

KeyboardEditor is intended for use with the VirtualKeyboards module. You should read that module's documentation before reading this. The KeyboardEditor module lets you create new virtual keyboards and change existing ones to suit your needs.

Requirements

VIRTUALKEYBOARDS

Installation

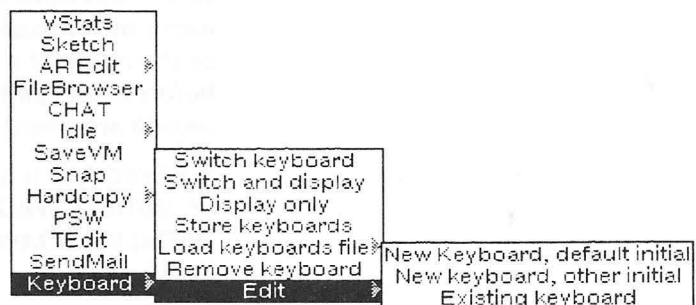
Load KEYBOARDEDITOR.LCOM and VIRTUALKEYBOARDS.LCOM from the library.

User Interface

Loading KeyboardEditor adds EDIT to the Virtual Keyboard submenu on the background menu.

Background Menu

The keyboard editor is used to modify and create virtual keyboards. You can call it by selecting EDIT from the main KeyboardEditor/VirtualKeyboards menu and sliding the cursor to the right to bring up the editor menu. You can also simply select EDIT, which gives you the same options as NEW KEYBOARD, DEFAULT INITIAL.



Creating a New Keyboard From a Copy of the Default Keyboard

Choose NEW KEYBOARD, DEFAULT INITIAL to create a keyboard from a copy of the default keyboard (which initially has the same key assignments as the 1108 keyboard). The system will prompt you for a name for the new keyboard, then call the editor with a copy of the default keyboard as the initial keyboard. The key

assignments that are not changed during the editing session will remain as they are in the default keyboard.

Creating a New Keyboard From a Copy of Any Known Keyboard

To create a new keyboard from a copy of a known keyboard other than the default keyboard, select NEW KEYBOARD, OTHER INITIAL from the Edit submenu. You will be prompted for a name for the new keyboard. The system will then display a menu of the known keyboards to enable you to choose one of them as the initial keyboard.

Quit
DEFAULT
EUROPEAN
logic
MATH
OFFICE
DVORAK
GREEK
ITALIAN
SPANISH
FRENCH
GERMAN
STANDARD -RUSSIAN

Changing an Existing Keyboard

You can change an existing keyboard by selecting EXISTING KEYBOARD from the Edit submenu. Like the NEW KEYBOARD, OTHER INITIAL command, this brings up a menu of known keyboards from which you can choose a keyboard for editing. However, you will not be prompted for a keyboard name first, because you are editing the actual keyboard rather than using it as a base for a new keyboard.

Calling the Keyboard Editor From Lisp

The editor can also be called using the function

(EDITKEYBOARD *KEYBOARD* *INITIALKEYBOARD*)

[Function]

where *KEYBOARD* is either a virtual keyboard (i.e., a list) or the name of a virtual keyboard. If *KEYBOARD* is a virtual keyboard or the name of a known keyboard (a keyboard that was defined before), the editing will be done on that keyboard and the second argument will be ignored.

If *KEYBOARD* is a new name, the editing will be done on a copy of *INITIALKEYBOARD*, with *KEYBOARD* as its new name. If *INITIALKEYBOARD* is NIL, the default keyboard will be used as a base keyboard.

Examples:

To create a totally new virtual keyboard, call (EDITKEYBOARD *NEWNAME*).

