File created: 9-May-88 23:30:55 **{ERINYES}<LISPUSERS>MEDLEY>TEK4010CHAT.;1**

previous date: 5-Sep-85 17:36:43 {ERINYES}<LISPUSERS>LYRIC>TEK4010CHAT.;1

Read Table: INTERLISP

Package: INTERLISP

Format: XCCS

;;

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(RPAQQ TEK4010CHATCOMS
       [(RECORDS TEK4010.STATE)
        (FNS TEK4010.ALPHASTATE TEK4010.CLEAR TEK4010.CLOSEFN TEK4010.CROSSHAIR TEK4010CHAT.INIT
             TEK4010.NEXTSTATE TEK4010.RELMOVETO TEK4010.SCALE TEK4010.SENDCOORD TEK4010CHAT.BUTTONFN
             TEK4010.RESHAPEFN TEK4010CHAT.HANDLECHAR TEK4010CHAT.MENUFN TEK4010.GRAPHICSSTATE TEK4010.CTRLCHAR
             TEK4010.ESCAPECHAR TEK4010.UNSCALE TEK4010.GLOMHI&LO TEK4010.MOVETO TEK4010.DRAWTO)
        (INITVARS (TEK4010CHAT.MENU NIL))
        (VARS TEK4010CHAT.MENUITEMS)
        (ADDVARS (CHAT.DRIVERTYPES (TEK4010 TEK4010CHAT.HANDLECHAR TEK4010CHAT.INIT])

(DECLARE%: EVAL@COMPILE

(DATATYPE TEK4010.STATE (CURRENTSTATE PREVSTATE (HIX INTEGER)
                               (LOX INTEGER)
                               (HIY INTEGER)
                               (LOY INTEGER)
                               (INBYTE BITS 8)
                               (HI2BITS BITS 2)
                               (LO5BITS BITS 5)
                               BYTESTATE
                               (DRAWP FLAG)
                               (ROW INTEGER)
                               (MARGIN INTEGER))
       CURRENTSTATE _ 'TEK4010.ALPHASTATE HIX _ 0 LOX _ 0 HIY _ 0 LOY _ 0 INBYTE _ 0 HI2BITS _ 0 LO5BITS _ 0 ROW
       _ 1 MARGIN _ 0)
)

(/DECLAREDATATYPE 'TEK4010.STATE '(POINTER POINTER FIXP FIXP FIXP FIXP (BITS 8)
                                          (BITS 2)
                                          (BITS 5)
                                          POINTER FLAG FIXP FIXP)
       ;; ---field descriptor list elided by lister---
       '18)

(DEFINEQ

(TEK4010.ALPHASTATE
  [LAMBDA (CHAT.STATE STATE)                                       (* jds " 5-Sep-85 11:41")

                (* This function resets the DRAWP and BYTESTATE fields to NIL such that the next time GRAPHICSSTATE is entered, it
                will be clean, and then either outputs the alpha character or calls the control char routine if the high 2 bits are zero.)

    (replace (TEK4010.STATE DRAWP) of STATE with NIL)
    (replace BYTESTATE of STATE with NIL)
    (COND
       ((ZEROP (fetch (TEK4010.STATE HI2BITS) of STATE))
        (TEK4010.CTRLCHAR CHAT.STATE STATE))
       (T (BOUT (fetch (CHAT.STATE DSP) of CHAT.STATE)
                (fetch (TEK4010.STATE INBYTE) of STATE])

(TEK4010.CLEAR
  [LAMBDA (CHAT.STATE WINDOW)                                      (* AJB " 5-Sep-85 17:36")
                                                                   (* This functions clears the screen and resets the cursor to the
                                                                   top left corner)
    (LET ((OUTSTREAM (fetch (CHAT.STATE DSP) of CHAT.STATE))
          (STATE (fetch (CHAT.STATE TERM.STATE) of CHAT.STATE)))
         (CARET 'OFF)
         (DSPRESET OUTSTREAM)
         (CARET T)
         (replace (TEK4010.STATE ROW) of STATE with 1)
         (replace (TEK4010.STATE MARGIN) of STATE with 0)
         (TEK4010.NEXTSTATE STATE 'TEK4010.ALPHASTATE)
         (replace BYTESTATE of STATE with NIL)
         (replace (TEK4010.STATE DRAWP) of STATE with NIL)
         (DSPLEFTMARGIN 0 OUTSTREAM)                               (* Set the right margin to the width of the window)
         (DSPRIGHTMARGIN (FETCH WIDTH OF (DSPCLIPPINGREGION NIL OUTSTREAM))
                OUTSTREAM])

