SPECTRUM TECHNOLOGIES

Nova™ 800i SERIES

series 800i **Nova**
A *CAPRIS*® PRODUCT

HIGH PERFORMANCE UV LASER WIRE MARKING AND PROCESSING SYSTEMS

For complex wire harness manufacturing applications

Nova 800i SERIES

THE FASTEST, HIGHEST PERFORMANCE, SOLID STATE UV LASER WIRE MARKERS IN THE WORLD

Introducing a new laser wire marking superstar…

The Nova 800i series is Spectrum's 6th Generation UV laser wire marker, incorporating a range of leading edge technologies to create a state-of-the-art family of laser wire processing systems. Designed to meet the growing demands and challenges across industry by providing innovative solutions to complex wire harness manufacturing applications.

MARK QUALITY AND LEGIBILITY

"The Mark of Excellence"

The heart of the Nova 800i is a new laser marking module, comprising a high pulse rate, air-cooled, diode pumped UV solid state laser, coupled with a two axis galvanometer scanning system that directly writes the required characters onto the surface of the wire. Optimised fonts ensure maximum mark quality and legibility.

Nova wire markers comply with all key OEM aerospace specifications and international standards, including SAE AS 5649 and ASD EN4650, "Wire and cable marking process, UV laser". Qualified to Boeing Standard D6-36911.

RIGHT: The Nova 800i series range of UV laser wire markers - Nova 880i shown

Nova 800i BENEFITS

· **Mark flexibility and quality** – Nova 800i systems offer the ultimate in print flexibility with unlimited character sets, upper and lower case marking, variable font sizes, logos and linear and 2D machine readable code marking.

· **Performance and productivity** – the Nova 880i is the fastest laser wire marker on the market; with three models to choose from the Nova 800i systems are the highest performing, solid state UV laser wire markers available. The high speed marking capabilities of the 800i series combined with other innovations ensure that they deliver market leading wire processing throughput and productivity.

· **Capabilities & upgradability** – the modular design of the 800i coupled with a choice of wire handling options, enables systems to be configured to meet customers' precise requirements. This includes a range of automation solutions enabling up to 32 different wires to be set up and processed under computer control. The modular design ensures that systems can be easily upgraded in the field to ensure that as your business grows, so can your Nova system.

· **Reliability and ease of maintenance** – the 800i has been designed for both ease of use and maintenance. Hinged doors and easy access panels provide quick access to all parts of the machine. The large front door provides improved access to the cable handler for easier loading and unloading of wires, while the up and over side panels provide quick access to the sealed IP4X laser & optical enclosure for maintenance. Alignment of the laser beam to the wire for set up and maintenance is undertaken simply via the PC in Class 1 laser mode. No flash lamps or water filters to change - the new long life diode packs are specified to last tens of months before requiring changing.

· **Cost of ownership** – the enhanced cost performance ratios of the new 800i, resulting from the new high efficiency laser system, combined with the extended maintenance intervals and minimal consumables required, deliver significantly improved total cost of ownership.

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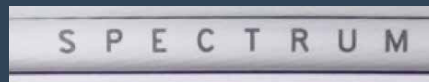
ABOVE: Example of laser scanned Nova 800i text

CAPRIS® Nova	840i	860i	880i
STANDARD FEATURES AND OPTIONS			
Wire loading system - select either:	**MANUAL** - includes single powered dereeler, or		
	AUTOMATED - includes wire auto select & load (ASL). Multi-station dereelers available as required (See Nova Automation Brochure for details)		
In-line real time wire tension monitor	Optional	Optional	Optional
Coiling pan - 12 inch / 30 cm diameter	✓	✓	✓
Coiling pan - 7 inch / 18 cm diameter	Optional	Optional	Optional
Coiling pan - 15 inch / 38 cm diameter	Optional	Optional	Optional
Coiling pan motion sensor actuator	Optional	✓	✓
KSD knot & splice detection (digital & optical)	✓	✓	✓
Built-in Laser Power Meter	Optional	✓	✓
Touch Screen - 17 inch / 43 cm	Optional	✓	✓
8kVA Transformer (208/480V to 230V)	Optional	Optional	Optional
Linear Bar-Code marking on wire (BC39)	✓	✓	✓
Upper/lower case marking	✓	✓	✓
AVAILABLE FIELD UPGRADES			
Nova system upgrade	N840i to N860i/880i	N860i to N880i	n/a
Manual to automated wire handling upgrade	✓	✓	✓
Nova WIRE MARKER PERFORMANCE			
Throughput and Marking Speeds	Nova 800i systems offer the highest performance and marking speeds available at any level up to the Nova 880i		
	Please contact Spectrum Technologies for full details and like for like product comparisons.		
Nearest CAPRIS® predecessor model	Nova 840	Nova 860	Nova 880

