Texas Instruments

English

TI-GRAPH LINK™ 2

FOR THE MACINTOSH®

CONDENSED GUIDEBOOK

Guidebook developed by:
Texas Instruments Instructional Communications

Note: This guidebook applies to the TI graphing calculators and accessories described on page 3. Graphic screens in this guidebook were captured from the TI-86 and TI-89. Screens from other products may be slightly different.

Table of Contents

Contents

Which Calculators are Compatible?

TI-GRAPH LINK 2 for Macintosh is compatible with all TI graphing calculators that have an input/output port, with the following exceptions. The TI-82 and TI-85 are not compatible.

When new graphing calculators with I/O ports are released by TI, the TI-GRAPH LINK software will be updated to support those calculators.

To see which calculators are compatible with your version of the TI-GRAPH LINK software, open the **Connection** menu. If your calculator is not listed in the menu, check the TI web site at:

http://www.ti.com/calc/docs/link.htm

for updated TI-GRAPH LINK software.

Support for CBR™ Accessory

You can also use TI-GRAPH LINK 2 to open a connection to the CBR™ (Computer-Based Ranger) accessory, available separately.

However, you cannot open a connection to the CBL™ (Computer-Based Laboratory) accessory.

System Requirements

The Macintosh used to run TI-GRAPH LINK 2 must meet the following hardware and software requirements.

- Macintosh Plus running System 7.1 or better.
- 4 MB of available RAM.

Note: You will not be able to drag items to or from the Finder or other applications on systems running any Macintosh operating system versions earlier than 7.5. However, **Add** and **Save Selection** commands in the **File** menu allow this functionality.

Connecting the TI-GRAPH LINK Cable

The TI-GRAPH LINK hardware connects to the Macintosh via the modem port or printer port of the computer, and to the input/output port of the calculator.

1. Connect one end of the 8-pin to 25-pin adapter cable to the Macintosh modem port or printer port on the rear of the unit.
2. Connect the gray TI-GRAPH LINK cable to the 25-pin end of the 8-pin to 25-pin adapter cable.
3. Insert the other end of the TI-GRAPH LINK cable into the port on the calculator.

Important: The TI-GRAPH LINK cable must be connected and the calculator turned on before getting screens, and sending and receiving files. Push in all connectors firmly.

Installing the TI-GRAPH LINK Software

If the software is on:	Then:
3½-inch diskette You may want to copy the diskette and use the copy.	1. Insert the diskette into the Macintosh. 2. Open the diskette and double-click the **Installer** icon.
CD-ROM	If your Macintosh is set for Autostart, the installation program starts when you insert the CD. Otherwise, open the CD and open the folder for TI-GRAPH LINK. Select the appropriate calculator and language, and then double-click the **Installer** icon.

Note: If you download TI-GRAPH LINK from the TI web site (page 3), see the web for installation instructions.

All necessary files are installed on your hard drive, including custom fonts used by the application.

Starting and Exiting TI-GRAPH LINK

On the Macintosh, open the TI-GRAPH LINK folder and double-click the icon for the application. The TI-GRAPH LINK menu bar is displayed.

To close TI-GRAPH LINK:

- Open the **File** menu, and then click **Quit**.
  – or –
- Press ⌘+**Q** on the Macintosh keyboard.

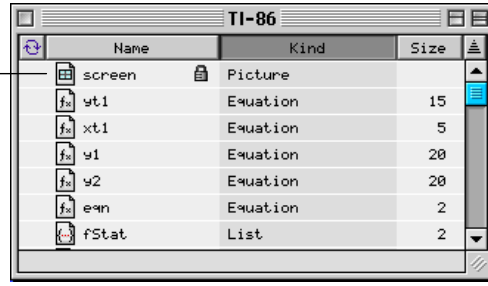
Opening a Connection to Your Calculator

By default, you must manually open a connection between the Macintosh and your calculator.

