

# Geochron Digital 4K UHD World Time Clock

Reviewed by  
Pascal Villeneuve, VA2PV  
va2pv@arri.net

I first got my license back in 1991, the year I graduated from college, and I remember browsing Amateur Radio magazines dreaming of gear I couldn't afford. Today, I am better able to invest in building my dream shack, and I remembered the Geochron, an amazing mechanical map-based world clock first made more than 50 years ago (see Figure 6).

When I checked Geochron's website, I was stunned by their new Geochron Digital 4K UHD World Time Clock, a digital version of their mechanical world clock at a fraction of the price. I use 4K UHD (ultra high definition) for the videos on my YouTube channel ([Laboenligne.ca](http://Laboenligne.ca)), and I love the quality. This video resolution represents four times more pixels than full HD 1,080P (1,920 × 1,080 pixels) — 4K is 2,160P (3,840 × 2,160 pixels).

## Overview

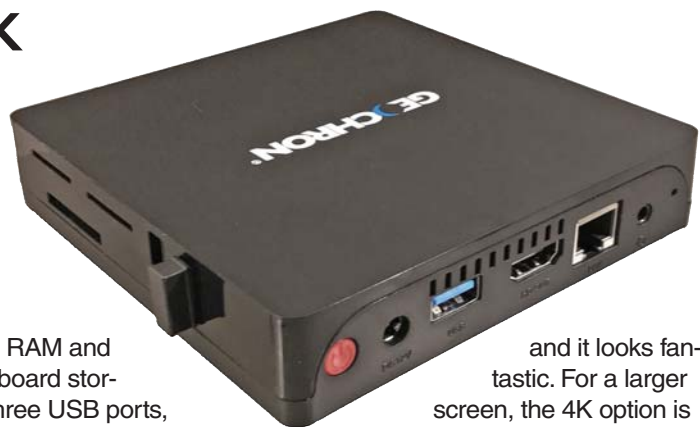
The Geochron Digital 4K hardware is a small computer, based on Android 5.1 and dedicated to running the Geochron application. The reviewed version is 1.1.0, upgraded in June 2018. The processor is an Intel Atom

with 2 GB of RAM and 32 GB of onboard storage. It has three USB ports, an ethernet LAN port (RJ-45), and an HDMI video output connector. The device also supports Wi-Fi (802.11 a/b/g/n). There's nothing complicated here, and no computer knowledge is necessary to make this device work. It's simply plug and play.

Although the Geochron supports 4K resolution video, it works very well on a typical 1,080P HD screen. It will adapt automatically to your screen resolution as long as the ratio is 16:9 (widescreen). I have it running on a 24-inch HD PC monitor in my shack,

## Bottom Line

The Geochron 4K UHD is a modern, affordable take on the classic Geochron mechanical clock.



and it looks fantastic. For a larger screen, the 4K option is the best, and it looks wonderful on a 70-inch 4K TV.

## Initial Setup

The box includes the Geochron 4K mini PC and remote control (see Figure 7), an HDMI cable, a compact USB mini mouse (only needed for the initial setup), an ac power adapter, and instruction manuals.

When you turn on the unit for the first time, you will need to connect to the internet. You can use a wired ethernet connection, or you can set up the Wi-Fi using the included mouse. To access the configuration menu, press the **MENU** button (the one with three horizontal lines) on the remote. Select **SYSTEM WI-FI SETTINGS** in the **SYSTEM** menu tab, select the appropriate Wi-Fi network, and enter your password. You will need the mouse to use the virtual keyboard, but after the

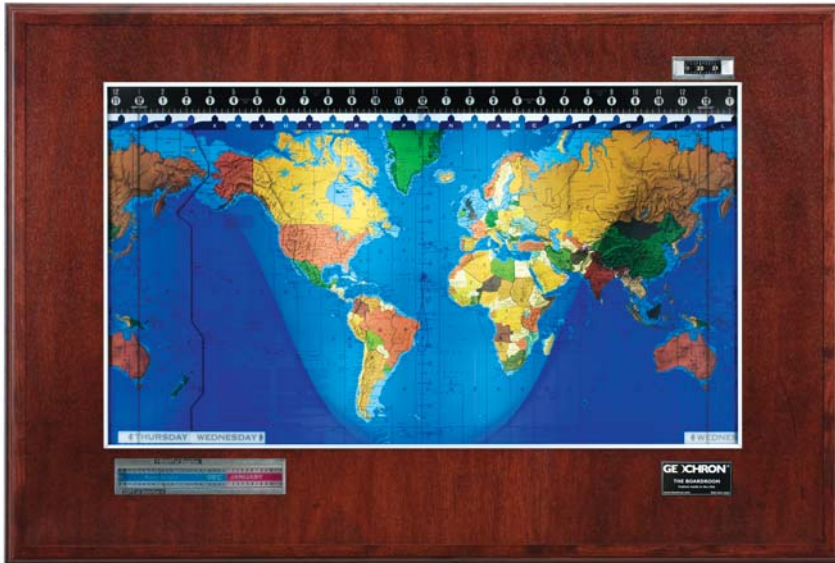


Figure 6 — The Geochron mechanical clock. [Photo courtesy of Geochron]

Wi-Fi setup you can perform all operations with the remote.

When the network is set and the Geochron 4K has access to the internet, verify that you have the latest software version by selecting **DOWNLOAD SYSTEM UPDATE**. If there's one available, it will update itself automatically; if not, it will tell you it's up to date.

