

HORITA KCT-50

Keyboard Control Titler

USER MANUAL

For Models KCT-50, RM-50/KCT, SR-50/KCT
And AO-50/KCT

With Software Version KCT201

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1 GENERAL

The KCT-50 is a character generator that operates either stand alone or with an inexpensive PC keyboard to title, caption, or time-date stamp video from cameras, VCRs, computers, etc. A single PC keyboard can control from 1 to 10 (or more) KCT-50s. The KCT-50 provides two separate page memories of 9 lines of 20 characters each for entering titling information. The KCT-50 provides various setup features for each page to customize the KCT-50 display to the users needs.

Typical applications include adding source ID information to video feeds to show camera number and location for security, video duplication systems, court rooms and video depositions, video data collection and other video monitoring systems, document laboratory or other types of experiments, add a time date display to video images, provide large video displays of time and date on video monitors for viewing in television studios or other broadcast situations.

All of the KCT-50 setup information, operating mode selection, and titling information is saved in a battery backed up, non-volatile memory, and restored at power up.

2 FEATURES

- Five separate setup menus for System, Display, Time, Date, and Help provide simple and easy user selection of H and V character size and position, black or white characters, background on/off, time/date on/off, local/keyboard operation, page-1/page-2 selection, etc.
- Built in text editor functions for keyboard include backspace, insert delete, page up, page down, home, end, clear line, and clear page.
- "Loop thru" of the keyboard data allows up to 10 or more KCT-50's to be operated using a single keyboard.
- "Broadcast" and "promiscuous" addressing modes allow individual or groups of KCT-50 units to be addressed
- Front panel switch control for stand alone operation.
- Internal crystal controlled clock/calendar has battery back up to maintain time and date when unit is powered off.
- User selectable time and date video display formats including those which automatically calculate and display the day of the week.
- Special "split screen" display mode for two smallest vertical sizes insures maximum view of video image by allowing the user to "split" the 9 line display into 5 lines at the top and 4 at the bottom. The amount of the split is quickly and easily user adjustable.
- Operates from a small AC power adapter, which is included, or can be operated in the field from 9-to-14 volts DC battery power.
- Available in desktop (KCT-50), Rackmount (RM-50/KCT), Rackmount Add On (AO-50/KCT) or Shortrack (SR-50/KCT) models.

3 CONNECTING THE KCT-50

3.1 Connecting Power

Included with your KCT-50 is an AC power adapter that provides a 9 volt, 500 milliamperes DC output. This adapter is equipped with a miniature phone plug with the "+" (positive) voltage output connected to the front tip of the plug.

Insert the power plug into the KCT-50 "+9V POWER" connector and plug the adapter into 110-120 volt, 60-Hz AC power.

WARNING:

ELECTRICALLY OPERATED PRODUCT

As with all electrical products, precautions should be observed during handling and use to prevent electrical shock.

NOTE:

Make sure the plug is inserted all the way into the power connector or else damage to the power adapter may result. The KCT-50 has internal protection circuitry to prevent it from being damaged should the wrong polarity of power be applied. However, do not use an adapter of more than 9 volts at 500 milliamperes or damage to the KCT-50 may result.

3.2 Operating From Battery Power

You can operate your KCT-50 from battery power in order to use it in the field as a portable time and date or source ID inserter.

The KCT-50 can be operated from 9-to-14 volts DC, obtained either from a conventional 12 volt video camera battery, or from the HORITA BP-50 12 volt battery pack. The BP-50 consists of eight rechargeable AA sized batteries, battery holder, power cable, heavy duty cloth case with nylon strap, and convenient wall-type overnight recharger with LED.

3.3 Connecting Video In and Out

Figure 3-1 shows a basic hookup for the KCT-50 when used with a typical video source and a video recorder or monitor.