1. Make sure the TI-GRAPH LINK cable is connected to the calculator (page 4) and the calculator is turned on before starting TI-GRAPH LINK.
2. Start TI-GRAPH LINK.
3. Open the **Connection** menu, and select your calculator model (or the CBR™ accessory).
4. Select the port to which the TI-GRAPH LINK is connected, and click **Connect**.
   - If any errors occur, follow the instructions on the resulting screen.
   - If the connection is successful, a calculator window lists the objects on the calculator.

*Tip: To connect to a calculator automatically at startup and to use the **Quick-Connect** feature, see page 19.*

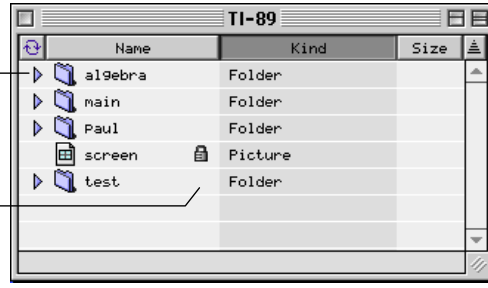
The **screen** object is used to get (capture) a calculator screen.



For calculators such as the TI-89 that use folders, the window shows the folders.

Click here to show or hide the contents of the folder.

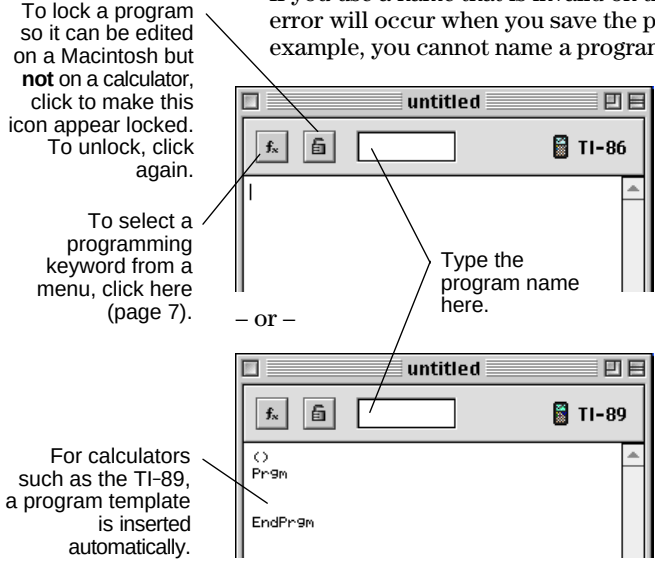
For calculators that let you archive a variable, is shown beside the archived variables.



Click **Name**, **Kind**, or **Size** to change how the objects are sorted.

Creating a New Program File

1. Open the **File** menu, and then click **New**. A New Window dialog box is displayed.
2. If necessary, click the triangle to the left of your calculator model to display a list of objects (Program, Group, etc.).
3. Select **Program**, and then click **OK**. A new Edit window is displayed.
4. In the box at the top of the window, type the program name as you want it listed on the calculator.
   - If you leave the name blank, a default name will be used.
   - If you use a name that is invalid on the calculator, an error will occur when you save the program. For example, you cannot name a program **cos**.



5. In the program edit window, type the program.

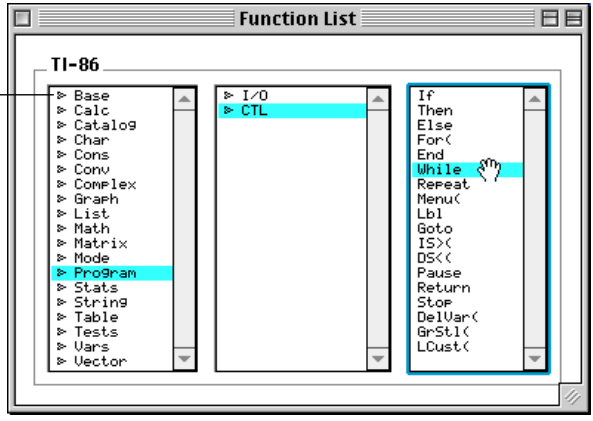
   For detailed information about creating and editing programs, see the guidebook for your calculator.

