

# Nixie Clock type 8a #1 instructions

When initially plugged in, or after a long power outage, the clock will scroll "12" across the display until the time has been set. The clock has several minutes of reserve power, so a brief outage or moving the clock to a different outlet is not a problem.

This clock has a dual time zone feature, with each hours display independently selectable as 12- or 24-hour format. The rightmost of the two is the main hours display (the one which advances the date when it reaches midnight); the leftmost display is an alternate hour which may be a day ahead of or behind the displayed date. The clock can also be set to display hours for a single time zone, with tenths of a second displayed on the rightmost tube.

Press the SET button (on the left rear of the clock base) to enter setting mode, starting with the main hours. Additional presses of the SET button will step through the settable values in the table below. Turning the knob on front adjusts the selected value, which will be blinking. Turning the knob while it is pushed in will adjust the value in increments of 10.

OPTION	RANGE	DISPLAY
Main hours	0-23	 Time is always shown as dual zone, both 24-hour format during setting, even if you have selected a different time format. Changing the minutes resets the seconds to zero.
Alt hours	0-23	
Minutes	0-59	
Month	1-12	 Date is always shown in month-day-year format during setting, even if you have selected a different date format.
Day	1-31	
Century	20-99	
Year	0-99	
Time format	6 choices	"12" or "24" is shown in each hours position to indicate the format that will be used for time display. Tenths of a second will be shown on the rightmost tube when a format including that feature is selected.
Date format	8 choices	The date January 31, 1999 (chosen since its components can easily be distinguished) is shown in the selected format. This option also controls leading zero blanking: the month may be displayed as either "1" or "01". Blanking also affects the day, and the hour in 12-hour format only.
Time display duration	0-200	 These options set the delay (in tenths of a second) before time/date displays automatically switch to the other. Setting the time duration to 0 means that the date will never be displayed automatically (it can still be displayed manually by pushing the knob).
Date display duration	1-200	

Pressing the SET button one more time returns to time/date display mode, and turning the knob now adjusts the Nixie brightness. Pushing the knob will switch between time and date display.

# Nixie Clock type 8a #1 service info

- If Nixie tubes need to be replaced: Types ZM1210 (tinted) or ZM1212 (clear) are compatible. Tinting can be removed by soaking the tubes in warm water for a few hours, then rubbing the coating off (note that this will also remove all markings on the tube). The tubes were purchased from [www.AskJanFirst.de](http://www.AskJanFirst.de).
- Two spare tubes were supplied with the clock, in boxes taped to the underside of the base.
- If the glass case top needs to be replaced: It is a "Glass Double Baseball Case", part no. CASEBAUDOT000, made by Steiner Sports, purchased from [www.hofsports.com](http://www.hofsports.com) via eBay.
- If you would prefer the adjustment knob to work in the opposite way (clockwise to decrease rather than increase): Unplug the 5-conductor ribbon cable from position J2 at the bottom rear of the circuit board. Flip it over, and plug it back in backwards.
- Switch S1 on the circuit board was intended to adjust the power supply voltage, which couldn't be exactly determined until the circuit was built. It turned out that even the low setting produced a voltage that's too high, requiring several additional components to be added as a voltage regulator. The switch must not be placed in the HIGH position, and some superglue has been applied to enforce this.
- If work needs to be done on the circuit board for any reason, please note that there is NOT a bleeder resistor on the 180V Nixie supply - it had to be removed to make room for the voltage regulator described above. After power is disconnected, this supply will drop to 75V within seconds, but will then take a few minutes to drop to safe levels.

This is the label on  
the back of the clock:

120V 60Hz ONLY	Nixie Clock type 8a #1 <a href="http://pobox.com/~JasonHarper/Nixie8a.html">http://pobox.com/~JasonHarper/Nixie8a.html</a>	SET BUTTON
	<b>DANGER</b> HIGH VOLTAGE	Do not operate with the cover open. A safety interlock disconnects power if the cover is removed, but cannot completely eliminate the shock hazard. Allow several minutes for capacitors to discharge before servicing.