

File created: 6-Jul-2023 16:23:12 {WMEDLEY}<library>KEYBOARDEDITOR.;3

edit by: rmk

changes to: (FNS VKBD.EDIT.CREATE-CHARACTERS-MENU)

previous date: 25-May-95 14:32:35 {WMEDLEY}<library>KEYBOARDEDITOR.;1

Read Table: INTERLISP

Package: INTERLISP

Format: XCCS

::  
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## (RPAQQ KEYBOARDEDITORCOMS

((FILES VIRTUALKEYBOARDS)

(COMS

:: Editor for Configurations -- the description of the physical key layout, which keys are assignable, etc.

(FNS EDITCONFIGURATION VKBD.CONF.CHANGE-KEY-VALUE VKBD.CONF.DISPLAY-FIELD-VALUE  
VKBD.CONF.DISPLAY-INFO-KEYBOARD VKBD.CONF.DISPLAY-KEY-INFO VKBD.CONF.EDIT-DEFAULT-ASSIGNMENTS  
VKBD.CONF.ICONFN VKBD.CONF.PARSE-CONFIGURATION)  
(BITMAPS VKBD.CONF.ICON))

:: EEditor for keyboard layouts per se:

(FNS EDITKEYBOARD VKBD.EDIT.ADD-SUBITEM-TO-BACKGROUND-MENU VKBD.EDIT.CREATE-COMMAND-MENU  
VKBD.EDIT.CREATE-NON-CHAR-ASSIGMENTS-MENU VKBD.EDIT.KEYBOARD-COMMAND VKBD.EDIT.ASSIGN-CHARACTER  
VKBD.EDIT.ASSIGN-NON-CHARACTER VKBD.EDIT.CREATE-CHARACTER-SETS-MENU  
VKBD.EDIT.CREATE-CHARACTERS-MENU VKBD.EDIT.CREATE-DISPLAY VKBD.EDIT.DEFINE-COMMAND  
VKBD.EDIT.DO-MENU-COMMAND VKBD.EDIT.ICONFN VKBD.EDIT.INVERT-IF-LOCKED VKBD.EDIT.KEYBOARD-REPAINTFN  
VKBD.EDIT.LARGE-WINDOW-REPAINTFN VKBD.EDIT.MAKE-CURRENT-KEY VKBD.EDIT.QUIT-COMMAND  
VKBD.EDIT.STOP-COMMAND VKBD.EDIT.SWITCH-CHAR-SET-COMMAND VKBD.EDIT.SWITCH-CHARACTER-SET  
VKBD.EDIT.ROTATED-NUMBER)

(INITVARS (VKBD.EDIT.ALLOW-NON-CHAR-ASSIGNMENTS T)

(VKBD.EDIT.MAX-NUMBER-OF-CASHED-MENUS 15)

(VKBD.EDITOR-WINDOW-HEIGHT 450)

(VKBD.EDITOR-WINDOW-WIDTH 512)

(VKBD.EDIT.DISPLAY-CHAR-SETS-NAMES T))

(VARS VKBD.EDIT.BACKGROUND-MENU-SUBITEMS (VKBD.EDIT.CASH-MENUES NIL)

VKBD.EDIT.CHAR-SET-NAMES VKBD.EDIT.MENU-ITEMS VKBD.EDIT.NON-CHAR-ASSIGNMENTS)

(BITMAPS VKBD.EDIT.ICON VKBD.EDIT.MASK)

(GLOBALVARS VKBD.EDIT.ALLOW-NON-CHAR-ASSIGNMENTS VKBD.EDIT.BACKGROUND-MENU-SUBITEMS

VKBD.EDIT.MAX-NUMBER-OF-CASHED-MENUS VKBD.EDITOR-WINDOW-HEIGHT VKBD.EDITOR-WINDOW-WIDTH

VKBD.EDIT.DISPLAY-CHAR-SETS-NAMES VKBD.EDIT.CASH-MENUES VKBD.EDIT.CHAR-SET-NAMES

VKBD.EDIT.MENU-ITEMS VKBD.EDIT.NON-CHAR-ASSIGNMENTS VKBD.CONF.ICON VKBD.EDIT.ICON VKBD.EDIT.MASK)

(P (VKBD.EDIT.ADD-SUBITEM-TO-BACKGROUND-MENU (LIST "Edit" ' (ADD.PROCESS ' (VKBD.EDIT-KEYBOARD-COMMAND  
T))

"Calls the keyboard editor. Will prompt for name for  
the new keyboard, and will use the default keyboard  
as the initial keyboard"  
VKBD.EDIT.BACKGROUND-MENU-SUBITEMS)

"Keyboard"))))

(FILESLOAD VIRTUALKEYBOARDS)

:: Editor for Configurations -- the description of the physical key layout, which keys are assignable, etc.

(DEFINEQ

## (EDITCONFIGURATION

[LAMBDA (CONFIGNAME)

; Edited 30-Jun-87 10:03 by jds

:: Edit a keyboard configuration, given the config's name or a handle on the config somehow.

(VKBD.CONF.DISPLAY-INFO-KEYBOARD CONFIGNAME))

## (VKBD.CONF.CHANGE-KEY-VALUE

[LAMBDA (ITEM MENU MOUSEKEY)

(\* sm "14-Aug-85 18:05")

(PROG (MAINW CONF WINDOW PROMPTW KEY)

(SETQ WINDOW (WFROMMENU MENU))

[SETQ PROMPTW (CAR (WINDOWPROP WINDOW 'PROMPTWINDOW)

(SETQ MAINW (MAINWINDOW WINDOW T))

(SETQ CONF (VKBD.GET-CONFIGURATION MAINW))

(SETQ KEY (WINDOWPROP MAINW 'VKBD.CONF.CURRENT-KEY))

(SELECTQ (CADR ITEM)

(KEYID (PROG (NEW)

(SETQ NEW (CAR (TTYINEDIT (LIST KEY)

PROMPTW NIL "Enter new ID :"))

(DSUBST NEW KEY CONF)

(WINDOWPROP MAINW 'VKBD.CONF.CURRENT-KEY NEW)

(SETQ KEY NEW)))

(REGIONS (PROG (CURRENT-REGIONS NEW-REGIONS)

