

# 75160NF

## Oriel® Chopper Controller



### Quick Start Guide

**Oriel**  
**INSTRUMENTS**  
A Newport Corporation Brand

# 1 GENERAL INFORMATION

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Thank you for your purchase of this chopper controller from Oriel Instruments.

Please carefully read all documents supplied for important safety precautions prior to setting up and operating this equipment. This Quick Start Guide describes how to install a chopper wheel, make all electrical connections and set the chopping frequency using an internal reference.

Please note that if a wheel is bent during the installation/removal process, it can be very difficult to straighten again. This may degrade the chopper controller's stability of operation, and a replacement wheel may be required.

For additional operating parameters, a troubleshooting guide and other information, please refer to the Model 75160NF user's manual. The user manual may be downloaded in an Adobe Reader .pdf file from [www.Newport.com](http://www.Newport.com).

If there are any questions, contact Newport Corporation or the representative through whom this equipment was purchased.

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## 2 HARDWARE SETUP

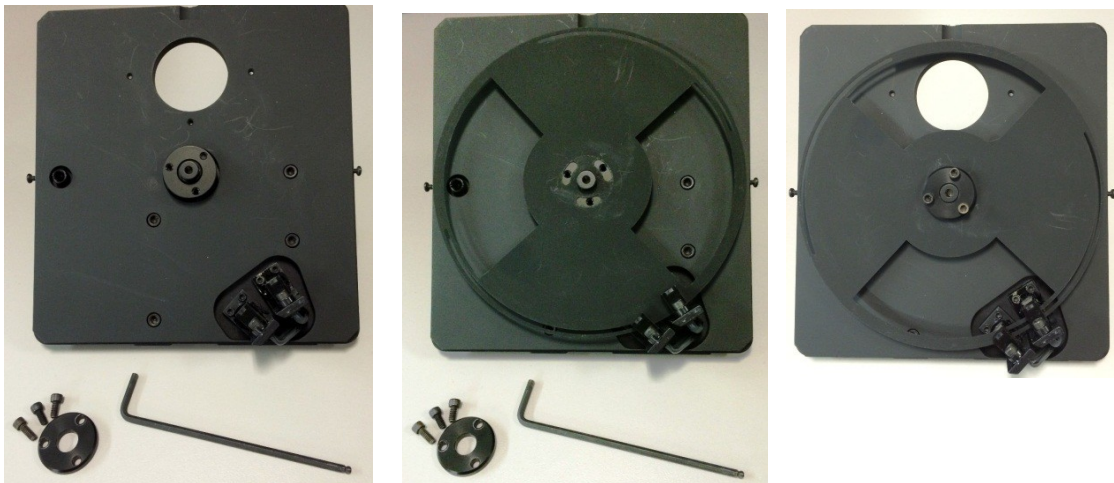
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Select a chopper wheel to be installed based on the desired frequency and maximum allowable beam size.

Number of Apertures	Frequency Range	Maximum Beam Size
2	4 to 140 Hz	32 mm
5	25 to 350 Hz	28 mm
12	60 to 800 Hz	13.7 mm
30	150 to 2000 Hz	4.6 mm

To install a chopper wheel into the chopper head, first loosen the four (4) philips head screws that hold the cover in place; slide the cover off.

Using a 3/32 hex head wrench, remove the three (3) socket head cap screws and the wheel hub washer from the center hub of the chopper head.



Insert the chopper wheel in the gap of the photodetectors and reattach the hub washer and screws.

Reattach the cover and tighten all cover screws.

The enclosed chopper includes a set of apertures that match the beam size to the wheel aperture. The aperture is inserted into the female flange.

Remove the pan head screw in the flange just above the motor, insert the proper aperture and replace the pan head screw to hold aperture in place. The correct aperture matches the maximum beam size. Note that the flange acts as the aperture for the two aperture wheel.

Connect one end of the CLB-75160 cable to the chopper head and secure it using the screws included with the cable.



Install the chopper head in the desired location. The chopper head may be rotated in whichever direction is most convenient for connecting the cable to the chopper controller.

Insert one end CBL-75160NF cable to the back of the chopper controller at the connector labeled "MOTOR".

Verify the electrical mains meets the requirements noted on the back of the chopper controller. Insert the power cable into the back of the controller and then connect it to the electrical mains.

Power up the controller by depressing the Power switch on the front of the unit, and then adjust the operating parameters as desired.

### 3 SETTING THE FREQUENCY

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Using the WHEEL button on the chopper controller, set the wheel type to match the frequency range desired. To change the wheel type, push the Wheel button until the LED lights under the desired wheel type.

Wheel Type 2 = 4 Hz to 213 Hz  
Wheel Type 60 = 120 Hz to 2.00 kHz

Using the Sync button, select the source to be internal. To change the Sync source, push the Sync button until the INT LED lights.

Select the Mode to be NORMAL. To change the Mode selection, press the Mode button until the NORMAL LED lights.

Press the Set button until the FREQ LED is lit. The internal synthesizer frequency may be set to three significant digits. The significant digit to be modified may be selected by the left and right arrow keys. The magnitude of the digit may be changed with the up and down arrow keys. If the display overflows or underflows, the display will change between the Hz/kHz LEDs and move the decimal point to maintain three significant digits of resolution.

Press the Measure button until the SYNC IN LED is lit. This displays the chopping frequency.

**NOTE: Do not take any measurements until the chopper controller has locked in on the desired frequency.**

The red UNLCK LED indicates when the Chopper is not synchronized to an internal or external sync frequency. In addition, the UNLCK LED will blink when an external sync frequency exceeds the limits for a particular wheel.

### 4 SAVING AND RECALLING THE SETUP

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To save the setting, press the Set button until the STORE LED lights. Use the up and down arrow keys to assign the instrument setup number, 1-9. Press the left or right arrow key to save the settings under the setup number. If the setup is not saved, upon powering up the chopper controller, it will revert to its last operating parameters before it was shut down.

To recall an instrument setup, press the Set button until the RECALL LED lights. The up and down arrow keys are used to select the instrument setup number, again, ranging from 0 to 9. Press the left or right arrow key to recall the displayed instrument setup. The display will blink when the recall process is complete.

To restore the chopper controller to its default factory settings, recall setup 0.