UltraClock User Guide

NuTesla's Ultradian Clock Version 4.8 for Windows®

UltraClock is NuTesla's Ultradian Clock application for Windows and occupies only 200x200 pixels of the Windows desktop. UltraClock is provided as a Self-extracting executable file and creates a desktop shortcut. Double click the desktop shortcut to start UltraClock.

When the application starts you will be shown the main Ultradian Clock screen as seen to the right. The current time of your PC is displayed in both the analog clock hands and digitally in the lower right hand corner. The clock face and information displayed varies depending upon whether the current time is during a 16 hour Awake period or an 8 hour Sleep period. The figure to the right shows the display during an Awake period based on a 9AM awake time. The Upper left -hand corner displays the next Ultradian Peak time of 2:00 PM and the lower left-hand corner displays the next Ultradian Low (or Slump) time of 4:00 pm. The smaller dial in the upper half represents the current Awake Ultradian cycle of 3 hours duration. The white Ultradian dot moves clockwise and indicates your body's relative position in this cycle. The white Ultradian dot changes to green during the upper half of the cycle and back to white during the lower half of the cycle.

During middle of an Awake Peak period another smaller dial is added to white dial at the top and the green Ultradian dot moves clockwise around this smaller dial.

The Yellow dot, on the outside of the dial, represents the sun and your body's relative daily Circadian Rhythm position. The yellow sun moves around the clock face starting at the 8 o'clock position and moves clockwise to the 4 o'clock position. Regardless of what time you enter for your Awake Time, the yellow sun always starts at the relative 8 o'clock position. The twelve-hour standard clock face doubles as a 24 hour dial for your daily Circadian Rhythm.

If the current time is during an 8 hour Sleep cycle the clock face displayed will be as shown next. The yellow sun has been replaced with a blue moon on the outside of the dial to represent your Circadian Rhythm during Sleep time moving clockwise from the 4 o'clock to 8 o'clock positions. Also, the current awake time is displayed in place of the next Ultradian Low period in the lower left-hand corner. The upper white dial has also been replaced with a blue dial on the lower half of the face, and represents standard Ultradian Sleep rhythms occurring within the 8 hour sleep cycle. A light blue Ultradian Sleep dot travels in a clockwise motion around the lower Sleep dial to represent relative sleep patterns from dreaming at the top of the sleep dial to deep sleep at the bottom of the sleep dial.

Clicking on the clock face will pop-up a menu to allow you to End the Program, Set a new Awake Time, Toggle Test Mode (runs 60 times faster), Toggle the current time's analog hands on the clock face or display information About UltraClock. Mouse clicks must be long to invoke the Pop-up menu as shown to the right and to select a menu item. Short mouse clicks may not be recognized by UltraClock. Clicking on **End Program** will exit UltraClock. Clicking on Set Awake Time allows you to enter a new Awake Time. Clicking on **Toggle Test Mode** with turn on or off Test Mode. Clicking on **Toggle Hands** will turn the analog hands for the current time display on or off. Clicking on **About Ultra-Clock** will display additional information about the program, its version and web address. UltraClock continues to run behind the Pop-Up. Clicking anywhere outside the Pop-Up will dismiss the Pop-Up menu.

When clicking on Set Awake Time the current Awake time will be displayed in bold yellow as shown to the right. In this mode the Awake time can be changed by clicking above the current Awake time hours and minutes for a later time as shown in the lighter gray font or clicking below to choose an earlier time. Clicking above the am will change to pm, or back to am if pm is displayed. When the new Awake time is selected in yellow click outside the change area to save the new time.

Test Mode is a special mode that runs at 60 times normal speed by using the PC's seconds and minutes and the UltraClock's minutes and hours to allow the user to see

UltraClock move through an entire day in 24 minutes. When in Test Mode UltraClock will display the word TEST followed by the number of minutes into the current Awake or Sleep portion of the Circadian cycle as shown in the figure to the right.