Selecting a Keyword from the Function List

To select a programming keyword from a menu:

1. In the Edit window, click the [*fx*] button to display the Function List window.
2. Click a category in the left pane. The items associated with the selection are listed in the center pane. If necessary, click an item in the center pane to display its associated items in the right pane.

If you click an item marked with a triangle, its associated items are listed in the next pane to the right.



3. Click on the desired item and drag it to the Edit window.

Getting a Calculator Screen

To get (capture) a screen:

1. Open a calculator connection (page 5).
2. On the calculator, display the screen that you want to capture.
3. On the Macintosh, select the calculator window and either:

Note: After you capture a screen, the **Get Screen** *menu item changes to* **Refresh**.

- Open the **Window** menu, and then click **Get Screen** (or press ⌘+**L**).
  – or –
- In the calculator window, double-click the **screen** object.

The screen is displayed in a picture viewing window. To capture a new screen, open the **Window** menu and click **Refresh** (⌘+**L**) or click the circular icon in the picture viewing window.

Printing a Captured Screen

To print a captured calculator screen to a printer connected to your Macintosh:

1. Get a calculator screen as described above.
2. Open the **File** menu, and then click **Print** to open the Print dialog box.
3. Click **Print**.

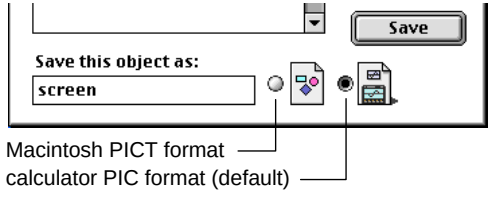
Saving a Screen as a File

To save a calculator screen on the Macintosh:

1. Get a calculator screen as described above.
2. Open the **File** menu, and then click **Save As**.

Tip: Drag the **screen** *object from the calculator window to the desktop to create a clipping file with a default name.*

3. Click the appropriate radio button to select the file format in which the screen will be saved.

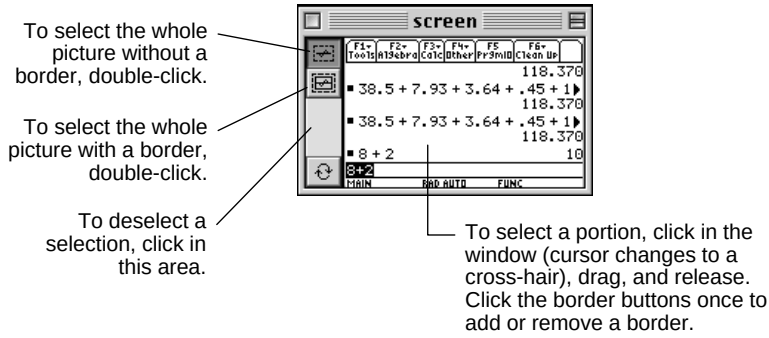


4. Enter a file name in place of the default name.
5. Select the folder in which to save the file, and then click **Save**.

Copying a Captured Screen

To copy and paste a captured screen:

1. Get a calculator screen as described on page 8.
2. Select the part of the picture that you want to copy.



You can also open the **Edit** menu and click **Select All** (or press ⌘+**A**) to select the whole picture. Click the border buttons once to add or remove a border.

3. Copy the selection to the clipboard and paste it to an application, drag it to an application that supports Macintosh Drag-and-Drop, or drag it to the desktop.

Setting the Screen Size (Resolution) for Printing

Many desktop publishing and graphic applications use resolution (dots per inch, dpi) to determine the printed size of a captured screen. To set the resolution, see page 20.

Why Use a Group Window?

By creating a group window on the Macintosh, you can store multiple calculator objects in one convenient location. The group window is saved as a file on the Macintosh, but you can open it and view or manipulate the objects within it the same as you would a folder. You can create one or more group windows as necessary.

