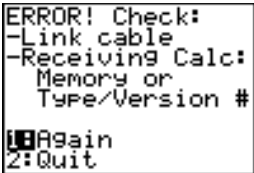# Deleting TI TestGuard from the TI-83 Plus

Note | If you choose to reset All RAM or Arc Vars, the application is unaffected. If you reset Apps or All Memory, the application is deleted.

To delete TI TestGuard from your calculator:

1. Press [2nd] [MEM] to display the MEMORY menu.

2. Select **2:Mem Mgmt/Del…**

3. Use ⊙ or ⊙ to select **Apps…**

4. Use ⊙ or ⊙ to highlight **TestGard**.

5. Press [DEL].

6. Select **2:Yes** to confirm the deletion.

7. Press [2nd] [QUIT] to return to the home screen.

Error Recovery Instructions

TI TestGuard Application Errors

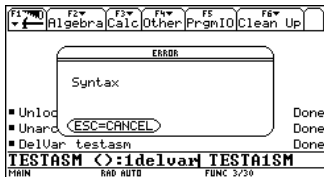| Error Message	Description

ERROR! Check:
-Link cable
-Receiving Calc:
  Memory or
  Type/Version #
 	
1:Again
2:Quit
	Check the following:
	
	• The student's calculator must be one of the following: TI-83, TI-83 Plus, TI-89 with OS 2.0 or higher, or TI-92 Plus with OS 2.0 or higher.
	
	• The link cable must be securely attached to both the teacher's and the student's calculators. Try disconnecting the cable and reconnecting it to both units.
	
	• The student's calculator must have at least 2500 bytes of memory free. If it does not, manually delete some items from RAM and run TI TestGuard™ again.
	
	On the TI-83 Plus, press [2nd] [MEM], then select **2:Mem Mgmt/Del...** to display RAM FREE. You can delete items to free RAM from this screen. Select a data type (for example, **7:Prgm**), highlight an item to delete, and press [DEL].

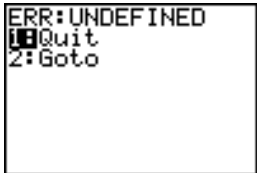| Error Message	Description
	On the TI-83, press [2nd] [MEM], then select **1:Check RAM...** to display RAM FREE. To delete items, press [2nd] [MEM], then select **2:Delete...** Select a data type (for example, **7:Prgm**), highlight an item to delete, and press [DEL].
	On the TI-89 or TI-92 Plus, press [2nd] [MEM] to display RAM free. To delete items, press [2nd][VAR-LINK], highlight the item to delete, press [F4] to select it, press [F1], select **1:Delete**, then press [ENTER] to delete it.
	• A program named **testasm** may already be on the student's calculator. Delete the program and run TI TestGuard again.
	Buttons have been pressed on the student's calculator. Instruct the student not to press any buttons on the calculator and run TI TestGuard again.

Error Message	Description
| ```
**MEM ERROR**
1█Quit
``` | This error occurs when the teacher's TI-83 Plus does not have enough free RAM. It can occur during TI TestGuard set up or upon an attempt to run TI TestGuard to clear a calculator.

To correct the problem:

1. Quit TI TestGuard.

2. Delete or archive items from your calculator's memory until you have at least 1500 bytes free.

3. Start TI TestGuard and continue set up or clearing calculators. |
| ```
ERR:UNDEFINED
1█Quit
2:Goto
```

Student's TI-83 Plus | **Note:** This error only occurs on a student's TI-83 Plus if TI TestGuard's mode is **APPS**.

The student pressed ENTER after getting the Done message when TI TestGuard finished running. The calculator is designed to run the last program in memory when ENTER is pressed. However, the program that executes when TI TestGuard runs is no longer on the student's calculator.

To clear the error:

1. Select **1:Quit** to return to the TI TestGuard Calculator Clear screen.

2. Press any number, a series of numbers, or enter an equation.

3. Press ENTER. |

Error Message	Description
| ```
ERR:SYNTAX
1:Quit
2:Goto
```<br><br>Student's TI-83 | **Note:** This error only occurs on the student's TI-83 if the TI TestGuard mode is **APPS**.<br><br>The student pressed $\boxed{\text{ENTER}}$ after getting the **Done** message when TI TestGuard finished running. The calculator is designed to run the last program in memory when $\boxed{\text{ENTER}}$ is pressed. However, the program that executes when TI TestGuard runs is no longer on the student's calculator.<br><br>To clear the error:<br><br>1. Select **1:Quit** to return to the TI TestGuard Calculator Clear screen.<br><br>2. Press any number, a series of numbers, or enter an equation.<br><br>3. Press $\boxed{\text{ENTER}}$. |

Downloading Errors

Low Battery Condition

Do not attempt a Flash download if the low-battery message appears on the calculator. Low battery indication is shown on the initial screen. If you receive this error during an installation, change the batteries before trying again.

Archive Full

This error occurs when the TI-83 Plus does not have sufficient memory for the application. In order to make room for another application, you must delete an application and/or archived variables from the TI-83 Plus. Before deleting an application from the TI-83 Plus, you can back it up by using the **Link > Receive Flash Software...** menu in TI-GRAPH LINK™ for the TI-83 Plus. Once saved, you can reload it to the TI-83 Plus later using the **Link > Send Flash Software** menu in TI-GRAPH LINK.

Communication Error

This error indicates the Flash installer is unable to communicate with the TI-83 Plus. The problem is usually associated with the TI-GRAPH LINK™ cable and its connection to the TI-83 Plus and/or to the computer. Make sure the cable is firmly pushed in to the calculator and the computer.

If this does not correct the problem, try a different TI-GRAPH LINK cable and reboot your computer. If you continue to get this error, please contact TI-Cares™ Customer Support for assistance.

Validation Error

Either this calculator does not have a certificate to run the application, or electrical interference caused a link to fail. Try to install the application again. If you continue to receive this error, contact TI-Cares.

Checksum Error

The Flash™ installer was not able to verify that the application was fully installed. Exit the installer and try to install the application again. If this problem persists, contact TI-Cares.

Other Errors

See pages B-6 through B-10 in the TI-83 Plus guidebook (education.ti.com/guides) for information about the specific error or contact [TI-Cares™](TI-Cares).

Miscellaneous

Verify Maintenance Upgrade Version and Serial Number

1. Press [2nd] [MEM].

2. Select **1:ABOUT**.

The version number has the format x.yy. The serial number appears on the line beneath the product ID number.

Verify Flash Application Version

1. Press [APPS].

2. Select **TestGard**.

3. Select **4:About** to display the About screen

The version number appears on the About screen below the application name.

Check Amount of Flash Application Free Space

1. Press [2nd] [MEM].

2. Select **2:MEM MGMT/DEL...**

TI TestGuard™ requires at least 16,535 bytes of ARC FREE to load the application. For more information about memory and memory management, refer to the TI-83 Plus guidebook (education.ti.com/guides).

Texas Instruments (TI) Support and Service Information

For general information

E-mail: ti-cares@ti.com

Phone: 1-800-TI-CARES (1-800-842-2737)
For US, Canada, Mexico, Puerto Rico, and
Virgin Islands only

Home page: education.ti.com

For technical questions

Phone: 1-972-917-8324

For product (hardware) service

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All other customers: Refer to the leaflet enclosed with your product (hardware) or contact your local TI retailer/distributor.

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