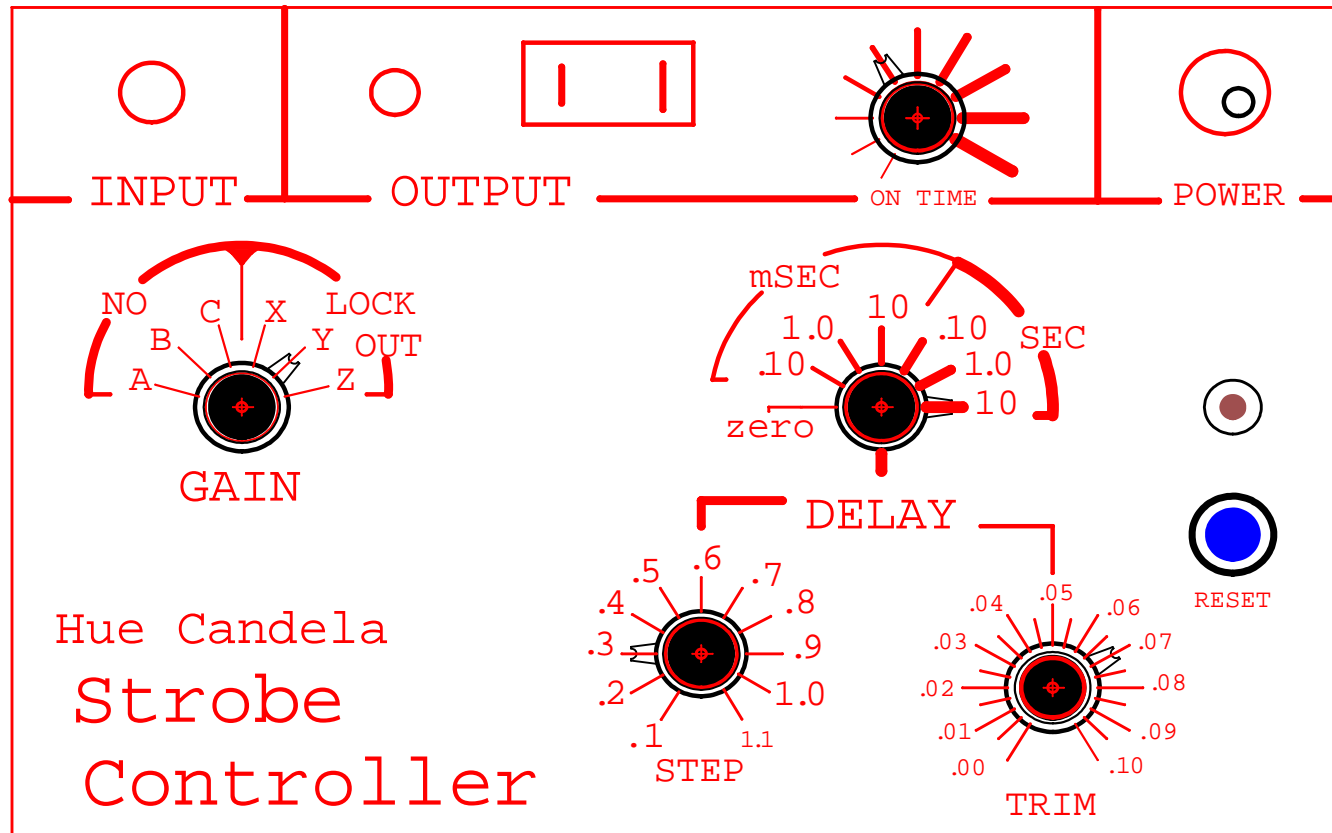


Hue Candela's STROBE CONTROLLER

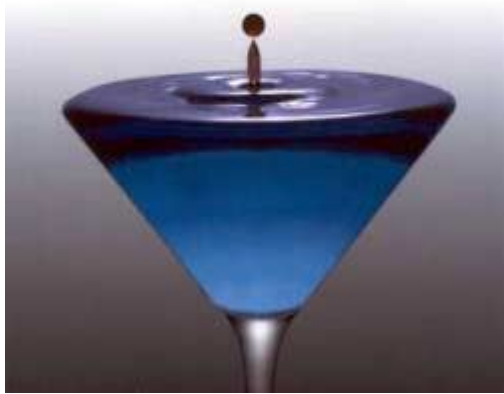


Front
Panel
Actual
Size
7 1/4
By
4 3/4

Eight years of research, testing, and operational use in high-speed photography class at Brooks Institute of Photography in Santa Barbara, California. Students were given the opportunity to build the original Strobe Controller for a personal class project. Then to use their Strobe Controller for the class assigned pictures. Paul Prober now is making available fully integrated systems for high-speed pictures 1/30,000 second, by using multiple camera size flash units firing at the same time. This is a practical way to make a high power high-speed flash unit at relative low cost.

With the Strobe Controller as the delay timer, and the dripper unit for the drop generator with IR source and beam-brake sensor, are available from Hue Candela.

This unit is designed for set on repeatability not absolute time.

