

Operation and Maintenance

The Zone VI Compensating Timer is packed as three separate parts: Timer unit, power unit, and temperature sensor assembly. Attach the timer unit to the wall, using the Velcro self adhesive mount. Lay the sensor unit in the tray.

- (1) Plug the sensor telephone type connector into either of the phone jacks in the bottom of the timer unit.
- (2) Plug the foot switch telephone type connector into the other phone jack in the bottom of the timer unit.
- (3) Plug the power unit into the wall.
- (4) Plug the round connector from the power unit into the round jack on the bottom of the timer.

Use the foot switch to clear the timer: it will then read 00:00. With the switch set to REAL TIME, the timer counts up in actual minutes and seconds, regardless of temperature. When set to FILM or PAPER it adjusts its speed to compensate for the effects of developer temperature. When the developer is at 68 degrees F (20 degrees C) the timer runs at normal speed: it runs faster at higher temperatures, and slower for lower temperatures.

The display dims on FILM setting; You can set its brightness by the screwdriver adjustment called "BRIGHT ADJ". You can also set the volume of the half minute beeps by a similar adjustment called "SOUND ADJ". If you can't hear it ask someone else to listen. Reset the timer initially after plugging it in to make sure the beeps occur on the half minute.

The sensor unit should be washed off after use, but don't get the phone type connector wet. The timer uses very little electrical power (about 1 watt), and can be left running all the time if you want. In my darkroom everything plugs into a single power strip, which I turn off when I leave. It's not necessary, but it makes me feel better to know everything is off.

After making measurements of the temperature of my developer during typical printing sessions, and knowing the exponential variation of development time with temperature, I am very sure that you will notice an immediate improvement in the consistency of your negative and print densities.

Paul Horowitz
February 15, 1985

Fred's note: Sometimes the power goes off at my house. When it goes back on, sometimes the timer doesn't work properly. If I unplug it and re-plug it, it works fine. I don't know why...

Zone VI Compensating Developing Timer

Construction Notes and Operation and Maintenance Manual

Congratulations on your purchase of the Zone VI Compensating Developing Timer. Fred Picker asked me to outline some of the features of its construction and operation.

Beginning with the exterior, the 10-mil velvet Lexan panel is silk-screened on the underside, so that the lettering can't be scratched or rubbed off. Lexan is so tough that it's impossible to leave a mark even if you to gouge it with your finger nails. The panel is actually a laminate, with a 20-mil clear red Lexan under layer that the digits show through. The circuit is built on a two sided FR-4 plated-through circuit board with the conservative "25/25" design rule layout. The electronic design utilizes the state of the art microchips in a careful and conservative configuration. My component selection includes gold signal connectors, military style tantalum capacitors, sealed "cermet" controls, precision metal film resistors, and temperature stable polycarbonate timing capacitors. The cable from the temperature sensor unit plugs in (just unplug it when you want to wash it off), and there is an extra jack for a foot switch. Even the wall mounted power unit unplugs from the timer.

For extra safety we've made the whole unit double insulated: the UL approved power unit that plugs into the wall outlet provides one level of insulation. The timer itself provides a second level, because the enclosure and all other access is nonmetallic. The temperature sensor unit is likewise completely isolated. All its components are enclosed in stainless steel.

We've used a precision curve-conforming thermistors so that the temperature sensors are not only accurate, but identical (and therefore interchangeable).

The current fad in consumer electronics is to put a keyboard on every gadget. You spend a day trying to understand how to program your microwave oven, how to "recall" stuff you've stored in memory, edit the baking sequence (with "pauses" for basting, would you believe?!), etc.. I think that is all garbage, complicates your life, and prevents you from cooking good food. In line with my grouchy philosophy, I've put only one knob on the timer ; It gives you a choice of PAPER, FILM, or REAL TIME. The timer counts up from zero, displaying minutes and seconds (up to one hour) in paper safe red, correctly compensating the effects of varying developer temperature. It beeps every half minute, so you know when to agitate or check the clock. When you switch to FILM the display dims (screwdriver adjustment): you can "dim" the sound too (another front panel screwdriver adjustment.)