(SETQ CURRENT-REGIONS (FASSOC KEY (fetch (KEYBOARDCONFIGURATION KEYREGIONS)  
of CONF)))

```

      (SETQ NEW-REGIONS (CAR (TTYINEDIT (LIST (CDR CURRENT-REGIONS))
      PROMPTW NIL "Enter new region(s) :")))
      (RPLACD CURRENT-REGIONS NEW-REGIONS))
(DEFULT (PROG (CURRENT-DEFAULT ASSIGNMENTS NEW)
      (SETQ ASSIGNMENTS (fetch (KEYBOARDCONFIGURATION DEFAULTASSIGNMENT) of CONF))
      (SETQ CURRENT-DEFAULT (FASSOC KEY ASSIGNMENTS))
      (SETQ ASSIGNMENTS (REMOVE CURRENT-DEFAULT ASSIGNMENTS))
      (SETQ NEW (CAR (TTYINEDIT (LIST (CDR CURRENT-DEFAULT))
      PROMPTW NIL "Enter new default(s) :")))
      (replace (KEYBOARDCONFIGURATION DEFAULTASSIGNMENT) of CONF
      with (CONS (CONS KEY NEW)
      ASSIGNMENTS))
      (WINDOWPROP MAINW 'VKBD.KEYBOARD (VKBD.CREATE-DEFAULT-KEYBOARD CONF))))
(NAMES (PROG (CURRENT NEW MAPPING)
      (SETQ CURRENT (VKBD.KEY-ID-TO-KEY-NAMES KEY CONF))
      (SETQ MAPPING (fetch (KEYBOARDCONFIGURATION KEYNAMESMAPPING) of CONF))
      (for N in CURRENT do (SETQ MAPPING (REMOVE (LIST N KEY)
      MAPPING)))
      (SETQ NEW (CAR (TTYINEDIT (LIST CURRENT)
      PROMPTW NIL "Enter new NAME(s) :")))
      (for N in (MKLIST NEW) do (pushnew MAPPING (LIST N KEY)))
      (replace (KEYBOARDCONFIGURATION KEYNAMESMAPPING) of CONF with MAPPING)))
(LABEL (PROG (OLD-LABEL LABELS NEW)
      (SETQ LABELS (fetch (KEYBOARDCONFIGURATION KEYLABELS) of CONF))
      (SETQ OLD-LABEL (FASSOC KEY LABELS))
      (if OLD-LABEL
      then (SETQ LABELS (REMOVE OLD-LABEL LABELS))
      (SETQ OLD-LABEL (CADR OLD-LABEL)))
      (SETQ NEW (CAR (TTYINEDIT (LIST OLD-LABEL)
      PROMPTW NIL "Enter new LABEL :")))
      (replace (KEYBOARDCONFIGURATION KEYLABELS) of CONF
      with (if NEW
      then (CONS (LIST KEY NEW)
      LABELS)
      else LABELS)))
(ASSIGNABLE [PROG (ASS-KEYS)
      (SETQ ASS-KEYS (fetch (KEYBOARDCONFIGURATION ASSIGNABLEKEYS) of CONF))
      (if (FMEMB KEY ASS-KEYS)
      then (DREMOVE KEY ASS-KEYS)
      else (replace (KEYBOARDCONFIGURATION ASSIGNABLEKEYS) of CONF
      with (CONS KEY ASS-KEYS]))
      (PROGN (PROMPTPRINT "ILLEGAL FIELD VALUE IN <VKBD.CONF.CHANGE-KEY-VALUE>")
      (RETURN NIL)))
(CLEARW PROMPTW)
(VKBD.CONF.DISPLAY-FIELD-VALUE KEY (CADR ITEM)
CONF WINDOW MENU])

```

**(VKBD.CONF.DISPLAY-FIELD-VALUE**

; Edited 11-Jun-90 16:40 by mitani

```

[LAMBDA (KEY FIELD CONF WINDOW MENU)
  (PROG (X Y)
    [for ITEM in (fetch ITEMS of MENU) when (EQ (CADR ITEM)
    FIELD)
      do (SETQ Y (fetch (REGION BOTTOM) of (MENUITEMREGION ITEM MENU))
      (SETQ X (IPLUS (fetch MENUREGIONLEFT of MENU)
      (fetch IMAGEWIDTH of MENU)
      5))
      (DSPFILL (CREATEREGION X Y (IDIFFERENCE (fetch (REGION WIDTH) of (WINDOWPROP WINDOW 'REGION))
      Y)
      (fetch ITEMHEIGHT of MENU))
      (DSPTEXTURE NIL WINDOW)
      'REPLACE WINDOW)
      (MOVETO X Y WINDOW)
      (PRIN1 (SELECTQ FIELD
      (KEYID KEY)
      (REGIONS (VKBD.GET-KEY-REGIONS KEY CONF))
      (DEFAULT (CDR (VKBD.FETCH-KEY-ASSIGNMENT KEY (MAINWINDOW WINDOW))))
      (NAMES (VKBD.KEY-ID-TO-KEY-NAMES KEY CONF))
      (LABEL (CADR (FASSOC KEY (fetch (KEYBOARDCONFIGURATION KEYLABELS) of CONF))))
      (ASSIGNABLE (if (FMEMB KEY (fetch (KEYBOARDCONFIGURATION ASSIGNABLEKEYS) of CONF))
      then T
      else NIL))
      (PROMPTPRINT "ILLEGAL FIELD VALUE FOR DISPLAY CONFIGURATION FIELD VALUE!"))
      WINDOW])

```

**(VKBD.CONF.DISPLAY-INFO-KEYBOARD**

; Edited 25-May-95 11:34 by rmk:

```

[LAMBDA (CONFIGURATION)
  (PROG (WINDOW ATT-WINDOW MENU VALIDATED-CONFIG)
    (COND
      ((NOT (SETQ VALIDATED-CONFIG (VKBD.GET-CONFIGURATION CONFIGURATION)))
      ;; Make sure the configuration name is legit.
      (ERROR CONFIGURATION "is not the name of a known keyboard configuration.)))
    (SETQ WINDOW (VKBD.CREATE-KEYBOARD-DISPLAY (VKBD.CREATE-DEFAULT-KEYBOARD VALIDATED-CONFIG)
    NIL
    'VKBD.CONF.DISPLAY-KEY-INFO NIL T))

```

```
(SETQ MENU (create MENU
  ITEMS _ ' ("Key ID" KEYID)
           ("Key regions" REGIONS)
           ("Default assignment" DEFAULT)
           ("Key names" NAMES)
           ("Key Label" LABEL)
           ("Assignable?" ASSIGNABLE))
  MENUBORDERSIZE _ 0
  MENUOUTLINESIZE _ 0
  MENUFONT _ BOLDFONT
  WHENSELECTEDFN _ 'VKBD.CONF.CHANGE-KEY-VALUE))
(SETQ ATT-WINDOW (CREATEW (CREATEREGION 0 0 (fetch (REGION WIDTH) of (WINDOWPROP WINDOW 'REGION))
  (IPLUS 10 (fetch IMAGEHEIGHT of MENU)))
  NIL NIL T))
(ATTACHWINDOW ATT-WINDOW WINDOW 'TOP 'JUSTIFY)
(OPENW ATT-WINDOW)
(ADDMENU MENU ATT-WINDOW (create POSITION
  XCOORD _ 0
  YCOORD _ 0))
(GETPROMPTWINDOW ATT-WINDOW 2 BOLDFONT)
(WINDOWPROP WINDOW 'ICONFN 'VKBD.CONF.ICONFN])
```