Creating a Group Window

From TI-GRAPH LINK:

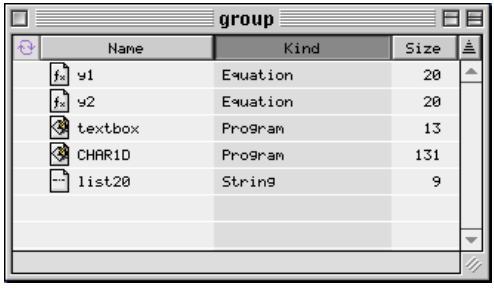
1. Open the **File** menu and click **New**.
2. In the New Window, if necessary, click the triangle to the left of your calculator model to display a list of objects (Program, Group, etc.).
3. Select **Group** from the list, and then click **OK**. An untitled group window appears.

Note: *You cannot save an empty group window.*

4. Place the desired objects into the group window.
   - Drag objects from a calculator window to the group window, or from one group window to another. You can also copy and paste objects.
   - To remove an object from the group, highlight the object and then press the **Delete** key or drag the object to the Trash icon. To restore objects from the trash, drag them back to the group window.
5. Select the group window. To save it as a file on the Macintosh, open the **File** menu and click **Save** or **Close** (or click the window's close box).

Tip: *Click* **Name**, **Kind**, *or* **Size** *to change how the objects are sorted.*

Note: *To open, edit, or print an object saved in a group window,* *see page 14.*



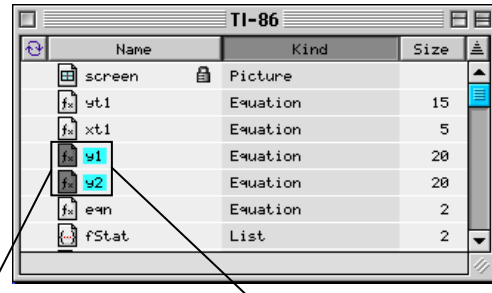
Copying Objects from the Calculator to the Macintosh

Procedure

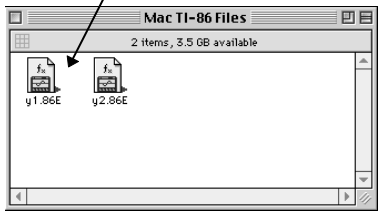
1. Open a calculator connection (page 5).
2. In the calculator window, select one or more objects.
   - If your calculator uses folders (page 5), open the applicable folders as necessary.
   - Use the **Name**, **Kind**, and **Size** buttons to control the order in which objects are sorted.
3. Drag the selected objects to the desktop, any folder on the desktop, or an open group window (page 10) or previously saved group window file.

Tip: *To select multiple objects, use ⌘+click for separated objects or* **Shift***+click for contiguous objects.*

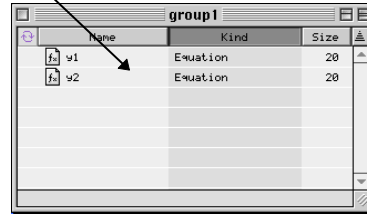
Important: *To stop a transfer, click* **Cancel** *on the Macintosh dialog box. Do NOT press the calculator's* **ON** *button.*



drag and drop **y1** and **y2**



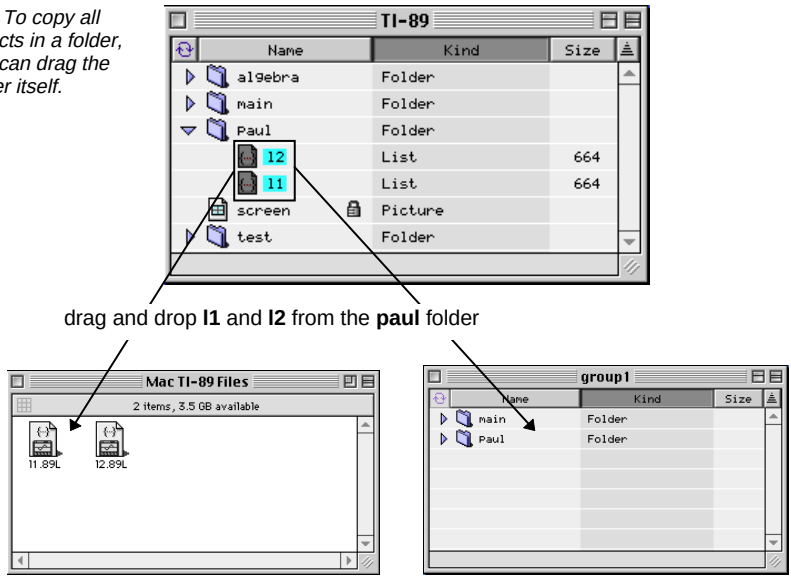
When dropped on the desktop or a folder on the Macintosh, **y1** and **y2** are copied as separate files, with file name extensions that indicate the calculator model and data type.