(TEK4010.CLOSEFN
  [LAMBDA (WINDOW)                                                 (* AJB " 5-Sep-85 15:36")
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                                                                      (* This function resets the window back to a default state)
    (WINDOWDELPROP WINDOW 'RESHAPEFN (FUNCTION TEK4010.RESHAPEFN))
                                                                      (* remove reshape function from window prop)
    (WINDOWDELPROP WINDOW 'CLOSEFN (FUNCTION TEK4010.CLOSEFN))        (* Remove this close function so it doesn't get called again)
    (DSPOPERATION 'REPLACE WINDOW)                                    (* Restore REPLACE mode for BITBLT)
                                                                      (* Turn scrolling back on)
    (DSPSCROLL 'ON WINDOW])


(TEK4010.CROSSHAIR
  [LAMBDA (WINDOW)                                                    (* edited%: "26-Apr-85 16:14")
                                                                      (* Moves crosshair around screen until anykey is struct and then

    returns X Y location)
    (PROG [(WIDTH (WINDOWPROP WINDOW 'WIDTH))
           (HEIGHT (WINDOWPROP WINDOW 'HEIGHT))
           (REGION (WINDOWPROP WINDOW 'REGION))
           (OUTSTREAM (WINDOWPROP WINDOW 'DSP]
          (LET* [(LEFT 0)
                 (RIGHT (PLUS LEFT WIDTH))
                 (BOTTOM 0)
                 (TOP (PLUS BOTTOM HEIGHT))
                 (LASTY (LASTMOUSEY WINDOW))
                 (LASTX (LASTMOUSEX WINDOW))
                 (CROSSHAIRX (WINDOWPROP WINDOW 'CROSSHAIRX))
                 (CROSSHAIRY (WINDOWPROP WINDOW 'CROSSHAIRY]
                (COND
                   [CROSSHAIRX (COND
                                  ((NEQ CROSSHAIRX LASTX)
                                   (BLTVLINE CROSSHAIRX 0 HEIGHT WINDOW GRAYSHADE)
                                   (BLTVLINE LASTX 0 HEIGHT WINDOW GRAYSHADE]
                   (T (SETQ LASTX (COND
                                     ((LESSP LASTX LEFT)
                                      LEFT)
                                     ((GREATERP LASTX RIGHT)
                                      (DIFFERENCE RIGHT 2))
                                     (T LASTX)))
                      (BLTVLINE LASTX 0 HEIGHT WINDOW GRAYSHADE)))
                (WINDOWPROP WINDOW 'CROSSHAIRX LASTX)
                (COND
                   [CROSSHAIRY (COND
                                  ((NEQ CROSSHAIRY LASTY)
                                   (BLTHLINE CROSSHAIRY 0 WIDTH WINDOW GRAYSHADE)
                                   (BLTHLINE LASTY 0 WIDTH WINDOW GRAYSHADE]
                   (T (SETQ LASTY (COND
                                     ((LESSP LASTY BOTTOM)
                                      BOTTOM)
                                     ((GREATERP LASTY TOP)
                                      (DIFFERENCE TOP 2))
                                     (T LASTY)))
                      (BLTHLINE LASTY 0 WIDTH WINDOW GRAYSHADE)))
                (WINDOWPROP WINDOW 'CROSSHAIRY LASTY])


