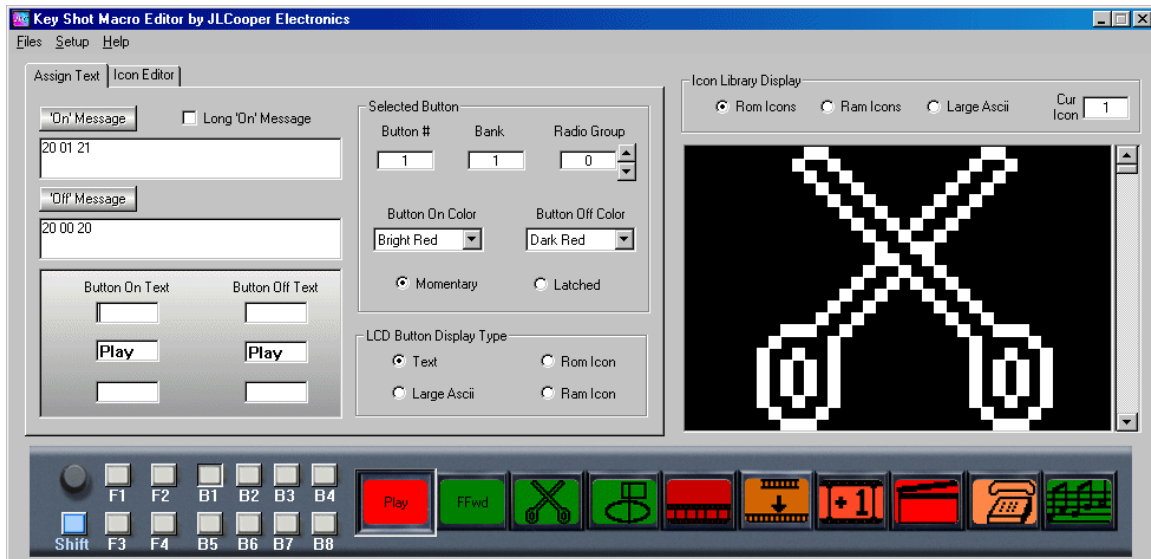# JL Cooper Electronics Keyshot Macro Editor

The *Keyshot Macro Editor* supports the *Keyshot* and *Rackshot* control panels from JLCooper Electronics. The editor allows the user to modify the look of the LCD buttons and the messages that are sent by the controller for all buttons. It also has a built in icon editor so that users can create their own icons.

The Control Panel

The control panel consists of 10 LCD buttons that are shared by 8 banks for a total of 80 unique LCD configurations. There are also 4 "F" keys (F1 - F4) that have both an unshifted and shifted state for a total of 8 "F" keys. The knob in the upper left hand corner acts as three buttons; rotate left, rotate right and push. Therefore there are a total of 91 possible unique buttons.

Button Capabilities

The LCD Buttons, "F" buttons and the knob can all be programmed to send a message from the Keyshot to whatever device it is connected to. These messages can be VTR control codes, VDCP control codes or any type of message the receiving device can accept and understand.

Buttons can be programmed to be **Momentary**, meaning that when you press the button, it sends the "on" message and when you release it, it sends the "off" message and goes back to the "off" state. Buttons that are programmed to be **Latched** send the "on" message and stay in the "on" state until you press the button again, at which time it will

send the "off" message and return to the "off" state.

LCD buttons can be assigned to **Radio** groups. When a button that is in a **Radio** group is press, it's "on" message is sent to the controlled device, followed by all of the "off" messages from the *other* buttons in the group. Note that the "F" buttons and knob cannot be assigned to radio groups.

"On" and "Off" messages can be up to 30 characters long, but if a particularly long message is needed, you can forego the "off" message and create a 60 character "on" message. In addition the Keyshot Macro Editor can add a Sony or Louth checksum to the end of messages.

Setting LCD button Look and Behavior

The LCD buttons can also be programmed in the following ways:
1. Three lines of text with 6 characters per line.
2. One large Ascii character.
3. One of 40 built in Rom (read only memory) icons
4. One of 64 Ram (random access memory) icons. The Ram icons can be designed by the user.