Next, select your time zone. On the map screen, you will find a letter assigned to each time zone at the top of the screen. For my time zone (Montreal), it's Zone R.



Figure 7 — The Geochron 4K mini PC with remote control.



Figure 8 — The TIME ZONE settings.

Back in the **TIME** menu, I selected **ZONE R** and in the corresponding city list I found and selected **AMERICA/MONTREAL** (see Figure 8). That completes the initial setup.

### Additional Settings

In the menu, there are six tabs: **GENERAL**, **LAYERS**, **PINS**, **TIME**, **SYSTEM**, and **POWER DOWN**. We already covered the **TIME** and **SYSTEM** tabs, and **POWER DOWN** is self-explanatory.

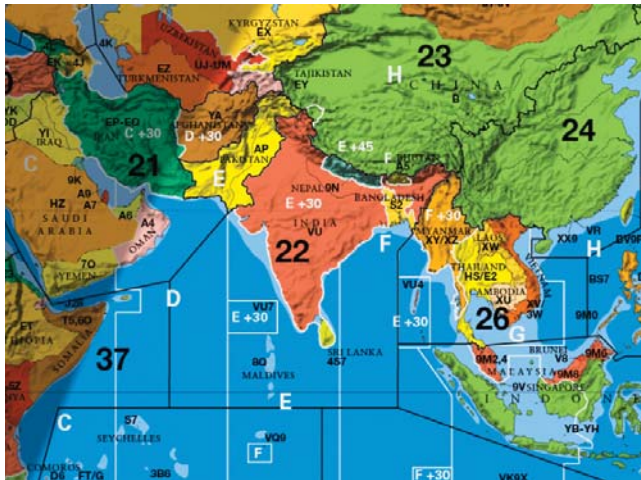
From the **GENERAL** tab, you can choose among six different map sets. The geopolitical map shows political boundaries, but the ham radio map is probably the most interesting for us, providing information such as call sign prefixes and CQ Zones, as shown in Figure 9. The topographical map shows more geological features. The Oceanic map shows more details in the oceans. The mixed map combines the geopolitical and topographical detail views.

The low-resolution map is the last choice, and is used with a large-screen TV that doesn't support 4K. This image, which uses larger fonts for the labels and has less detail (omits cities and states), is more suited for a large HDTV. Keep in mind that while the Geochron 4K will automatically calibrate to any screen resolution, it's built for 4K.

I found that the ham radio map looks good on a 24-inch HD monitor, even better than the low-resolution version (see Figure 10).

After you select the desired map, you can set the **TIME SCALE** for 12 hours or 24 hours, and then test and display different date and time formats. The **ANALEMMA** settings are shown in the display to indicate solstice and equinox information. (Analemma is a diagram showing the variation of the position of the sun in the sky over the course of a year, as viewed at a fixed time of day and from a fixed location





**Figure 9** — The Geochron 4K ham radio map (left) shows DXCC entities with prefixes and CQ zones. On the right, the AIR TRAFFIC layer is enabled. [Image courtesy of Geochron]



**Figure 10** — The Geochron 4K running on a 24-inch HD monitor in the author's station.

on the Earth. On the map screen, it looks like the number 8 with the sun traveling on it.) You can deactivate this feature, or show it in a circle or as an image for the sun.

**DEMO MODE** is one of the coolest things about the digital version of the Geochron. You can run a full-year demo in a few moments, showing how sunlight changes with the seasons. Another useful feature is that the menu tabs include a number of

onscreen video tutorials to help you set up your personal preferences.

### Layers

The **LAYERS** tab gives you the ability to add information directly on the map. For hams, the most important setting for the **LAYERS** tab is the terminator line, useful for predicting gray-line propagation. **NORMAL** shows a fixed line demarcating night and day. **SOFT** shows the grayline in detail as it slowly changes between daylight and dawn or dusk.

For all **LAYERS** settings, you can change the opacity on the map, from a scale of 0 (off) to 7. **NIGHT OPACITY** controls how dark the night is on the map. **HUMAN LIGHT OPACITY** shows city lights on the nighttime side. I think it looks best with **NIGHT OPACITY** at its darkest setting.

Geochron provides periodic updates via the internet. Since I have had the device, they have added layers with major air traffic and shipping routes and a layer showing carbon monoxide pollution. I particularly like the air traffic layer shown in Figure 9. Another interesting feature shows the track of the ISS (International Space Station), with its live location updated on the map every 15 seconds.



Visit  
<https://youtu.be/-NmJZao7uWE>  
 to see our review of the Geochron  
 Digital 4K UHD World Time Clock  
 on YouTube.

---

## Conclusion

I think the Geochron 4K offers a lot of useful information, and it is a nice addition to the shack. I would not be surprised if they add new features specifically for hams.

You don't need a high-refresh-rate gamer's TV for the Geochron 4K (the world clock moves very slowly).

I have seen some 40-inch 4K TVs under \$350 as of mid-2018. Adding this to the price of the unit, you have a permanent digital Geochron clock for a fraction of the price of the mechanical version.

The Geochron mechanical world clock is a masterpiece, with its 300

moving parts, and is still available today. Some of us have dreamed about owning one for years, and now we can have the digital version.

*Manufacturer:* Geochron, 13851 Beaver Creek Rd., Suite C-103, Oregon City, OR 97045; **www.geochron.com**. Price: \$399 (not including display device).