(TEK4010CHAT.INIT
  [LAMBDA (CHAT.STATE)                                                (* AJB " 5-Sep-85 17:30")
                                                                      (* Initialize a CHAT connection using the TEKtronix 4010
                                                                      emulator for display)
    (PROG* ((OUTSTREAM (fetch (CHAT.STATE DSP) of CHAT.STATE))
            (WINDOW (WFROMDS OUTSTREAM))
            (XSCALE (FQUOTIENT (fetch WIDTH of (DSPCLIPPINGREGION NIL OUTSTREAM))
                           1024))
            (YSCALE (FQUOTIENT (fetch HEIGHT of (DSPCLIPPINGREGION NIL OUTSTREAM))
                           768)))
           (DSPFONT '(GACHA 10 MRR)
                  OUTSTREAM)
           (WINDOWADDPROP WINDOW 'RESHAPEFN (FUNCTION TEK4010.RESHAPEFN))
                                                                      (* Add reshape window function to rescale X,Y coords to new
                                                                      window size)
           (WINDOWADDPROP WINDOW 'CLOSEFN (FUNCTION TEK4010.CLOSEFN)
                  T)                                                  (* Add close function to restore state back)
                                                                      (* NOTE%: CLOSE function must be put at beginning of
                                                                      property list for CLOSEFN WINDOWPROP)
           (WINDOWPROP WINDOW 'CURSORMOVEDFN NIL)                     (* Make sure crosshair function is disabled)
           (WINDOWPROP WINDOW 'CROSSHAIRX NIL)
           (WINDOWPROP WINDOW 'CROSSHAIRY NIL)
           (DSPLEFTMARGIN 0 OUTSTREAM)
           (DSPRIGHTMARGIN (FETCH WIDTH OF (DSPCLIPPINGREGION NIL OUTSTREAM)))
                                                                      (* Set the right margin to the width of the window)
           (DSPOPERATION 'PAINT OUTSTREAM)                            (* Set BITBLT to OR bits since this is emulating a storage tube
                                                                      device)
           (STREAMPROP OUTSTREAM 'TEK4010.SCALE (MIN XSCALE YSCALE))

          (* Set the scale on the output stream so that the entire screen image will fit into the CHAT window)

           (SETQ CHAT.EMULATORTYPE 'TEK4010)
           (WINDOWPROP WINDOW 'BUTTONEVENTFN (FUNCTION TEK4010CHAT.BUTTONFN))
           (RETURN (create TEK4010.STATE])
(TEK4010.NEXTSTATE
  [LAMBDA (STATE NEXTSTATE)                                     (* jds " 5-Sep-85 11:38")

          (* This function replaces the state of the emulator which is either ALPHASTATE or GRAPHICSSTATE in the STATE
          instance of the TEK4010.STATE datatype)

    (replace PREVSTATE of STATE with (fetch (TEK4010.STATE CURRENTSTATE) of STATE))
    (replace (TEK4010.STATE CURRENTSTATE) of STATE with NEXTSTATE])

(TEK4010.RELMOVETO
  [LAMBDA (RELX RELY STREAM)                                    (* jds " 5-Sep-85 11:23")
                                                                (* Given RELX, RELY in TEK4010 units, move STREAM to the
                                                                corresponding relative location.)
    (RELMOVETO (TEK4010.SCALE RELX STREAM)
           (TEK4010.SCALE RELY STREAM)
           STREAM])

(TEK4010.SCALE
  [LAMBDA (COORD STREAM)                                        (* jds " 5-Sep-85 11:20")

          (* Given an X or Y coordinate in TEK4010 units, scale it to fit inside STREAM's clipping region.
          The TEK4010.SCALE STREAMPROP has to be set up by the output-stream opener, usually TEK4010CHAT.INIT)

    (FIXR (FTIMES COORD (OR (STREAMPROP STREAM 'TEK4010.SCALE)
                            1.0])

(TEK4010.SENDCOORD
  [LAMBDA (STREAM COORD SENDINGY)                               (* jds " 5-Sep-85 11:36")
                                                                (* Send X or Y crosshair coordinate back to computer)
    (BOUT STREAM (IPLUS (LRSH (OR (NUMBERP COORD)
                                  0)
                              5)
                        32))                                    (* Send the hi half of the coordinate)
    (BOUT STREAM (IPLUS (LOGAND (OR (NUMBERP COORD)
                                    0)
                                31)
                        (COND
                           (SENDINGY                            (* The low-Y coord gets bumped by 96)
                                  96)
                           (T                                   (* The low-X coord gets bumped by 64)
                              64])