(VKBD.CONF.DISPLAY-KEY-INFO

(\* sm "14-Aug-85 15:38")

```
[LAMBDA (KEY WINDOW MOUSEKEY)
  (PROG (CONFIGURATION OLD-KEY ATT-WINDOW)
    (if (SETQ OLD-KEY (WINDOWPROP WINDOW 'VKBD.CONF.CURRENT-KEY))
      then (VKBD.ERASE-FRAME OLD-KEY WINDOW 2))
    (WINDOWPROP WINDOW 'VKBD.CONF.CURRENT-KEY KEY)
    (VKBD.FRAME-KEY KEY WINDOW BLACKSHADE 2)
    (SETQ CONFIGURATION (VKBD.GET-CONFIGURATION WINDOW))
    (SETQ ATT-WINDOW (CAR (ATTACHEDWINDOWS WINDOW)))
    (for F in ' (KEYID REGIONS DEFAULT NAMES LABEL ASSIGNABLE)
      do (VKBD.CONF.DISPLAY-FIELD-VALUE KEY F CONFIGURATION ATT-WINDOW (CAR (WINDOWPROP ATT-WINDOW
        'MENU]))
```

(VKBD.CONF.EDIT-DEFAULT-ASSIGNMENTS

(\* sm "15-Aug-85 10:25")

```
[LAMBDA (CONFIGURATION)
  (PROG (DUMMY-CONFIGURATION DUMMY-KEYBOARD)
    (SETQ CONFIGURATION (VKBD.GET-CONFIGURATION CONFIGURATION))
    (SETQ DUMMY-CONFIGURATION (COPY CONFIGURATION))
    (replace (KEYBOARDCONFIGURATION ASSIGNABLEKEYS) of DUMMY-CONFIGURATION with (fetch (KEYBOARDCONFIGURATION
      KEYSIDLIST)
      of DUMMY-CONFIGURATION))
    (replace (KEYBOARDCONFIGURATION KEYLABELS) of DUMMY-CONFIGURATION with NIL)
    (SETQ DUMMY-KEYBOARD (create VIRTUALKEYBOARD
      KEYBOARDNAME _ "DEFAULT ASIGNMENTS"
      KEYASSIGNMENTS _ (fetch (KEYBOARDCONFIGURATION DEFAULTASSIGNMENT)
        of CONFIGURATION)
      KEYBOARDCONFIGURATION _ DUMMY-CONFIGURATION))
    (EDITKEYBOARD DUMMY-KEYBOARD)
    (replace (KEYBOARDCONFIGURATION DEFAULTASSIGNMENT) of CONFIGURATION with (fetch (VIRTUALKEYBOARD
      KEYASSIGNMENTS)
      of DUMMY-KEYBOARD]))
```

(VKBD.CONF.ICONFN

(\* sm "15-Aug-85 11:02")

```
[LAMBDA (WINDOW ICON)
  [COND
    ((NULL ICON)
      (SETQ ICON (TITLEDICONW (create TITLEDICON
        ICON _ VKBD.CONF.ICON
        MASK _ VKBD.EDIT.MASK
        TITLEREG _ (CREATEREGION 5 15 80 75))
        (CONCAT "EDIT CONFIGURATION: " (fetch (KEYBOARDCONFIGURATION CONFIGURATIONNAME)
          of (VKBD.GET-CONFIGURATION WINDOW))))
        (FONTCREATE 'GACHA 8]
    (ICON]))
```

(VKBD.CONF.PARSE-CONFIGURATION

(\* sm "5-Aug-85 17:05")

```
[LAMBDA (CONFIGURATION)
  (PROG (ERROR-FLAG REGS IDS)
    (SETQ CONFIGURATION (VKBD.GET-CONFIGURATION CONFIGURATION))
    (if (NULL CONFIGURATION)
      then (PRINTOUT T T CONFIGURATION " NOT A CONFIGURATION. ")
      (RETURN NIL))
    (SETQ IDS (fetch (KEYBOARDCONFIGURATION KEYSIDLIST) of CONFIGURATION))
    (SETQ REGS (fetch (KEYBOARDCONFIGURATION KEYREGIONS) of CONFIGURATION))
    (if (NULL IDS)
      then (PRINTOUT T T "Null Id list. ")
      (RETURN NIL))
    (if (LESSP (LENGTH REGS)
      (LENGTH IDS))
      then (PRINTOUT T T "KEYS WITHOUT REGIONS : ")
      (for K in IDS when (NOT (FASSOC K REGS)) do (PRINTOUT T " " K))
```

```

      (SETQ ERROR-FLAG T)
    (for R in REGS do (for R1 in (CDR R) when (NOT (REGIONP R1)) DO (SETQ ERROR-FLAG T)
      (PRINTOUT T T "KEY : " (CAR R)
        " -- " R1 " NOT A REGION"))
    (for KEY in (fetch (KEYBOARDCONFIGURATION ASSIGNABLEKEYS) of CONFIGURATION)
      when (NOT (FMEMB KEY IDS)) do (SETQ ERROR-FLAG T)
        (PRINTOUT T T "KEY : " KEY " IS IN THE ASSIGNABLE KEYS BUT NOT IN KEY
          IDS"))
    (for ASS in (fetch (KEYBOARDCONFIGURATION DEFAULTASSIGNMENT) of CONFIGURATION)
      when (NOT (FMEMB (CAR ASS)
        IDS))
      do (SETQ ERROR-FLAG T)
        (PRINTOUT T T "KEY : " (CAR ASS)
          " HAS ASSIGNMENT BUT IS NOT IN ID LIST"))
    (for ID in IDS when (NOT (FASSOC ID (fetch (KEYBOARDCONFIGURATION DEFAULTASSIGNMENT) of CONFIGURATION)))
      do (SETQ ERROR-FLAG T)
        (PRINTOUT T T "KEY : " ID " DOES NOT HAVE ASSIGNMENT."))
    (RETURN (NOT ERROR-FLAG))
  )

```

)

(RPAQQ VKBD.CONF.ICON



:: EEditor for keyboard layouts per se:

(DEFINEQ

**(EDITKEYBOARD**

```

[LAMBDA (KEYBOARD SOURCE-KEYBOARD CONFIGURATION-NAME) ; Edited 25-May-95 14:22 by rmk:
  (* sm "1-Aug-85 17:55")
  (PROG (VKBD.EDIT-WINDOW CURRENT-EVENT KEYBOARD-TO-EDIT COMPLETE-KEYBOARD)
    (COND
      ((NULL KEYBOARD)
        (RETURN NIL))
      (IF (LITATOM KEYBOARD)
        THEN (SETQ KEYBOARD-TO-EDIT (FINDVIRTUALKEYBOARD KEYBOARD CONFIGURATION-NAME))
        (IF (NULL KEYBOARD-TO-EDIT)
          THEN [IF (AND (NULL SOURCE-KEYBOARD
            CONFIGURATION-NAME)
            THEN (SETQ KEYBOARD-TO-EDIT (VKBD.CREATE-DEFAULT-KEYBOARD CONFIGURATION-NAME))
            ELSE [SETQ KEYBOARD-TO-EDIT (COPY (IF (AND SOURCE-KEYBOARD (ATOM SOURCE-KEYBOARD)
              THEN (FASSOC SOURCE-KEYBOARD
                VKBD.KNOWN-KEYBOARDS]
            (IF (NULL KEYBOARD-TO-EDIT)
              THEN (SETQ KEYBOARD-TO-EDIT (COPY (FASSOC 'DEFAULT VKBD.KNOWN-KEYBOARDS
                ]
            (REPLACE KEYBOARDNAME OF KEYBOARD-TO-EDIT WITH KEYBOARD))
          ELSE (SETQ KEYBOARD-TO-EDIT KEYBOARD))
      (SETQ VKBD.EDIT-WINDOW (VKBD.EDIT.CREATE-DISPLAY KEYBOARD-TO-EDIT))
      (WINDOWPROP VKBD.EDIT-WINDOW 'VKBD.KEYBOARD (COPY KEYBOARD-TO-EDIT))
      (WINDOWPROP VKBD.EDIT-WINDOW 'VKBD.ORIGINAL-KEYBOARD KEYBOARD-TO-EDIT)
      (WINDOWPROP VKBD.EDIT-WINDOW 'VKBD.EDITOR-RETURN-EVENT (SETQ CURRENT-EVENT (CREATE.EVENT "VKBD.EDIT")))
    )
    (AWAIT.EVENT CURRENT-EVENT)
    (CLOSEW VKBD.EDIT-WINDOW)
    (RETURN (WINDOWPROP VKBD.EDIT-WINDOW 'VKBD.KEYBOARD]))

```

**(VKBD.EDIT.ADD-SUBITEM-TO-BACKGROUND-MENU**

(\* sm "15-Aug-85 14:14")

```

[LAMBDA (SUBITEM MAINITEMLABEL)
  (PROG (MAINITEM OLD)
    (SETQ MAINITEM (SASSOC MAINITEMLABEL BackgroundMenuCommands))
    [COND
      (MAINITEM (COND
        [(AND (CDDDR MAINITEM)
          (EQ (CAR (CADDDR MAINITEM))
            'SUBITEMS))
          (COND
            ((SETQ OLD (SASSOC (CAR SUBITEM)
              (CADDDR MAINITEM)))
            (RPLACD OLD (CDR SUBITEM)))
            (T (NCONC1 (CADDDR MAINITEM)
              SUBITEM)
            (T (RPLACD (CDDR MAINITEM)
              (LIST (LIST 'SUBITEMS SUBITEM)

```

(SETQ BackgroundMenu NIL)]

**(VKBD.EDIT.CREATE-COMMAND-MENU**

(\* sm "1-Aug-85 17:22")

```
[LAMBDA NIL
  (create MENU
    ITEMS _ VKBD.EDIT.MENU-ITEMS
    MENUFONT _ (FONTCREATE 'HELVETICA 12 'BOLD)
    CENTERFLG _ T
    MENUROWS _ 1
    WHENSELECTEDFN _ 'VKBD.EDIT.DO-MENU-COMMAND])
```

**(VKBD.EDIT.CREATE-NON-CHAR-ASSIGMENTS-MENU**

(\* sm "13-Aug-85 11:09")

```
[LAMBDA NIL
  (create MENU
    ITEMS _ VKBD.EDIT.NON-CHAR-ASSIGNMENTS
    MENUFONT _ (FONTCREATE 'GACHA 8)
    MENUROWS _ (ADD1 (QUOTIENT (SUB1 (LENGTH VKBD.EDIT.NON-CHAR-ASSIGNMENTS)
      4))
    CENTERFLG _ T
    WHENSELECTEDFN _ 'VKBD.EDIT.ASSIGN-CHARACTER])
```

**(VKBD.EDIT-KEYBOARD-COMMAND**

(\* sm "14-Aug-85 15:11")

```
[LAMBDA (NEW-KEYBOARD? ASK-FOR-INITIAL?)
  (PROG (NEW-NAME KEYBOARD INITIAL-KEYBOARD)
    (if (NOT NEW-KEYBOARD?)
      then (SETQ KEYBOARD (VKBD.POP-UP-KEYBOARDS-MENU "Select the keyboard that you want to edit"))
      (if KEYBOARD
        then (if (EQ KEYBOARD 'DEFAULT)
          then (PROMPTPRINT "Can not edit the default keyboard.")
          else (EDITKEYBOARD KEYBOARD))
        else [SETQ NEW-NAME (MKATOM (PROMPTFORWORD "Enter name for new keyboard : " NIL NIL PROMPTWINDOW NIL
          'TTY)
        (if NEW-NAME
          then (if ASK-FOR-INITIAL?
            then (SETQ INITIAL-KEYBOARD (VKBD.POP-UP-KEYBOARDS-MENU "Select the keyboard to be
              used as initial keyboard for the editing"))
            (if INITIAL-KEYBOARD
              then (EDITKEYBOARD NEW-NAME INITIAL-KEYBOARD))
              else (EDITKEYBOARD NEW-NAME 'DEFAULT])
```