To create a new keyboard that is similar to a keyboard with the name K1, call (EDITKEYBOARD *NEWNAME* 'K1)

There are four different keyboard editor menus, three of them displayed at any given time. After you call the editor, you will

21	22	23	24	25	26	27
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CharSet	Stop	Quit	Define												
SHIFT LOCKDOWN	CTRL LOCKUP	META EVENT	LOCK												
Character set 0															
0	20	40	60	100	120	140	160	200	220	240	260	300	320	340	360
0	█	█	0	@	P	·	p	█	█	█	*	█	█	█	█
1	█	█	!	1	A	Q	a	q	█	█	±	·	█	Æ	æ
2	█	█	"	2	B	R	b	r	█	█	²	█	·	Ø	█
3	█	█	#	3	C	S	c	s	█	█	£	█	·	Θ	█
4	█	█	\$	4	D	T	d	t	█	█	¤	×	·	™	█
5	█	█	%	5	E	U	e	u	█	█	¥	█	·	█	ı
6	█	█	&	6	F	V	f	v	█	█	█	¶	·	U	ij
7	█	█	'	7	G	W	g	w	█	█	§	·	·	█	█
10	█	█	(	8	H	X	h	x	█	█	█	+	·	█	█
11	█	█	)	9	I	Y	i	y	█	█	·	·	█	Ø	ø
12	█	█	*	:	J	Z	j	z	█	█	·	·	·	Œ	œ
13	█	█	+	;	K	[	k	]	█	█	·	·	·	█	ß
14	█	█	,	<	L	\	l	|	█	█	←	¼	—	█	█
15	█	█	-	=	M	]	m	}	█	█	↑	½	·	█	█
16	█	█	.	>	N	^	n	~	█	█	→	¾	·	█	█
17	█	█	/	?	O	_	o	█	█	█	↓	¿	·	h	█

The character menu is a 16-by-16-character display of the 256 characters available in the current character set. The set that is displayed when you enter the editor is character set 0, which includes all of the ASCII characters plus many other symbols. See Figure 6. If you need characters from other character sets, you have to select Char Set from the command menu. A new menu will pop up that contains numbers from 0 to 377 octal. This is the character set menu, and it lets you switch the character menu to display characters from other sets. Most of the character set numbers are not currently implemented. The most useful ones are shown in Figure 7.