(TEK4010CHAT.BUTTONFN
  [LAMBDA (WINDOW)                                              (* AJB "24-May-85 15:27")
    (COND
       ((LASTMOUSESTATE LEFT)
        (CHAT.HOLD WINDOW))
       ((LASTMOUSESTATE MIDDLE)
        (TEK4010CHAT.MENUFN WINDOW])

(TEK4010.RESHAPEFN
  [LAMBDA (WINDOW OLDIMAGE IMAGEREGION OLDSCREENREGION)         (* AJB " 5-Sep-85 15:51")

          (* * This reshape window function is necessary to rescale the TEK4010 coordinates to the new window size)

    (PROG* ((CHAT.STATE (WINDOWPROP WINDOW 'CHATSTATE))
            (OUTSTREAM (fetch (CHAT.STATE DSP) of CHAT.STATE))
            (XSCALE (FQUOTIENT (fetch WIDTH of (DSPCLIPPINGREGION NIL OUTSTREAM))
                           1024))
            (YSCALE (FQUOTIENT (fetch HEIGHT of (DSPCLIPPINGREGION NIL OUTSTREAM))
                           768)))
           (STREAMPROP OUTSTREAM 'TEK4010.SCALE (MIN XSCALE YSCALE))

          (* Set the scale on the output stream so that the entire screen image will fit into the CHAT window)

           (WINDOWPROP WINDOW 'CROSSHAIRX NIL)                  (* Make sure crosshair function is disabled)
           (WINDOWPROP WINDOW 'CROSSHAIRY NIL)
           (TEK4010.CLEAR CHAT.STATE WINDOW)                    (* Clear the window and reset display stream coordinates)
       ])

(TEK4010CHAT.HANDLECHAR
  [LAMBDA (CH CHAT.STATE STATE)                                 (* jds " 5-Sep-85 11:40")

          (* This function is called by CHAT to handle a single char from the input stream ;
          stores the char in INBYTE, the high 2 bits in HI2BITS, and the lower 5 bits in LO5BITS in the instance of the
          TEK4010.STATE DATATYPE parameter called STATE It then fetches the current state of the emulator
          (GRAPHICSSTATE or ALPHASTATE) and executes the corresponding named function.
          Currently the initialization is triggered from here, since CHAT has no initialize hook for other emulators.)
    (replace (TEK4010.STATE INBYTE) of STATE with CH)
    (replace (TEK4010.STATE HI2BITS) of STATE with (LRSH (fetch (TEK4010.STATE INBYTE) of STATE)
                                                         5))
    (replace (TEK4010.STATE LO5BITS) of STATE with (LOGAND (fetch (TEK4010.STATE INBYTE) of STATE)
                                                           31))
    (APPLY* (fetch (TEK4010.STATE CURRENTSTATE) of STATE)
           CHAT.STATE STATE])
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(TEK4010CHAT.MENUFN
  [LAMBDA (WINDOW)                                              (* AJB "24-May-85 15:33")
    (DECLARE (GLOBALVARS TEK4010CHAT.MENU)
           (SPECVARS WINDOW STATE))                             (* Called by YELLOW)
    (PROG ((STATE (WINDOWPROP WINDOW 'CHATSTATE))
           COMMAND)
          [COND
             ((NOT STATE)                                       (* No Connection here; try to reestablish)
              (RETURN (COND
                         ((LASTMOUSESTATE MIDDLE)
                          (CHAT.RECONNECT WINDOW))
                         (T (TOTOPW WINDOW]
          (replace (CHAT.STATE HELD) of STATE with T)
          (\CHECKCARET WINDOW)
          (SELECTQ [SETQ COMMAND (MENU (OR TEK4010CHAT.MENU (SETQ TEK4010CHAT.MENU (create MENU
                                                                                   ITEMS _
                                                                                   TEK4010CHAT.MENUITEMS]
              (Close (replace (CHAT.STATE RUNNING?) of STATE with 'CLOSE)
                                                                (* Ask CHAT.TYPEIN to shut things down.)
                     )
              (New (replace (CHAT.STATE RUNNING?) of STATE with 'CLOSE)
                   (WINDOWPROP WINDOW 'KEEPCHAT 'NEW))
              (Suspend (replace (CHAT.STATE RUNNING?) of STATE with 'CLOSE)
                       (WINDOWPROP WINDOW 'KEEPCHAT T))
              (Freeze                                           (* Leave in HELD state)
                     (RETURN))
              (NIL)
              (APPLY* COMMAND STATE WINDOW))
          (replace (CHAT.STATE HELD) of STATE with NIL])
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(TEK4010.GRAPHICSSTATE
  [LAMBDA (CHAT.STATE STATE)                                    (* jds " 5-Sep-85 11:41")

