MicroImage Timer / Titler

TT300/ TT700

Instruction Manual

For software Version 1.50
rev.# 08 July 8, 1996 JWS/SLC

Contents

Features

- Two timing types - Real Time and Stop Clock Modes
- Real Time Clock can be set to either 12 or 24 hr mode
- Real Time Clock can display time, date or both (selectable)
- 5 Stop Clock Modes - Standard, Split, Split Toggle and Taylor Split/Toggle
- 12 character programmable message with battery backed memory
- Typical 10 year battery life for Real Time Clock & Message
- Two character sizes
- Titling Generator - Provides up to 10 lines of 24 characters for titles or other text
  Titler automatically enabled when optional keyboard is connected
- Processes RGB (TT700 only) and S-Video, NTSC or Monochrome signals simultaneously
- Battery Backed Character Generator RAM available as an option (10 year typical life)
- Intelligent logic determines which signals are used - no switches to set
- Easy to use menu system for setting system parameters

Unpacking Instructions

The MicroImage Timer / Titler consists of:

MicroImage TT-300 or TT-700 Timer / Titler Unit
Detachable 3 wire power cord
This Instruction Manual

Optional components that may be ordered with the MicroImage Timer / Titler:

NOTE: All optional Items are extra cost.

Detachable Keyboard (Required to use unit as a Titler)
BNC to BNC Cables
RGBS BNC to BNC Cable bundles
S-Video (YC) Cables
MicroImage Camera Systems

Unpack all items carefully.

Inspect Unit to make sure that there was not any shipping damage. If there was shipping damage, Call MicroImage Video Systems Immediately. Do NOT plug unit in to power if damaged.

The MicroImage Model TT-700 Timer / Titler is capable of processing two different video sources at the same time. These are RGB and one of either NTSC Video, Monochrome or YC (S-Video). The only requirement is that both inputs MUST be from the same sync source (i.e. All from the same camera). If the signals are from different sync sources, some of the images may appear to "float" around the picture. If only one source is connected, the unit will automatically configure itself to use the timing information from that source. There are no switches to set for signal or sync type as in some other products.

NTSC

Connect a BNC cable from the video source (i.e. Video Camera) NTSC or VIDEO output connector to the NTSC IN connector on the Timer / Titler.

Connect a BNC cable from the NTSC OUT connector on the Timer / Titler to the VIDEO IN connector on the monitor. If this is the only monitor being used, place the TERM switch in the 75 ΩTERM position.

If a second monitor is being used, please consult the monitor manual for proper looping and termination procedures. Not all monitors terminate the same way. Some monitors do not having looping capability, in this case a Video Distribution Amplifier will be required. An improperly terminated monitor will result in a degraded picture.

NOTE: NTSC, YC (S-Video) and Monochrome signals MUST NOT be connected at the same time. Doing so may damage the Timer / Titler and any equipment connected to it. At the very least, it will degrade the signal quality.

Monochrome

Connections are the same as for NTSC above except connect to the Black/White or Monochrome output of the camera instead.

NOTE: NTSC, YC (S-Video) and Monochrome signals MUST NOT be connected at the same time. Doing so may damage the Timer / Titler and any equipment connected to it. At the very least, it will degrade the signal quality.

YC

Connect a YC (S-Video) cable from the video source (i.e. Video Camera) YC or S-Video output connector to the YC IN connector on the Timer / Titler. A special YC adapter cable may be required for some cameras.

Connect a YC (4 pin to 4 pin) cable from the YC OUT connector on the Timer / Titler to the YC IN (S-Video) Connector on the monitor. If only one YC monitor is being used, place the YC TERM switch in 75Ω TERM position.

If a second YC monitor is being used, please consult the monitor manual for proper looping and termination procedures. Not all monitors terminate the same way. Many monitors do not have looping YC capability, in this case a YC Distribution Amplifier will be required. An improperly terminated monitor will result in a degraded picture.

NOTE 1: NTSC, YC (S-Video) and Monochrome signals MUST NOT be connected at the same time. Doing so may damage the Timer / Titler and any equipment connected to it. At the very least, it will degrade the signal quality.

RGB

Connect Red, Green, Blue and if required, Sync Cables from the video source (i.e. Video Camera) RGB output to the RED IN, GREEN IN, BLUE IN and if required, SYNC IN connectors of the Timer / Titler.