When dropped on a group window on the Macintosh, **y1** and **y2** are copied to the group.

For calculators that use folders, open the applicable folder to select objects within it. For example:

Tip: *To copy all objects in a folder, you can drag the folder itself.*



When dropped on the desktop or a folder on the Macintosh, **I1** and **I2** are copied as separate files, with appropriate file name extensions.

When dropped on a group window on the Macintosh, the **paul** folder is created automatically and **I1** and **I2** are copied into it.

If You Cannot Drag and Drop

Dragging and dropping files is not supported in Macintosh operating system versions prior to 7.5. Instead, you can:

1. Select one or more objects in the calculator window.
2. Open the **File** menu and click **Save Selection**.
3. Select a location on the Macintosh.
4. Click **Save**.

When at least two objects are selected, they are placed in a group window file on the Macintosh. To see the contents of a group window file, double-click it.

Sending Objects from the Macintosh to the Calculator

Procedure

To send objects from a Macintosh to a calculator:

1. Open a calculator connection (page 5).
2. Select the objects to send.

__Note__: When you send new objects to a calculator that uses folders, the objects are placed in the main folder.

   - To send all objects in a group window, select the group window file itself or open the group window and select all of the objects. You can also select multiple group window files.
   - To send one or more particular objects, select only those objects.

__Important:__ To stop a transfer, click **Cancel** *in the Macintosh dialog box. Do NOT press the calculator's* **ON** *button.*

3. Drag the selected objects and/or files to the calculator window.

If an object from the Macintosh has the same name as an existing object on the calculator, a dialog box prompts you to:

- Click **Replace All** to replace all the files with conflicting names.
- Click **Skip** to skip the current file that has a conflicting name and continue sending any other files. (If there are more files with conflicting names, you can view and skip them one at a time.)
- Click **Cancel** to cancel the sending operation.
- Click **OK** to replace the file displayed in the dialog box. (If there are no other files with conflicting names, all the files will be sent automatically. If there are other files with conflicting names, you can view and replace them one at a time.)

If You Cannot Drag and Drop

Dragging and dropping files is not supported in Macintosh operating system versions prior to 7.5. Instead, you can:

1. Make the calculator the active window.
2. Open the **File** menu, and then click **Add**.
3. Select the calculator objects that you want to send from the Macintosh, and click **Open**.

Opening and Editing a Calculator Object

To open a calculator object that is saved on the Macintosh:

1. Open the calculator window or the folder that contains the calculator object.
2. Double-click the object to open an Edit window.
3. If the object contains text (such as in a program, list, etc.), you can edit the contents.

If you edit the file, it is saved back to its source when you close the Edit window. You are prompted to replace (overwrite), rename, or cancel without saving the file.

You can also save the file by opening the **File** menu and selecting **Save** or **Save As**.

Printing Calculator Objects

To print the contents of an object displayed in an Edit window, open the **File** menu and click **Print**. In the resulting Print dialog box, click **Print**.