          (* This function collects up to 4 bytes of XY position, ie, HIX, HIY, LOY, LOX and does a MOVETO or DRAWTO when the
          last byte is received which is always LOX. The previous values of HIX, HIY, & LOY may be used to move or draw, Only a
          new LOX is required to evoke the operation.)

          (* The high 2 bits of the byte are used to indicate which byte is being received, however if it is zero, then it is a control char
          and handled by the CTRLCHAR routine. The other bytes are determined as follows%: 1 => HIY or HIX;
          2 => LOX; 3 => LOY Notice there are 2 possibilities for the high 2 bits=1.
          The proper byte is determined by which byte was collected the last time.
          So to keep track of this a field called BYTESTATE is maintained in the STATE record to remember the previous byte)

          (* When the state goes from ALPHAMODE to GRAPHICSMODE, the first set of bytes are used to do a MOVETO, and
          subsequent sets of bytes are used to do DRAWTOs. The only way to do a subsequent MOVETO is reenter
          GRAPHICSMODE using a control character such as 29 which enters GRAPHICSMODE.
          This is the way that positioning text must be done)

    (LET ((HI2BITS (fetch (TEK4010.STATE HI2BITS) of STATE))
          (LO5BITS (fetch (TEK4010.STATE LO5BITS) of STATE))
          (BYTESTATE (fetch BYTESTATE of STATE))
          (INSTREAM (fetch (CHAT.STATE INSTREAM) of CHAT.STATE))
          (OUTSTREAM (fetch (CHAT.STATE DSP) of CHAT.STATE)))
         (SELECTQ HI2BITS
             (0 (TEK4010.CTRLCHAR CHAT.STATE STATE))
             (1 [COND
                   ((EQUAL BYTESTATE 'LOY)
                    (replace (TEK4010.STATE HIX) of STATE with LO5BITS)
                    (replace BYTESTATE of STATE with 'HIX))
                   (T (replace (TEK4010.STATE HIY) of STATE with LO5BITS)
                      (replace BYTESTATE of STATE with 'HIY])
             (2 (replace (TEK4010.STATE LOX) of STATE with LO5BITS)
                (replace BYTESTATE of STATE with 'LOX)
                (COND
                   ((fetch (TEK4010.STATE DRAWP) of STATE)
                    (TEK4010.DRAWTO (TEK4010.GLOMHI&LO (fetch (TEK4010.STATE HIX) of STATE)
                                           (fetch (TEK4010.STATE LOX) of STATE))
                           (TEK4010.GLOMHI&LO (fetch (TEK4010.STATE HIY) of STATE)
                                  (fetch (TEK4010.STATE LOY) of STATE))
                           1 NIL OUTSTREAM))
                   (T (TEK4010.MOVETO (TEK4010.GLOMHI&LO (fetch (TEK4010.STATE HIX) of STATE)
                                             (fetch (TEK4010.STATE LOX) of STATE))
                             (TEK4010.GLOMHI&LO (fetch (TEK4010.STATE HIY) of STATE)
                                    (fetch (TEK4010.STATE LOY) of STATE))
                             OUTSTREAM)
                      (replace (TEK4010.STATE DRAWP) of STATE with T))))
             (3 (replace (TEK4010.STATE LOY) of STATE with LO5BITS)
                  (replace BYTESTATE of STATE with 'LOY))
               (SHOULDNT])

(TEK4010.CTRLCHAR
  [LAMBDA (CHAT.STATE STATE)                                        (* AJB " 5-Sep-85 15:13")

                 (* This function performs various control char functions such as CR, LF, enter GRAPHICSSTATE or ALPHASTATE, ring the
                 bell, clear the screen, etc.)