Connect RED, GREEN, BLUE and if required SYNC cables from the RED, GREEN, BLUE and SYNC OUT connectors on the Timer / Titler to the appropriate connectors on the monitor. If only one RGB monitor is being used, place the RGB and SYNC TERM switches in TERM or 75Ω position.

If a second RGB monitor is being used, please consult the monitor manual for proper looping and termination procedures. Not all monitors terminate the same way. Many monitors do not have looping RGB capability, in this case a RGB Distribution Amplifier will be required. An improperly terminated monitor will result in a degarded picture.

Connecting to a VCR

The NTSC and YC signals may be recorded on videotape. Recorders to record RGB signals directly are very rare. High resolution VCRs such as the S-VHS type will give higher quality recordings than standard VCRs. Use of the YC signal with these VCRs will provide the highest resolution. The combination of RGB for real time display and YC for recording is the optimum way to obtain best picture quality.

NTSC

Connect an appropriate cable from the camera or other video source to the NTSC IN connector on the Timer / Titler.

Connect a cable from the NTSC OUT connector of the Timer / Titler to the VIDEO IN connector on the VCR. Note that adapters or special cables may be required.

Connect a cable the VIDEO OUT connector of the VCR to the Video or NTSC INPUT connector of an NTSC monitor as described in the VCR instruction manual.

DO NOT connect the above signals to the Antenna or ANT connectors on the VCR.

YC

Connect a YC (S-Video) cable from the camera or other video source to the YC INPUT connector on the Timer / Titler. Note that a special adapter cable may be required for some cameras. MicroImage Video Systems offers optional cables for YC connection to MicroImage cameras. Contact MicroImage Video Systems for more information.
Connect a YC (S-Video) cable from the YC OUT connector on the Timer / Titler to the S-Video INPUT connector

on the VCR. Note that a VCR with YC capability such as an S-VHS VCR must be used.

Connect a YC (S-Video) cable from the S-Video OUTPUT connector on the VCR to the YC or S-Video INPUT connector on a YC monitor as described in the VCR instruction manual.

If the VCR has a switch to select NTSC(Video) or S-Video, Place the switch in the S-Video position. See the VCR operation manual for more information.

NOTE: The above VCR connections are for recording the Timer / Titler image on the video tape.

VCR Operation

For normal use, the Timer / Titler and the VCR may be left connected. However, both the Timer / Titler and the VCR (along with any other connected equipment) must have their power turned on in order to see a proper camera image on the video monitor. For camera operation without the Timer / Titler image, press the display switch to turn off the Timer / Titler display. A recording can then be made without the Timer / Titler image. If the VCR is connected properly, it should pass the camera (and Timer / Titler image) just like if the VCR was not connected. If PLAY is pressed on the VCR, then of course you would see the video tape picture instead of the current camera image.

The exact procedure for recording and playing tapes on a VCR varies between different models. It is impossible to describe all the methods here. Please refer to your VCR operation manual BEFORE calling MicroImage Video Systems. If calling MicroImage Video Systems for assistance on VCR connection problems, please have the VCR operation manual handy. Manuals for other equipment are also good to have at hand. Not all VCR related problems are the VCR.

Operating Instructions

Connect Unit as specified in the ***Connections*** section of this manual.

Attach Keyboard (Optional Item) to KBRD Connector on rear of unit.

Warning: Do NOT connect keyboard while power is on.

Caution: Only MicroImage keyboards are guaranteed to work properly.

Plug power cord into POWER connector on rear of unit.

Plug power cord into 120 VAC, 60Hz AC power.

Turn on power by moving the power switch up. Green power light should come on.

> The power indicator near the power switch should come on and the four indicators on the yellow, white and green switches should flash several times.
>
> Note: The unit takes about three (3) seconds to initialize before the Clock display will come on.

After power up, the lamp on the display switch should be on and another lamp may be on as well depending on the mode of operation.

Operating Modes

The MicroImage Video Timer / Titler has 3 modes of operation:

(1) Real Time Clock Mode - This mode displays the time and date on the video monitor. It can be set for TIME only, CALENDAR only or both CLOCK and CALENDAR. The clock can be set for 12 or 24 hour operation. See the section on setting the Real Time Clock for more details.