**(VKBD.EDIT.ASSIGN-CHARACTER**

(\* sm "15-Aug-85 10:02")

```
[LAMBDA (ITEM MENU MOUSE-KEY)
  (PROG (WINDOW KEY SHIFTED CURRENT-KEY-INFO KEY-ASSIGNMENT KEYBOARD)
    (SETQ WINDOW (MAINWINDOW (WFROMMENU MENU)
      T))
    (SETQ KEYBOARD (WINDOWPROP WINDOW 'VKBD.KEYBOARD))
    (SETQ CURRENT-KEY-INFO (WINDOWPROP WINDOW 'VKBD.CURRENT-KEY))
    (if CURRENT-KEY-INFO
      then (SETQ KEY (CAR CURRENT-KEY-INFO))
        (SETQ SHIFTED (CADR CURRENT-KEY-INFO))
        (SETQ KEY-ASSIGNMENT (VKBD.FETCH-KEY-ASSIGNMENT KEY WINDOW))
        [if (AND VKBD.EDIT.ALLOW-NON-CHAR-ASSIGNMENTS (MEMBER ITEM VKBD.EDIT.NON-CHAR-ASSIGNMENTS))
          then (VKBD.EDIT.ASSIGN-NON-CHARACTER KEY-ASSIGNMENT ITEM)
          else (if (NULL KEY-ASSIGNMENT)
            then (replace (VIRTUALKEYBOARD KEYASSIGNMENTS) of KEYBOARD
              with (CONS (LIST KEY (LIST (CADR ITEM)
                (CADR ITEM)
                'NOLOCKSHIFT))
              (fetch (VIRTUALKEYBOARD KEYASSIGNMENTS) of KEYBOARD)))
            else (RPLACD (CDR KEY-ASSIGNMENT)
              NIL)
              (if (OR (NULL (CDR KEY-ASSIGNMENT))
                (ATOM (CADR KEY-ASSIGNMENT)))
                then [RPLACD KEY-ASSIGNMENT (LIST (LIST (CADR ITEM)
                  (CADR ITEM)
                  'NOLOCKSHIFT)
                else (if SHIFTED
                  then (RPLACA (CDADR KEY-ASSIGNMENT)
                    (CADR ITEM))
                  else (RPLACA (CADR KEY-ASSIGNMENT)
                    (CADR ITEM)
                    (VKBD.DISPLAY-KEY KEY WINDOW)
                else (FLASHWINDOW PROMPTWINDOW)
                  (PRINTOUT PROMPTWINDOW T "There is no current selected key. Character was not assigned."])
```

**(VKBD.EDIT.ASSIGN-NON-CHARACTER**

(\* sm "13-Aug-85 10:16")

```
[LAMBDA (KEY-ASSIGNMENT NEW-ASSIGNMENT)
  (RPLACD KEY-ASSIGNMENT (SELECTQ NEW-ASSIGNMENT
    (SHIFT ' (1SHIFTDOWN . 1SHIFTUP))
    (CTRL ' (CTRLDOWN . CTRLUP))
    (META ' (METADOWN . METAUP))
    (LOCK ' (LOCKDOWN . LOCKUP))
```

```
(LOCKDOWN ' (LOCKDOWN))
(LOCKUP ' (LOCKUP))
(EVENT ' (EVENT . EVENT))
NIL))
```

**(VKBD.EDIT.CREATE-CHARACTER-SETS-MENU**

(\* sm "15-Aug-85 12:13")

```
[LAMBDA NIL
  (if VKBD.EDIT.DISPLAY-CHAR-SETS-NAMES
    then [create MENU
          ITEMS _ VKBD.EDIT.CHAR-SET-NAMES
          MENUFONT _ BIGFONT
          ITEMWIDTH _ (ITIMES 29 16)
          ITEMHEIGHT _ (ADD1 (IQUOTIENT (ITIMES 25 16)
                                         (LENGTH VKBD.EDIT.CHAR-SET-NAMES)]
        else (create MENU
              ITEMS _ (for I from 1 to 256 bind ROTATED-I collect (PROGN (SETQ ROTATED-I
                                                                           (SUB1 (VKBD.EDIT.ROTATED-NUMBER I 16
                                                                           16)))
                                                                           (LIST (OCTALSTRING ROTATED-I)
                                                                           ROTATED-I)))
              MENUCOLUMNNS _ 16
              CENTERFLG _ T
              ITEMHEIGHT _ 25
              ITEMWIDTH _ 29])
```

**(VKBD.EDIT.CREATE-CHARACTERS-MENU**

; Edited 6-Jul-2023 16:23 by rmk  
(\* sm "15-Aug-85 12:15")

```
[LAMBDA (CHAR-SET-NUMBER FONT)
  (PROG (EXISTING-MENU-INFO NEW-MENU)
    [SETQ EXISTING-MENU-INFO (for CHARSET-FONT-MENU in VKBD.EDIT.CASH-MENUES
                              thereis (AND (EQP (CAR CHARSET-FONT-MENU)
                                                  CHAR-SET-NUMBER)
                                             (EQ (CADR CHARSET-FONT-MENU)
                                                  FONT])
      (if EXISTING-MENU-INFO
        then (RETURN (CADDR EXISTING-MENU-INFO)))
      (PRINTOUT PROMPTWINDOW T "Retrieving bitmaps for character set " (OCTALSTRING CHAR-SET-NUMBER))
      (SETQ NEW-MENU (create MENU
                          ITEMS _ (for I from 0 to 255 bind CODE bind ROTATED-I
                                collect (SETQ ROTATED-I (SUB1 (VKBD.EDIT.ROTATED-NUMBER (ADD1 I)
                                16 16)))
                                (SETQ CODE (LOGOR (LLSH CHAR-SET-NUMBER 8)
                                I))
                                (LIST (GETCHARBITMAP CODE FONT)
                                CODE))
                          MENUCOLUMNNS _ 16
                          CENTERFLG _ T
                          ITEMHEIGHT _ 25
                          ITEMWIDTH _ 29
                          WHENSELECTEDFN _ 'VKBD.EDIT.ASSIGN-CHARACTER))
      (PROMPTPRINT "... Done. ")
      (push VKBD.EDIT.CASH-MENUES (LIST CHAR-SET-NUMBER FONT NEW-MENU))
      (if (GREATERP (LENGTH VKBD.EDIT.CASH-MENUES)
                   VKBD.EDIT.MAX-NUMBER-OF-CASHED-MENUES)
        then (RPLACD (LAST VKBD.EDIT.CASH-MENUES)
                     NIL))
      (RETURN NEW-MENU])
```