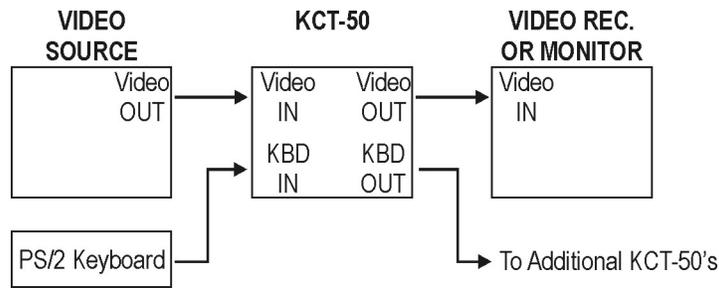


Figure 3-1, Basic KCT-50 Hookup

Connect video from the video source to the BNC connector labeled VIDEO IN on the KCT-50. Connect VIDEO OUT from the KCT-50, to downstream video equipment such as video monitors or video recorders, as desired. When the KCT-50 is powered up, the VIDEO IN input is terminated at 75 Ohms. When powered off, video is looped directly from VIDEO IN to VIDEO OUT, bypassing the KCT-50.

4 OPERATING THE KCT-50

To operate the KCT-50, connect video in and out, the PC keyboard, apply power, and set the POWER switch to ON. A red LED above the power switch lights when the KCT-50 is powered up.

When the KCT-50 is initially powered up, it operates in the "display" mode to display the time and date and any user source ID information entered. The POSITION and CHAR switches (and keyboard arrow keys) operate to provide quick and convenient control of the display's horizontal and vertical position, without going through any "menu" operations.

The KCT-50 can be operated from the front panel switches (LOC) or from both the switches and PC keyboard (KBD) to enter text and setup information. Operation is first described for entering and changing setup data, then entering and editing text, first using the KCT-50 front panel switches, then using the PC keyboard.

4.1 KCT-50 Mode Flow Diagram Explanation

Figure 4-1 shows how the KCT-50 modes change as the MODE switch is actuated to DISPLAY and SETUP. Also shown is the equivalent action if the keyboard is used to select "DISPLAY" <Alt>D or "SETUP" <Alt>S.

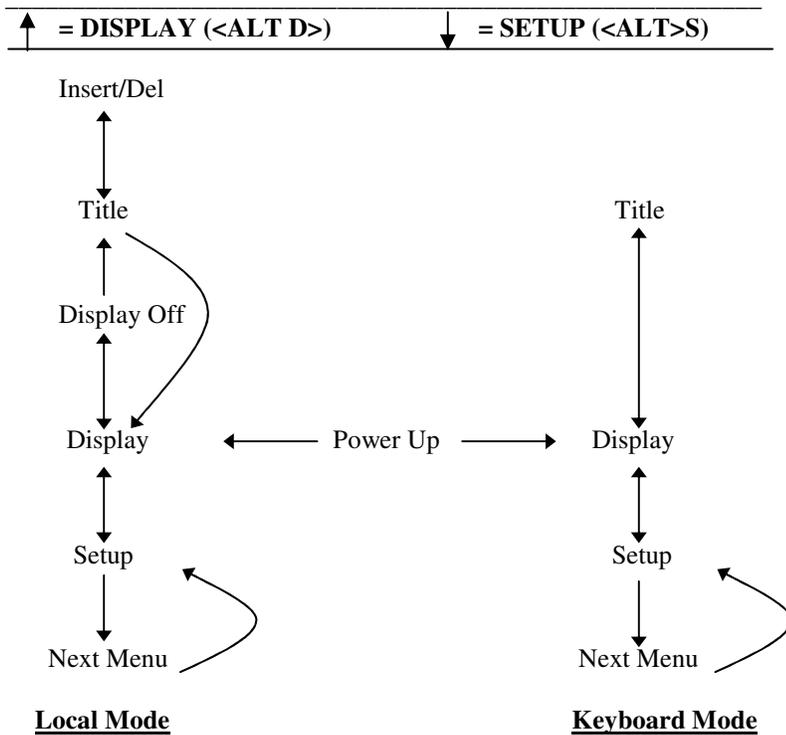


Figure 4-1, KCT-50 Mode Flow Diagram

As previously stated, when first powered up, the KCT-50 enters the Display mode. Actuating the MODE switch to SETUP causes the KCT-50 to enter the Setup mode and display the same Setup Menu and Item that was displayed before the KCT-50 was last powered down. Further actuating of the MODE switch to SETUP causes the KCT-50 to cycle through its five setup menus.

Actuating the MODE switch to DISPLAY when in Setup mode causes the KCT-50 to enter the Display mode. Further actuation causes the KCT-50 to turn the display off, enter the titling mode, and finally enter the insert/delete text mode.