Press the REAL TIME button to enter the Real Time Clock mode.

(2) Stop Clock Mode - This mode is similar to a stop watch except that the counter is viewed on a video monitor. There are three buttons to Start, Stop and Reset the Stop Clock. There are a total of five modes that allow the display to be frozen or reset while the stop clock is running. See the SET STOP CLOCK MODE section for more information.

Press the STOP CLOCK button to enter the Stop Clock mode.

(3) No Clock Mode - This mode is for using the unit as a Titler only.

To enter the No Clock mode:

Press the STOP CLOCK button if the unit is in Stop Clock mode.
or
Press the REAL TIME button if the unit is in Real Time mode.

In addition to these modes, a titling generator of 24 x 10 lines of characters is active in all modes. An optional keyboard is required. See the section on using the Titler for more information.

NOTE: It is NOT possible to change modes while the Stop Clock is counting.

Switches

POWER SWITCH -	Turns the unit off and on.
REAL TIME SWITCH -	This switch is used to enable and disable the Real Time Clock Mode. The unit is in Real Time mode when the LED in the switch is illuminated.
STOP CLOCK SWITCH -	This switch is used to enable and disable the Stop Clock Mode. The unit is in Stop Clock mode when the LED in the switch is illuminated.
DISPLAY SWITCH -	This switch turns the clock and titler display on and off. The display is on when the LED in the switch is illuminated.

POSITION SWITCH - The position switch moves the Real Time or Stop Clock display to different places on the screen.

In Stop Clock mode, it will move the display to one of the four corners of the screen.

In the Real Time mode, it will move the display to the top or the bottom and will exchange the position of the time and date.

The titler will start at the top of the screen if the clock display is at the bottom or it will start just below the clock display if the clock is at the top.

START SWITCH - Starts the Stop Clock counting. The LED on the START switch will be on while counting (Works only in Stop Clock mode).

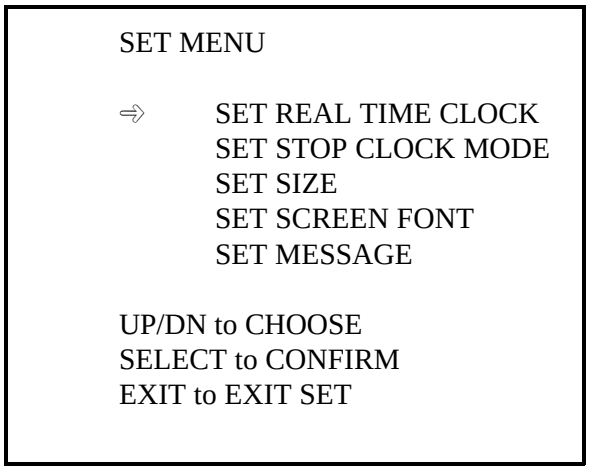
STOP SWITCH - Stops the Stop Clock counting. The LED on the START switch will be off when the clock is stopped. (Works only in Stop Clock mode).

RESET SWITCH - Resets the stop clock back to 00:00:00.0. Only works in Stop Clock mode when the clock is STOPPED. A stop clock cannot be reset while counting.

NOTE: Some switches have alternate functions when setting the Real Time Clock and system parameters. See the section Setting the System Parameters for more information.

Setting the System Parameters (Main Menu)

Due to the large number of programmable options, an easy to use menu system has been developed to set the system parameters. This menu system is entered by pressing the two Set (green and red) switches simultaneously. The menu system will NOT operate while the system is in Stop Clock mode. Place the Timer / Titler in Real Time or No Clock mode first. The following Menu will appear.



Use the UP and DN (yellow) keys choose the desired function. The arrow to the left will show which Item is selected. Press the SELECT (white) switch to confirm the selection. Press the EXIT (blue) switch to exit the Set function.

When the SELECT switch is pressed, another menu will appear with specific selections. Many times this will lead to another menu as well. All menus are labeled at the top. In all menus except the SET, CLOCK SET and EDIT MESSAGE menus, the EXIT switch will return to the previous menu *without* change to the current setting.

Setting the Real Time Clock

1 - Put the Timer into Real Time or No Clock mode. The Real Time Clock cannot be set when the unit is in Stop Clock mode.

