Nixie Clock Marcel

User Manual

AXIRIS.be

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Safety Precautions

Do not power on the clock when tubes are damaged or missing.

Use the power supply that came with the clock, or use a power supply that's compliant with the technical specifications of the clock.

Do not expose the clock to rain or moisture. Do not put the clock in sunlight for a long time. Do not expose the clock to high temperatures. Do not cover the clock.

Always clean the clock with a dry or very slighty damp cloth. Do not use any detergents. Be careful while touching the tubes, esp. the nozzle at the top. Power off the clock before cleaning. The clock must be completely dry when it's powered on.

Do not subject the clock to mechanical shocks. Avoid any mechanical shocks to the tubes and to the top of the tubes in particular.

Keep out of reach of children.

Technical Information

Power supply	12 VDC, 500 mA
Power consumption	3 W max.
DC-connector	
Dimensions	138 mm x 63 mm x 68 mm (W x D x H)
Nixie Tubes	IN-16
Background light	Depends on the clock's configuration: ▪ Cyan LEDs ▪ Ocean green LEDs ▪ RGB LEDs with automatically changing colors
Time format	▪ 12 hour format ▪ 24 hour format
Date format	▪ DD-MM-YY (day-month-year) ▪ MM-DD-YY (month-day-year)
Alarm snooze time	1..9 minutes
Backup power	30 minutes
Durability Tubes	▪ Tube life saving mode with adjustable brightness (to prevent wearing out) ▪ Periodical animations (to prevent cathode poisioning)

Installation

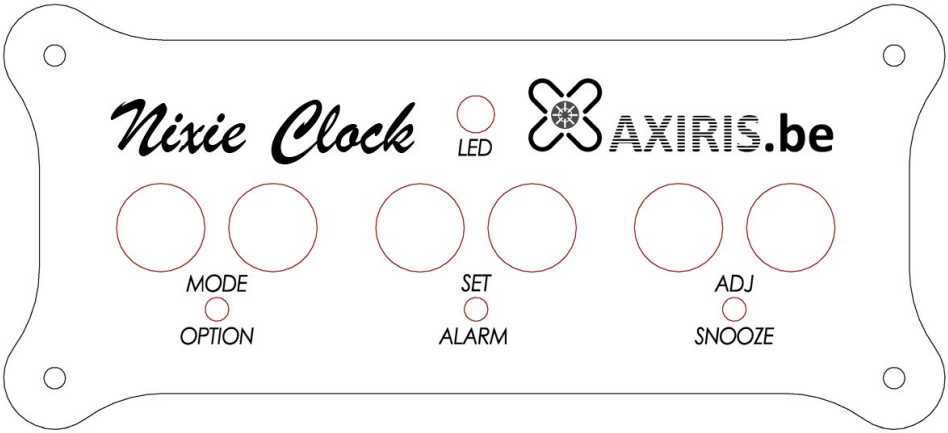
Connect the DC plug of the power supply to the DC connector on the back of the clock. Plug the power supply into a power socket. The clock is now powered on.

Please note there's no ON/OFF switch. To power off the clock remove the power supply from the power socket and/or disconnect the DC connector from the clock.

After you've powered on the clock, the clock will show the display mode.

When you power off the clock, the clock will remember all settings for approximately 30 minutes. All settings will be lost thereafter, meaning you'll have to set up again after powering on the clock.

Control Panel



Turn the knob **LED** to control the brightness of the background lightning. The brightness varies from no light at all to maximal intensity.

The meaning of the buttons **MODE/OPTION**, **SET/ALARM** and **ADJ/SNOOZE** depends on the clock's current mode.

You can operate the buttons **MODE/OPTION** and **SET/ALARM** in two ways:

- Push briefly: Push the button and release immediately. This operation is called pushing the button.
- Hold: Push the button for at least one second and release afterwards. This operation is called holding the button.

Display Mode

Push **MODE/OPTION** to show time, alarm and date.

Push **SET/ALARM** to turn on or off the alarm. An orange dot in the right tube indicates whether the alarm is turned on. When the alarm goes off push **SET/ALARM** to stop the alarm.

Push **ADJ/SNOOZE** to show the current date for a number of seconds. When the alarm goes off push **ADJ/SNOOZE** to snooze. The alarm will go off again after the snooze time has expired.

Hold **MODE/OPTION** to activate the option mode.

Hold **SET/ALARM** to activate the setup mode.

Setup Mode

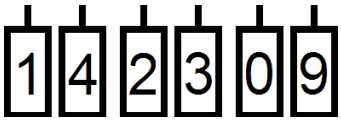
Setup mode allows you to set the time, the alarm and the date.

Push **MODE/OPTION** to cycle through the various settings:

time ► alarm ► date ► back to display mode

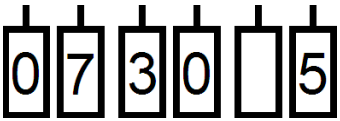
Push **SET/ALARM** to step through the various values of a setting. The currently selected value flashes. Push **ADJ/SNOOZE** to change the value.

Time



hours minutes seconds

Alarm

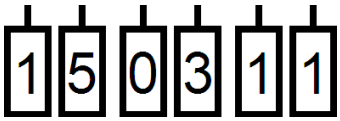


hours minutes snooze

Snooze time is expressed in minutes

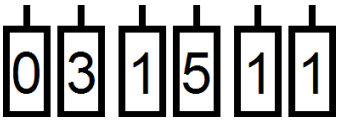
Date

Date format DD-MM-YY



day month year

Date format MM-DD-YY



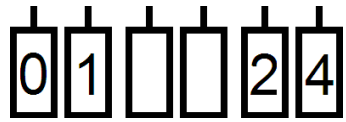
month day year

Option Mode

Option mode allows you to change various settings of the clock. Press **MODE/OPTION** to step through the available options. The value of the currently selected option flashes. Push **ADJ/SNOOZE** to change the value.