4.2 LED Operation

The front panel LED blinks at different rates to provide indication of KCT-50 operation.

LED Condition	Meaning
Off	Power off
Steady on	Setup/Display On-Off modes
Very slow blink, 1-sec. on/off	No video
Slow blink, .5-sec. on/off	Data entry mode
Fast blink, .25-sec. on/off	Insert data mode
Fast flash off	Receiving keyboard data

4.3 Entering and Exiting the Setup Menus

The setup menus allow selection of various character attributes such as black or white characters, character size, time and date display formats, etc.

To display the setup menus, toggle the MODE switch to SETUP and release. Depending on the actual mode that the KCT-50 is operating in, you may have to toggle the switch several times to enter a setup menu.

The selected item on the setup menu is indicated by its "flashing" on and off. In setup mode, the POSITION and CHAR switches serve to select and change menu items.

To exit the setup mode, actuate the MODE switch to DISPLAY and release.

4.4 Selecting Different Setup Menu Items

Menu items are selected via the POSITION switch. Flashing of the menu selection moves on to the next item each time the POSITION switch is actuated and released. Actuating the switch down causes the selection to move to the right and down, actuating the switch up causes the reverse action. Holding the POSITION switch actuated causes quick scanning through the menu items.

4.5 Changing the Selected Menu Item

After a menu item is selected, the choices available for that item are accessed via the CHAR switch. Actuating the CHAR switch down or up scans forward or backward through the choices available. Holding the switch actuated causes automatic scanning through the choices. The setup menu items, functions, and selections available are described for each of the setup menus in the following paragraphs.

4.6 "SYSTEM SETUP" Menu

A typical SYSTEM SETUP menu appears on the KCT-50 screen as follows:

```
*SYSTEM SETUP*
NTSC                Y
ADDRESS             00
CONTROL             KBD

ONLINE              Y
SYSTEM RESET        N

VER KCT201
```

The following paragraphs provide a detailed explanation of each of the DISPLAY SETUP menu items.

<u>ITEM</u>	<u>FUNCTION</u>	<u>SELECTIONS</u>
NTSC	Selects Video Std.	NTSC = USA 525/60 PAL = Euro 625/50
ADDRESS	Selects KCT-50 unique address	00-99

NOTE

Setting the KCT-50 address to 00 places it in the "promiscuous" mode which enables it to respond to all information sent from the keyboard, ignoring any specific KCT-50 address.

CONTROL	Selects keyboard or local (front panel switch) control	KBD, LOC
ONLINE		Y/N

When "KBD" mode is selected, an "ONLINE" status of "Y" is displayed when the keyboard has sent the correct "Ctrl" (key) 00-99" address sequence to first select this particular KCT for keyboard operation. Thereafter, the keyboard can be used for data entry. Also, in "KBD" mode the ONLINE status is set to "Y" if the address is set to "00". Address "00" causes the KCT-50 to operate in the promiscuous mode, ignoring all KCT-50 addresses and instead respond to all commands and data sent from the keyboard to any and all KCT-50s.

The "ONLINE Y/N" status is global for both KCT-50 memory pages 1 and 2. If "ONLINE" is "Y" for one of the pages, then the KCT remains ONLINE if the page is switched. This is so regardless of the KCT address valued or the KBD/LOC setup selection on the "SYSTEM SETUP" menu for a newly selected memory page.

<u>ITEM</u>	<u>FUNCTION</u>	<u>SELECTIONS</u>
SYSTEM RESET	Resets system	Y = perform system reset N = don't perform system reset

System Reset initializes the KCT-50 hardware and memory for a basic display with time and date turned on.

VER KCT201	Software version	None
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4.7 "DISPLAY SETUP" Menu

A typical DISPLAY SETUP menu appears on the KCT-50 screen as follows:

```
*DISPLAY SETUP*
CHAR COLOR      BLAC K
BACKGROUND      ON
CONTRAST        H I
SIZE            H-1X V-2 S
POSITION        H-18 V-2 8
PAGE NUMBER     1
NUMBER LINES 1-9 Y
CLEAR PAGE      N
```

The following paragraphs provide a detailed explanation of each of the SYSTEM SETUP menu items.

