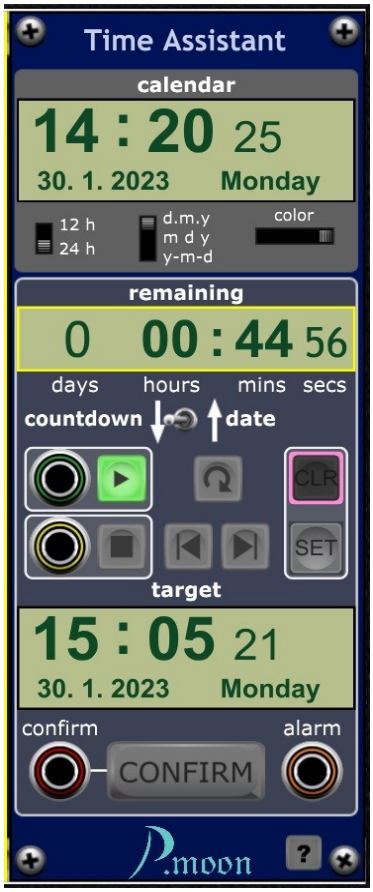
Time Assistant

Version f3, build #5, 2023-01-30



Time Assistant is a digital calendar / clock with additional functions:

1. A target **date** / time is set, for example a birthday or the planned project release day. The module will show you remaining time.
2. A **remaining** time interval is set. The module will treat it as **countdown** timer and show you resulting date with it's target display. The timer can be paused. While count down is interrupted, target date and time will keep on running. Countdown timer can repeat it's operation, if **repeat function** is activated.

When remaining time has reached zero, alarm field will start blinking and a 5 volt signal is sent from it's output jack until alarm is confirmed by clicking onto CONFIRM button ore a trigger pulse at confirm input jack is received.

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Data Input

Number fields

Number fields are used for remaining days, day of month, hour, minute, second. You can use two ways to input values:

- Click with left mouse button and hold it, drag mouse pointer up or down to increase or decrease field content. This will be best method, when you use a touch screen monitor or a tablet Computer.
- Click with left mouse button and release it, field changes color, type number with PC keyboard, confirm with ENTER key.

Text Fields

In ***12h*** time format an *am/pm field* gets visible and in SET mode editable. You need letter keys to input valid data:

- ***m****idnight* or ***a****m* for first twelve hours of day,
- ***n****oon* or ***p****m* for last twelve hours of day.

Only first letter will be checked. Upper and lower case will not be distinguished.

If another letter than “A”, “M”, “N”, “P” is input, am/pm field will show “??” and hour field will show “- -” until a valid letter is input.

For “***target***” there is a date field. Input text must match date format, that is selected in *calendar* area.

- **d.m.y** (dd.mm.yyyy)

Day of month:	1 ... 31
Month:	1 ... 12
Year:	actual year ... actual year plus 27
Separator:	exactly two dots (“.”) in total, spaces are allowed and will be removed

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- **m d y** (Mon dd yyyy)

Month:	JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC upper or lower case (or mixed), at least three letters, only first three letters will be checked
Day of month:	1 ... 31
Year:	actual year ... actual year plus 27
Separator:	only spaces

- **y-m-d** (yyyy-mm-dd)

Year:	actual year ... actual year plus 27
Month:	1 ... 12
Day of month:	1 ... 31
Separator:	exactly two minus signs ("-") in total, spaces are allowed and will be removed

A year from actual year to next 27 years can be input only, because remaining time must be less than 10000 days.

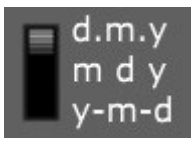
Day of month will be limited to maximal number of days for input month.

Basic Settings

Calendar gets it's values from your computer system automatically. So time zone and daylight saving time ("summertime") are set as you did in your computer.

time format selection

- "**12 h**": 0 ... 12 h am/pm
- "**24 h**": 0 ... 23 h



date format selection:

- day. month. year
- month. day. year
- year – month – day

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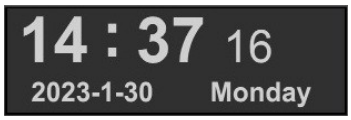
display color selection:



- “dark”

- “light”

- “Nixie style”

- “VFD style”

- “LCD style”

Controls and connectors

Calendar field shows actual date and time of your computer.

Remaining field displays remaining time interval til an alarm occurs. This interval is the difference between ***calendar*** and ***target*** values. The picture shows maximal possible values for countdown mode.

In *date mode* ***target*** is the manually set date.

In *countdown mode* ***target*** values are resulting from sum of ***calendar*** and ***remaining*** time. That means, ***target*** stays constantly while ***countdown*** is running. It goes forward while ***countdown*** is stopped.

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mode switch

- ***countdown*** *mode*: time interval is set as “remaining”

- ***date*** *mode*: target date / time is set

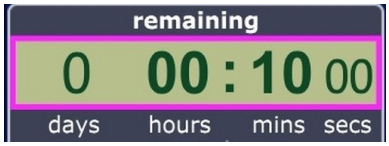
SET toggle button activates *data set mode*.

In ***countdown*** mode it is only usable while countdown is stopped and there isn’t an unconfirmed alarm pending.

When this button gets toggled *on*,

- it enables ***CLR*** push button,

- it disables *countdown* controls,



- an enlarged and highlighted frame around input area starts changing it’s color periodically,

- you can enter date / time for ***countdown*** or ***target***.

When ***SET*** button gets toggled off,

- ***CLR*** button gets disabled,

- preset area frame gets smaller and keeps yellow color,

- *countdown* controls get enabled (in *countdown mode* only),

- in *date* mode ***remain*** values start decreasing at each second.

CLR button (usable in *SET mode* only)

When clicked,

- in *countdown* mode it sets all data fields to zero in *remaining* area,

- in date mode it sets minutes and seconds to zero in *target* area. At a second click actual calendar values will be copied to target fields.

RUN button (in countdown mode only) gets enabled after *SET mode* was active or **RESTART** button was pushed. It starts countdown decreasing at each second.

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A trigger pulse with a CV > 2.5 volts sets RUN toggle button too. *)

A click on **STOP** button or a CV trigger pulse (*countdown mode* only) interrupts countdown and allows change to *SET mode*. *)

While countdown is interrupted, target date / time will change forward.

**) Please note: because of Voltage internal data processing, visible states of RUN and STOP toggle buttons sometimes do not match actual state.*

When **REPEAT** toggle button is on, countdown timer restarts with initial values, after it reached zero and initiated an alarm.

RESTART button reloads preset values to countdown timer, even when countdown is running.

FINISH button lets countdown timer jump to zero and activate alarm state. The button is only effective while countdown is running.

On the bottom there is the “alarm area”. It’s background will start blinking light orange, when ***remaining*** values get zero. Additionally ***alarm out jack*** sends a 5 volt signal.

A trigger pulse at ***confirm in jack*** or a click on **CONFIRM** button resets alarm state.

When REPEAT button is ON, it might make sense to cable link alarm out jack with confirm in jack. This will quit each alarm state automatically. In this case alarm out jack sends only a trigger pulse each time when an alarm occurs.

P.moon DOC files: https://p-moon-modules.de/modules.htm

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