You may move the UltraClock window to a different position on your desktop by clicking with the mouse on the **Ultra…** area of the title bar and dragging the window to a new location and then releasing the mouse button.
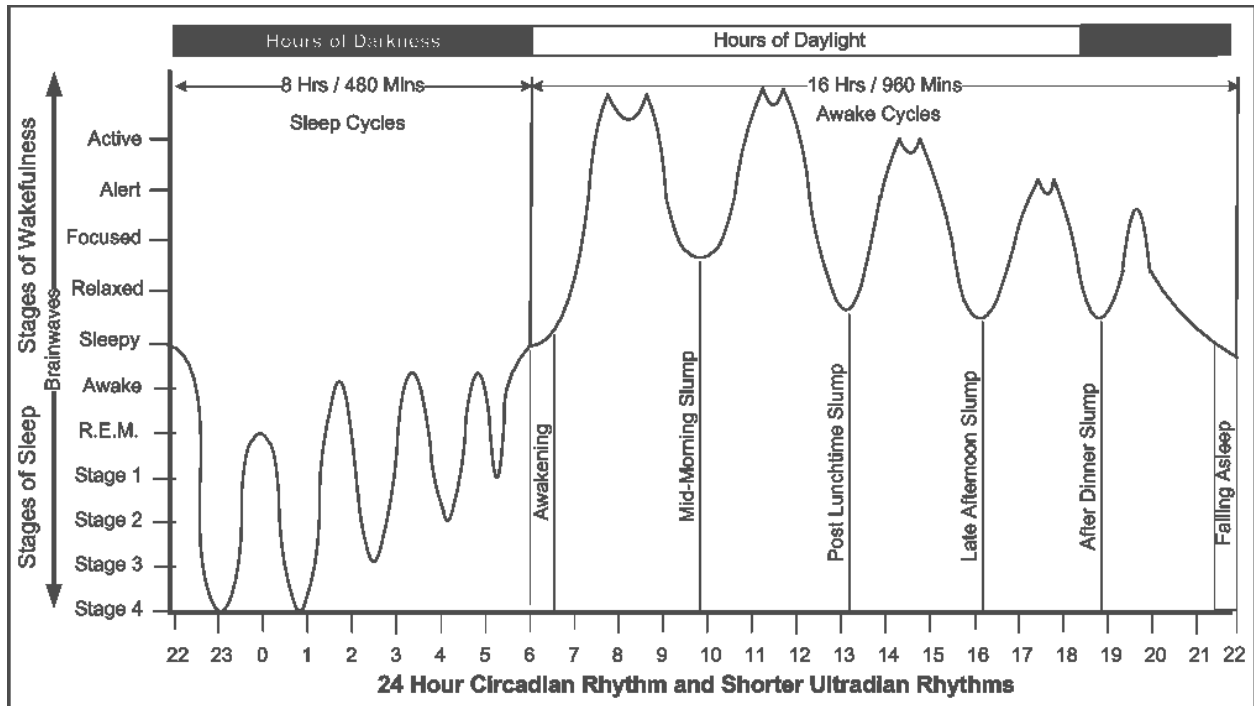
UltraClock, Unlocking the Rhythm of Life