In addition the colors of the LCD buttons can be selected from the following:
1. Dark Green
2. Bright Green
3. Dark Red
4. Bright Red
5. Dark Orange
6. Bright Orange
7. Red Orange
8. Off

You can select a different color for the "On" and "Off" states.

Programming Buttons On and Off Messages

With the mouse click on the "On" or "Off" message text box or the 'On' Message or 'Off' Message buttons.   A dialogue will be displayed:

You can enter text in decimal numbers, hex numbers or alpha numeric. The actual messages (bytes) sent to the controlled device are the same no matter what format you select. All messages are in byte format, so if you are typing decimal numbers, each byte packet can be from 0 to 255. In hex format the byte packets range from 0 to ff. In Alpha mode every character you type is it's own byte. Use the backspace, left arrow key or erase key on the PC keyboard to erase bytes you've mistakenly typed. To force a new byte in Decimal or Hex mode, use the right arrow key. This is especially important in decimal mode since to type 12 12 12 you will need to "tell" the program where the new byte begins. If you don't then the above sequence will come out as 121 212 and the receiving device will not interpret the bytes correctly.
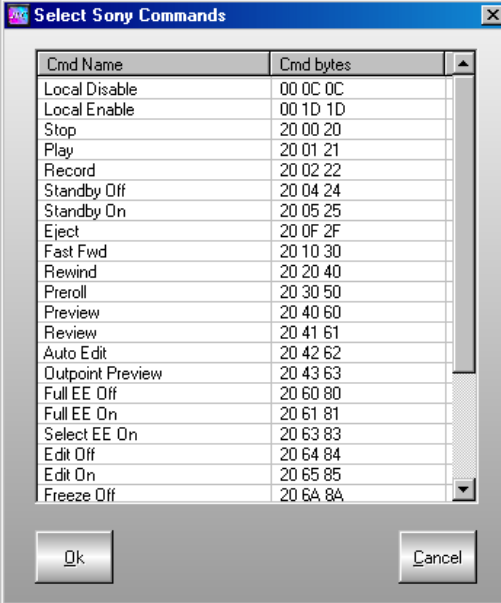
Select what type of checksum you would like appended to the message. Note that you will not see the checksum, but will be added to the button definition when the Keyshot is updated.

If you checked **Long 'On' Message** then you will only see one text box. Note that if the "On" message is not greater then 30 characters, then the next time that key is selected, it will display it as a short "On" message.
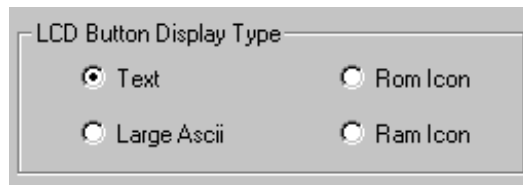
If you **Right Mouse Button** click on either the '**On**' or '**Off**' message buttons the **Select Sony Comands** form will be displayed. To assign a preset Sony® command, simply click on the command and then click on "Ok". The command with it's checksum will be assigned to the button '**On**' or '**Off**' message.

Programming LCD Button Display
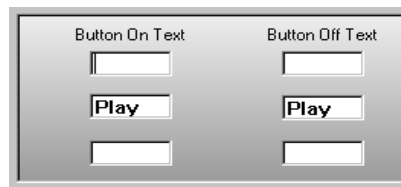
To change the type of LCD button display, simply click on the appropriate radio button. Be aware that changing types will probably put the button in an odd state, since the first character of the button text can mean different things in different display styles.
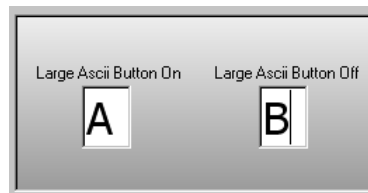
Text display mode will show the following:

With the mouse, click on the first field to fill in and type the characters for each line. Press the Tab key on your keyboard to move from field to field.

