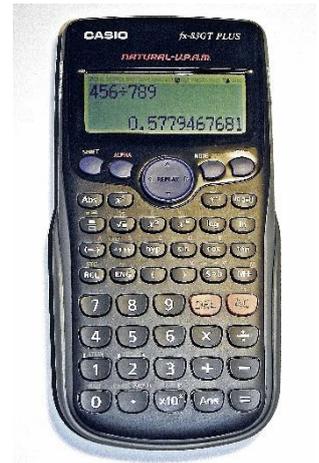


Using the Casio fx-83 Calculator

The Casio fx-83 calculator is currently widely available and is highly recommended for use by engineering students at Levels 2 and 3. The calculator has over 250 functions and it incorporates a 'natural display' that supports input and output using mathematical notation, such as fractions, roots, etc.



INITIALISING THE CALCULATOR

The keystrokes shown in Figure 1 can be used to return the calculator's settings and modes to their initial (default) values. Note that this operation will also clear any data from the calculator's memory. The fx-83's Clear menu is shown in Figure 2.

SETTING THE CALCULATOR MODE

The fx-83 provides three different calculation modes; **COMP** is used for general calculations, **STAT** is used for statistical calculations, and **TABLE** is used to generate a table of values based on a given expression. For Level 2, you will only need to use the **COMP** mode. The Mode menu is shown in Figure 3 and the keystrokes required to set the calculator to the **COMP** mode are shown in Figure 4.

SHIFT **9** (Clear) **3** (All) **=** (Yes) **AC** (Reset all)

FIGURE 1 Key entry required to initialize the calculator

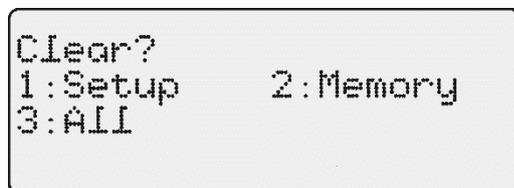


FIGURE 2 The fx-83's Clear menu will allow you to reset and initialize the calculator

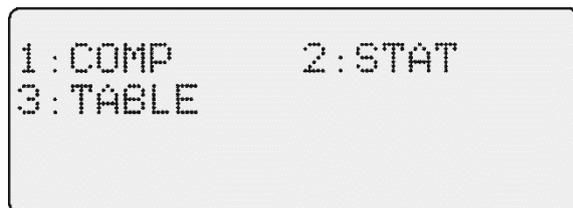


FIGURE 3 The fx-83's Mode menu will allow you to change the calculator's mode



FIGURE 4 Key entry for setting the calculator to COMP mode

Note: When you first power up the fx-83 calculator it will be in 'MathIO' mode. This may be awkward for use with many basic engineering calculations. To change the mode to the more conventional 'LineIO' mode, you need to press the **SHIFT** button followed by **MODE** and **2**.

TABLE 1 The display symbols used on the fx-83

Display	Meaning
S	The keypad has been shifted by pressing the SHIFT key. The keypad will unshift and this indicator will disappear when you press a key
A	The alpha input mode has been entered by pressing the ALPHA key. The alpha input mode will be cancelled, and this indicator will disappear when you press a key
M	This indicates that a value has been stored in the calculator's memory
STO	The calculator is waiting for the input of a variable name. The calculator will then assign a value to this variable. The indication appears after you press SHIFT RCL STO
RCL	The calculator is waiting for the input of a variable name. The calculator will then recall the value of this variable. The indication appears after you press RCL
STAT	The calculator is in the statistical mode
D	The default unit for angles is degrees
R	The default unit for angles is radians
G	The default unit for angles is grads
FIX	The calculator has been set to display a fixed number of decimal places
SCI	The calculator has been set to display several significant digits
Math	The calculator has been set to the maths input/output mode
▼▲	Calculation history is available and can be replayed (or there is more data above or below the display)
Disp	The display currently shows an intermediate result of a multi-statement calculation

CONFIGURING THE CALCULATOR SETUP

The fx-83 Setup menu allows you to control the way in which calculations are performed as well as the way that expressions are entered and displayed. The menu will let you work with a fixed number of decimal places (FIX), or with a fixed number of significant digits (SCI). You can also choose to use mathematical notation (MthIO) or conventional (line-based) notation (LineIO). The Setup menu is shown in Figure 5 whilst the keystrokes required to set the calculator to LineIO mode are shown in Figure 6.

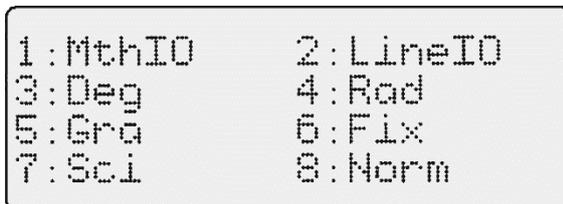


FIGURE 5 The Setup menu



FIGURE 6 The fx-83's Mode menu will allow you to change the calculator's mode. Here we are changing to LineIO mode.

For further information please see www.key2study.com