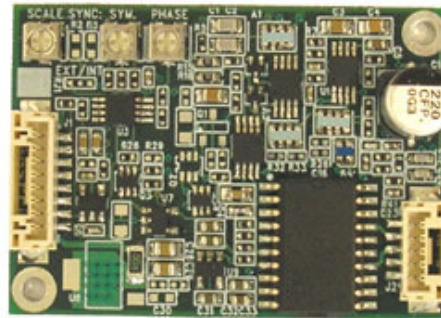


# The CRS Resonant Scanner Driver

## Model 711-80159

- **Drives all CRS models from 4KHz - 12KHz scan frequencies**
- **Provides accurate sync signal**
- **Compact, low cost**
- **Low power consumption**



*for high frequency applications such as:*

- Fluorescent microscopy
- Semiconductor imaging
- Confocal microscopy
- Process verification
- Ophthalmic Imaging
- Mask inspection
- Machine vision
- Web inspection

Supports all CRS models:

<u>CRS</u>	<u>Max Angle*</u>
4 kHz	30° opt p-p
8 kHz	26° opt p-p
12 kHz	10° opt p-p

\*Check CRS manual about special conditions for operation at max angles

The preferred method for driving the scanner is with the CTI CRS Driver Board. The CRS driver board maintains the scanner at mechanical resonance and controls its amplitude while providing useful signals for integration into a scanning subsystem. The board outputs a 3.3V LVCMOS sync signal for use with external clocks or our Pixel Clock. The phase of this signal relative to mirror position is adjustable. The amplitude can be either factory set at a fixed amplitude, or configured to be remotely set (or varied) via an external 0-5V analog voltage reference. The amplitude stabilization of 0.02% of peak amplitude is the result of the high bandwidth of the amplitude control loop.

## Mechanical and Electrical Specifications

CRS Driver 711-80159

### Power Requirements -

Single-rail, +12VDC. Contact factory for other power supply configurations

### Angle Control:

Fixed Angle Configuration: The scan angle is factory-set to the user's requirements. No further adjustments or controls are required by the user.

Variable Angle Configuration. In place of the on-board 5V reference, the user supplies an external 0-5V analog variable reference to adjust the angle from full field to minimum either statically or dynamically (zoom function).

### Sync Signal:

Sync signal occurs at each change in scan direction

Phase adjustment range relative to mirror position: 45 degrees.

Symmetry adjustment of the trigger point for a zero crossing on the rising or falling edge of the sync signal to compensate for DC offset.

Symmetric sync signal edge rate: 50 nanoseconds.

### Output Drive Signal:

Clean sinusoidal drive sign minimizes crosstalk between velocity and drive coils.

### Integration features:

Locking connectors

Single 9-pin interface connector

### Dimensions:

30.5mm x 43mm (1.2" x 1.7").

### Mounting:

The driver is equipped with a mounting kit that includes double-sided thermal tape and an optional heatsink and insulating film. For some applications, simply attaching the board to a metal mass (e.g. galvo block) with the thermal tape is sufficient.

Otherwise, the optional heat sink can be provided that attaches to the thermal tape.

In this case, standoffs and mounting screws are used to mount the driver.

Two mounting holes in opposite corners (spaced 1.0" x 1.5" and sized for #2 screws) are also provided.

### RoHS Compliant

## Connector Pinout

CRS Driver 711-80159

<u>Pin</u>	<u>Signal</u>	<u>Comments</u>
9	Ext. Amplitude Control	0-5V DC for 0-full scale FOV
1	GND	
7	GND	
6	Power	12V DC, model dependent
5	Disable	Pull down to disable servo
4	Fault	Integrator Saturated
3	Sync	At each change in direction
8	GND	
2	Velocity	For safety verification