**(VKBD.EDIT.CREATE-DISPLAY**

; Edited 25-May-95 14:07 by rmk:  
(\* sm "13-Aug-85 12:37")

```
[LAMBDA (KEYBOARD)
  (PROG (WINDOW LARGE-WINDOW BM WPOS REGION-WIDTH REGION-HEIGHT NON-CHAR-WINDOW COMMAND-MENU NON-CHAR-MENU)
    (SETQ BM (VKBD.CREATE-KEYBOARD-BITMAP (fetch (VIRTUALKEYBOARD KEYBOARDCONFIGURATION) of KEYBOARD)))
    (if VKBD.EDIT.ALLOW-NON-CHAR-ASSIGNMENTS
      then (SETQ NON-CHAR-MENU (VKBD.EDIT.CREATE-NON-CHAR-ASSIGNMENTS-MENU)))
    (SETQ COMMAND-MENU (VKBD.EDIT.CREATE-COMMAND-MENU))
    [SETQ REGION-WIDTH (MAX VKBD.EDITOR-WINDOW-WIDTH (IPLUS 8 (BITMAPWIDTH BM)
    (SETQ REGION-HEIGHT (MIN SCREENHEIGHT (IPLUS (fetch IMAGEHEIGHT of COMMAND-MENU)
    (if VKBD.EDIT.ALLOW-NON-CHAR-ASSIGNMENTS
      then (fetch IMAGEHEIGHT of NON-CHAR-MENU)
      else 0)
    (BITMAPHEIGHT BM)
    VKBD.EDITOR-WINDOW-HEIGHT 20)))
    (SETQ WPOS (GETBOXPOSITION REGION-WIDTH REGION-HEIGHT NIL NIL NIL "Specify region for Keyboard Editor
    window"))
    (SETQ WINDOW (VKBD.CREATE-KEYBOARD-DISPLAY KEYBOARD WPOS 'VKBD.EDIT.MAKE-CURRENT-KEY BM T))
    (WINDOWPROP WINDOW 'REPAINTFN 'VKBD.EDIT.KEYBOARD-REPAINTFN)
    (WINDOWPROP WINDOW 'ICONFN 'VKBD.EDIT.ICONFN)
    (SETQ LARGE-WINDOW (CREATEW (CREATEREGION 0 0 VKBD.EDITOR-WINDOW-WIDTH VKBD.EDITOR-WINDOW-HEIGHT)
    (CONCAT "Edit of Keyboard : " (fetch (VIRTUALKEYBOARD KEYBOARDNAME)
    of KEYBOARD)
    " for "
    (fetch (VIRTUALKEYBOARD KEYBOARDCONFIGURATION) of KEYBOARD))
    NIL T))
```

```
(WINDOWPROP LARGE-WINDOW 'CLOSEFN 'VKBD.EDIT.STOP-COMMAND)
(ATTACHWINDOW LARGE-WINDOW WINDOW 'TOP 'CENTER)
(if VKBD.EDIT.ALLOW-NON-CHAR-ASSIGNMENTS
  then (ATTACHMENU NON-CHAR-MENU LARGE-WINDOW 'TOP 'JUSTIFY))
(OPENW LARGE-WINDOW)
(WINDOWPROP LARGE-WINDOW 'RESHAPEFN 'DON'T)
(ATTACHMENU COMMAND-MENU LARGE-WINDOW 'TOP 'JUSTIFY)
(WINDOWPROP WINDOW 'VKBD.CHAR-SET-MENU (VKBD.EDIT.CREATE-CHARACTER-SETS-MENU))
(VKBD.EDIT.LARGE-WINDOW-REPAINTFN LARGE-WINDOW)
(VKBD.EDIT.SWITCH-CHARACTER-SET 0 LARGE-WINDOW)
(WINDOWADDDPROP LARGE-WINDOW 'REPAINTFN 'VKBD.EDIT.LARGE-WINDOW-REPAINTFN)
(RETURN WINDOW])
```

(VKBD.EDIT.DEFINE-COMMAND

```
[LAMBDA (WINDOW) (* sm "5-Aug-85 09:26")
  (DEFINEKEYBOARD (WINDOWPROP WINDOW 'VKBD.KEYBOARD))
  (PRINTOUT PROMPTWINDOW "Keyboard " (fetch (VIRTUALKEYBOARD KEYBOARDNAME) of (WINDOWPROP WINDOW
    'VKBD.KEYBOARD))
    " was added to the set of known keyboards."])
```

(VKBD.EDIT.DO-MENU-COMMAND

```
[LAMBDA (ITEM MENU KEY) (* sm "1-Aug-85 17:34")
  (APPLY* (CADR ITEM)
    (MAINWINDOW (WFROMMENU MENU)
      T])
```

(VKBD.EDIT.ICONFN

```
[LAMBDA (WINDOW ICON) (* sm "15-Aug-85 11:10")
  [COND
    ((NULL ICON)
      (SETQ ICON (TITLEDICONW (create TITLEDICON
        ICON _ VKBD.EDIT.ICON
        MASK _ VKBD.EDIT.MASK
        TITLEREG _ (CREATEREGION 5 25 80 65))
        [CONCAT "EDIT KEYBOARD: " (fetch (VIRTUALKEYBOARD KEYBOARDNAME)
          of (WINDOWPROP WINDOW 'VKBD.KEYBOARD))
        (FONTCREATE 'GACHA 8]
      ICON])
```

(VKBD.EDIT.INVERT-IF-LOCKED

```
[LAMBDA (KEY WINDOW) (* sm "13-Aug-85 10:01")
  (PROG (KEY-ASSIGNMENT)
    (SETQ KEY-ASSIGNMENT (VKBD.FETCH-KEY-ASSIGNMENT KEY WINDOW))
    (if (AND (VKBD.CHAR-ASSIGNMENTP KEY-ASSIGNMENT)
      (EQ (VKBD.LOCK/NOLOCK KEY-ASSIGNMENT)
        'LOCKSHIFT))
      then (VKBD.INVERT-LOCK-KEYS WINDOW]))
```

(VKBD.EDIT.KEYBOARD-REPAINTFN

```
[LAMBDA (W) (* sm "5-Aug-85 16:12")
  (PROG (CURRENT-KEY)
    (VKBD.KEYBOARD-WINDOW-REPAINTFN W)
    (if (SETQ CURRENT-KEY (WINDOWPROP W 'VKBD.CURRENT-KEY))
      then (VKBD.FRAME-KEY (CAR CURRENT-KEY)
        W BLACKSHADE 2)
      (if (CADR CURRENT-KEY)
        then (VKBD.INVERT-SHIFT-KEYS W))
      (VKBD.EDIT.INVERT-IF-LOCKED (CAR CURRENT-KEY)
        W]))
```

(VKBD.EDIT.LARGE-WINDOW-REPAINTFN

```
[LAMBDA (W) (* sm "13-Aug-85 12:43")
  (for I from 0 to 20 as Y from 390 by -25 do (MOVETO 10 Y W)
    (PRIN1 (OCTALSTRING I)
      W))
  (for I from 0 by 16 to 255 as X from 40 by 29 do (MOVETO X 420 W)
    (PRIN1 (OCTALSTRING I)
      W]))
```