2 - Depress the Stop and Start keys at the same time. These two keys are also labeled SET. The Set Clock screen should now be displayed.

3 - Follow the prompts on the screen. The UP and DOWN buttons are used to change the function, time or date. Note that these buttons will repeat if held down. The SELECT button is used to go to the next function (i.e. month to year set). After everything has been set (Minutes are the last), press EXIT to exit from the set mode.

NOTE: If you make a mistake and need to change something, press SELECT until the desired function is displayed. SET continuously cycles through all the functions. Press EXIT when finished.

Outline of clock set functions

After pressing CLOCK SET, the first screen asks you to set a mode. The choices are:

Clock and Cal display	displays clock and calendar
Clock only display	displays only clock
Cal only display	displays only calendar

Use the UP and DOWN buttons to choose the mode desired.
Press SELECT after making selection.

The next menu is to select 12 or 24 hour mode. 24 hour mode is sometimes referred to as military time where the hours count from 0 to 23. 0 is midnight.

Use the UP and DOWN buttons to choose the mode desired.
Press SELECT after making selection.

The next menu is to select the Day of Week.

Use the UP and DOWN buttons to choose the day (Sunday to Saturday).
Press SELECT after making selection.

The next menu is to select the Day of Month.

Use the UP and DOWN buttons to choose the day (1 to 31).
Press SELECT after making selection.

The next menu is to select the Month.

Use the UP and DOWN buttons to choose the Month (1 to 12).
Press SELECT after making selection.

The next menu is to select the Year.

Use the UP and DOWN buttons to choose the Year (00 to 99).
Press SELECT after making selection.

The next menu is to set the Hours (and AM/PM in 12 hr mode)

Use the UP and DOWN buttons to choose the Hour (00 to 23 or 1 to 12).
If in 12 hour mode, make sure AM/PM is correct.
Press SELECT after making selection.

Note: Seconds are reset to 00. Seconds cannot be set but clock will start counting from 00 seconds when EXIT is pressed.

The last menu is to set the Minutes.

Use the UP and DOWN buttons to choose the Minutes (00 to 59).

If everything is correct, Press EXIT to exit Clock Set.

If changes must be made, Press SELECT until the desired function appears, Make the necessary corrections and then press the EXIT button to exit the Clock Set function.

NOTES:

The Real Time Clock will start counting when the EXIT switch is pressed. This makes it easy to synchronize it with other clocks.

If the calendar counts to a new day at lunch time instead of midnight, then the AM/PM is probably set incorrectly. Use clock set (above) to correct this problem.

Set Stop Clock Mode

The Stop Clock Mode setting defines how the Start, Stop and Reset switches respond while the clock is running. The following five modes are available.

Standard Mode - No display freeze or reset while running. Standard Start and Stop functions only. Stop Clock can only be reset when the counter is stopped (Green Start LED off).

Split Mode - Display will freeze while Start switch is depressed. Display will update to current count when Start switch is released. The Stop Clock continues running while the display is frozen. Stop Clock can only be reset when the counter is stopped (Green Start LED off).

Split Toggle Mode - If the Start switch is pressed while the Timer is running, it will freeze the display. The Start switch must be pressed a second time to enable the display. The Stop Clock will continue running while the display is frozen. The Green Start LED will be on to signify that the Stop Clock is running. Stop Clock can only be reset when the counter is stopped (Green Start LED off).

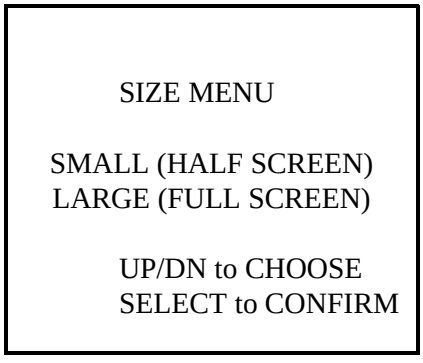
Taylor/Split Mode - Pressing START will freeze the current display while the counter resets and start counting from zero. The previous display will remain frozen as long as the START switch remains depressed. Releasing the START switch allows the current count to be displayed. The new count will start at the moment the Start switch was *depressed.*

Taylor/Split Toggle Mode - After the clock is started, pressing START again will freeze the current display and reset the counter. The display will continue counting (from zero) while the previous count is displayed. Pressing START a second time will display the current running counter. The new count will start at the moment the Start switch was *depressed the first time*.