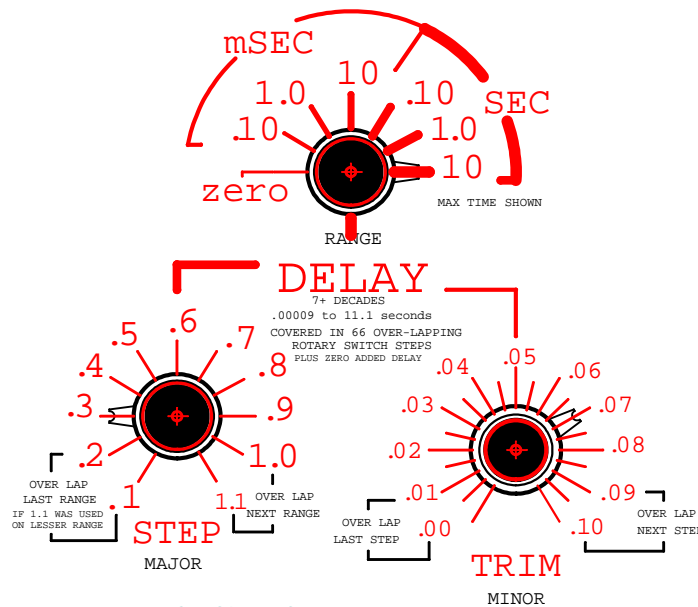


For most setups the correct time for a delayed picture are always being shifted in time delay. View angle, lighting, background, speed of flash, and setting are just a few requirements for a picture with snap. There are only a few points in time when dead on time is important. One is when the drop separates from body a water; the other is a milk crown. Some motion present gives the picture a connection between a split second in time and reality. The time mix assist the viewer in seeing the picture, not spend time trying to understand what the picture is about.

Front Panel Controls

The Strobe Controller front panel controls use knob position, lettering size, and relationship to each other. Due to the front panel size and large lettering visual and manual control is quick and easy to set up or make a visual check of the unit's status. Each control and indicator has a positive effect on the unit's full operation. That makes it easy to remember for operation of the Strobe Controller. In Strobe Controller unit all control knobs except TRIM are detented rotary switches. This translates into infinite hold of last setup values. For recording the front panel setting start lower left knob, GAIN then ON TIME then DELAY use M for milliseconds S for seconds then STEP then TRIM. The current front panel would be written down as Y11-10S37 or [GAIN Y ON TIME 11 "O" CLOCK] – [DELAY10 Seconds STEP .3 TRIM .07], If time delay is the only value to record then 10S37.

Delay Time Section

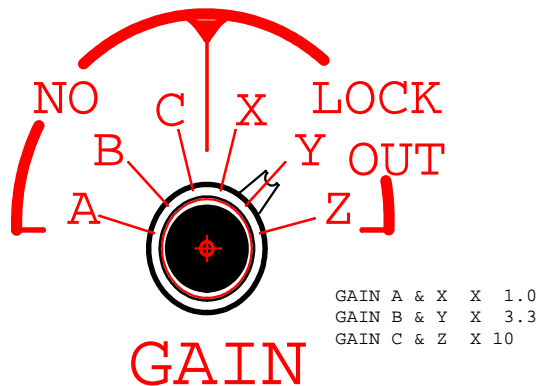


The time delay function is the primary use of the Strobe Controller.

Delay timing uses three control knobs. The most significant control is DELAY knob at the top, the second is the STEP knob to the left, and the third is the TRIM knob. The TRIM control is at right side and bottom corner of the front panel. TRIM is the most used knob.

Note! Black Markings not on front panel.

GAIN and LOCKOUT

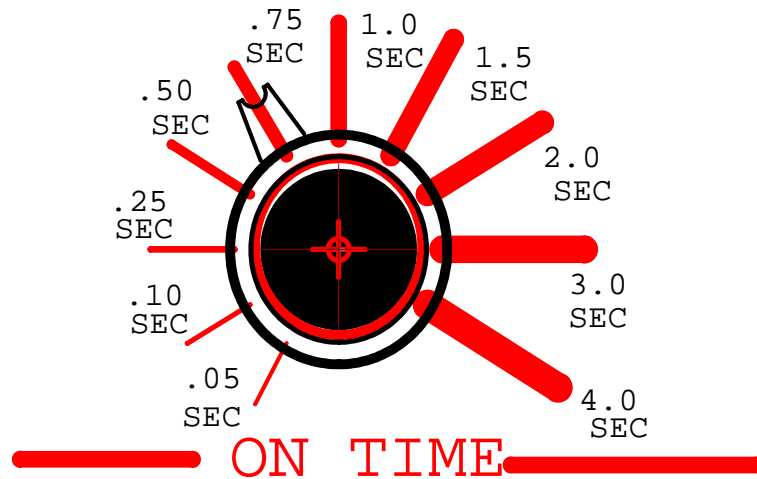


GAIN switch is top left on front panel. GAIN control is a step attenuator that allows best match of input signal for start sync trigger, with lockout included.

NO-LOCKOUT (no protection against multiple retriggering) is available at GAIN position A B C.

LOCKOUT (single fire mode only) is available at Gain position X Y Z. RESET is required to reset the Strobe Controller.