Nova 800i SYSTEM THROUGHPUT AND PRODUCTIVITY
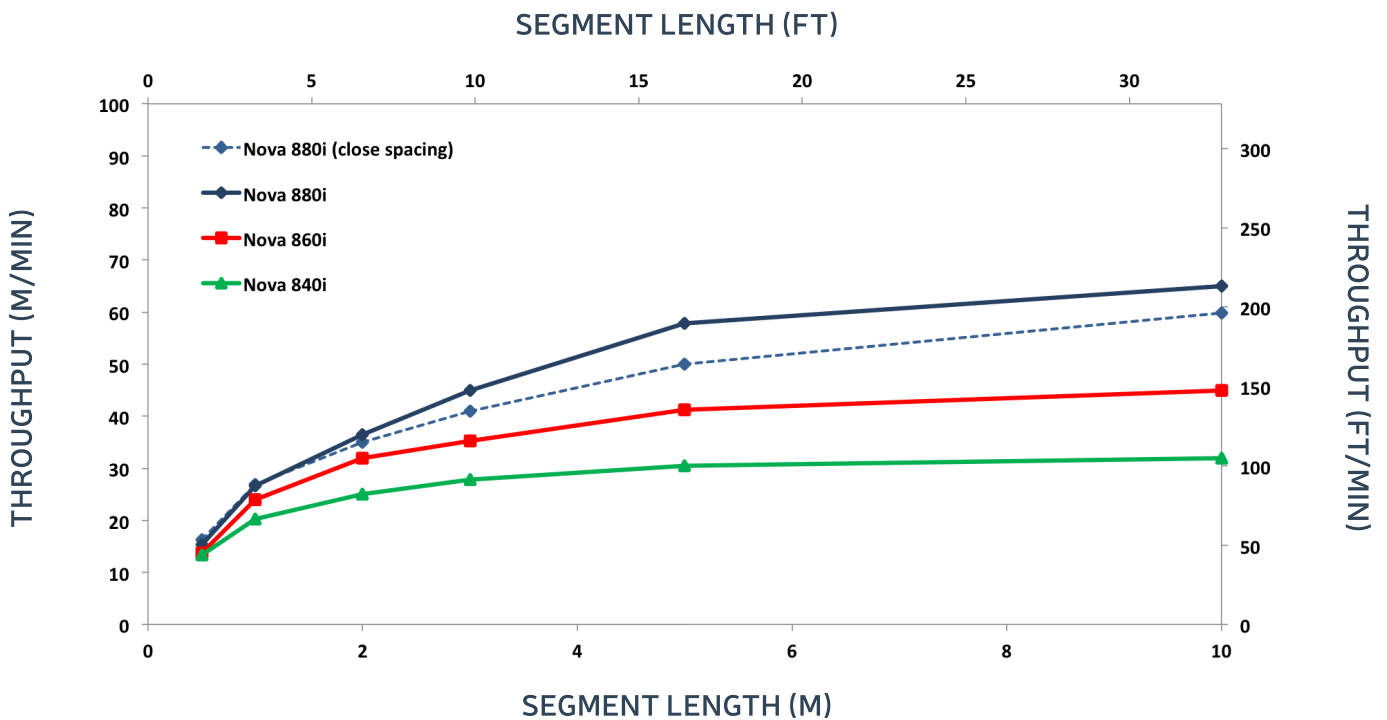
Note: the 840i and 860i have the identical throughputs for both commercial wide spacing and military close coded spacings, whereas the 880i performs at a slightly higher speed for commercial spacings.