NOTE: The factory default (when shipped) is the SPLIT MODE

Set Size

The MicroImage Timer / Titler has two character sizes. Selecting SET SIZE from the set menu will display the following menu:



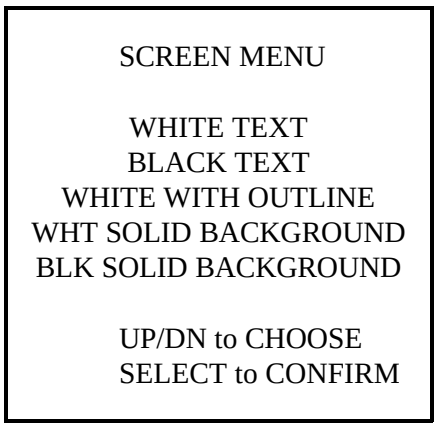
An arrow will display the current mode.

Use the UP and DN (yellow) keys choose the desired function. The arrow to the left will show which Item is selected. Press the SELECT (white) switch to confirm the selection. Press the EXIT switch to exit the SET SIZE menu without any changes.

NOTE: Selecting the SMALL size will result in a character display that is only ½ screen tall. This is normal for the small mode. The Position switch will select whether the display is at the top or bottom of the display.

Set Screen Font

The Screen Font selection is provided to select the best display combination for different situations. When Screen Font is selected, the following menu will appear.



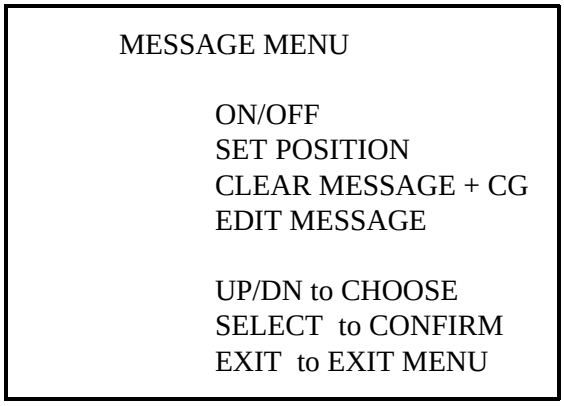
When a new selection is made, it will take affect when the SELECT switch is depressed. If the EXIT switch is depressed, no change will occur (regardless of which item is selected) and the SET menu will reappear.

NOTE: The WHITE WITH OUTLINE mixed with small size characters may result in some flicker due to the high vertical resolution of the signal and the interlace characteristics of the RS-170 video system. The flicker is minimized when looking at the video monitor from a greater distance. The intensity of the flicker also depends on the camera and monitor.

Set Message

The MicroImage Timer / Titler includes a 12 character message function. When the message function is enabled, the message will be displayed each time the unit is turned on. The message is held in Battery Backed memory with up to 10 years storage without power. The message can be edited and displayed without the optional MicroImage Keyboard. The optional keyboard will allow up to 240 characters of text to be displayed with full editing, however the characters typed from the keyboard are erased when the power is turned off.

Selecting the SET MESSAGE function will display the following menu:

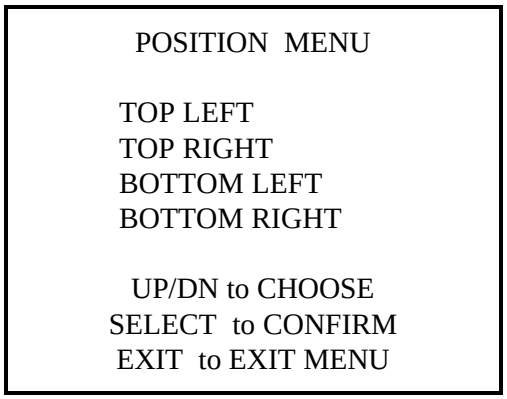


On/Off

Selecting ON/OFF will display another menu to enable or disable the Message function. Use the up and down keys to highlight the desired selection. Press SELECT to save the selection or EXIT to exit without changing the on / off status.

