

TimePortal

An Art Clock in the Mondrian Style

A little history: An art clock in the Mondrian style was first conceived of in 1973, just two years after the Model I, "dot-clock" was designed. At that time the technology to do a good job without too many compromises was too difficult. In 2007 Wayne Husted came up with the TimeArt design and I, Barry Gamble, saw how to implement it with laser cutting and programming. A lot of what I learn could be applied to the Mondrian concept.

Among the difficulties that needed to be overcome was lamp life, power consumption, the need for too many very expensive injection molds, and wanting the display to vary. Light Emitting Diodes solved the first two problems. Laser cutting of parts and microprocessors fixed the last problems. So here is **TimePortal**, a sophisticated, playful conversation piece, art work. **Enjoy!**

Getting to know the new fun in your life.

When you first plug it in, it should have the correct time. It was set to your time zone before we packed it up.

Reading the Time

The Time Portal has 3 ways of displaying the time. It has two Mondrian ways, Random, or Traditional hours, and the TimeArt method. First I'll explain the Random Hour Mode. It is the hardest to read the time quickly, but perhaps the most fun. You count the number of segments with the same color.

The warm colors, Red, and Yellow indicate the hours.

The **Red** segments are 5 hours each.
The **Yellow** segments are 1 hour each.

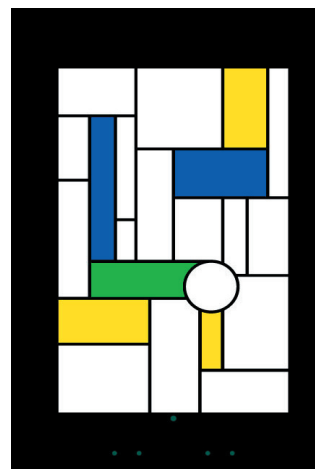
So 1 Red and 2 Yellow is 7 o'clock.
Or, 2 Red and 1 Yellow is 11 o'clock.

The cool colors Blue and Green are the

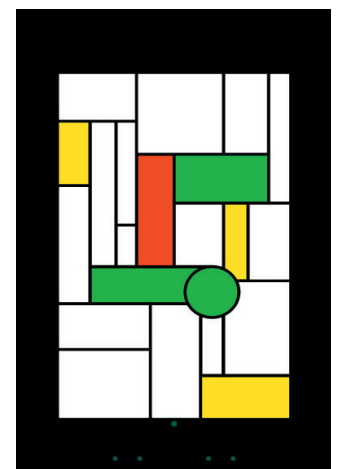
minutes. The **Blue** segments are 10 minutes each, so 3 blue are 30 minutes. The **Green** segments are a little trickier. One segment, the circle, is 5 minutes, and any other segments are 1 minute each. For example, 3 Blues is 30 minutes. If the circle is Green then it is 5 minutes. If two other segments are green, then the time is 37 minutes. The location of the segments is not important. Only the circle, has the special meaning of 5 minutes when it turns green.



