

BRG Mega Digital Timer

Operation Manual

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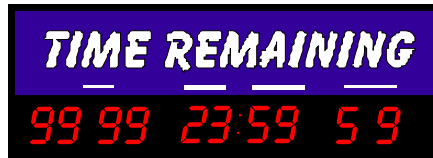
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Mega Timer Quick Start

The Mega Timer has been configured to run automatically on power-up. You can easily change the starting time using the method described below. A Windows program is available to calculate the start time from a future date and time. The program may be downloaded from our web site at <http://www.brgprecision.com/userdoc.html> Once the starting time has been changed, the timer will immediately start from the new time.



Momentarily press the Timer Control button causing only the days display will illuminate. Use the Up and Down buttons to change the days. Holding down the buttons will cause the value to change faster.



Momentarily press the Timer Control button again to illuminate the hours and minutes display. Use the Up and Down buttons to change the Hours and Minutes. Holding down the buttons will cause the value to change faster.



Momentarily press the Timer Control button again to illuminate the seconds display. Use the Up and Down buttons to change the Seconds. Holding down the buttons will cause the value to change faster.



Momentarily press the Timer Control button again to illuminate all displays. The timer will resume the countdown from the new start time.



Operation

The BRG Mega timer is based on super bright LED technology coupled with a very capable microprocessor. The Mega microprocessor is able to store the user's configuration in duplicate. If the configuration becomes corrupt by someone configuring the display incorrectly, the original customer configuration may be instantly restored. The internal Real Time Clock includes an ultra-high precision quartz crystal oscillator as the standard time base and is accurate to a few seconds per year.

Timer Operation –

The Mega Timer can be configured as an Up or Down elapse timer. In Down timer mode, once 0 is reached, the timer will reverse direction and begin counting up. The Timer Control button is used to change the starting time. Momentarily press the Timer Control button. The first display will be at half brightness, all other displays will blank out. If only one display is used, it will go to half brightness. Press the up and down buttons to adjust the value. Holding the buttons down will cause the value to change faster and faster. Momentarily press the Timer Control button again to move to the next display. When the last display is adjusted, press the Timer Control button again to return to normal operation. All displays will return to the same brightness. Set Mode 6 = 6 to run the timer continuously. The Start/Stop/Reset buttons are disabled in the continuous run mode.

Failsafe Operation - If power is lost, the display will blank out, but the timer will continue to maintain the correct count-up or count-down time without power. When the power is restored, the timer will display the correct time.

Infrared Remote Control

The optional infrared remote can be used to control real time displays and timers. The remote can also be used to access and change the clock / timer configuration. The infrared remote control receiver must be factory installed.

Timer - Press once to Start,
Press again to Stop, Press again
to resume .

Timer - Press to reset timer.

Unused

Unused

Timer Mode - Press to select a
display to change the starting
time. Press again to exit or
cycle to the next display,
change the timer starting
value(s). Press a Up or Down
to change the values.

Menu Mode- Press to exit the
menu system.

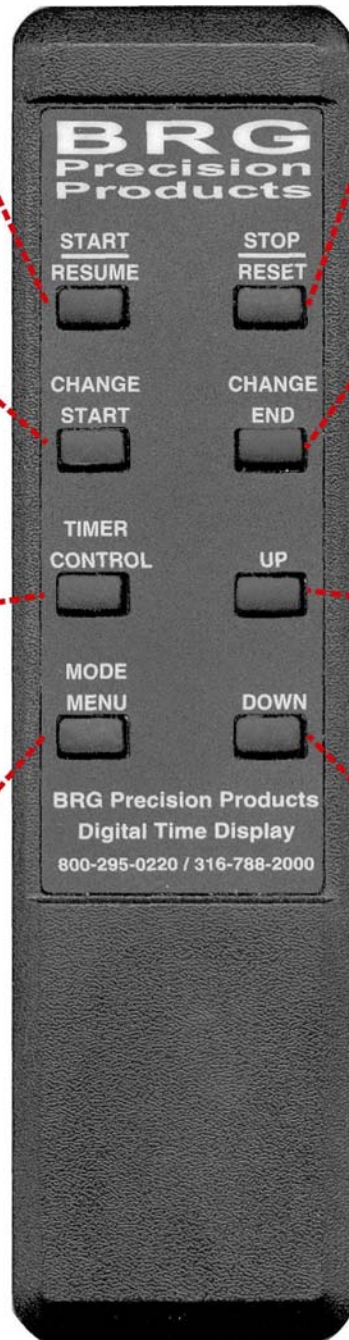
Menu Mode - Increment the
menu address or menu item
value.

Timer Mode - Increment the
selected display.

Press and hold about three
seconds to access the menu
system. Press Up or Down
buttons to move to desired
menu item. Press Mode button
again to display menu value.
Press Up or Down to change
value. Press mode to exit
menu item. Press Down until
zero or the Timer Control button
to exit the menu system.