(VKBD.EDIT.MAKE-CURRENT-KEY

```
[LAMBDA (KEY WINDOW MOUSEKEY) (* sm "7-Aug-85 17:51")
  (PROG (CURRENT-KEY SHIFTED CURRENT-KEY-ASSIGNMENT CURRENT-KEY-INFO LOCKED)
    (SETQ SHIFTED (WINDOWPROP WINDOW 'VKBD.SHIFT-DOWN))
    (SETQ CURRENT-KEY-INFO (WINDOWPROP WINDOW 'VKBD.CURRENT-KEY))
    (if (VKBD.LOCK-KEYP KEY WINDOW)
      then (if (CADR CURRENT-KEY-INFO)
        then (SETQ CURRENT-KEY-ASSIGNMENT (VKBD.FETCH-KEY-ASSIGNMENT (CAR CURRENT-KEY-INFO)
          WINDOW))
        (SETQ LOCKED (EQ (VKBD.LOCK/NOLOCK CURRENT-KEY-ASSIGNMENT)
          'LOCKSHIFT))
```

```

(RPLACA (CDDADR CURRENT-KEY-ASSIGNMENT)
  (if LOCKED
    then 'NOLOCKSHIFT
    else 'LOCKSHIFT))
(VKBD.INVERT-LOCK-KEYS WINDOW)
elseif (VKBD.ASSIGNABLE-KEYP KEY WINDOW)
  then (if CURRENT-KEY-INFO
    then (VKBD.ERASE-FRAME (CAR CURRENT-KEY-INFO)
      WINDOW 2)
    (if (CADR CURRENT-KEY-INFO)
      then (VKBD.INVERT-SHIFT-KEYS WINDOW)
        (VKBD.EDIT.INVERT-IF-LOCKED (CAR CURRENT-KEY-INFO)
          WINDOW)))
(VKBD.FRAME-KEY KEY WINDOW BLACKSHADE 2)
(if SHIFTED
  then (VKBD.INVERT-SHIFT-KEYS WINDOW)
    (VKBD.EDIT.INVERT-IF-LOCKED KEY WINDOW))
(WINDOWPROP WINDOW 'VKBD.CURRENT-KEY (LIST KEY SHIFTED))

```

**(VKBD.EDIT.QUIT-COMMAND**

```

[LAMBDA (WINDOW) (* sm " 2-Aug-85 15:12")
  [REPLACE KEYASSIGNMENTS OF (WINDOWPROP WINDOW 'VKBD.ORIGINAL-KEYBOARD) WITH (FETCH KEYASSIGNMENTS
    OF (WINDOWPROP WINDOW 'VKBD.KEYBOARD)
    (NOTIFY.EVENT (WINDOWPROP WINDOW 'VKBD.EDITOR-RETURN-EVENT))

```

**(VKBD.EDIT.STOP-COMMAND**

```

[LAMBDA (WINDOW) (* sm " 2-Aug-85 13:04")
  (NOTIFY.EVENT (WINDOWPROP (MAINWINDOW WINDOW T)
    'VKBD.EDITOR-RETURN-EVENT))

```

**(VKBD.EDIT.SWITCH-CHAR-SET-COMMAND**

```

[LAMBDA (MAIN-WINDOW) (* sm " 5-Aug-85 09:28")
  (PROG (LARGE-WINDOW NEW-NUMBER)
    (SETQ LARGE-WINDOW (CAR (ATTACHEDWINDOWS MAIN-WINDOW)))
    [SETQ NEW-NUMBER (MENU (WINDOWPROP MAIN-WINDOW 'VKBD.CHAR-SET-MENU)
      (create POSITION
        XCOORD _ [IPLUS 34 (fetch (REGION LEFT) of (WINDOWPROP LARGE-WINDOW
          'REGION)
        YCOORD _ (IPLUS 9 (fetch (REGION BOTTOM) of (WINDOWPROP LARGE-WINDOW
          'REGION)
      (if NEW-NUMBER
        then (VKBD.EDIT.SWITCH-CHARACTER-SET NEW-NUMBER LARGE-WINDOW))

```

**(VKBD.EDIT.SWITCH-CHARACTER-SET**

```

[LAMBDA (SET-NUMBER WINDOW) (* sm " 6-Aug-85 14:08")
  (PROG (MENU OLDCURSOR FONT)
    (if (WINDOWPROP WINDOW 'MENU)
      then (DELETEMENU (CAR (WINDOWPROP WINDOW 'MENU))
        NIL WINDOW))
    (WINDOWPROP WINDOW 'TITLE (CONCAT "Character set " (OCTALSTRING SET-NUMBER)))
    [SETQ FONT (FONTCREATE (fetch (KEYBOARDCONFIGURATION KEYBOARDDISPLAYFONT) of (VKBD.GET-CONFIGURATION
      (MAINWINDOW WINDOW)
    (ADDMENU (VKBD.EDIT.CREATE-CHARACTERS-MENU SET-NUMBER FONT)
      WINDOW
      (create POSITION
        XCOORD _ 30
        YCOORD _ 5))

```

**(VKBD.EDIT.ROTATED-NUMBER**

```

[LAMBDA (NUM ROW-NUM COL-NUM) (* edited%: " 3-Jun-85 12:47")
  (IPLUS (ITIMES (IMOD (SUB1 NUM)
    COL-NUM)
    ROW-NUM)
  (ADD1 (IQUOTIENT (SUB1 NUM)
    COL-NUM))
)

```

(RPAQ? VKBD.EDIT.ALLOW-NON-CHAR-ASSIGNMENTS T)

(RPAQ? VKBD.EDIT.MAX-NUMBER-OF-CASHED-MENUS 15)

(RPAQ? VKBD.EDITOR-WINDOW-HEIGHT 450)

(RPAQ? VKBD.EDITOR-WINDOW-WIDTH 512)

(RPAQ? VKBD.EDIT.DISPLAY-CHAR-SETS-NAMES T)

(RPAQQ VKBD.EDIT.BACKGROUND-MENU-SUBITEMS

(SUBITEMS ("New Keyboard, default initial" ' (ADD.PROCESS ' (VKBD.EDIT-KEYBOARD-COMMAND T))
 "Calls the keyboard editor. Will prompt for name for the new keyboard, and will use the



```

    default keyboard as the initial keyboard")
("New keyboard, other initial" '(ADD.PROCESS '(VKBD.EDIT-KEYBOARD-COMMAND T)))
    "Calls the keyboard editor. Will prompt for name for the new keyboard, and will pop up a
    menu of the current known keyboards. The selected one will be used as the initial
    keyboard")
("Existing keyboard" '(ADD.PROCESS '(VKBD.EDIT-KEYBOARD-COMMAND)))
    "Will let you select a keyboard from list of the known keyboards, and will calls the
    keyboard editor on the selected keyboard."))