NuTesla's Ultradian Clock is a simple to use and understand application informing you at a glance where you are during your daily Circadian cycle, when your next Peak productive time and next Low resting time will be. All you have to do is set the time you woke up. UltraClock uses the current time and when you to help you determine your next peak and low periods so you know when to avoid a high stress situation and when best to take a break.
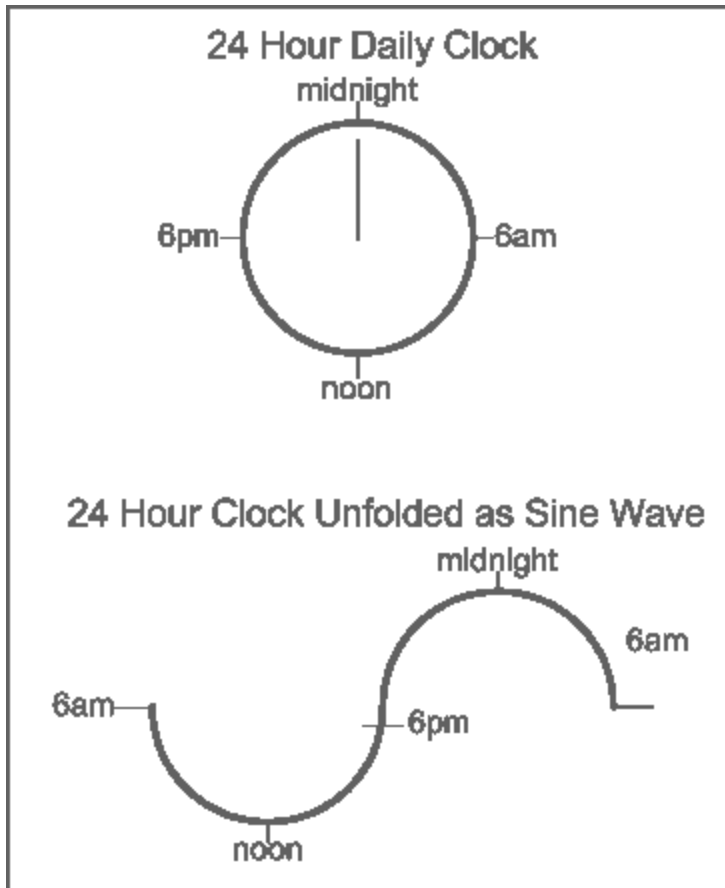
Circadian Rhythms are a 24 hour repeating cycle our body experiences each day. Dr. Franz Halberg coined the term Circadian Rhythm in the 1950's as a result of his studies of hormones. In addition to our daily Circadian Rhythm we have a multitude of internal clocks regulating our sleep, metabolism, and our ability to stay focused and alert. They help get us going in the morning, slow us down at night and regulate a myriad of cellular processes occurring right now in our bodies. Knowing your body's rhythms can help you improve your sleep, increase energy, and be more productive.

This daily cycle is divided into an awake and a sleep period, each of which are comprised of shorter cycles called Ultradian Rhythms. While most people are aware of the cycles we experience when sleeping of dreaming and deep sleep, few are aware of our Ultradian cycles occurring while we're awake. Our bodies need both highs and lows during sleep and when awake. Yet we've all experienced a mid-morning slump when we need a pick-me-up or the slump after lunch. These are evidences of our waking period Ultradian Rhythms. Knowing when your body's next peak productive or low resting periods may occur can give you an edge.

The following figure shows both sleeping and waking rhythms as they relate to brainwave activity.

Hours of Darkness / **Hours of Daylight**

8 Hrs / 480 Mins — Sleep Cycles

16 Hrs / 960 Mins — Awake Cycles

Stages of Wakefulness — Brainwaves — Stages of Sleep

Active, Alert, Focused, Relaxed, Sleepy, Awake, R.E.M., Stage 1, Stage 2, Stage 3, Stage 4

Awakening, Mid-Morning Slump, Post Lunchtime Slump, Late Afternoon Slump, After Dinner Slump, Falling Asleep

22 23 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

24 Hour Circadian Rhythm and Shorter Ultradian Rhythms

UltraClock displays these cycles in a circular clock-like fashion by folding the waveforms onto themselves creating a circle. The circle can then be unfolded and interpreted as a wave as can be seen in the example below.

24 Hour Daily Clock

midnight

6pm—   —6am

noon

24 Hour Clock Unfolded as Sine Wave

midnight

6am

6am—

—6pm

noon

Another example of a wave being related to a 24 hour cycle is the 24 hour view of Earth from space showing the moving light-dark cycles as shown below.

24 Hour Light Dark Cycle of the Earth

We suggest getting familiar with UltraClock by running it in Test Mode to see it operate at 60 times faster speed and changing the awake time to see how you could change when your daily highs and lows may occur. As an example, if your manager has 9AM staff meetings, perhaps you should get up at 6AM to be at peak performance during the meetings. Using this information will allow you schedule your mealtimes, exercise and workout periods and critical work tasks. Couples can use shared rhythm information to improve their time together.

Always remember that no two people are alike and the timing used in UltraClock is based on standard Ultradian Rhythms, so use the information gained to start understanding your body's internal clocks and start winning.