Menu Mode - Decrement the
menu address or menu item
value.

Timer Mode - Decrement the
selected display.



Actual Size

Mega Clock/Timer Processor Configuration Menu

Processor Type

Two types of processors are typically used in BRG digital clocks, Tiger and Mega. The Tiger processor is usually found in timers, counters, and more complex display configurations. The Mega processor is used where other features are needed that are not available in the Tiger processor, or displays not requiring features found in the Tiger processor. The Mega processor is available in general clock as well as special timer configurations. The factory will install the processor type most appropriate for the customer's requirements. The menu will indicate the type of processor used. Once in the menu system, if the Mega processor uses leading zeros and the Tiger processor does not. If the Mega is configured as specialized timer, then some of the clock functions will not be available. If Mode 10 does not display a value when access is attempted through the menu, then the Mega is configured as a specialized timer.

When the Mega is displaying real time, simply press the Up button to advance the time, or the Down button to decrement the time. The longer the buttons are held down, the faster the time will change. Press the Mode button to enter modes listed below.

First Menu Level Mode Number	Value Range	Mode Description and Instructions
<u>Menu Selection</u>	Operating Value.	<ol style="list-style-type: none"> 1- Press and hold the Mode button for 3-4 seconds, or until 01 appears on the display. If the customer's configuration was previously saved to secondary memory, all segments on all displays will illuminate while the mode button is held down. 2- Once in the menu system, use the Up and Down buttons to move to the desired parameter address. 3- Once at desired parameter address, press the Mode button once to display the parameter value. 4- Use the Up and Down buttons to change the parameter value. 5- Press the Mode button to return to the parameter address or press the Timer Control button to save any changes and exit the menu system. 6- To exit the menu system, press the Timer Control button, or use the Down button and move to parameter address 00. The clock will return to normal display mode.
0. Change Time	00:00 to 23:59 or 12:00 AM to 12:00 PM	Simply press the Up button to advance the time, or the Down button to decrement the time. The longer the buttons are held down, the faster the time will change. Press the Mode button to enter modes listed below.
1.	01 to 31	<p><u>Day of the Month</u> Pressing the Up button advances the days, pressing the Down button decrements the days. Be sure to use valid day for any specific month. For example, do not enter a day of 30 for the month of February.</p>

First Menu Level Mode Number	Value Range	Mode Description and Instructions
2.	01 to 12	<p><u>Month</u> Pressing the Up button advances the month, pressing the Down button decrements the month.</p>
3.	00 to 50	<p><u>Year</u> Pressing the Up button advances the year, pressing the Down button decrements the year.</p>
4.	0-4	<p><u>Blinking Colon</u> To enable the blinking colon, first disable Follow Master Clock by setting Mode 6 to 00, then set Mode 4 to 01 to enable the blinking colon. If the clock is connected to a master clock using sync wire, the master clock may be configured to control the blinking colon of all secondary clocks. See also Mode 5.</p> <p>0=solid colon with no leading zero, 1=blinking colon with no leading zero 2=no colon with no leading zero 3=no colon with leading zero 4=solid colon with leading zero 5=disable blinking sync indicator</p>
5.	0,1	<p><u>12/24 Hour Display Format</u> 0=12 hour display format, 1=24 hour display format (default)</p>
6.	0,6	<p><u>Sync Format</u> 6=Run timer continuously – (default) This mode is typically used when display hours or days only. The timer starting value can be changed using the Timer Control button.</p>
7.	-15-15	<p><u>Display Intensity</u> 1=minimum intensity, 15=maximum intensity (default), 0=enable auto-brightness (if installed) -1 to -15 alters the effect of auto-brightness (if installed),</p>
8.	0-59	<p><u>Alarm Second</u> Sets the second to activate the alarm</p>
9.	0-59	<p><u>Alarm Minute</u> Sets the minute to activate the alarm</p>

