

System Monitor

The system monitor is one of the most valuable parts of the TI-83 Plus OS. When you call the **Mon** entry point the system monitor is put in control. It then handles the task of reading keys and displaying menus and just calls the application, via the monitor vectors, when necessary. If this level of integration with the system monitor isn't required, the monitor can still be used to provide Put Away notification for applications using the GetKey entry point.

There are six system monitor vectors: **cxMain**, **cxRedisp**, **cxPutAway**, **cxPPutAway**, **cxSizeWind**, and **cxErrorEP**. To set the monitor vectors, use the **Applnit** entry point. To reset the vectors to their default values (you should do this before exiting the app), use the **ReloadAppEntryVecs**. The system vectors will only be called when Mon is running, except for PutAway, which will be called during GetKey if the user presses 2nd+Off, or silent link activity terminates the application.

cxMain

This is the keypress vector. It will be called by Mon when a key is pressed. Keys that trigger menus, or the catalog, will not be passed to the application. Instead, Mon will open the appropriate menu, and when the user selects an item from the menu, the key value for that menu item will be sent to cxMain. The key presses are sent in register A, with the 2nd byte value in (keyExtend) if necessary.

It is the application's responsibility to handle anything related to the key presses. This includes displaying them, storing them in an appropriate buffer, etc.

cxRedisp

This routine is called when the application needs to restore the display because Mon overwrote it. The most common example is a menu. When the user presses a button that triggers a menu, the previous data on the screen is overwritten. When the menu is closed, the previous screen must be restored; this is the job of cxRedisp.

Mon does not pass any values to cxRedisp, it just assumes it will restore the screen. Generally this consists of redisplaying the data in the textShadow buffer. Additionally, depending on the specific application, soft-key menus and/or other text may have to be redrawn.

cxPutAway

This is used when the application needs to abort. It's called when the user presses 2nd+Off, the calculator terminates due to silent link activity, or the Quit option is chosen from an error prompt. In addition to its use with Mon, cxPutAway can also be used to trap quits from the GetKey entry point. Check the `monAbandon, (IY + monFlags)` flag to see if calculator is being turned off. If it is, you should quit with PutAway (which needs to be reset by ReloadAppEntryVecs first) instead of JforceCmdNoChar.

The cxPutAway routine is a good time to clean up things before the OS regains control of the calculator. This includes resetting the system monitor vectors, closing an edit buffer, deallocating memory, clearing flags, etc.

cxPPutAway

Partial Put Away. More info later.

cxSizeWind

Window Resize. For example, when you press press Rcl, and the bottom line of the LCD is used. More info later.

cxErrorEP

Used for Error:Goto. More info later.