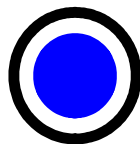
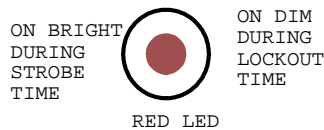
OUTPUT ON TIME Switch



ON TIME switch upper right controls width of on time pulse. For strobe flash store at 7 O' CLOCK [1/20 of a second]. For remote camera control single picture 12 O'CLOCK [1 second] equals about on time required for one picture, if auto focus is used. The longer delays allows for multiple pictures before the ON TIME strobe has time out.

Note! The times shown are not shown on the front panel.

RESET and SYSTEM Status Indicator LED



RESET
GUARDED PUSH BUTTON

The LED above the RESET push button has a high power flash during the strobe on time, also on dim during lockout times. When start sync trigger exceeds threshold the LED snaps on in dim mode. If NO LOCKOUT mode has been selected after ON TIME strobe, the unit is automatically reset, thus the LED is turned off. If LED stays on in dim mode then LOCKOUT is in use.

RESET push button can reset the unit, clear out pending operations, and reset the unit after LOCKOUT mode was used.

Strobe Controllers Output Drivers

SCR output is an electrically isolated 400 volt 4 amp SCR with a polarized “H” receptacle. Most negative is the longer slot.

FET output is non-isolated 500 volt 5 amp FET with a 1/8-inch phone jack (for camera use) or “F” jack for Hue Candela’s Lighting strobe next to the “H” receptacle on the front panel.

Strobe Controller Input-Power

The Strobe Controller is supplied with power source is a 110 A.C. input to +12volt 150 milliamp out. The power input at Strobe Controller is designed to operate the unit correctly on D.C. sources between 11.5 - 20 volts D.C, with outer connector at most negative voltage

Strobe Controller INPUT Connector ¼ stereo jack

The connector tip is the point that the trigger/sync/start voltage enters the Strobe Controller. Inside there is a low current pull-up resistor. This resistor supplies a load current for phototransistors, electret condenser microphones, switch make ((close contact) example flash X sync on a camera), and switch brake (open contact). Also inputs that generate an output voltage within the sensing element are capacitance strain gauge, dynamic microphones, and loud speakers are accepted. The Strobe Controller is designed to accept all the above inputs and more. The connector sleeve has regulated +9 volts at 50 milliamperes for powering up I. R. LEDs, remote amplifiers, remote buffer circuits, and remote receiver circuits. This power allows signal conditioning for special input control and or use of remote sensors at great distances. The connector sleeve has signal return and +9 volt return.

The Strobe Controller has a specially designed remote receiver unit that is supplied. The remote receiver is designed for beam brake setups, with an input with a dynamic load that compensates for background light. Rate-of-rise sensing amplifier with manual gain control. Increase or decreases in received light will create a valid output, for input to Strobe Controller’s input jack. The remote receiver has a 1/8 inch stereo jack that tip is input signal, ring has +9 volts through as manually adjustable resistor

for changing I.R. LED's output power. A receive status green LED included for visual optimization beam brake setup.

Strobe Controller Package

The Strobe Controller's circuitry and control panel is housed in a black Pelican 1120 box. The full Strobe Controller package, has an 110 A.C. to 12 volts D.C. converter, the remote receiver, one electret condenser microphone wired to ¼ inch stereo plug (sound trigger), one phototransistor wired to ¼ inch stereo plug (flash slave or laser receiver), one 6 foot ¼ inch stereo extinction cable, one remote receiver with ¼ inch stereo plug, with three foot service cable, one ¾ inch PVC tube beam brake assembly with 3 foot 1/8 inch stereo jack (water drop), one 5 inch plastic ring beam brake assembly with 3 foot 1/8 inch stereo jack (large object drops), one tripod held PVC dripper assembly (a simple designed unit) that uses the ¾ inch PVC beam brake. All the above units come packed in a Seal Tight large case. The Seal Tight case is dust and moisture restraint, with high density cubed foam inside case. Note the case size also allows for small custom designed support units storage.

\$1,200.00 each Plus tax, handling, and shipping from Santa Barbara, California.

Hue Candela can change the resistor in power control module on Vivitar 285 for 1/30,000 second flash on time, replacing the 1/16,000 of a second / 16 power switch setting. All other power control module operations/settings remain unchanged. For high-speed pictures flash units must be close to the subject, or dedicated high power high-speed flash, or an array of camera mounted flash units operating at very short flash duration. Hue Candela's *Lighting Strobe* is an example of the arrayed flash units. The power available is 2 watts for 1/30,000 of a second for each Vivitar 285 flash unit, for 16 watts of film burn power. The power numbers are 480,000 watts for 1/30,000 of a second for ultra high-speed pictures for one *Lighting Strobe* unit. One advantage of the *Lighting Strobe* has 480 watt-seconds of flash power full power 1/1,000 of a second enough for f5.6 at 100 feet flash to subject for ASA 400 film for midnight picture. Also the flash body can stay unmodified excepted for the 16th or 1/16,000 power setting is 30th power or 1/30,000 a second in the power module.