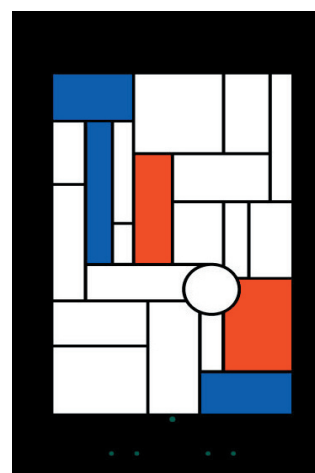
Some Examples



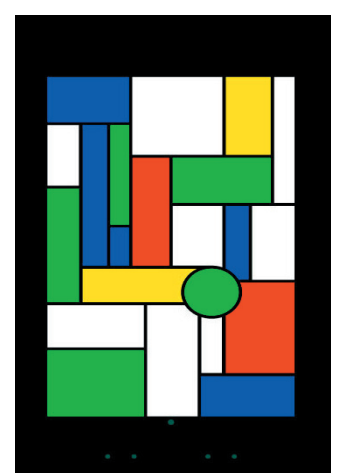
3:21



8:07



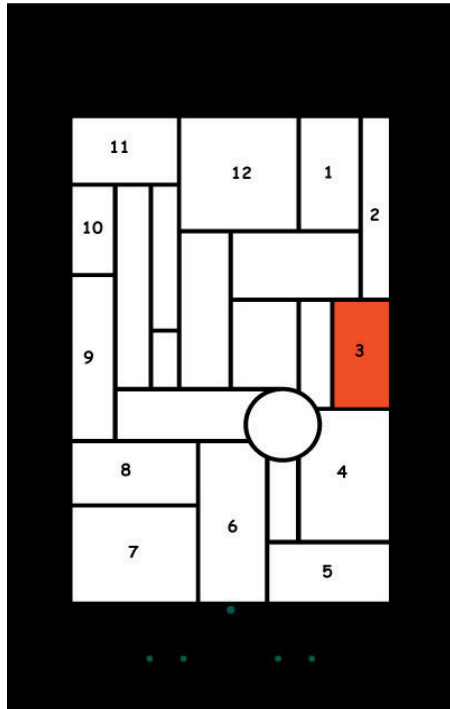
10:30



12:59

Reading Time in the Tradition Hour Mondrian Mode

The goal here was to keep most of the fun of the Random Hour Mondrian Mode, but make it faster and easier to read. There are 12 segments around the outer edge located similarly to a normal clock face. The position of the **Red** is the hour. The



minutes are read the same as before. This mode loses the yellow hours and some of the random fun, but, it is faster to read.

Reading the Time in TimeArt Mode

The design goal was to make reading the time relatively easy and add more color.

No tricky 5 minute circle or having to add up hours, or *tens-of-minutes*. You just look at the position of the **Yellow** for the hour, and look at the position of the **white** for the 5's of minutes. Then just a little addition of the randomly placed **Green** minutes.

This mode gains you a lot of color, is not as stark looking as some of the simpler Mondrian times, and is easy to read.



One tricky thing about the TimeArt Mode

What happens when the hour and the *fives-of-minutes* want to use the same square? This happens at times like 2:10, 3:15, 4:20, etc. That segment slowly pulses yellow-white-yellow-white for 5 minutes, until the 5's of minutes moves to the next segment. Because yellow and white are similar in brightness, it can be confusing until you get used to it. In my last clock, I used red & white, but that felt garish in the TimePortal and damaged the purity of the art.

One last thought on the Mondrian Mode

In the pure Mondrian Mode, clock's orientation is not important for reading the time, so you can put the clock in **landscape** (horizontal) rather than **portrait** (vertical). A wall mounting hole is cut in the back, near the clock's center of gravity, for those of you who wish to wall hang it this way.

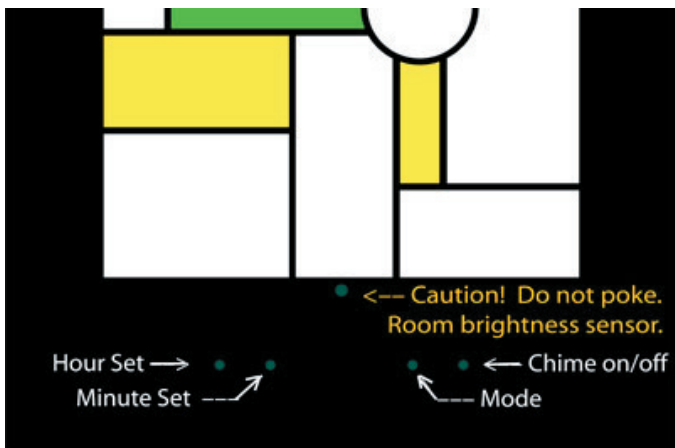
The Switches

There are four switches on the front of the clock. The microprocessor checks the switches once a second to see if you are pushing one or more of them. As you push a switch, the display blinks and there is a soft "click sound" from the speaker (unless you have turned the volume all the way to

zero on the back of the clock, not recommended. A couple of seconds later the microprocessor displays the change.

The Mode Switch

Most of you will want to experiment with display modes first. It is the third switch (see below). With each display flash, it goes from Mondrian, to Mondrian 2, to TimeArt, and then back to Mondrian.



The Hourly Chime, Chime Switch & Volume Control

The clock has an hourly chime. It is a sweet, non-intrusive, dinner-bell sound. If you do not want the hourly chime then the recommended way* to turn it off is using the 4th switch on the front. If the display flashes when you push the switch, you have turned OFF the hourly chime. If the display flashes, and you hear a 'Ding' you have turned ON the hourly chime. The chime volume can be adjusted on the back of the clock. The little white post is what you are looking for. Turning it clockwise, as seen from the rear, turns the volume down. Turning the chime OFF then ON is an easy way to test the volume.