Set Position

Selecting SET POSITION will allow the message to be placed in one of the four corners. The following menu will be displayed:

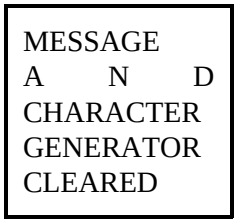


Press UP / DN to highlight the desired position with the arrow to the left of the menu. Press SELECT to confirm the selection or press EXIT to abort and return to the Message Menu.

NOTE: If the character size is set to small, the position will be relative to the active display area. This means if the display is on the bottom half of the screen, top right would be about halfway down on the right of the screen. If the display was at the top half, then bottom left would be about halfway down on the left side of the screen.

Clear Message + CG

Selecting CLEAR MESSAGE + CG will clear both the Message memory and the Character Generator Memory. This is provided to quickly clear the memory in case of a glitch or if the keyboard is not handy. The following message will be displayed for about one second:



After this message is displayed, the unit will return to the MESSAGE MENU.

Edit Message

Selecting EDIT MESSAGE will display the current programmed message. The up and down keys will change the character at the location pointed to by the arrow. Pressing the SELECT switch will select the next character. Press EXIT to save the new message.

The message on the screen can be erased and overwritten with the optional MicroImage Keyboard. The "old" message will return however, the next time the unit is turned on.

Titler Operation

NOTE: To use MicroImage Timer / Titler as a Titler, the optional keyboard must be purchased. DO NOT use any keyboard other than the MicroImage keyboard. Damage to the keyboard and/or the Timer / Titler may result.

When the optional keyboard is connected to the Timer / Titler, the unit may be used to add titles or other text to the display. The clock displays may be mixed with the titler displays for maximum flexibility.

The Titler display consists of 10 lines with 24 characters in each line. Any of the 240 character positions may be used independently. All lines can have text in them or there can be only one or two lines of text. The cursor keys provide full freedom to move around the entire Titler area.

The only two front panel switches that affect the titler are the DISPLAY switch and the POSITION switch. The DISPLAY switch turns off and on the entire Timer / Titler display, while the POSITION switch moves the display up or down one line to make room on the screen for the clock display. If the position of the clock display is changed from top to bottom or bottom to top, the Titler display will move accordingly to allow room for the clock display. No characters will be lost when the position is changed.

A few seconds after turning the unit on, the timing display (Stop Clock or Real Time Clock) that was last used will appear. Of course if neither mode was selected (No Clock) then no Timer display will appear. If the optional battery backed Character Generator RAM option is installed, the text that was on the screen last time will be displayed. If this option is not present, the screen will be cleared. If the message function is turned on, the 12 character message will automatically be copied to the character generator when the unit is turned on. The Titler is automatically enabled as soon as the first key is pressed. After pressing a key, the cursor will appear. The cursor is used to show the current typing location.

Key Types

The keys fall into five categories: Character, Cursor control, Keyboard control, Editing and Unused keys.

UNUSED: Because we chose a "standard" keyboard layout, some keys were not mappable to characters on the display and are thus unused. Pressing any of the following keys will cause nothing to happen on the display.

@	$	^	&	\	|	⇆ (TAB key)	
F1	F2	F3	F4	F5	F6	F7	F8
Esc key		Scroll Lock/Break key			Sys Req/Reset key		

WARNING: DO NOT Press the Sys Req/Reset key while holding down the Crtl key. This will cause the keyboard to lock up and stop functioning. To correct this, press Crtl-Alt-Del (hold down the Crtl and Alt keys, then press Del). This will return the keyboard to normal operation.

The following characters will cause a slightly different character to be displayed than the key implies. The chart below shows the actual character displayed.

KEY PRESSED	DISPLAYED CHARACTER
` (left quote)	' (right quote)
_ (underscore)	- (dash)
{	(
}	)
[	(
]	)
PrtSc	*

CHARACTER KEYS: The character keys are the letters of the alphabet, numbers, punctuation and any other *displayable* character.

KEYBOARD CONTROL KEYS: Six keys are used to alter the way the keyboard functions. These are described below. Note that some of these keys interact with each other.

SHIFT keys (2) - This is probably the most familiar of the keyboard control keys. While holding the shift key, The CAPITAL letters or the legend on the top of the key will be displayed. Note that the CAPITALS and lowercase will be reversed if the CAPS LOCK

key is on. This means that pressing SHIFT-A will display the lowercase a. This key will also reverse the editing key functions when NumLock is on. SHIFT will have to be pressed to use the editing keys when NumLock is on.

