Chapter 1

Entering commands

There are a number of ways you can enter a command:

- by pressing the key or keys for the command
- by selecting the command from a subject-specific menu
- by selecting the command from the command catalog
- by typing the command on the command line.

Keyboard entry

The most commonly needed commands can be entered directly from the keyboard by pressing one or two keys. For example, to enter the SIN command, press the (SIN) key; to enter the LOG command, press (◁)(log). See chapter 1 of the *User's Guide* for an explanation of each key on the HP 49G keyboard.

Subject-specific menus

The HP 49G provides a number of menus that list just those commands relevant to a specific topic.

For example, all the programming commands are collected together on the programming menu. You access this menu by pressing (◁)(PRG).

Other subject-specific menus include a:

- math menu ((◁) (MTH))
- symbolic solve menu ((◁) (S.SLV))
- exponential and logarithm menu ((◁) (EXP&LN))
- trigonometry menu ((▷) (TRIG))
- calculus menu ((◁) (CALC))
- algebra menu ((▷) (ALG))
- matrices menu ((◁) (MATRICES))
- statistics menu ((▷) (STAT))
- convert menu ((◁) (CONVERT))

- units menu ($\hookrightarrow$ UNITS)
- arithmetic menu ($\hookleftarrow$ ARITH)
- complex number menu ($\hookrightarrow$ CMPLX)
- base menu ($\hookrightarrow$ BASE).

These subject-specific menus have keys allocated to them on the keyboard.

There are many other subject-specific menus. For example, the math menu and the various Computer Algebra System sub-menus can be selected from the Applications menu:

1. Press APPS.

   The Applications menu is displayed.

2. Press ▲.

   The last page of the Applications menu is displayed.

3. Highlight the menu you want—MATH or CAS—and press OK or ENTER.

   Both menus are made up of several sub-menus, each listing the commands of relevance to a particular area of mathematics.

The symbolic menu (displayed by pressing SYMB) provides a series of sub-menus each listing the more commonly used commands of relevance to a particular area of mathematics: algebra, arithmetic, calculus and so on.

Sub-menus

Some entries on a subject-specific menu are shortcuts to sub-menus. For example, pressing $\hookleftarrow$ MTH displays the MATH menu. The first item on the MATH menu is VECTOR. The two periods after the word "VECTOR" indicates that there is a further menu. This

further menu lists commands of relevance to vector mathematics (such as ABS, DOT, CROSS, etc).

Entering a command from a sub-menu

1. With the main menu displayed, highlight the name of the sub-menu.

   You can do this by:

   - pressing ▼ until the sub-menu name is highlighted or
   - pressing the number key that corresponds to the number of the sub-menu. For example, to highlight the REAL sub-menu in the above example you could press 5.)

2. Press OK or (ENTER).

   The sub-menu is displayed.

3. Highlight the name of the command you want to enter.

   You can do this by:

   - pressing ▼ until the command name is highlighted or
   - pressing the number key that corresponds to the number of the command.

4. Press OK or (ENTER).

If you are working in algebraic mode, the command you selected appears on the command line ready for you to specify arguments.

If you are working in RPN mode, the result of the command appears on the stack.

Entering a command from a function key menu

A subject-specific menu can take the form of a choose list (as described in the previous section) or a function key menu. A function key menu is one that appears across the bottom of the screen, with items chosen from the menu by pressing the corresponding function key: (F1) to (F6).) This is explained in chapter 2 of the *User's Guide*.

Command catalog

The HP 49G provides a single choose list that contains all its commands. This is called the *command catalog*.

Displaying the command catalog

1. Press CAT.

   A choose list is displayed. This is the command catalog.

2. Locate the command that you want to enter. (See the next section.)

3. Press OK or ENTER.

   If you are working in algebraic mode, the command you selected appears on the command line ready for you to specify arguments.

   If you are working in RPN mode, the result of the command appears on the stack.

Locating a command in the command catalog

There are two ways to locate a command in the command catalog:

- by scrolling
- by searching on the first character or first few characters of the command.

Scrolling through the catalog

To scroll through the command catalog, press the ▼ or ▲ keys. Keep doing so until the command you want is highlighted.

You can use the shift keys in conjunction with the arrow keys to scroll more quickly through the catalog. For example:

▷▼ displays the last command in the catalog

▷▲ displays the first command

▷▼ displays the next page of commands

▷▲ displays the previous page of commands.

The number of commands displayed per page is determined by flag –90. When set—which is the default—the commands are displayed in the mini-font. This gives you six commands per page. If flag –90 is cleared, the

commands are displayed in your currently selected system font. If, for example, you have chosen System 8 as your current system font, you will see only four commands per page.

Searching for a command in the command catalog

The majority of commands can be selected from the command catalog by searching on the first character of the command's name.

1. Press the keys for the first character—or first few characters—of the command's name.

   For example, to find the HALFTAN command, type ⟮ALPHA⟯ H or ⟮ALPHA⟯⟮ALPHA⟯ HA.

   The first command with a name starting with the letter or letters you typed will be highlighted.

2. If the command you want is not highlighted, press ⟮▼⟯ until the command is highlighted.

Note that the first character of a command's name may be:

- an upper-case character (for example, SIN)
- a lower-case character (for example, rref), or
- a symbol (for example →TAG).

The type of the first character determines the best way to search for the command.

Upper case: if the command you want to find begins with an upper-case letter, you must press ⟮ALPHA⟯ before pressing the key for that letter. If you intend to search by typing the first few characters of the command name, you will need either to:

- hold the ⟮ALPHA⟯ key down while you key all the characters, or
- lock the alpha keyboard before you type the characters.

Lower case: if the command you want to find begins with a lower-case letter, you must press ⟮ALPHA⟯⟮◁⟯ before pressing the key for that letter. For example, pressing ⟮ALPHA⟯⟮◁⟯ R displays the rpm command.

Non-alphabetic characters: if the command you want to find begins with a non-alphabetic character, press the keys for that character. For example, to search for →TAG, type ⟮▷⟯⟮▷⟯. The first command with a name that starts with → is displayed. (In this example, you need to press ⟮▼⟯ until →TAG is highlighted.)

While the alpha keyboard is active, you can also search for a command that begins with a special character by typing that character and then one or more of the next alphabetical characters.

The keystrokes for non-alphabetic characters can be found in the Characters catalog. For example, the keystrokes for Σ are ⊡ and S. Therefore, to search for the Σ+ command in the command catalog, you display the catalog and press ⊡ S.

The Characters catalog—accessed by pressing ⊡ CHARS—is explained in chapter 2 of the *User's Guide*.

Note that you can import additional commands from third-party command libraries. When a library is attached, the commands in the library will appear in the command catalog. If any such command begins with a character that is not available directly from the HP 49G keyboard, you will not be able to search for the command.

Typing commands

In addition to selecting a command from the command catalog or from a menu, you can also enter a command by typing its name on the command line.

For example, to factorize an expression while in algebraic mode, you could:

1. type ⟨ALPHA⟩⟨ALPHA⟩FACTOR⊡⟨()⟩
2. enter the expression
3. press ⟨ENTER⟩.

To factorize an expression while in RPN mode, you could:

1. enter the expression onto level 1 of the stack
2. type ⟨ALPHA⟩⟨ALPHA⟩FACTOR
3. press ⟨ENTER⟩.

Every command found in the command catalog can be entered directly from the keyboard.

Some command names contain special characters (for example, → and Σ). The Characters catalog—accessed by pressing ⊡ CHARS and explained in chapter 2 of the *User's Guide*—shows the keystrokes needed to enter special characters.