

# BIG CEE STUDIOS

## Operating Instructions Six-Tube Nixie Clocks with TubeHobby Circuitry

Your new Nixie clock is driven by a microprocessor, allowing a number of useful features to be incorporated. A backup battery is also included to maintain time and settings during power outages. Time and options are set via two pushbuttons, marked “1” and “2.” To turn on the clock, first install the backup battery, and then plug in the 12 VDC adapter. The clock will start in time display mode. If all tubes do not light, wiggle them gently in their sockets. On some clocks using older tubes, it may take a few minutes for the characters to warm up and display properly.

The settings can appear complicated, but are relatively easy if you step through them with the clock in front of you. Also, each clock will be set up by Big Cee Studios before delivery, and the backup batteries installed to maintain the settings. All you will need to do is plug in the power and enjoy your new Nixie clock.

### **Date display**

Press **1** briefly to display the date. Press **1** again to return to time, or the time will automatically return after 30 seconds.

### **Tube hours display**

Press **2** briefly to display the number of hours that the nixie tubes have been lit. If you know the lifespan of the tubes you are using (up to 100,000 hours for some), the counter will give you an idea of when you should start shopping for new tubes. This number is reset when main power and batteries are removed from the clock, or manually through the options menu. Press **2** again to return to time, or the time will automatically return after 30 seconds.

### **Setting the time**

Note: Time setting always occurs in 24-hour mode. If the clock is set to 12-hour mode, the display will return to that mode when you have finished setting the time.

- When the time is shown, press and hold **1** until the seconds start blinking (about 3 seconds). Press **2** to reset seconds to zero.
- Press **1** again to move to the minutes display. Press **2** briefly to advance the minutes by 1. If you overshoot, press and hold **2** to decrease the minutes by 1.
- Press **1** again to move to hours. Set hours as above.
- Press **1** again to return to time display mode.

## Setting the date

- Press **1** to display the date
- Press and hold **1** until the day display blinks. Press **2** briefly to increase the day by 1. Press and hold **2** to decrease the day by 1.
- Press **1** to move to months. Set month as above.
- Press **1** to move to year. Set year as above.
- Press **1** to exit date set mode.

NOTE: The date can be displayed as both DD/MM/YY (European style) and MM/DD/YY (American style). To switch between these, press **1** from the time display to enter date mode. Press and hold **2** until the day and month swap places.

## Display sleep

In the Options (06 through 09 below), a sleep period can be set during which the display will be blank, but the clock will still maintain the time. This should be used to maximize tube life by turning on the tubes only when you will see the clock; daytime hours at the office, or evening hours at home, for example. When the display is sleeping, pressing either button will turn on the display for several seconds so you can view the time. If the display is activated three times during one sleep period, it will remain on, and turn off again at the next sleep period.

## Options

To enter the options setting mode from the time display, first press **2** to show the tube hours display. Then, press and hold **1** until you enter the options list. The hours tubes will show which option you are setting, and the seconds tubes will show the current value. To move to the next option, press **1**. To return to the previous option, press and hold **1**. Press **2** to set the value for the option. After setting option 20, press **1** again to return to the time display. Any time settings here will again be in 24-hour mode. The options are as follows:

Option	Description	Values
01	Hour format	12: 12-hour mode 24: 24-hour mode
02	Leading zero	00: No leading zero 01: Leading zero shown
03	Colon mode	00: Colon bulbs off 01: Colon bulbs on steady 02: Colon bulbs flash each second 03: Colon bulbs lit to show PM
04:	Auto Date	00: Show time only 01: Show date between 50 and 55 seconds of each minute (this feature helps increase tube lifetime).
05	Tube Hours Reset	Press <b>2</b> to reset hours counter if you have changed the tubes. Display will show 00.
06	Clock Off Minute	Set minute for display to turn off. <sup>1</sup> Default is 00
07	Clock Off Hour	Set hour for display to turn off Default is 00

08	Clock On Minute	Set minute for display to turn on. Default is 00
09	Clock On Hour	Set hour for display to turn on. Default is 06
10	Time Zone	This is used with a GPS receiver, which is not presently available on Big Cee clocks.
11	Daylight Savings, Spring Forward Hour	Set to 02 for United States. <sup>2</sup>
12	Daylight Savings, Spring Forward Day	1: Monday, 2: Tuesday... 7: Sunday (Set to 7 for United States)
13	Daylight Savings, Spring Forward Week	1: First week, 2: Second week... 5: Last week, regardless of number of weeks in month (As of 2007, set to 2 for United States)
14	Daylight Savings, Spring Forward Month	As of 2007, set to 03 (March) for United States.
15	Daylight Savings, Fall Back Hour	Set to 02 for United States.
16	Daylight Savings, Fall Back Day	Set to 7 for United States.
17	Daylight Savings, Fall Back Week	As of 2007, set to 1 for United States.
18	Daylight Savings, Fall Back Month	As of 2007, set to 11 (November) for United States.
19	Crossfading Depth	1-25; Controls how much digits fade as they change. Default: 20.
20	Refresh Rate	1-3; If tubes "buzz," try changing this value. Default: 2.

Note 1: If you do not wish to use the "sleep" function of the clock, set all "Clock Off" and "Clock On" values to 00.

Note 2: If you live in a state with no Daylight Savings Time (i.e. Arizona or Hawaii), set the "Fall Back" values to match the "Spring Forward" values.