First Menu Level Mode Number	Value Range	Mode Description and Instructions
10.	0-9999	<p><u>Alarm Hour</u> Sets the hour to activate the alarm</p>
11.	0-99	<p><u>Alarm Duration</u> Set the alarm duration in seconds 0-99, where 99 will activate the alarm indefinitely. The Timer Control button will cancel alarm activation The Reset button will cancel alarm activation and reset the timer</p>
12.	0-1	<p><u>Display Blink While Alarm Active</u> All displays will blink once per second when the alarm is activated. The Timer Control button will cancel alarm activation</p>
14.	2,3	<p><u>Display Operating Mode</u> 2=Up timer, short or long duration (default) 3=Down timer, short or long duration</p> <p>Timer Value Adjustment - Momentarily press the Timer Control button. The first display will be at half brightness, all other displays will blank out. If only one display is used, it will go to half brightness. Press the up and down buttons to adjust the value. Holding the buttons down will cause the value to change faster and faster. Momentarily press the Timer Control button again to move to the next display. When the last display is adjusted, press the Timer Control button again to return to normal operation. All displays will return to the same brightness. Set Mode 6 = 6 to run the timer continuously. The Start/Stop/Reset buttons are disabled in the continuous run mode.</p> <p>If power is lost, the display will blank out, but the timer will maintain the correct count-up or count-down. When power is restored, the correct time will be displayed.</p> <p>Timer Button Operation (disabled if Mode 6=6)-</p> <p><u>When the timer is stopped</u> –</p> <ol style="list-style-type: none"> 1. Pressing the Start button will start the timer running. 2. Pressing the Reset button will reset the values to 0. <p>The right decimal point will light when the timer is stopped.</p> <p><u>When the timer is running</u> –</p> <ol style="list-style-type: none"> 1. Pressing the Start button will pause the timer. 2. Pressing the Stop button will pause the timer. 3. If the timer is configured to continuously run (Mode 6=6), then pressing the Stop button will reset the time back to the starting value and continue

First Menu Level Mode Number	Value Range	Mode Description and Instructions
18.	1-4	<p>running from that point. The right decimal point is off when the timer is running.</p> <p><u>When the timer is paused –</u> 1. Pressing the Start button will star the timer. 2. Pressing the Stop button will reset the values to 0. The right decimal point will light when the timer is paused.</p> <p><u>Number of Four Digit Displays Installed</u> 1-4, 1=default,</p> <p>This value determines how many four digit displays are installed. Double and four sided displays may use a value of 1 to set all four sides to the same display. Other combinations are possible.</p>
19.	N/A	<p><u>Displays the software version number of the clock.</u></p>
20.	1-99	<p><u>Sets various display modes for the first display</u> The following modes are available:</p> <p>1 - sxxx – seconds left justified 2 - hh:mm – hours and minutes (default) 4 - nnnn – four digit year 5 - mm/dd – month and day 9 - xxxx – blank display 12 - mm:ss – minutes and seconds 13 - xssx – seconds centered 17 - dd/mm – international date format – day/month 20 - hh:mm – hours and decimal minutes 21 - nnnn – timer days (-9999 – 9999) 22 - nnnn – timer hours (-9999 – 9999) 23 – nnnn – fixed count (-9999 – 9999) 27 – 99:mm – hours and minutes to 99 hours</p>
40.	0,1	<p><u>Reverse Down Direction Timer at Zero</u> 0=disabled – timer stops at zero 1=enabled (default) – timer reverses at zero</p>
41.	0,1,2	<p><u>Reverse Decimal Point</u> 0=normal decimal (default), 1=reverse the position of the decimal point for discrete digit displays. 2=add colon to display modes 1 and 2 for discrete displays</p>

First Menu Level Mode Number	Value Range	Mode Description and Instructions
91.	NA	<p><u>Restart Clock</u> This command restarts the clock program from the beginning. Parameters are unchanged. If an Ethernet interface is attached, a reset of the interface will be performed.</p>
92.	NA	<p><u>Restore Factory Defaults</u> This command restores all factory default parameters and restarts the clock.</p>
93.	NA	<p><u>Restore User Defaults</u> This command restores the user parameter configuration previously stored using Mode 94. If no parameters were previously stored using Mode 94, then this command will have no effect.</p>
94.	NA	<p><u>Store user Parameters Into Secondary Memory</u> All configuration parameters are automatically stored into primary memory. This command stores the current clock configuration into secondary storage. If the primary clock configuration becomes unusable, the clock can be restored to the original user configuration using the command. This avoids the necessity to re-enter the user parameters again.</p> <p>To save the current clock configuration into secondary memory, once Mode 94 appears on the display, press the Mode button once and release. Then press and hold the Mode button until all display segment illuminate, then release. The clock will return to normal display Mode once the parameters are restored.</p> <p>If user parameters have been previously saved to secondary memory, all segments will illuminate on the menu display when the entering the menu system. All segments will appear as long as the Mode button is pressed, when first entering the menu system.</p>
95.	NA	<p><u>Illuminate All Display Segments</u> Pressing the Mode button momentarily will illuminate all display segments on all displays. Pressing the Mode button again will return to the menu.</p>
96.	NA	<p><u>Test Watchdog Timer</u> The Mega processor includes a hardware watchdog timer. If for any reason the clock becomes unstable for enters an endless program loop, the watchdog timer will automatically restart the clock. The watchdog timer operation may be tested by placing the clock into an endless program loop. Press the Mode button once to test the clock. Once the Mode button is release, the watchdog timer will reset the clock in two seconds and will return to normal display mode.</p>