```

(RPAQQ VKBD.EDIT.CASH-MENUES NIL)

(RPAQQ VKBD.EDIT.CHAR-SET-NAMES

```

(("ASCII/ISO/CCITT Roman Alphabet and Punctuation" 0)
("JIS Symbols 1 - Punctuation and Symbols not in Char set 0" 33)
("JIS Symbols 2 - Punctuation and Symbols not in Char set 0" 34)
("Extended Latin" 35)
("JIS Hiragana" 36)
("JIS Katakana" 37)
("Greek" 38)
("Cyrillic" 39)
("Symbols 3 - Miscellaneous Japanese Symbols" 116)
("General and Technical Symbols 2" 238)
("General and Technical Symbols 1" 239)
("Ligatures, Graphical Entities, and Field Format Symbols" 240)
("Accented Characters" 241)))

```

(RPAQQ VKBD.EDIT.MENU-ITEMS

```

(("CharSet" VKBD.EDIT.SWITCH-CHAR-SET-COMMAND "Pops up a menu of all possible
character set number. Selecting one will switch the displayed character
set.")
("Stop" VKBD.EDIT.STOP-COMMAND "Exit from the keyboard editor. Returns the new
keyboard, but does not modify the original one.")
("Quit" VKBD.EDIT.QUIT-COMMAND "Exit from the keyboard editor. Modifies the
roriginal keyboard and returns it .")
("Define" VKBD.EDIT.DEFINE-COMMAND "Adds the edited keyboard in its current state
to the set of known keyboards."))

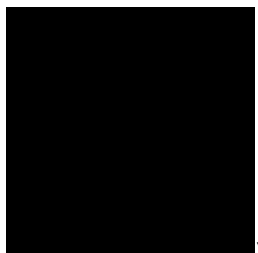
```

(RPAQQ VKBD.EDIT.NON-CHAR-ASSIGNMENTS (SHIFT CTRL META LOCK LOCKDOWN LOCKUP EVENT))

(RPAQQ VKBD.EDIT.ICON



(RPAQQ VKBD.EDIT.MASK



(DECLARE%: DOEVAL@COMPILE DONTCOPY

```

(GLOBALVARS VKBD.EDIT.ALLOW-NON-CHAR-ASSIGNMENTS VKBD.EDIT.BACKGROUND-MENU-SUBITEMS
VKBD.EDIT.MAX-NUMBER-OF-CASHED-MENUS VKBD.EDITOR-WINDOW-HEIGHT VKBD.EDITOR-WINDOW-WIDTH
VKBD.EDIT.DISPLAY-CHAR-SETS-NAMES VKBD.EDIT.CASH-MENUES VKBD.EDIT.CHAR-SET-NAMES VKBD.EDIT.MENU-ITEMS
VKBD.EDIT.NON-CHAR-ASSIGNMENTS VKBD.CONF.ICON VKBD.EDIT.ICON VKBD.EDIT.MASK)
)

```

(VKBD.EDIT.ADD-SUBITEM-TO-BACKGROUND-MENU (LIST "Edit" '(ADD.PROCESS '(VKBD.EDIT-KEYBOARD-COMMAND T))

```

"Calls the keyboard editor. Will prompt for name for the new
keyboard, and will use the default keyboard as the initial
keyboard" VKBD.EDIT.BACKGROUND-MENU-SUBITEMS)

```

"Keyboard")

(PUTPROPS KEYBOARDEDITOR COPYRIGHT ("Venue & Xerox Corporation" 1985 1987 1990 1995))

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**FUNCTION INDEX**

EDITCONFIGURATION .....	1	VKBD.EDIT.CREATE-COMMAND-MENU .....	5
EDITKEYBOARD .....	4	VKBD.EDIT.CREATE-DISPLAY .....	6
VKBD.CONF.CHANGE-KEY-VALUE .....	1	VKBD.EDIT.CREATE-NON-CHAR-ASSIGMENTS-MENU .....	5
VKBD.CONF.DISPLAY-FIELD-VALUE .....	2	VKBD.EDIT.DEFINE-COMMAND .....	7
VKBD.CONF.DISPLAY-INFO-KEYBOARD .....	2	VKBD.EDIT.DO-MENU-COMMAND .....	7
VKBD.CONF.DISPLAY-KEY-INFO .....	3	VKBD.EDIT.ICONFN .....	7
VKBD.CONF.EDIT-DEFAULT-ASSIGNMENTS .....	3	VKBD.EDIT.INVERT-IF-LOCKED .....	7
VKBD.CONF.ICONFN .....	3	VKBD.EDIT.KEYBOARD-REPAINTFN .....	7
VKBD.CONF.PARSE-CONFIGURATION .....	3	VKBD.EDIT.LARGE-WINDOW-REPAINTFN .....	7
VKBD.EDIT-KEYBOARD-COMMAND .....	5	VKBD.EDIT.MAKE-CURRENT-KEY .....	7
VKBD.EDIT.ADD-SUBITEM-TO-BACKGROUND-MENU .....	4	VKBD.EDIT.QUIT-COMMAND .....	8
VKBD.EDIT.ASSIGN-CHARACTER .....	5	VKBD.EDIT.ROTATED-NUMBER .....	8
VKBD.EDIT.ASSIGN-NON-CHARACTER .....	5	VKBD.EDIT.STOP-COMMAND .....	8
VKBD.EDIT.CREATE-CHARACTER-SETS-MENU .....	6	VKBD.EDIT.SWITCH-CHAR-SET-COMMAND .....	8
VKBD.EDIT.CREATE-CHARACTERS-MENU .....	6	VKBD.EDIT.SWITCH-CHARACTER-SET .....	8

---

**VARIABLE INDEX**

VKBD.CONF.ICON .....	4	VKBD.EDIT.MASK .....	9
VKBD.EDIT.ALLOW-NON-CHAR-ASSIGNMENTS .....	8	VKBD.EDIT.MAX-NUMBER-OF-CASHED-MENUS .....	8
VKBD.EDIT.BACKGROUND-MENU-SUBITEMS .....	8	VKBD.EDIT.MENU-ITEMS .....	9
VKBD.EDIT.CASH-MENUES .....	9	VKBD.EDIT.NON-CHAR-ASSIGNMENTS .....	9
VKBD.EDIT.CHAR-SET-NAMES .....	9	VKBD.EDITOR-WINDOW-HEIGHT .....	8
VKBD.EDIT.DISPLAY-CHAR-SETS-NAMES .....	8	VKBD.EDITOR-WINDOW-WIDTH .....	8
VKBD.EDIT.ICON .....	9		

---