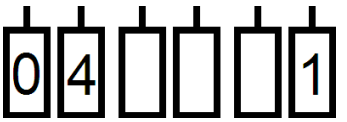
The clock will revert to display mode when you don't push any button for at least fifteen seconds.

Time Format



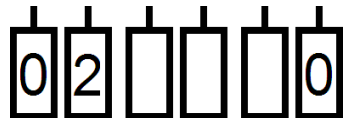
- 12: 12 hour format
- 24: 24 hour format

Date Format



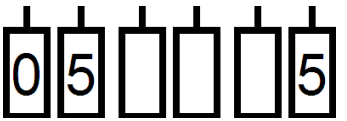
- 1: DD-MM-YY (day-month-year)
- 2: MM-DD-YY (month-day-year)

Leading Zero



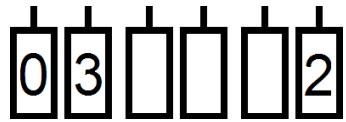
- 0: Disabled
- 1: Enabled

Display Date



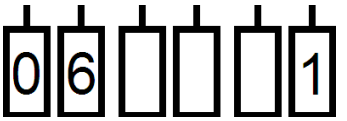
Automatically show date:
- 0: Disabled
- 1: At 00/10/20/30/40/50 sec.
- 2: At 00/20/40 seconds
- 3: At 00/30 seconds
- 4: At 40 seconds
- 5: At 50 seconds
- 6: At the top of the hour
- 7: At midnight

Digit Cross Fading



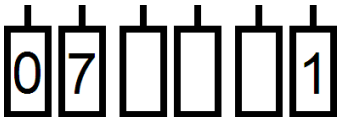
Digit cross fading in the tubes:
- 0: Disabled
- 1..9: Fast (1) to slow (9)

Date Scrolling Speed



- 1..4: Fast (1) to slow (4)

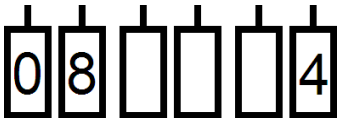
Tubes Animation Method



option

- 0: No animation
- 1: Cycling digits every minute
- 2: Waving digits every minute
- 3: Cycling digits every 10 min.
- 4: Cycling digits every hour
- 5: Cycling digits at midnight

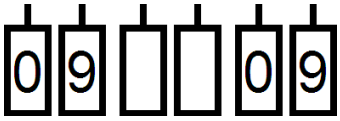
Cycling Digits



option

- 1: Left to right
- 2: Right to left
- 3: All tubes at once
- 4: Random

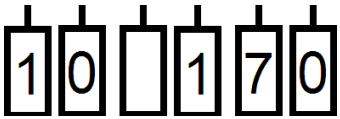
Brightness



option

- 1..10: Minimal to maximal

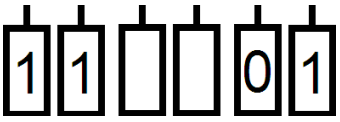
Clock's Precision



option

Press **SET/ALARM** to increment the value by one.
Press **ADJ/SNOOZE** to decrement the value by one.

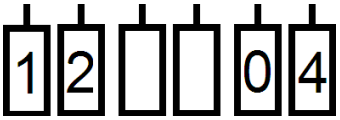
Alarm Tone



option

- 1..9: Fast to slow pace
- 10: No alarm tone

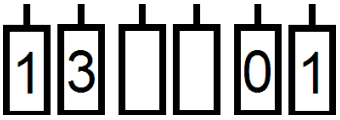
Brightness of Tube Saving Mode



option

- 0: Off
- 1..10: Minimal to maximal

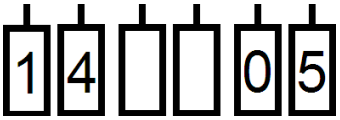
Start of Tube Saving Mode



option

- 00..23: Midnight to 23 hours

Duration of Tube Saving Mode



option

- 00: No saving mode
- 01..23: Active hours
- 24: Saving mode always active

Adjusting the Clock's Precision

Option 10 in the option mode allows you to adjust the clock's precision. If you decrease the value by one, the clock runs approx. 1.3 s slower per month. If you increase the value by one, the clock runs approx. 1.3 s faster per month.

In order to adjust the clock's precision you have to determine how much time the clock deviates over a period of time. Use a reference clock to this purpose. Examples of a reference clock include a GPS clock and the clock on the Teletext pages.

Measure the period in hours and the deviation in seconds. The deviation is positive when the clock runs too fast, it is negative when the clock runs too slow. When you determine the deviation, you must only take whole seconds into account disregarding any fractional part.

Once you've determined the values for the period and the deviation, use the following formula to calculate the adjustment:

$$\text{adjustment} = -(\text{deviation} \times 550 \div \text{period})$$

Example

Suppose the clock runs 2 seconds behind over a period of 72 hours. Hence the deviation is -2 s. According to the formula, the adjustment is $-(-2 \times 550 \div 72) = \sim 15$. In order to adjust the clock's precision, you'll have to add 15 to the value of option 10 in the option mode.

Contact Information

Official website: http://www.axiris.be/