



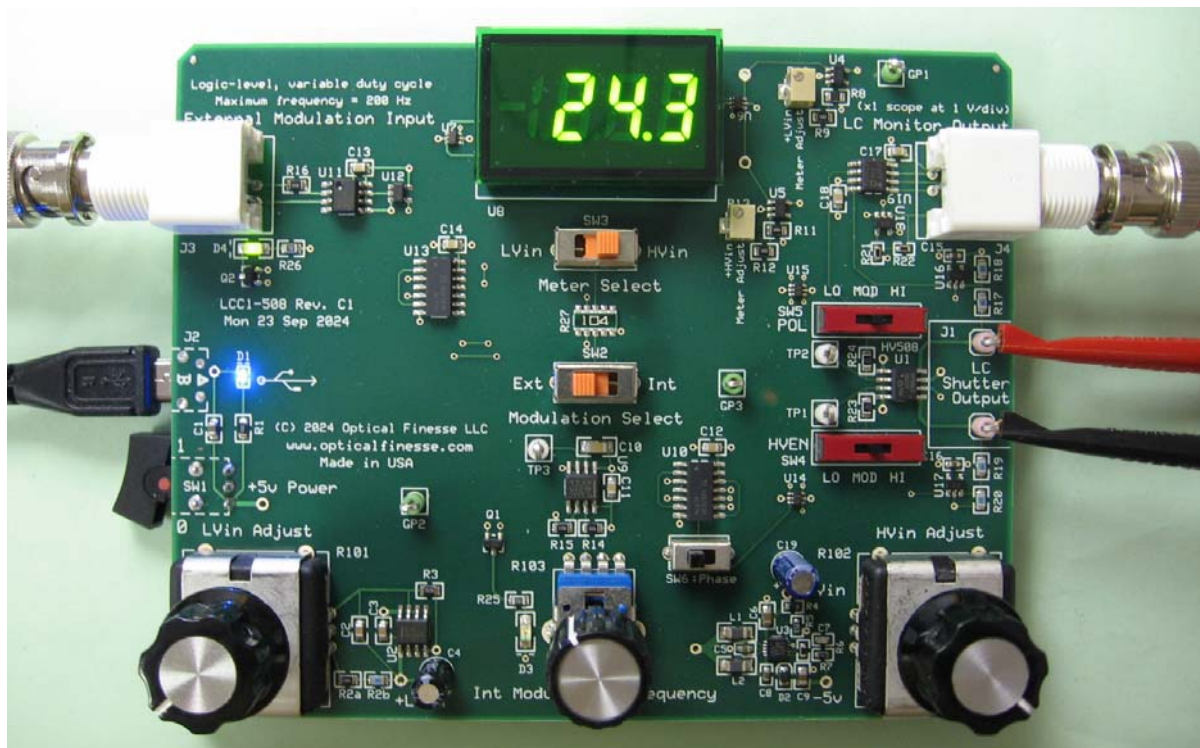
LCC1-508 Two-Level LC Shutter Driver

The **LCC1-508** is a single-channel liquid-crystal shutter driver based on the Microchip HV508 mixed-signal IC. The HV508 implements a two-level LC drive scheme in hardware, with output voltage levels and lead polarity controlled by logic-level signals to the IC. The amplitudes of the two drive levels are determined by two input supply voltages LVin and HVin.

The **LCC1-508** is an out-of-the-box shutter driver, HV508 development board, and a reference design all in one. There are two onboard power-supply sub-circuits for generation of LVin and HVin, with separate user-adjustable pots for setting these drive-voltage levels. The levels are monitored by an onboard multiplexed voltmeter. The shutter driver can run in two modes: Internal Modulation, whose frequency is set by an onboard user-adjustable pot, and External Modulation, whose frequency & duty cycle are determined by an external user-supplied logic-level signal.

The HV508 shutter output is presented on a dedicated pair of testpoint loops to facilitate connecting to a LC shutter. Because of the H-bridging action of the HV508, this output cannot be monitored directly on an oscilloscope. Thus, there is a separate divide-by-10 LC Monitor Output that can be displayed on a scope to understand the shutter drive waveform. There are also three-way switches for setting the logic signals POL and HVEN supplied to the HV508. Provisions exist for optionally decoupling the onboard POL and HVEN to allow use of an outside source for driving these two signals.

The driver is RoHS compliant and is powered by a user-supplied standard micro-USB cellphone charger or laptop cable. All design materials are supplied. Custom configurations are available upon request.





Features

- HV508-based shutter driver, development board, and reference design all in one
- Powered by micro-USB cellphone charger
- LVin and HVin pot-adjustable, with onboard metering
- Switch-selectable Internal or External Modulation
- LC shutter output and separate divide-by-10 LC monitor output
- All design materials supplied

SPECIFICATIONS

LC shutter output	Single-channel, available on two dedicated testpoint loops.
LVin supply	Low-drop-out linear voltage regulator based sub-circuit, onboard pot adjustable from nominal 3.00 to 4.50 V. **Note that with HVEN set logic-LO, the HV508 shutter output leads will incorporate a ~0.6V diode drop from the LVin supply, due to rectifying diodes interior to the HV508's level translators.
HVin supply	Micro-power boost switcher based sub-circuit, onboard pot adjustable from nominal 16.5 to 34.5 V.
Supply metering	Onboard 3-digit LED voltmeter, switch-selectable between monitoring LVin or HVin.
LC Monitor	Divide-by-10 bipolar representation of LC shutter output, on 50-ohm BNC female bulkhead.
Modulation	Internal or External Modulation, switch-selectable.
Internal Modulation	50% duty cycle, frequency adjustable by onboard pot from 0.4 to 64.5 Hz as measured at HV508 HVEN.
External Modulation	50-ohm BNC female bulkhead to onboard opto-coupler, user-supplied TTL logic-level signal with arbitrary duty cycle, maximum input frequency 200 Hz.
Dimensions	5.0 in x 4.0 in x 1.5 in H (12.7 cm x 10.2 cm x 3.8 cm H)
Weight	0.3 lbs (0.1 kg)
RoHS compliance	100% compliant (no exemptions used)
Operating temperature	0 to 50 °C ambient
Power supply	Standard micro-USB type B cellphone charger (user-supplied)

In keeping with our commitment to continuous product improvement, these specifications are subject to change without notice.