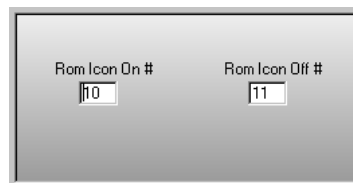The **Large Ascii** display replaces the above display with:

Again, just type in the "On" and "Off" characters you wish to use. If there is already a character there, you will have to select it with the mouse to replace it.
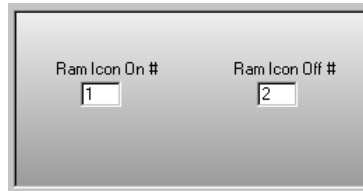
Click on the **Rom Icon** radio button to select **Rom Icon** display.

The **Rom Icon** fields will be displayed. Type the numbers of the Rom Icons that you would like to see for the button on and off positions.

Click on the **Ram Icon** radio button to select **Ram Icon** display.

The **Ram Icon** fields will be displayed. Type the numbers of the Ram Icons that you would like to see for the button on and off positions.
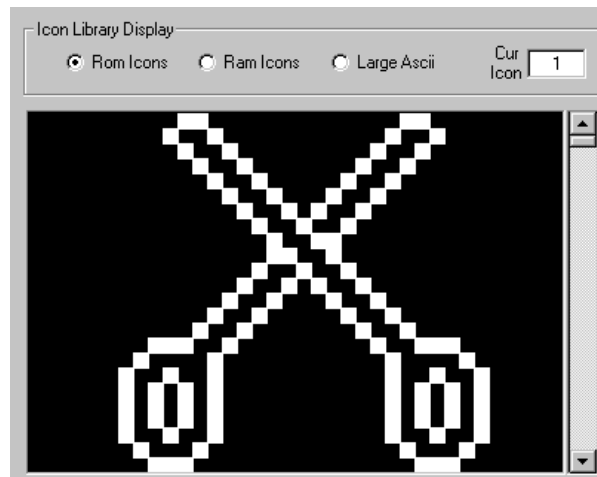
The Icon Library

The **Icon Library** is located on the right side of the interface:

You can display **Rom Icons**, **Ram Icons** and **Large Ascii** characters. The **Cur Icon** number on the far right is the currently display icon of the selected type. Use this number when assigning a Rom or Ram icon to LCD buttons. The number associated with the **Large Ascii** icons is just there for your convenience. When assigning **Large Ascii** icons to LCD buttons, just type the character in text box. You can inspect the libraries by typing a number into the **Cur Icon** text box, using the mouse on the vertical scroll bar to the right of the icon display or use the up and down arrows to scroll through the list.

Creating and Editing Ram Icons

To use the **Icon Editor** click on the **Icon Editor** tab.
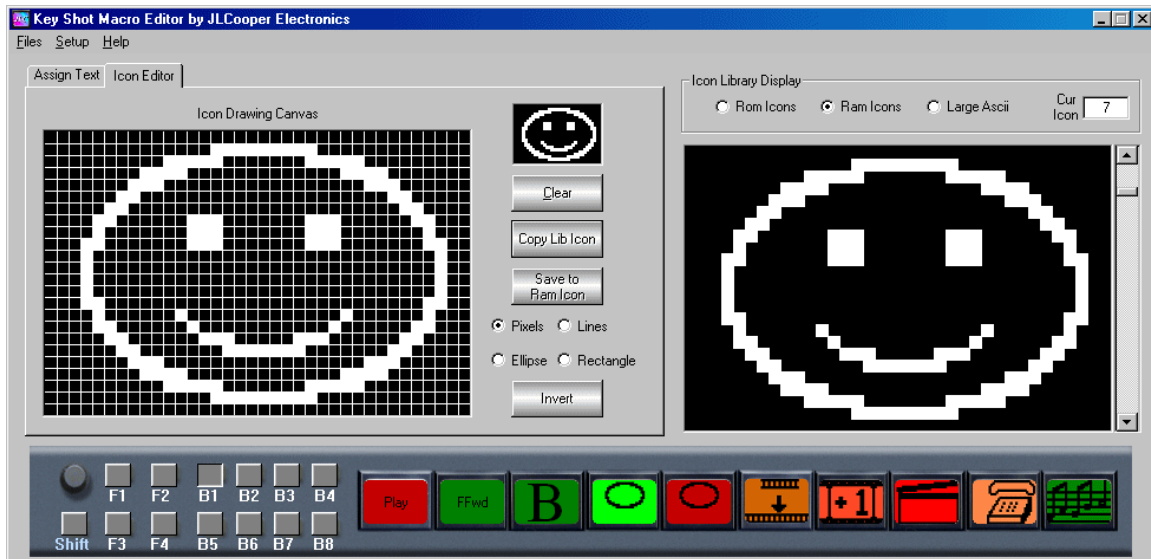
All of the Keyshot buttons will be disabled and you can now create or edit icons. Keep in mind that icons have no inherent color assigned to them. The individual pixels are either on or off. Also, the LCD buttons are 36 pixels wide by 24 pixels high. The **Icon Editor** and the **Icon Library** display the icons as ten pixel on the PC screen for each pixel on the LCD button. Although that shows a course drawing, it is much easier to draw your icon in this zoomed in display. The following are explanations of each button or function in the **Icon Editor**:

