

### Versatile Laser Power/Energy Meter

- Compatible with all standard Ophir thermal, BeamTrack, pyroelectric and photodiode sensors
- Large high definition LCD display
- Choice of digital or analog needle display
- 2 position kickstand
- Backlighting and rechargeable battery
- Select between English and Japanese interfaces
- Analog output
- Log every point at up to 4000Hz with pyro sensors
- Non-volatile data storage up to 59,400 points
- Laser tuning screen and power and energy log
- USB and RS232 interfaces with StarLab and StarCom PC applications, LabVIEW driver and COM Object Interface (see pages 155-161)
- Soft keys and menu driven functions with on-line help
- Many software features such as density, min/max, scaling etc.



The Nova II is a very versatile and sophisticated handheld laser power/energy meter. Just plug in one of the many Ophir sensors and you have a whole measurement laboratory at your fingertips. The Nova II has many on-board features such as laser tuning, data logging, graphing, normalize, power or energy density units, attenuation scaling, max and min limits. The Nova II can also display the power or energy with a high resolution simulated analog needle display.

The Nova II can be operated either by battery or from an AC source with the charger plugged in at all times. Its backlight allows illumination of the power meter in low light conditions.

The built-in USB and RS232 interfaces and StarLab and StarCom PC software allow on-line processing of data or processing previously stored data; results are displayed graphically on a PC. To support PC interfacing, LabVIEW drivers and COM Object Interface are provided.



StarLab Software

### Selected Screens

#### Digital Power Screen

- CW industrial, medical and scientific lasers
- pW to Multi kW with appropriate sensors
- Can average over selected period. Useful for unstable lasers
- Fast response bar graph

#### BeamTrack Power/Position/Size Screen

- Monitoring of laser beam size
- Accurate tracking of beam position to fractions of a mm
- Beam position and wander
- All the other features of standard power/energy meters

**Standard Power Screen**

Sensor type and S/N → -3A-P 34567

Selected range → Range: 3W

Selected laser wavelength → Laser: >800

Access further functions → [Menu]

Average period → Average: NONE

Power range → 0 3W

Change to energy → [Energy]

Zoom bar graph → [Zoom]

Subtract offset → [Offset]

Detailed help → [Help]

**BeamTrack Power/Position/Size Screen**

Sensor type and S/N → 30A-PPS 983040

Power measurement → Range: 3W

Position and size measurement → Laser: <.8u

x: 2.0mm

y: -1.0mm

size: 8.0mm

Measurement parameters → Menu: Track

Position and size graph → Average: NONE

Soft Keys → [Power]

Detailed help → [Help]

### Analog Power Screen

- Perfect for adjusting and maximizing laser power
- Large analog needle with small digital display as well

### Energy Screen

- Pulsed energy sensors (single or repetitive) and thermal sensors (single shot only)
- Frequency measurement with pulsed energy sensors

### Energy Logging Screen

- Pyroelectric and thermal sensors
- Continuous scroll with up to 100 points on screen
- Full statistics
- Store data onboard and recall

### Additional Functions

- Press the menu choice on the main screen and many more options pop up as shown

The image displays four screenshots of the power meter's user interface with red arrows pointing to specific features:

- Top Screenshot:** Shows an analog needle scale from 0 to 3 with a digital display of 0.861 W. A red arrow points to the 'Return' button below the display.
- Second Screenshot:** Shows a menu for 'PE9' with 'Range: 2µJ', 'Menu: Energy', 'Laser: 905', and 'Average: 1 sec'. The main display shows 1.310µJ. A red arrow points to the 'Frequency' field showing 22.00Hz. Another red arrow points to the 'Energy range' field showing 2µJ.
- Third Screenshot:** Shows a bar graph of energy pulses. A red arrow points to the 'Zoom' button below the graph.
- Bottom Screenshot:** Shows the 'Power Modes' menu with options like 'Power', 'Needle', 'Tune', 'Data-Log', 'Normalize', 'Density', 'Attenuate', and 'Limits'. A red arrow points to the 'Configure' option.

Text annotations on the right side of the screenshots include:

- 'Choice of smaller display with range, menu, laser and average headers' (pointing to the top screenshot)
- 'Energy range' (pointing to the second screenshot)
- 'Enlarge variation pulse to pulse' (pointing to the third screenshot)
- 'Set startup configuration' (pointing to the bottom screenshot)
- 'Adjust sensor calibration' (pointing to the bottom screenshot)
- 'Adjust sensor response time' (pointing to the bottom screenshot)
- 'Adjust power meter parameters' (pointing to the bottom screenshot)

Text annotations on the left side of the bottom screenshot include:

- 'Choose analog needle screen' (pointing to the 'Needle' option)
- 'Laser tune screen with continuous graph' (pointing to the 'Tune' option)
- 'Normalize so present reading is 1.00' (pointing to the 'Normalize' option)
- 'Enter beam diameter and read in units of W/cm² or J/cm²' (pointing to the 'Density' option)
- 'Put in factor to read input power with attenuator or beam splitter' (pointing to the 'Attenuate' option)
- 'Set for alarm if preset min or max limits exceeded' (pointing to the 'Limits' option)

Additional text at the bottom of the bottom screenshot says 'Return to previous menu'.

### Specifications

Power Meter	High legibility 320 x 240 pixel graphics LCD with switchable electroluminescent backlight. Large 18mm digits. High resolution analog needle also can be chosen.
Features	Many screen features including power with bar graph, energy, average, exposure, frequency, graphs, scaling, special units, and more. Complete on line context sensitive help screens.
Outputs	USB, RS232 and 1, 2, 5 and 10 volt full scale analog output.
Screen Refresh	15 times/sec
Case	Molded high impact plastic with two level kickstand.
Size	Folds to a compact 208mm Lx 110mm Wx 43mm H
Battery	Rechargeable NiMH batteries with typically 18 hours between charges. The charger can be ordered from your local distributor. The charger also functions as an AC adapter.
Data Handling	Data can be viewed on board or transmitted to PC: On Board: Non-volatile storage of up to 54000 data points in up to 10 files. Max onboard data logging rate 4000 <sup>(a)</sup> points/s and Max data logging rate to the PC 2000 <sup>(a)</sup> points/s.
Sensor Features	Works with Thermopile, BeamTrack, Pyroelectric (PE-C series) and Photodiode sensors <sup>(b)</sup> .
Program Features	Preferred startup configuration can be set by user. User can recalibrate power, energy, response time and zero offset.
Compliance	CE, UKCA, China RoHS

Notes: (a) The above refers to the rate of logging every single point in turbo mode. Above that rate, the instrument will sample points but not log every single point  
Notes: (b) Not including PD300RM sensors

### Ordering Information

Item	Description	Ophir P/N
Nova II	Nova II universal power meter for standard thermal, BeamTrack, pyroelectric and photodiode sensors	7Z01550
Carrying Case	Carrying case 38x30x11 cm. For power meter and up to three sensors	1J02079
Nova II USB Cable	USB to mini DIN cable (1 unit supplied with Nova II)	7E01205
Nova II RS232 Cable	D9 to mini DIN cable (1 unit supplied with Nova II)	7E01206
Battery Pack	Replacement battery pack for the Nova II	7E14007A
N Polarity Power Supply/Charger	Power Supply/Charger AC/DC 12V 2A N-2.1x5.5 (1 unit supplied with Nova II)	7E05029
Standard Analog Output Connector	2.5mm mono jack (1 unit supplied with Nova II)	7E02008