## SBD 2000 Digital Master Clock Programming Manual (v2)

The SBD 2000 digital clock is a four (4) digit display, each digit made of seven (7) bars. There are two (2) buttons on the right side of the display for programming.

The top button, when pressed alone, sets the hours (the first two (2) digits). The bottom button, when pressed alone, sets the minutes (the last two (2) digits). When setting the hours and minutes, the display will scroll through the numbers at a rate of one (1) per second. If the set hour or set minute button is depressed for a length of time, the numbers will scroll faster. When both buttons are pressed together, the clock enters programming mode.

When the LED located in the top left corner is lit, the clock is in the P.M. hours.


## Set the Year

Once programming mode has been entered, the number " 1 " will appear in the far left position (see diagram). This is option one (1), 'Set Year'. Using the bottom button, the user can scroll from 00-99 on the display of the last two (2) digits and set the correct year (e.g.. 01).

## Set the Month

Pressing the top button will move into option two (2), 'Set Month'. The far left digit will now display the number " 2 ", and the last two digits of the display will again be used to program the new information. Pressing the bottom button, the user can set the correct month, from 01-12.


## Set the Day

Pressing the top button will move into option three (3), 'Set Day'. The far left digit will now display the number " 3 ", and the last two digits of the display will again be used to program the new information. Pressing the bottom button, the user can set the correct day, from 0131.

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Set 12 or 24 Hour Mode
Option four (4) gives the choice of either 12 hour (standard) or 24 hour (military) display mode. The number "4" will appear on the far left side, and the two (2) characters on the right will alternate between "12" and "24" when the bottom button is pressed.

## Set Daylight Savings Time

Option five (5) allows the user to enable pre 2007 daylight savings (1), post 2007 daylight savings (2) or Disable (d) automatic daylight savings time adjustment. The number " 5 " will appear in the far left position during this option, and the far right character will toggle between "1", " 2 " and "d" option when the bottom button is depressed.

## Set the Alternating Time Function

Option six (6) enables (E) or disables (d) the alternating display function. When enabled, the display will switch between showing the time (HH:MM) and the date (MM:DD). When disabled, the display will show the time only. The number " 6 " will appear on the far left side, and the far right character will toggle between an "E" and " d " option when the bottom button is depressed.

## Set American or European Date Display

Pressing the top button again will progress to option seven (7) with a number "7" being displayed in the far left digit. This function allows the user to choose between American (A) and European (E) styles of date display. American style shows month then day (ex. 10 28), European style shows day then month. The date will be displayed during normal operation only if the "Alternate day/date" option has been enabled in option six (6).


## Set the Brightness

Pressing the top button again will progress to option eight (8). This function allows the user to adjust the brightness of the digital display. Level 1 is the most bright, 2 is normal and 3 is least bright.


## Set the Clock Number

Pressing the top button again will progress to option nine (9) appearing in the far left digit. This two-step function allows the user to program the address (clock number and zone number) for the display. When number " 9 " appears in the far left digit, the user can use the bottom button to program the three-digit clock number, from 001999.

## Set the Zone Number

Pressing the top button one more time will progress to option ten (10). This allows for the second step, programming of the two-digit zone number, from 01-99.

## Set the RS485 Transmission Rate

Press the top button again to progress to option eleven (11). An "11" will appear on the left side of the LED display, if the option was chosen in option 10. This prompt allows you to set the data transmission. Press the "Set Minute" button to scroll between "01-12".

01 - Data is transmitted every second
02 - Data is transmitted every 5 seconds
03 - Data is transmitted every 10 seconds
04 - Data is transmitted every 15 seconds 05 - Data is transmitted every 30 seconds
06 - Data is transmitted every minute

07 - Data is transmitted every 2 minutes 08 - Data is transmitted every 5 minutes 09 - Data is transmitted every 10 minutes 10 - Data is transmitted every 15 minutes 11 - Data is transmitted every 30 minutes 12 - Data is transmitted every hour

Set the Time Base
The SBD 2000 will work off of either an electric time base ( E ) of 60 Hz or a quartz time base (q). If a 60 Hz signal is not available, the clock will automatically revert to a quartz time base.

## Set the Diagnostic

This option allows the user to send diagnostics to the Sapling analog clocks. Use the bottom button to scroll from 01-05. Refer to the specific analog clock manuals for diagnostic information.

| $01=$ Diagnostic 1 | $04=$ Diagnostic 4 |
| :--- | :--- |
| $02=$ Diagnostic 2 | $05=$ Diagnostic 5 |
| $03=$ Diagnostic 3 |  |

Set the Time to Resume Normal Operation
This option shows how much time the information on the clock from diagnostics 1 or 2 will be displayed before going back to normal operation. Use the bottom button to scroll from 01 - 99. Refer to the specific analog clock manuals for diagnostic information.