Ctrl key - The control key is used with the letter and cursor/editing control keys to access some editing functions. See the EDIT key section for more details.

Alt key - The alternate key is currently not used.

Caps Lock key - The Capitals Lock key is used to make the alphabet keys display a capital with holding the shift key. An LED on the upper right of the keyboard shows whether CAPS LOCK mode is off or on. If the LED is Illuminated, then CAPS LOCK mode is on. While CAPS LOCK is on, lowercase characters may be displayed by holding the SHIFT key while pressing the desired character key.

Num Lock key - The Numbers Lock key is only for the combination Numbers and Cursor Control / Editing keys on the right side of the keyboard. When Num Lock is on (as indicated by the Num Lock LED on the upper right of the keyboard) the numbers and decimal point on the right of the keyboard may be used without pressing the SHIFT key. If a Cursor control or Editing key is required, hold down SHIFT while pressing the desired key. Normally NumLock will be left off.

CURSOR CONTROL KEYS: The cursor control keys are as follows:

ARROW keys - These move the cursor one character in the direction indicated by the arrow.

Home key - Moves the cursor to the top left of the Titler display.

End key - Moves the cursor to the last *displayable* character of the line it is positioned on. The End key will ignore spaces.

Enter key - The Enter (sometimes called RETURN) key will move the cursor to the beginning of the next line. On the last line it will return to the beginning of the same line it is on.

EDITING KEYS: Editing keys are used primarily to correct mistakes or to make changes.

← Back-space key - Deletes the character to the *left* of the cursor.

Del key - Deletes the character at the cursor position.

Ins key - Inserts a character at the cursor location. Note that the last character on the line may be lost due to the fact that a line can only hold 24 characters.

Ctrl-C -	Holding down the CONTROL key while pressing the C key will clear the screen.
F9 key -	Cursor On - Pressing the F9 key will turn on the cursor if it is off.
F10 key -	Cursor Off - Pressing the F10 key will turn off the cursor if it is on. It will stay at the same location and remain off until another key is pressed. After a title (or other text) is displayed, it is nice to turn the cursor off to give the display a more professional, uncluttered look. This is important when video taping or making presentations.

Precautions

DO NOT open unit. Lethal voltages are present inside. Refer servicing to authorized personnel.

DO NOT connect the optional keyboard while the unit is turned on.

Connect only a MicroImage Video Systems Keyboard.

DO NOT allow water or moisture to enter unit. Injury and/or damage may result.

Connect unit only to 110-125 VAC 50/60Hz.

Clean unit and keyboard with only a mild cleaner. Strong cleaners may damage the finish or distort key legends. When cleaning, dampen a soft cloth and then wipe unit. NEVER spray cleaner directly into any electronic product. A lethal or severe shock may result!

Please put all manuals for a system in a safe place where they are easily found.

In Case of Difficulty

1 - No Picture:

1) Check all connections.

2) Make sure power is connected and unit is turned on. Power light should be illuminated. If power lamp does not come on and power is applied, return the unit to MicroImage Video Systems for repair. (Call for RMA number first)

3) Check camera and monitor for proper operation by connecting camera directly to monitor.

2 - Camera Picture on screen but no Timer / Titler image:

1) Make sure timing mode is turned on and DISPLAY switch is on.

2) Make sure keyboard is connected properly.

3) Turn unit off for 15 seconds and then back on to reset unit.

4) If the above does not solve the problem, Follow the steps in # 4 below.

3 - Everything functions correctly except the keyboard:

If power is turned off and back on quickly, this condition may occur. Power line glitches may cause this problem to occur. Use the following to correct this.

1) Turn unit off for at least 15 seconds.

2) After waiting the 15 seconds, turn unit back on.

3) This will usually correct the problem. If it does not follow steps in # 4 below.

4 - Switches not functioning properly or erratic operation.

Use the following steps to set the unit to the factory initialization mode.

1) Turn off power.

2) Turn on power while depressing STOP and RESET buttons at the same time. Hold buttons on for about 6 seconds.

3)Release buttons after initializing screen comes on display. Unit should return to normal operation within 10 seconds. Note that the Real Time Clock will have to be reset and all information stored in memory will be lost.