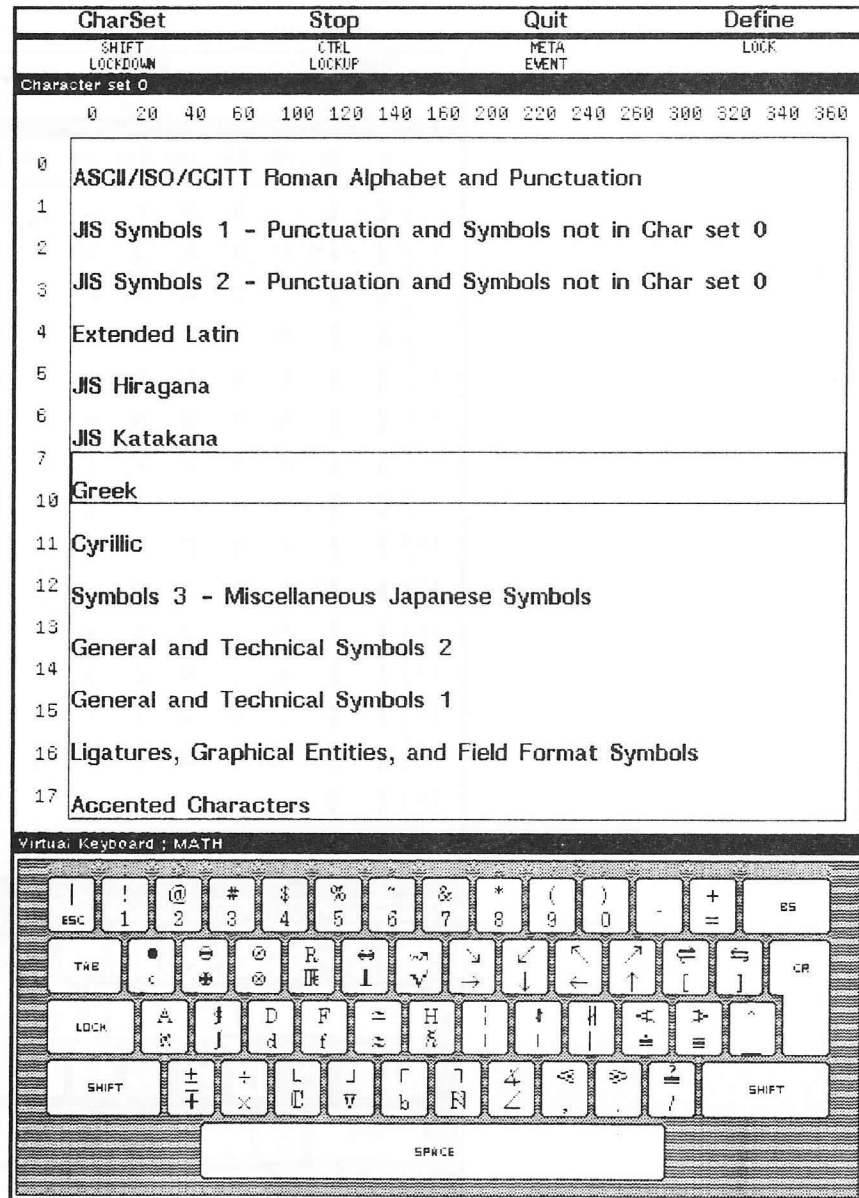


Figure 7. Character Sets

The keys menu lets you make a key the current key by selecting it. A selected key is marked by a black frame. To make a shifted

key the current key, shift-select the key (hold the shift key down and click on the icon with the left button); it will be marked by inverted shift keys in addition to the black frame.

The basic operation of editing is assigning a character to a key. You can only assign character keys; keys other than character keys will retain their current definitions. You assign a character to a key by selecting the key from the keys menu, then selecting the character from the character menu. If the character is to be assigned to the shifted key, select the shifted key as the current key.

A second type of editing operation is to change the LOCKSHIFT state of a key. Each key either has or does not have a LOCKSHIFT property. If a key has a LOCKSHIFT property and the shift lock key of the keyboard is down, typing the key on your workstation keyboard will send the shifted character of the key, regardless of the state of the shift keys. The same rule applies to a virtual displayed keyboard; if the LOCK item is inverted and the key has a LOCKSHIFT property, selecting a key will send the shifted character to the current input stream.

If a key has the LOCKSHIFT property, the lock key will be inverted in the keys menu. To change the LOCKSHIFT property of a key, first make the shifted key the current key. You then set or unset the LOCKSHIFT property by selecting the lock key from the keys menu.

If you are creating a new keyboard and you are satisfied with the key assignments, select Define from the command menu. This will add the newly created keyboard to the list of known keyboards (it will thus appear on future menus). Selecting QUIT will exit after modifying the virtual keyboard, and selecting Stop will exit without modifying the keyboard. In both cases the new keyboard will be returned to the caller of EDITKEYBOARD function (above).

Creating New Keyboard Configurations

KEYBOARDCONFIGURATION

[Record]

Describes a physical keyboard: its layout, the key numbers that are used with KEYACTION. It also describes each key: its default meaning, its default label, whether you can change the key's meaning with the keyboard editor.

A configuration consists of a number of parts:

CONFIGURATIONNAME

[Record field]

The name of this configuration.

For example, KeyboardEditor comes with configurations named DANDELION (1108), DORADO (1132), DOVE (1186), and FULL-IBMPC.

KEYSIDLIST

[Record field]

A list of the IDs you will use for the keys in the rest of the configuration; i.e., your names for the keys. For simplicity, these are usually numbers starting beyond 100 (to avoid overlapping the true range of key numbers).

KEYREGIONS

[Record field]

An alist of key IDs and the regions they occupy in the keyboard's image when it is displayed. For example, the alphabetic keys in the DANDELION keyboard are 29 screen points wide and 33 high.

DEFAULTASSIGNMENT

[Record field]

An alist of key IDs and their default KEYACTIONs (see *IRM*).

KEYNAMESMAPPING

[Record field]

An alist of key names to key IDs. The key names should be mnemonic, and should distinguish relevant differences; e.g., the 7 on the 1186's numeric keypad is named NUMERIC7, while the 7 key in the main keyboard cluster is named 7.