Editing an Object Directly on the Calculator

Procedure

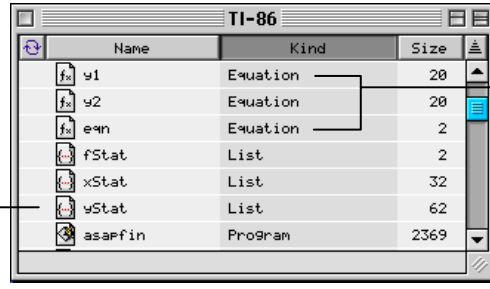
You can use Macintosh to edit an object directly on the calculator, without copying it to the Macintosh.

You can edit objects such as programs, lists, and matrices, but not objects such as equations, GDBs, and Window ranges.

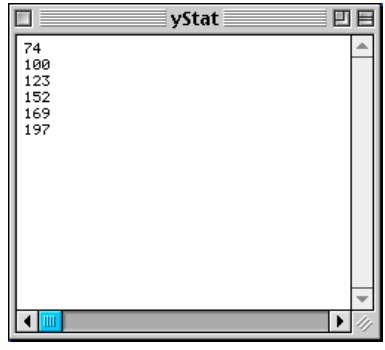
1. Open a calculator connection (page 5).

Note: If your calculator uses folders, see page 5.

Tip: To change how objects are sorted, click **Name**, **Kind**, *or* **Size**.



2. In the calculator window, double-click the object name to open an Edit window. For example:



3. When you are done, open the **File** menu and click **Save** or **Close** (or click the close box) to save the object back to the calculator.

TI-GRAPH LINK allows you to transfer lab reports from the calculator to the Macintosh and then view, edit, and print them. Before you start the following procedures, make sure you have your lab report (a **Text** variable) with all the **Print** objects, if any, saved on your calculator.

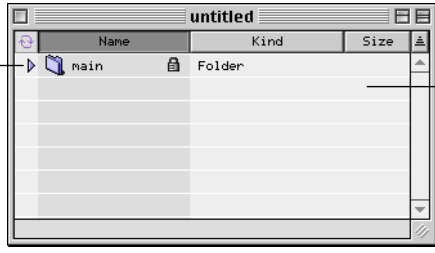
For instructions creating a lab report and inserting **Print** objects, see the calculator guidebook.

Transferring a Lab Report from the Calculator to the Macintosh

To transfer a lab report from the calculator to the Macintosh:

1. Open a calculator connection (page 5).
2. With the calculator window active, open the **File** menu, then select **New**.
3. Select the calculator (the default calculator is selected automatically) and double-click **Report**.

***Note**: To view the contents of a folder, click the triangle symbol to the left of the folder.*

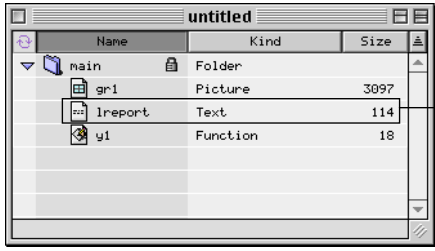


You will see a new Report window that looks similar to the calculator window.

***Note**: To see what* **Print** *objects your report contains, double-click the* **Text** *variable.*

4. With both the calculator and the Report windows open, drag the report, which is a **Text** variable, from the calculator window to the **main** folder in the Report window.
5. Drag all the **Print** objects referred to in the report (the **Text** variable), if any, from the calculator window to the **main** folder in the Report window.

***Important**: When you work with multiple windows click on the window you want to switch to.*



6. Click the Report window to make it active.
7. Open the **File** menu and click **Save**, or **Save As**. Then specify the location on the Macintosh where you want to save the transferred report, and click **Save**.

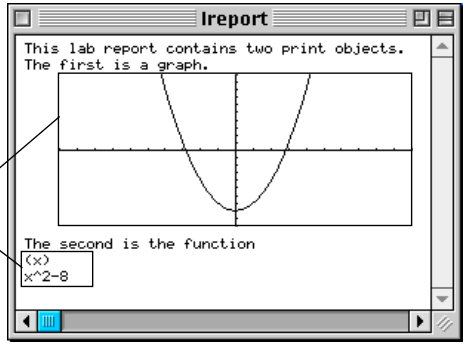
Viewing the Lab Report

To view the transferred lab report:

1. Locate the Report file and make it active.
   - If you have been working with the Report window, skip this step.
   - Otherwise, find the Report file in the location where you saved it, and then open it.
2. Double-click the **Text** object in the Report window. A View window appears.