Clear erases the current drawing from the Icon Drawing Canvas. It does not affect the Library Icons.


Copy Lib Icon copies the currently displayed library icon to the Icon Drawing Canvas.

Save to Ram Icon will copy the drawing on the Icon Drawing Canvas to the currently selected **Ram Icon**. You cannot change the Rom Icons or the Large Ascii Icons, only the

Ram Icons. If Ram Icons is not selected then the editor will prompt you to select Ram Icons.
Be sure to scroll to the Ram Icon that you would like to replace with your own drawing, as there is no going back once a Ram Icon is saved.
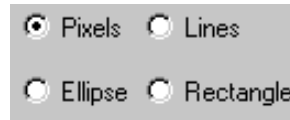
These are the four drawing tools. If Pixels is selected then clicking the mouse on the **Icon Drawing Canvas** will turn on pixels that are off (black) and turn off pixels that are on (white).

Select **Lines** to to draw straight lines at any angle. **Ellipse** will draw circles, ovals and other elliptical shapes. **Rectangle** is used to draw rectangles and squares. Note that **Pixels** is the only drawing function that serves both on and off purposes.


Invert changes all black pixels to white pixels and all white pixels to black pixels. This is handy to make an Ram Icon for on and off states that have reversed pixels.

Saving Your Work

When you close the **Keyshot Macro Editor** program, it will automatically update the connected **Keyshot** or **Rackshot** unit. You can also save **Key Definitions** and **Ram Icons** to your local hard drive, in the event you would like to standardize all of your units without reprogramming them one at a time.

To save **Key Definitions** or **Ram Icons** to your hard disk, click on the **Files** Menu or press **Alt/F**.

Select **Save** or **Save As**. Type in the name of the file and press **OK.** From the same Files menu you can Load Keys back into memory and then same them to another Keyshot. The **Revert** function is used when you've saved or load key definitions and then made some changes. If you decide the changes are not good, simply select **Revert** from the **Files** menu and it will reload the last saved or loaded file.   All of the above also applies to **Ram Icons**.
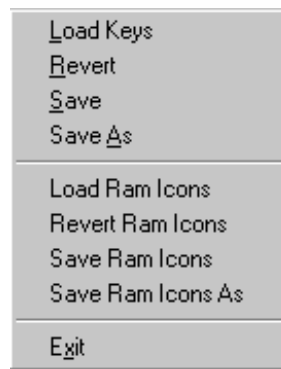
Setup

The **Keyshot Macro Editor** automatically searches for the **Keyshot** or **Rackshot** controller. If it can't find it, then either the unit is not properly connected, or it's turned off. After you have corrected the connection problem, click on **Setup** and then **Rescan for Keyshot** and the editor will attempt to find the controller.

When the editor finds the controller, it will then load the **Rom Icons**, **Ram Icons**, **Large Ascii Icons** and **Key Definitions**. This can take around 25 seconds or so. ***DO NOT PRESS ANY KEYS ON THE KEYSHOT*** while this is in process or your message can corrupt the incoming data.