***Note:** If you use the volume control to turn off the chime, then you will not be able to hear the "click" sound when you push on the various front panel switches.

Setting the Time

First some general information. The two switches on the left side of the front are for setting the time (See Figure). The left switch is the Hour Set. Just to the right is the Minute Set switch. With each minute advance, the seconds are set to zero. So setting the last minute at 59 seconds will insure the hourly chime is precise. You advance the time by holding down a switch, but, and there is a "but." An apology: Setting the time is a little trickier than it should be. The problem is that the microprocessor is too slow to display the time as you advance it. So you have to count flashes, or blinks. To understand what I am talking about try this. Hold down the Hour Set Switch and note a little blink that occurs once per second (if you have the volume turned up on the chime then you will also hear a click sound). With each blink the clock advances one hour. When you release the switch, the microprocessor will calculate what to display and 1-2 seconds later, show you the results. The clock will display the hour you advanced to. So if you started at 3 o'clock and you counted 4 blinks it will now be at 7 o'clock. The minutes work the same way. For example, if you started at 18 minutes and you counted 12 blinks you would now be at 30 minutes. **If you hold down both the Minute and the Mode switch, each flash will subtract one minute. Similarly, Hour & Mode subtracts and hour with each flash.**

Time Keeping, Accuracy & the Battery

The clock is accurate within 2 seconds (see **Note 1**) except when the power is OFF. TimePortal will keep time, no display, when the power is off. There is a lithium coin cell battery, #2450, on the back of the clock. When the power is off it should run off the battery and be accurate to about one minute per year. **The battery should be changed every three years.** If you are going to store the clock for more than a few months, remove the battery. **To remove the battery**, push on the exposed edge of the battery. You push toward the

middle of the battery and then lift.

Note 1: The power grid in the western U.S. is connected to a *system* clock at the Bureau of Reclamation. Another clock receives a signal from the atomic clock at the National Bureau of Standards in Boulder, CO. If the *system*, also called the power grid clock, get ahead or behind more than 2-3 seconds, they literally send out a signal to all the power generators in the 11 western states and say slow down or speed up the 60 Hz line frequency. So my clock keeps great time — thanks to our government.

Display Brightness

A room light sensor attempts to compensate for changes in room lighting. But in a bright room the clock will be hard to read. Also, the clock will automatically dim itself for late at night mainly to extend LED life.

Amazingly, the clock is using < 8 watts.

Wall Mounting

Many customers once they find their ideal long term location – choose to have a wall mounted recessed power outlet installed by an electrician. This is why the TimePortal was designed without a transformer at the end of the power cord. It costs more but makes this type of installation more practical.

Another choice is to streamline/hide the power cord with a white surface wall strip available at most hardware stores. You can even paint it to match the wall color. If you do this, loop extra power cord behind the clock so you can get to the back if needed. One disadvantage of wall strips is if you move, you will pull off some wall paint.

Care of the Case.

To clean off fingerprints try alcohol.

Problems and Resetting the Time Portal

If the clock fails to work properly in any

way, try doing a **RESET**. Hold down the Hour, Minute, & Mode switch. The time should hop to 11:59:40 and in 20 seconds chime the hour. If that does not fix the problem, unplug the clock from the wall. Remove the battery (see previous page) from the back. After 15 seconds plug in the power again. If that doesn't fix it, give me a call — Barry

The Shipping Box & Keeping in Touch

Keep the shipping box and packing material for the first 90 days. Most failures happen soon and this will make your life easier if there is a problem. If you or I move we need to keep in contact. If you received the clock as a gift send me your address. If I have updates to offer, I'll need your address.

Warranty & Repair

Your clock is guaranteed against defects, under normal use, for one year from the date of purchase. The warranty covers parts & labor only. All repairs are done at the factory. If you have any difficulty with the clock please call me.

A Personal Note

My name is Barry Gamble. I have been designing art clocks for 42 years. I love the creative process. My design goals are to delight, charm, and be fun. The product should be chic, playful, make-a-statement, and — make an adult giggle.

I do my best to deliver a quality product, and charge only a reasonable profit. Over the last ten years profit has been so modest that you can truly say — "these clocks are – labors of love."

Enjoy! Have Fun! Barry

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