SUMMARY SPECIFICATION

CAPRIS® Nova 800i series UV Laser Wire Marker Systems. Applicable to all models:

LASER MARKER

- High efficiency, long life diode pumped solid state (dpss) UV laser
- Fully flexible galvanometer scanning character marking
- Lowest cost of ownership – efficient high performance systems; minimal consumables

PRINT SPECIFICATION

- Up to 200 characters per identification mark as standard, can be optionally extended.**
- Full upper and lowercase ASCII alphanumeric character set available as standard in addition to some legacy characters:

  ABCDEFGHIJKLMNOPQRSTUVWXYZ
  abcdefghijklmnopqrstuvwxyz
  0123456789
  -=`[];'#/\ !"£$%^&*()_+¬{}@~<>?|
  ✳ (asterisk) ■ (target square) ● (circle) and a blank space
  Custom characters are available on request: e.g. α Δ

FONT	Metric (mm)	Imperial (inch)	H/W Ratio	Suitable for wire AWG (typical)
Large horizontal	1.60 x 1.20	0.063 x 0.047	4:3	16 and larger
Medium horizontal	1.12 x 0.84	0.044 x 0.033	4:3	18, 20, some 22
Medium vertical	1.20 x 0.90	0.047 x 0.035	4:3	22, some 24
Small vertical	1.20 x 0.60	0.047 x 0.024	2:1	24, 26, 28, some 30

WIRE PROCESSING SPECIFICATION

- Wire size range: 26 AWG to 6 AWG (0.8 mm to 6.4 mm OD).
- Min/max cable length: 150 mm (6") / 999 m (39,300") (nominal).
- Accuracy of processed wire and cable lengths: -0%/+0.25% (typical) +0.5% (maximum).
- Measure and cut capability for non-markable wires.

WIRE HANDLING

- Unpowered and powered dereelers with controlled pay off and wire tension.
- Automatic detection of knots, splices and wire ends with a custom optical, digital KSD (Knot and Splice Detector).
- Single motorised coiling pan as standard, other downstream wire collection options available.
- Rereeler option for continuous filament processing.**

WIRE TYPES

- Marks all UV-markable shielded and unshielded, single and multi-core cables - full list available on request.

CONTROL

- PC, Windows based control software with Yaskawa PLC.
- Touchscreen operation standard on 860i and 880i, optional on 840i.
- Smart wire and cable wastage minimisation routine

OPERATING CONDITIONS

- Ambient temperature 15°C to 35°C (60°F to 95°F) as standard.
- Relative humidity 20% to 80% (non-condensing)

SITE REQUIREMENTS

- Electrical power: 5kVA single phase, e.g. 230VAC, 50/60Hz; Spectrum can provide a transformer where necessary.
- Compressed air: 6 bar (88 psi)
- Extraction: 50m³/hr (30cfm peak) (25ft³/min) or connect to optional ACS4 Air Cleaning System **

DIMENSIONS

- 1755mm (L) x 1430mm (W) x 1845mm (H) (69.1" x 56.3" x 72.6")

STANDARDS & QUALIFICATIONS

- Nova 800i wire markers comply with the requirements of SAE AS5649 and ASD EN4650 Wire and Cable Marking Process, UV Laser.
- Qualified to Boeing Standard D6-36911.
- The laser marking process has been verified not to cause any impairment to the wire surface or to vary the electrical or mechanical properties of the wire insulation when carried out in accordance with the operating instructions.

** Optional items subject to charge.

SPECTRUM TECHNOLOGIES

Europe:
Spectrum Technologies Ltd
Western Avenue
Bridgend,
CF31 3RT
UK
T: +44 (0)1656 655437
F: +44 (0)1656 655920

North America:
Spectrum Technologies USA Inc
Fossil Creek Tech Center
3934 Sandshell Drive
Fort Worth, TX, 76137
USA
T: +1 817 232 2373
F: +1 817 232 4354

Asia-Pacific:
Spectrum Technologies Asia Pacific
海市浦东上海市浦东新区建韵路
500号4幢905室
Room 905, Building 4,
500 Jianyun Road, Pudong District,
Shanghai, 201318, P. R. China
T: +86 021 6052 3365

www.spectrumtech.com | sales@spectrumtech.com