<u>ITEM</u>	<u>FUNCTION</u>	<u>SELECTIONS</u>
CHAR COLOR	Character color	BLK = black characters WHT = white characters
BACKGROUND	Character background	ON = background on OFF = background off
CONTRAST	Character contrast	HI = high contrast MED = medium contrast LOW = low contrast
SIZE	H (Horizontal) V (Vertical)	1X = 1 times (1.0 H pixels) 2X = 2 times (2.0 H pixels) 3X = 3 times (3.0 H pixels) 4X = 4 times (4.0 H pixels) 1S = 1 split (7 H lines) 2S = 2 split (14 H lines) 3X = 3 times (28 H lines) 4X = 4 times (42 H lines)

Selects horizontal and vertical size. 1X is smallest, 4X is largest. 1S and 2S are "split-screen" displays which position the first five lines to the top of the display and the last four lines to the bottom. The amount of split varies with control of vertical position.

POSITION	H (Horizontal) V- (Vertical)	00-63 Numerical reference 00-80 (1S), 00-40 (2S) 00-63 (3X, 4X) Numerical reference
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The H and V position value controls the horizontal and vertical position of entire matrix of 9 lines of 20 characters each.

<u>ITEM</u>	<u>FUNCTION</u>	<u>SELECTIONS</u>
PAGE NUMBER	Selects page for text overlay and associated setup	1, 2

There are two independent display and setup screens for page number 1 and number 2. The time and date are common, but other setup parameters are separate.

NUMBER LINES	Numbers each line	ON = number screen lines 1-9 OFF = remove line numbers
--------------	-------------------	---

Numbering of the lines is used to help adjust H and V position and size and locate where to place text or the time and date on the screen. Automatically numbers the lines with 1-9 at the left side of the display when "Y" is selected. The numbers are automatically removed when "N" is selected

CLEAR PAGE	Clears page	N = don't clear page Y = clear entire page
------------	-------------	---

Clears the current page. This is the same as keying <Alt>P when using the keyboard in title mode.

4.8 "TIME SETUP" Menu

A typical TIME SETUP menu appears on the KCT-50 screen as follows:

```

*TIME SETUP*
TIME          HH:MM:SS
DISPLAY       ON
START POSITION  130
FORMAT        05
              09:30:21 AM

DSP TMR OFF   12:00: - -
DURATION      00:00:00

```

The following paragraphs provide a detailed explanation of each of the TIME SETUP menu items.

<u>ITEM</u>	<u>FUNCTION</u>	<u>SELECTIONS</u>
TIME	Unformatted time display	HH:MM:SS.TH HH = 00-99 Hours MM = 00-59 Minutes SS = 00-59 Seconds

Displays current hours, minutes, and seconds value of internal real time clock and allows value to be changed. The TIME value can be accessed for setting by using the POSITION switch to move the cursor up the screen into the desired HH, MM, or SS fields.

DISPLAY	Turns display ON and OFF	ON = display ON OFF = display OFF
---------	--------------------------	--------------------------------------

Enables time display to be turned on and off.

START POSITION	Starting character time display	001-180 001 is upper left hand position of formatted corner of screen, 180 is lower right hand corner.
----------------	---------------------------------	--

When the starting position of the time display is changed via actuating the CHAR switch while the "START POSITION" menu item is selected, the KCT-50 temporarily exits the TIME SETUP menu to show the display screen. Further actuation of the CHAR switch moves the position of the Time display on a character by character basis in a serpentine fashion so that you can observe its actual position within your normal video display.

There are 20 character positions available on each of the 9 lines. Character "001" is located at the upper left of the screen; character "180" is located at the lower right of the screen. It is also helpful to use the "NUMBER LINES 1-9" function to help see where the Time is displayed as its starting position on the screen is changed. Even though the Time display "erases" any text that was on the screen as it is moved, the text can be restored simply by actuating the MODE switch to SETUP, then back to DISPLAY.

After two seconds of no change in position, the display returns to the TIME SETUP menu.

ITEM	FUNCTION	SELECTIONS
FORMAT	Selects format for	01-36 selects one of 36 Time display formats for displaying the time. After the first nine formats, the basic pattern repeats, but with different separator characters between the time digits.

Table 4.1 shows the first 9 time display formats which use a colon ":" as the separator character.