    (LET* ((INSTREAM (fetch (CHAT.STATE INSTREAM) of CHAT.STATE))
           (OUTSTREAM (fetch (CHAT.STATE DSP) of CHAT.STATE))
           (LO5BITS (fetch (TEK4010.STATE LO5BITS) of STATE))
           (HI2BITS (fetch (TEK4010.STATE HI2BITS) of STATE))
           (SPACEWIDTH (CHARWIDTH (CHARCODE SPACE)
                              OUTSTREAM))
           (SPACEHEIGHT 22))
          (SELCHARQ LO5BITS
               (^D (TEK4010.NEXTSTATE STATE (FUNCTION TEK4010.ALPHASTATE)))
               (^G (replace (TEK4010.STATE DRAWP) of STATE with NIL)
                   (replace BYTESTATE of STATE with NIL)
                   (RINGBELLS 1))
               (BS (RELMOVETO (IMINUS SPACEWIDTH)
                          0 OUTSTREAM)
                   (replace (TEK4010.STATE DRAWP) of STATE with NIL)
                   (replace BYTESTATE of STATE with NIL))
               (TAB (RELMOVETO SPACEWIDTH 0 OUTSTREAM)
                    (replace (TEK4010.STATE DRAWP) of STATE with NIL)
                    (replace BYTESTATE of STATE with NIL))
               (LF (RELMOVETO 0 (IMINUS SPACEHEIGHT)
                          OUTSTREAM)
                   (replace (TEK4010.STATE DRAWP) of STATE with NIL)
                   (replace BYTESTATE of STATE with NIL)
                   (add (fetch (TEK4010.STATE ROW) of STATE)
                        1)
                   [COND
                      ((GREATERP (fetch (TEK4010.STATE ROW) of STATE)
                              (TEK4010.SCALE 35 OUTSTREAM))
                       (replace (TEK4010.STATE ROW) of STATE with 1)
                                                                    (* at bottom of screen, clear screen and pos to top -
                                                                    no scrolling)
                                                                    (* Determine whether to goto margin 1
                                                                    (top/middle of screen) or margin 0
                                                                    (top/left) of screen)
                       (COND
                          ((NEQ (fetch (TEK4010.STATE MARGIN) of STATE)
                                0)
                           (replace (TEK4010.STATE MARGIN) of STATE with 0)
                           (DSPLEFTMARGIN 0 OUTSTREAM)
                           (MOVETO 0 (IDIFFERENCE (WINDOWPROP (WFROMDS OUTSTREAM)
                                                             'HEIGHT)
                                            (FONTPROP OUTSTREAM 'HEIGHT))
                                  OUTSTREAM))
                          (T (replace (TEK4010.STATE MARGIN) of STATE with (TEK4010.SCALE 512 OUTSTREAM))
                             (DSPXPOSITION (TEK4010.SCALE 512 OUTSTREAM)
                                    OUTSTREAM)
                             (DSPLEFTMARGIN (TEK4010.SCALE 512 OUTSTREAM)
                                    OUTSTREAM)
                             (DSPYPOSITION (WINDOWPROP (WFROMDS OUTSTREAM)
                                                  'HEIGHT)
                                    OUTSTREAM])
               (^K (TEK4010.RELMOVETO 0 SPACEHEIGHT OUTSTREAM)
                   (replace (TEK4010.STATE DRAWP) of STATE with NIL)
                   (replace BYTESTATE of STATE with NIL))
               (ESC (TEK4010.ESCAPECHAR CHAT.STATE STATE))
               (^                                                   (* 29)
                  (replace (TEK4010.STATE DRAWP) of STATE with NIL)
                  (replace BYTESTATE of STATE with NIL)
                  (TEK4010.NEXTSTATE STATE (FUNCTION TEK4010.GRAPHICSSTATE)))
               (CR (MOVETO (fetch (TEK4010.STATE MARGIN) of STATE)
                          (DSPYPOSITION NIL OUTSTREAM)
                          OUTSTREAM)
                   (TEK4010.NEXTSTATE STATE (FUNCTION TEK4010.ALPHASTATE)))
               (^_                                                  (* 31)
                   (TEK4010.NEXTSTATE STATE (FUNCTION TEK4010.ALPHASTATE)))
               NIL])