4)If the above steps do not solve the problems, contact MicroImage Video Systems. Many problems can be solved over the phone.

Technical assistance

WORLD VIDEO SALES CO., INC.
P.O. Box 331
Boyertown, PA 19512
Attention: Customer Service
Phone: (610) 754-6800

Input Levels:	
NTSC	1.0 Vpp Composite, 75 Ω
YC	1.0 Vpp (Y), 75 Ω 0.286 Vpp Burst Level (C), 75 Ω
RGBS	0.714 Vpp Non-composite (RGB), 75 Ω or 1.0 Vpp Composite (G), 75 Ω 0.3 ~ 5.0 Vpp (Sync), 75 Ω
Output Levels:	same as respective inputs ±5% into 75 Ω
Connectors:	
NTSC	BNC Female
YC	4 pin mini-DIN Female (Std. S-Video conn.)
RGBS	BNC Female
Matte Levels	approx. 5% (Black) and 90% (White)
Bandwidth	Greater than 10Mhz
Clock Accuracy:	
Stop Clock	± 0.01% typical
Real Time Clock	within ± 1 minute per month
Real Time Clock Battery Life	over 10 years typical at 25° C
Temperature:	
Operating	0° ~ 40° C (32° ~ 104° F)
Storage	-40° ~ 60° C (-40° ~ 140° F)
Humidity:	
Operating	10% ~ 90% (noncondensing)
Storage	0% ~ 95% (noncondensing)
Power:	
Voltage	110 ~ 125 VAC 50/60 Hz
Consumption	25W max.
Size	11.6(W) x 10.2(D) x 2.5(H)
Weight	7 lbs. 13 oz.

MicroImage Video Camera Systems

MicroImage Video Pointers

MicroImage Fixed Pattern Generators

MicroImage CrossLine Generators

MicroImage Video Distribution Amplifiers (NTSC/YC and RGB)

MicroImage PIX/2 Split Screen Controllers

MicroImage Video Faders

Passive Switch Boxes

CABLES

CAB11003	3 ft BNC to BNC Cable
CAB11006	6 ft BNC to BNC Cable
CAB11012	12 ft BNC to BNC Cable
CAB11025	25 ft BNC to BNC Cable
CAB12006	6 ft S-Video (YC) Cable
CAB12012	12 ft S-Video (YC) Cable
CAB12025	25 ft S-Video (YC) Cable
CAB13003	3 ft RGBS BNC to BNC Cable set
CAB13006	6 ft RGBS BNC to BNC Cable set
CAB13012	12 ft RGBS BNC to BNC Cable set
CAB13025	25 ft RGBS BNC to BNC Cable set

MicroImage Camera adapter cables. Call MicroImage Video Systems for information regarding part specific part numbers for different MicroImage cameras.

Call MicroImage Video Systems to check availability of cables not listed above.

All above items may be ordered from your MicroImage Video Systems Dealer.

World Video Sales Co., Inc. warrants that each MicroImage Timer / Titler are free of defects due to faulty materials or improper workmanship. World Video Sales Co., Inc. further warrants that any part which proves defective in materials or workmanship within one year , will be replaced or repaired at no cost to the user. Labor to replace defective parts will be done without charge, provided the equipment is returned to World Video Sales Co., Inc. prepaid, insured and properly packaged. Prior return authorization must be obtained from World Video Sales Co., Inc.

NOTE

This warranty covers the MicroImage Timer / Titler only.

CONDITIONS

This warranty is void if the warranted part has been altered or subjected to abuse or misuse. Defective parts must be returned to World Video Sales Co., Inc.

SOLE WARRANTY

This Warranty is in lieu of all other warranties expressed or implied including, without limitation, any implied warranty or any implied warranty of fitness for a particular purpose. World Video Sales Co., Inc. shall have the final right to determination as to the existence and cause of any defect and its appropriate adjustment in accordance with the terms of this warranty. In no event shall World Video Sales Co., Inc. be liable for any consequential or collateral damages.

Please call for a RMA Number on all repairs.

WORLD VIDEO SALES CO., INC.
625 Hoffmansville Road, Suite 3
Bechtelsville, PA 19505
Attention: <RMA #>

Phone: (610) 754-6800