FORMAT #	DISPLAY	MEANING
01	13:02	24 hour H:M
02	13:02:36	24 hour H:M:S
03	13:02:36.7	24 hour H:M:S.1S
04	1:02 PM	12 hour H:M AM/PM
05	1:02:36 PM	12 hour H:M:S AM/PM
06	1:02:36.7 PM	12 hour H:M:S.1S AM/PM
07	02:36.7	No hours M:S.1S
08	27:24	.5H:S 1/2 hour downcounter
09	57:24	H:S 1 hour downcounter
10-to-18		Period "." separator.
19-to-27		Blank (transparent) separator.
28-to-36		No separator except for a period whenever tenth of a second is displayed.

Figure 4-2, Time Display Formats

ITEM	FUNCTION	SELECTIONS
DSP TMR OFF	Turns the display timer ON or OFF.	ON/OFF
00:00:- -	Sets display timer hour and minute start time or selects the timer repeat mode..	HH:MM, EV:HR, EV:01-59
DURATION	00:00:15 Sets the display timer ON time duration in hours, minutes, and seconds	00:00:01 - to 23:59:59

Note that rather than AM/PM, the display timer uses the 24-hour time format, also called "military: time, where the time at midnight is 24:00 (twenty four hundred hours or 00:00), and noon time is 12:00 (twelve hundred hours), 1:00PM is 13:00, etc.

The "ON" time has a resolution of hours and minutes, going from 00:00 (midnight) to 23:59 (one minute before midnight). The "DURATION" time resolution is in hours, minutes, and seconds, going from 00:00:01 (one-second) to 23:59:59 (23 hours, 59 minutes, and 59 seconds).

For example, if you wanted the display to come on for 10 seconds at 15 minutes after noon time, the ON time would be set for "12:15", and the DUR time would be set to "00:00:10"

There is also a special ON time repeat mode where the ON time minutes means that the timer will time out after that amount of time or any multiple of that amount is reached after each hour of the KCT-50 real time clock. This repeat mode is entered by setting the ON time to the next value after 23 hours on the next value previous to 00 hours.

When the ON time is set as just described, the hours display changes to display "EV", meaning "EVERY" multiple of the minutes value set for the ON time minutes. If the ON time is set to "EV:15", then at 15, 30, 45, and 60 minutes after each hour the display will be turned ON for the amount of time set in the DUR time value.

NOTE

*When the *TIME SETUP* menu is first exited and the Display Timer set to "ON", the message "DISPLAY TIMER IS ON!" is immediately display in the middle of the screen for two seconds. This is done to prevent confusion as to something being wrong because the screen goes blank after exiting the setup menu and does not come back on until the display timer ON time is reached.*

4.9 "DATE SETUP" Menu

A typical DATE SETUP menu appears on the KCT-50 screen as follows:

```
*DATE SETUP*
DATE           MM-DD-YY
DISPLAY        ON
START POSITION   140
FORMAT         05
               JAN 6/1999
```

The following paragraphs provide an explanation of each of the DATE SETUP menu items.

<u>ITEM</u>	<u>FUNCTION</u>	<u>SELECTIONS</u>
DATE	Unformatted date display	MM-DD-YY MM = 00-12 Months DD = 00-31 Days YY = 00-99 Years

Displays current month, day, and year value of internal calendar and allows value to be changed. The Date value can be accessed for setting by using the POSITION switch to move the cursor up the screen into the DATE MM-DD-YY year fields.

DISPLAY	Turns display ON and OFF	ON = display ON OFF = display OFF
START POSITION	Starting character	001-180 001 is upper hand position of formatted corner of screen, 180 is lower right hand corner.

When the starting position of the date display is changed via actuating the CHAR switch while the "START POSITION" menu item is selected, the KCT-50 temporarily exits the DATE SETUP menu to show the display screen. Further actuation of the CHAR switch moves the position of the Date display on a character by character basis in a serpentine fashion so that you can observe its actual position within your normal video display.

There are 20 character positions available on each of the 9 lines. Character "001" is located at the upper left of the screen; character "180" is located at the lower right of the screen. It is also helpful to use the "NUMBER LINES 1-9" function to help see where the Date is displayed as its starting position on the screen is changed. Even though the Date display "erases" any text that was on the screen as it is moved, the text can be restored simply by actuating the MODE switch to SETUP, then back to DISPLAY.