(TEK4010.ESCAPECHAR
  [LAMBDA (CHAT.STATE STATE)                                        (* jds " 5-Sep-85 11:36")
                                                                    (* Handles ESCAPE sequences.)
    (LET* ((INSTREAM (fetch (CHAT.STATE INSTREAM) of CHAT.STATE))
           (OUTSTREAM (fetch (CHAT.STATE DSP) of CHAT.STATE))
           (CHAR (LOGAND (BIN INSTREAM)
                        127))
           (WINDOW (WFROMDS OUTSTREAM))
           (SSTREAM (fetch (CHAT.STATE OUTSTREAM) of CHAT.STATE))
          (WIDTH (WINDOWPROP WINDOW 'WIDTH))
          (HEIGHT (WINDOWPROP WINDOW 'HEIGHT))
          PREVPROC PREVDS CROSSHAIRX CROSSHAIRY)
         (COND
            ((EQ CHAR (CHARCODE FF))                         (* ESC FF clears screen and resets cursor to top, and switches
             to (if not already in) alphamode)
             (DSPRESET OUTSTREAM)
             (TEK4010.NEXTSTATE STATE (FUNCTION TEK4010.ALPHASTATE)))
            ((EQ CHAR (CHARCODE ^Z))

         (* Go into Graphic Input Mode. Display crosshairs while tracking mouse, until 1st keyboard character is entered.
         Then send character plus location of crosshair back to computer)

             (TEK4010.CROSSHAIR WINDOW)                      (* DISPLAY CROSSHAIR)
             (RESETLST
                 (RESETSAVE (WINDOWPROP WINDOW 'CURSORMOVEDFN (FUNCTION TEK4010.CROSSHAIR))
                        (LIST (FUNCTION WINDOWPROP)
                              WINDOW
                              'CURSORMOVEDFN NIL))

         (* Setup TEK4010.CROSSHAIR routine to track mouse, and setup TTYPROCESS to come to this process instead of the
         chat.input process. RESETRESTORE will put everything back when character is struck from keyboard)

                 (SETQ PREVPROC (WINDOWPROP WINDOW 'PROCESS))
                 (RESETSAVE (WINDOWPROP WINDOW 'PROCESS (THIS.PROCESS))
                        (LIST (FUNCTION WINDOWPROP)
                              WINDOW
                              'PROCESS PREVPROC))
                 (RESETSAVE [COND
                               ((TTY.PROCESSP PREVPROC)
                                (TTY.PROCESS (THIS.PROCESS]
                        (LIST (FUNCTION TTY.PROCESS)
                              PREVPROC))
                 (SETQ PREVDS (TTYDISPLAYSTREAM))
                 (RESETSAVE (TTYDISPLAYSTREAM OUTSTREAM)
                        (LIST (FUNCTION TTYDISPLAYSTREAM)
                              PREVDS))
                 (PAGEHEIGHT 0)                              (* Prevent full page prompt hold up)
                 (DSPSCROLL 'OFF OUTSTREAM)                  (* Turn off scrolling which TTYDISPLAYSTREAM fn turns on)
                 (SETQ CHAR (\GETKEY)))                      (* Wait for keyboard input)
             (SETQ CROSSHAIRX (WINDOWPROP WINDOW 'CROSSHAIRX))
             (SETQ CROSSHAIRY (WINDOWPROP WINDOW 'CROSSHAIRY))
             (BLTHLINE CROSSHAIRY 0 WIDTH WINDOW GRAYSHADE)  (* Erase Crosshair)
             (BLTVLINE CROSSHAIRX 0 HEIGHT WINDOW GRAYSHADE)
             (BOUT SSTREAM CHAR)                             (* Send keyboard char first)
             (TEK4010.SENDCOORD SSTREAM (TEK4010.UNSCALE CROSSHAIRX OUTSTREAM))
                                                             (* send X coord)
             (TEK4010.SENDCOORD SSTREAM (TEK4010.UNSCALE CROSSHAIRY OUTSTREAM)
                    T)                                       (* Send Y coord)
             (BOUT SSTREAM (CHARCODE CR))
             (WINDOWPROP WINDOW 'CROSSHAIRX NIL)
             (WINDOWPROP WINDOW 'CROSSHAIRY NIL])