MACHINETYPE

[Record field]

The kind of machine for which this configuration is intended.

For example, the FULL-IBMPC configuration is meant to be used with a DAYBREAK keyboard, so its MACHINETYPE is DAYBREAK.

KEYLABELS

[Record field]

An alist of key numbers to special labels. This is used to label keys such as the "Next" key, where the key assignment may not be a printable character.

KEYLABELSFONT

[Record field]

The font you want to use for the key labels. The default value is Helvetica 5.

BACKGROUNDSHADE

[Record field]

The shading for the non-key parts of the virtual keyboard's image. This defaults to a reasonable gray value.

KEYBOARDDISPLAYFONT

[Record field]

The font used to display actual character assignments. This should probably be Classic 12, since it is the most complete font.

CHARLABELS

[Record field]

An alist from character codes to names. Used to give symbolic names to characters such as ESCAPE, which don't otherwise print.

ACTUALKEYSMAPPING

[Record field]

A function that takes one of your key IDs and returns a true key number, for use by KEYACTION.

Note: To create a new configuration, create an instance of the KEYBOARDCONFIGURATION record, using the field names shown above. Then add it to the list

VKBD.CONFIGURATIONS. You may then edit it using the configuration editor described below.

Note: You must save your own configurations. There is no user interface for saving them, nor any automatic scheme.

Editing a Keyboard Configuration

Once you have created a KEYBOARDCONFIGURATION, you can make modest changes to it using the function:

(EDITCONFIGURATION CONFIGNAME)

[Function]

where CONFIGNAME is the CONFIGURATIONNAME you have assigned to your new configuration. This will create a virtual keyboard display window with a menu on top of it as shown in Figure 8.

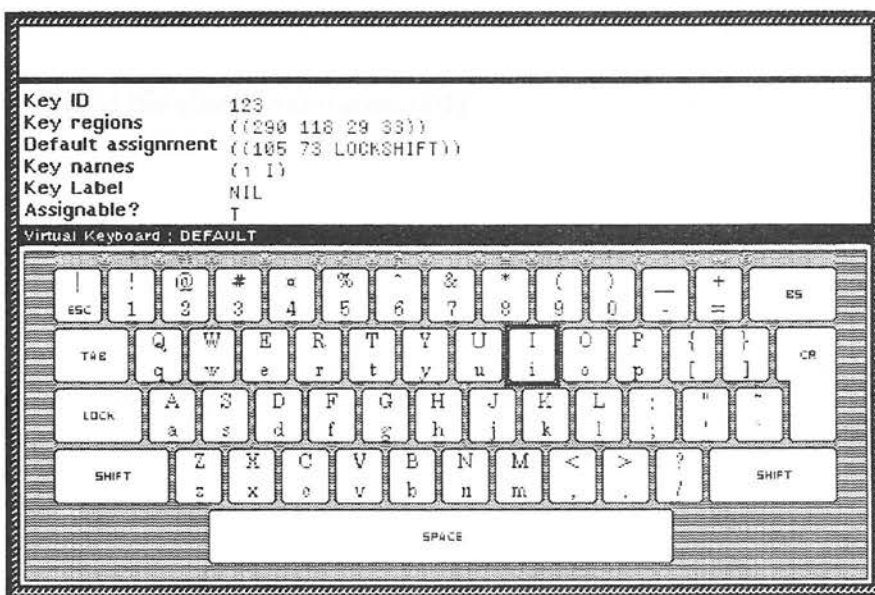


Figure 8. Virtual keyboard display window

Selecting a key with the mouse fills in the fields in the menu. The figure shows the 1108's configuration being edited, with the I key selected. To change one of the values, select the label at the left edge of the menu (e.g., ASSIGNABLE?). You will be prompted to edit the existing value using TTYIN.

The keyboard image is not automatically updated. To refresh it, select REDISPLAY in the right-button window menu.

When you have finished editing, simply close the keyboard window.