After two seconds of no change in position, the display returns to the DATE SETUP menu.

ITEM	FUNCTION	SELECTIONS
FORMAT	Selects format for Date display	01-60 selects one of 60 formats for displaying the date. After the first twelve formats, the basic pattern repeats, but with different separator characters between the date digits.

The following nomenclature is used to describe the date format:

ITEM	MEANING	VALUE RANGE
mm	numeric month value	(01-12)
dd	numeric day value	(01-31)
yy	numeric year value	(00-99)
cc	numeric century value	(19-20)
MMM	month abbrv	(JAN,FEB,MAR,etc.)
DAY	day-of-week abbrv.	(SUN,MON,TUE,etc.)

Table 4-2 shows the first 12 date display formats which use a slash "/" as the separator character:

FORMAT #	DISPLAY
01	mm/dd
02	mm/yy
03	mm/dd/yy
04	MMM/dd/yy
05	MMM/dd/ccyy
06	DAY/MMM/dd
07	DAY/MMM/dd/yy
08	DAY/MMM/dd/ccyy
09	dd/MMM
10	dd/mm/yy
11	dd/MMM/yy
12	yy/mm/dd

Formats 13 to 60 repeat formats 01 to 12 but with different separator characters as follows:

13-to-24	Hyphen "-" separator.
25-to-36	Period "." separator
37-to-48	Blank (transparent) separator.
49-to-60	No separator

Table 4-3, Date Display Formats

4.10 Selecting Local Titling Mode and Entering and Editing Data.

To select the text entry TITLE mode for the KCT-50, actuate and release the MODE switch to DISPLAY until the front panel LED flashes at about once per second and the screen displays a flashing cursor. The flashing cursor shows the position of where the next character will be entered.

4.11 Character Selection

Use the POSITION and CHAR switches to move the cursor and select the desired characters for entry as shown in Table 4.3. A blank (transparent) character is available between each grouping, and the numeric characters can be quickly accessed by scanning in the reverse (PREV) direction.

These switches operate in much the same manner as those found on the simple titlers on many VCR camcorders. The POSITION "arrow" switches select a character's position, and the CHAR NEXT/PREV switches select a particular character from various numeric, alpha, punctuation, and math symbols. You can actuate a switch for a single selection at a time, or hold it down for 2-seconds and cause automatic and rapid selection.

When starting in the NEXT direction, the character set goes from A-Z, 0-9, punctuation, math symbols, back to A-Z, etc. Starting PREV goes in exact reverse, proceeding from 9-0, then Z-A, math symbols, punctuation, etc. This is so you don't

have to go through the alphabet to get to the numbers, or go through the numbers to get to the alpha characters. A blank space character is placed between each group of characters for added convenience.

Alphabet

A-Z upper case only
 blank transparent

Punctuation

. period
 , comma
 ' apostrophe
 & ampersand
 : colon
 ? question mark
 ! exclamation point
 blank transparent

Graphics

white box white cursor size box
 black box black cursor size box
 up arrow
 down arrow
 left arrow
 right arrow
 center dot
 underscore (not actually under a character)
 blank transparent

Math Symbols

~ approximately
) right parentheses
 (left parentheses
 / slash (divide)
 * asterisk (multiply)
 - hyphen (minus)
 + plus (add)
 = equal
 blank transparent

Numbers

0-9
 blank transparent

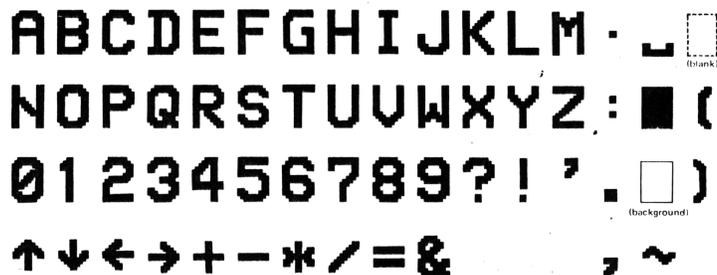


Table 4-4, Character Set

4.12 Inserting Spaces and Deleting Characters

Actuating the MODE switch to DISPLAY when in the Title mode places the KCT-50 into the Insert/Delete mode. In this mode both the cursor and LED flash rapidly.