(TEK4010.UNSCALE
  [LAMBDA (COORD STREAM)                                     (* jds " 5-Sep-85 11:34")

         (* Given an X or Y coordinate in STREAM's units, scale it to TEK4010 units The TEK4010.UNSCALE STREAMPROP has
         to be set up by the output-stream opener, usually TEK4010CHAT.INIT)

    (FIXR (FQUOTIENT COORD (OR (STREAMPROP STREAM 'TEK4010.UNSCALE)
                               1.0])

(TEK4010.GLOMHI&LO
  [LAMBDA (HIBYTE LOBYTE)                                    (* hdj "10-Sep-84 14:32")
    (IPLUS LOBYTE (LLSH HIBYTE 5])

(TEK4010.MOVETO
  [LAMBDA (X Y STREAM)                                       (* jds " 5-Sep-85 11:21")

         (* Given an X,Y coordinate pair in TEK4010 units, move the output stream's location to the equivalent stream point.)

    (MOVETO (TEK4010.SCALE X STREAM)
           (TEK4010.SCALE Y STREAM)
           STREAM])

(TEK4010.DRAWTO
  [LAMBDA (X Y WIDTH OPERATION STREAM)                       (* jds " 5-Sep-85 11:20")

         (* DRAWTO on the TEK4010 emulator display stream STREAM.
         Scale the coordinates by the stream's TEK4010.SCALE, if any.)

    (DRAWTO (TEK4010.SCALE X STREAM)
           (TEK4010.SCALE Y STREAM)
           WIDTH OPERATION STREAM])

)

(RPAQ? TEK4010CHAT.MENU NIL)

(RPAQQ TEK4010CHAT.MENUITEMS
       ((Close ’Close "Closes the connection and returns")
        (Suspend ’Suspend "Closes the connection but leaves window up")
        (New ’New "Closes this connection and prompts for a new host")
        (Freeze ’Freeze "Holds typeout in this window until you bug it again")
        ("Input" (FUNCTION CHAT.TAKE.INPUT)
               "Allows input from a file")
        ("Dribble" (FUNCTION CHAT.TYPESCRIPT)
               "Starts a typescript of window typeout")
        (Clear (FUNCTION TEK4010.CLEAR)
               "Clears window and resets to ALPHAMODE column 1, row 1")))

(ADDTOVAR CHAT.DRIVERTYPES (TEK4010 TEK4010CHAT.HANDLECHAR TEK4010CHAT.INIT))

(PUTPROPS TEK4010CHAT COPYRIGHT ("Xerox Corporation" 1985 1988))
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FUNCTION INDEX

TEK4010.ALPHASTATE 1
TEK4010.CLEAR 1
TEK4010.CLOSEFN 1
TEK4010.CROSSHAIR 2
TEK4010.CTRLCHAR 5
TEK4010.DRAWTO 6
TEK4010.ESCAPECHAR 5
TEK4010.GLOMHI&LO 6
TEK4010.GRAPHICSSTATE ...4
TEK4010.MOVETO 6
TEK4010.NEXTSTATE 3
TEK4010.RELMOVETO 3
TEK4010.RESHAPEFN 3
TEK4010.SCALE 3
TEK4010.SENDCOORD 3
TEK4010.UNSCALE 6
TEK4010CHAT.BUTTONFN 3
TEK4010CHAT.HANDLECHAR ..3
TEK4010CHAT.INIT 2
TEK4010CHAT.MENUFN 4

VARIABLE INDEX

CHAT.DRIVERTYPES 7
TEK4010CHAT.MENU 7
TEK4010CHAT.MENUITEMS ...7

RECORD INDEX

TEK4010.STATE 1