***Note**: The report with the **Print** objects in it can only be viewed in the View window.*

***Tip**: As necessary, use the scroll bars or resize the window to view the entire lab report.*

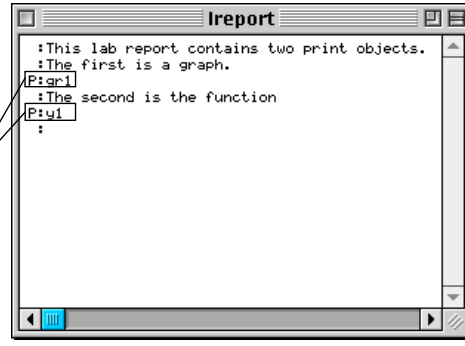


Editing the Lab Report

To edit the lab report:

1. Close the View window. (The View window displays the report with all the **Print** objects in it; the Report window lists the **Text** variable and the **Print** objects, like a directory.)
2. Drag the **Text** variable from the Report window to the desktop, and double-click the resulting icon to open an Edit window.

***Tip**: As necessary, use the scroll bars or resize the window to view the entire lab report.*



***Note**: The* **Text** *variable can only be edited in the Edit window or on the calculator.*

3. Make the changes.
4. Open the **File** menu, click **Save**, and close the Edit window.
5. Drag the icon back to the Report window and replace the old **Text** variable with the new one.
6. If you want to view the edited report, double-click the **Text** variable in the Report window.

Printing the Lab Report

To print the lab report from the Macintosh:

1. Open a View window for the report you want to print (page 17).
2. Open the **File** menu and click **Print**.
3. Select your printer and click **Print**.

If you want to print headers on your lab report, see page 20.

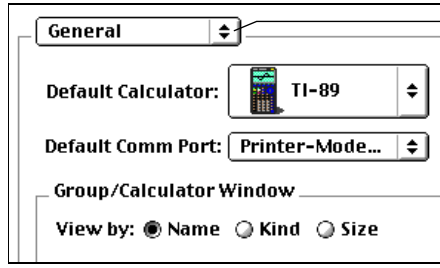
Setting Preferences

Using the **Preferences** feature, you can select settings for your TI-GRAPH LINK environment.

Selecting the Default Calculator and the Default Communication Port

To select the default calculator and the default communication port:

1. Open the **Edit** menu and click **Preferences**.
2. From the drop-down list, select **General**.



3. In the **Default Calculator** line, select the model that you want to set as the default.
4. In the **Default Comm Port** line, select the port that you want to set as the default.
5. Click **OK**.

Connecting Automatically at Startup

To set TI-GRAPH LINK so that a calculator connection opens automatically when you start TI-GRAPH LINK:

1. Open the **Edit** menu and click **Preferences**.
2. From the drop-down list, select **Startup**.
3. Select **Open Connection to Default Calculator** and click **OK**.

If the default selections do not match the connected calculator or the communication port you are using, a **Connection Failure** error will occur at startup.

Note: *To open a calculator connection at any time (using the default calculator and the default communicaiton port), use the Quick-Connect feature. Press* ⌘**+K**.

Setting Print Headers Preference

You can set a default that will print headers on lab reports and other documents that you print from your Macintosh using TI-GRAPH LINK.

To set **Print Headers** preference:

1. Open the **Edit** menu, then select **Preferences**.
2. From the drop-down list, select **Printing Extras**, click **Print Page Headers**, and click **OK**.