The POSITION switch is used to move the cursor to a desired line or character. Actuating the CHAR switch to PREV deletes the character under the cursor and pulls the remainder of the line to the left. Actuating the CHAR switch to NEXT inserts a space under the cursor and moves the line to the right.

4.13 Centering a Line of Text

The Insert/Delete mode is convenient for centering a line of text once entered. First, enter the text desired on each line, starting at the left of the screen. After the desired text is entered, switch to the Insert/Delete mode, position the cursor at the start of the line, and insert (or delete) spaces using the NEXT/PREV switch until the line of text is centered or placed where desired.

4.14 Turning the Display Off and On

When the MODE switch is first actuated to DISPLAY after the KCT-50 is displaying the normal time, date, and titles, the display is turned off. If actuated to SETUP, the KCT-50 display is turned back on. In this manner the KCT-50 display can be quickly switched on and off from the front panel switches.

4.15 Split Screen Display

The "split screen" type of display is selected by choosing the "1S" or "2S" mode for the vertical size when in the DISPLAY SETUP menu. The split screen mode splits the nine display lines into 5 lines that move towards the top of the screen, and 4 lines that move towards the bottom.

When split screen is selected, the amount of the vertical split is continuously adjustable, either by changing the value of the vertical position when in the DISPLAY SETUP mode, or by operating the front panel POSITION switch when in the normal display mode. In split screen mode, changing the vertical position value increases or decreases the amount of the vertical split, rather than moving the display vertically, as it does when 3X or 4X vertical size is selected.

With this arrangement, you can place data on line-1 and line-9 and it will just barely be visible (if at all) on most standard monitors when the screen is split to its maximum value.

4.16 Operating The KCT-50 using the Keyboard

Operation of the keyboard to select between KCT-50 SETUP and DISPLAY modes is similar to operation of the KCT-50 via the front panel switches. Hold down the Alternate <Alt> key and key S for setup, or D for Display, to cycle through the KCT-50 setup and display modes. The up and down arrow keys function like the front panel position "arrow" switches. The left and right arrow keys function like the front panel CHAR NEXT/PREV switches.

4.17 Addressing the KCT-50

The KCT-50 device address displayed on the KCT-50 SYSTEM SETUP menu must correspond to the device address sent from the keyboard in order for the keyboard to operate the KCT-50.

If not done previously, switch to the SYSTEM SETUP menu on the KCT-50 and set its address to the desired value using the front panel switches. When using multiple KCT units, be sure they each have different addresses assigned to them, unless you want them to respond to the same text and commands.

To operate the KCT-50 using a PC keyboard, the desired KCT-50 address has to first be sent out from the keyboard. This is accomplished by holding down the control key <Ctrl> while keying a valid address, such as 01, 02, etc. up to 99. Key the address of the KCT-50 that it is desired to control via the keyboard, or key <Ctrl> 00 to communicate with all KCT-50 units.

4.18. Keyboard Communications Check

During operation with a PC keyboard, the KCT-50 LED blinks quickly each time a character is received from the PC. This indicates that the keyboard connection is operating.

NOTE:

The number of KCT-50 units that can be operated by a single PC keyboard depends on the electrical characteristics of the keyboard. A typical keyboard should operate 10 or more KCT-50 units.

NOTE:

Power must be applied to all of the KCT-50 units that are operating from a single PC keyboard or no KCT-50 unit will respond to the keyboard.

4.19 Broadcast Mode

If the keyboard first sends out address 00, the keyboard will control all KCT-50's, regardless of their individual addresses.

4.20 Promiscuous Mode

If an individual KCT-50 address is set to "00", that KCT-50 will receive and display all text and commands sent from the keyboard, regardless of any address that may be sent out from the keyboard.

4.21 Selecting a Setup Menu and Setup Menu Item

Key <Alt>S until a setup menu is displayed. Further keying of <Alt>S sequences through the five setup menus. When the desired setup menu is selected, use the Up and Down arrow keys to move the flashing cursor through the various menu items (similar to using the POSITION switch) then use the Left and Right arrow keys to change the selected menu values (similar to using the CHAR switch).