Setting the Sorting Preference

To set the sorting (**View by**) preference:

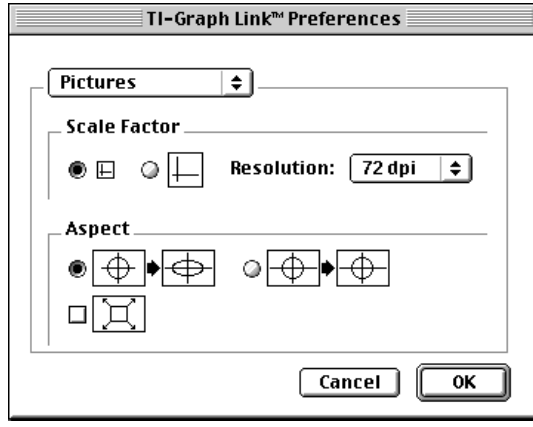
1. Open the **Edit** menu and click **Preferences**.
2. In the **View by** line, select **Name**, **Kind**, or **Size**, and click **OK**.

Setting the Resolution of a Captured Screen

Resolution does not affect how a screen is displayed in TI-GRAPH LINK. However, many desktop publishing and graphic applications use resolution (dots per inch, dpi) to set the size of the screen when printed.

Before capturing a screen, open the **Edit** menu, click **Preferences**, select **Pictures** from the drop-down list, and then select the resolution.

***For example**: If a captured screen is 72 pixels tall, a resolution of 72 dpi makes the picture 1 inch tall. A resolution of 144 dpi makes the same screen 1/2 inch tall.*



Backing Up a Calculator

To back up a calculator's contents:

1. Open a calculator connection (page 5).
2. Create a group window on the Macintosh (page 10).
3. In the calculator window, select the objects (and/or folders) that you want to backup.
4. Drag the objects to the group window (page 11).

Tip: Open the **Edit** *menu and click* **Select All** *for a complete backup.*

By using a group window file, the backed up objects are stored in one convenient location.

Reloading a Backup

To reload a group window file that contains backed up objects, see page 13.

Support and Service Information

Product Support

Customers in the U.S., Canada, Puerto Rico, and the Virgin Islands

For general questions, contact Texas Instruments Customer Support:

phone: **1-800-TI-CARES (1-800-842-2737)**

e-mail: **ti-cares@ti.com**

For technical questions, call the Programming Assistance Group of Customer Support:

phone: **1-972-917-8324**

Customers outside the U.S., Canada, Puerto Rico, and the Virgin Islands

Contact TI by e-mail or visit the TI calculator home page on the World Wide Web.

e-mail: **ti-cares@ti.com**

internet: **www.ti.com/calc**

Product Service

Customers in the U.S. and Canada Only

Always contact Texas Instruments Customer Support before returning a product for service.

Customers outside the U.S. and Canada

Refer to the leaflet enclosed with this product or contact your local Texas Instruments retailer/distributor.

Other TI Products and Services

Visit the TI calculator home page on the World Wide Web.

www.ti.com/calc

Warranty Information

Customers in the U.S. and Canada Only

One-Year Limited Warranty for Commercial Electronic Product

This Texas Instruments electronic product warranty extends only to the original purchaser and user of the product.

Warranty Duration. This Texas Instruments electronic product is warranted to the original purchaser for a period of one (1) year from the original purchase date.

Warranty Coverage. This Texas Instruments electronic product is warranted against defective materials and construction. **THIS WARRANTY IS VOID IF THE PRODUCT HAS BEEN DAMAGED BY ACCIDENT OR UNREASONABLE USE, NEGLECT, IMPROPER SERVICE, OR OTHER CAUSES NOT ARISING OUT OF DEFECTS IN MATERIALS OR CONSTRUCTION.**

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

Warranty Performance. During the above one (1) year warranty period, your defective product will be either repaired or replaced with a reconditioned model of an equivalent quality (at TI's option) when the product is returned, postage prepaid, to Texas Instruments Service Facility. The warranty of the repaired or replacement unit will continue for the warranty of the original unit or six (6) months, whichever is longer. Other than the postage requirement, no charge will be made for such repair and/or replacement. TI strongly recommends that you insure the product for value prior to mailing.

All Customers outside the U.S. and Canada

For information about the length and terms of the warranty, refer to your package and/or to the warranty statement enclosed with this product, or contact your local Texas Instruments retailer/distributor.