4.22 Entering and Editing Text

Key <Alt>D until the display shows a flashing cursor. This is the Title mode. Editing can only be done when in the Title mode. Use the keyboard to enter data and the Home, End, Insert, Delete, Page Up, Page Down, Backspace, Enter, and the Arrow keys to move the cursor and insert/delete characters as desired.

4.23 Selecting Page-1 or Page-2

Key <Alt>1/2 to select page 1 or page 2.

4.24 Clearing the Page or Line

Key <Alt>L to clear the current line, or <Alt>P to clear the entire page.

4.25 Turning the Display ON and OFF

Key <Alt> F to turn the display off, or <Alt> N to turn the display ON.

4.26 Using the ESC Key

Key <Esc> to exit the setup menu and go directly to Display mode. Further keying of ESC sequences through to Title, then back to Setup, Display On, etc.

5 MAINTENANCE

5.1 Cleaning

1. Do not attempt to disassemble your KCT-50 to clean it.
2. Clean your KCT-50 using only a damp cloth.
3. NEVER use water or solvents such as alcohol, window cleaner, etc., to clean your KCT-50.

5.2 Service and Troubleshooting

If you suspect your KCT-50 is not operating properly, check the following:

1. Check all coaxial cables for opens or shorts.
2. If using an AC power adapter different from the one supplied with the KCT-50, make sure it supplies the KCT-50 with at least 9 volts (maximum of 14 volts) when the KCT-50 is switched on.
3. If the keyboard is not working:
 - a. Make sure KCT-50 is in "KBD" mode.
 - b. Make sure keyboard is "AT" compatible or try another keyboard.
 - c. Check that the KCT-50 LED blinks off when the keyboard is used.
 - d. If the LED blinks off, make sure that the KCT-50 address is setup correctly and has been sent out by the keyboard. A quick test is to enter address "00" into the keyboard.

You may return your KCT-50 to HORITA for service. Please contact HORITA first, either by phone or mail, before returning your unit.

5.3 Adjustments

Adjustments are provided for video level and equalization and horizontal size.

To access the adjustments, remove the bottom cover from the KCT-50 by removing the two screws from the front panel and then sliding the bottom cover out towards the front.

If you have a Rackmount or Shortrack packaged KCT-50, remove the four screws from the top cover and remove the cover.

All adjustments are located on the circuit board as shown in Figure 5-1.

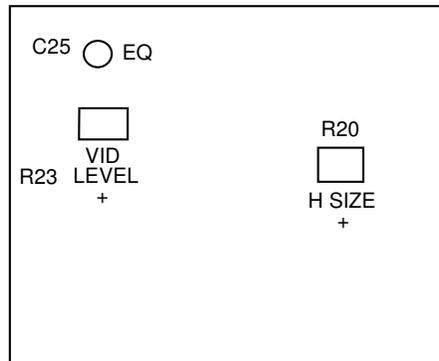


Figure 5-1, Adjustment Locations

5.4 Horizontal Size Adjustment

1. Adjust H-SIZE control R20 for the desired horizontal size. Note that this adjustment also affects the size of the setup screen displays.

5.5 Video Level & Equalization Adjustment

1. Connect a 1-volt P-P video sweep signal to VIDEO IN and a waveform monitor or oscilloscope to VIDEO OUT. Make sure the video output is terminated.
2. Adjust VID LEVEL control R23 for a 1-volt P-P output level (unity gain)
3. Adjust C25 for flattest frequency response out to 5 MHz.
4. Re-assemble the KCT-50.

6 SPECIFICATIONS

Power

Operation	9-to-14V DC, 250 milliamperes
Connector	3.5 MM mini phone jack
AC Adapter	9 volt, 500 milliamperes

Connectors

VIDEO IN	
VIDEO OUT	BNC-1V P-P composite video
POWER	3.5MM Mini Phone

Switches And Controls

POWER ON/OFF	Toggle switch with red LED above
MODE	

POSITION
CHAR

Momentary toggle switches

Environment

Operating
Storage

5C to 40C (41F to 104F)
-10C to 60C (14F to 140F)

Dimensions

1.75"H, 3.5"W, 4.5"D

Weight

Approximately 13 Oz. (shipping weight approximately. 29 Oz. including power adapter)

Specifications subject to change without notice