

Introducing a new era in high performance UV solid state laser wire marking systems, designed for complex wire harness manufacturing applications at any production level. Available in manual or fully automated configurations.



Above: Nova 840 manual setup wire marking system - single station, powered, enclosed dereeler included as standard

All Nova wire markers are available configured either as a manual system with a single station dereeler for manual wire changeover and set-up, or alternatively as an automated system coupled with a range of new Nova automated wire handling options to maximise the productivity of the system. This includes a completely new and innovative high speed wire Auto Select and Loading (ASL) system and new multi-station dereeling systems. These enable the system to be preloaded with up to 32 wires or cables, reducing the overall set up and wire changeover time to just a few seconds, enabling the use of optimum manufacturing methods to maximise productivity.

Nova systems have been designed taking into account industry demand for cost-effective, reliable and high performance marking systems for a range of wire harness manufacturing applications. From high volume production to lower volume production and maintenance and overhaul applications - whatever your application, there is a Nova product designed to meet your needs.

Produced originally for the aerospace industry Nova systems also have application to harness production for space systems, locomotives and rolling stock (LRS), military and specialist ground vehicles, yellow goods and other transportation, control systems and electrical products.

**NovaJet™:** For wire marking applications where laser may not be appropriate we also offer ink jet wire marking solutions. Please refer to the separate NovaJet brochure.



Above: An automated Nova 880 top-of-the-range UV laser wire marker with ASL and 16 station cable dereeler system

For more details on available wire handling options and accessories please refer to the Nova Automation brochure.

#### Standards and Qualifications

Nova laser wire markers are CE marked and comply with all relevant BS/EN and North American product standards. Nova is also designed in full compliance with all key international standards for laser wire marking equipment, including:

- SAE AS5649 - Wire and Cable Marking Process, UV Laser
- ASD prEN4650 - Wire and Cable Marking Process, UV laser
- SAE ARP5607 Rev A - Legibility of Print on Aerospace Wires and Cables
- ASD EN3475 Part 706 - Cables, electrical, aircraft use — laser markability

- ASD EN3838 - Requirements and tests on user applied markings on aircraft electrical cables
- FAR 25 - Permanent, Non-Aggressive Wire Identification

Nova laser wire markers are in full compliance with/qualified with key OEM Process Standards including:

- Airbus
- Boeing - BAC 5152
- Sikorsky Aircraft - SS7333

## Nova 800 UV Laser Wire Marking Systems

Summary Specification - Applicable to all models:

#### Laser Marker

- Ultraviolet (UV) 355 nm solid state tripled Nd:YAG laser - Class 1 laser product suitable for use on open shop floor.
- Precision stainless steel character mask - unlimited life.
- Low operating costs with no day-to-day consumables.

#### Print Specification

- Conforms to SAE ARP5607 Legibility of Print
- Up to 200 characters per identification mark as standard, can be optionally extended\*\*
- Full alphanumeric character set A-Z (upper case) 0-9 plus blank space and extra characters / \ ( ) < > \$ % + - \* ■ ● (50 characters in total)
- Customised character sets, fonts including lower case printing available on request\*\*
- 4 font sizes in two orientations with automatic change of font with wire size
- Programmable mark spacing from 25 mm to 1000 mm (1" to 4") in 1 mm increments, and inter-character pitch from 2 mm to 8 mm (0.08 to 0.30")
- "Source" and "Destination" (pin/connector ID) marking at wire ends for routing, included as standard
- Bar code wire marking option

#### Wire Processing Specification

- Wire size range: 28 AWG to 6 AWG (0.75 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

- Powered dereelers providing maximum speed 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, with 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 controlled system with Windows-based Nova control software with touch-screen operation
- Smart wire and cable wastage minimisation routine

#### Operating Conditions

- Ambient temperature 15°C to 30°C (60°F to 86°F) as standard, options for operation to 35°C (95°F) and 40°C (104°F)\*\*
- Relative humidity 20% to 80% (non condensing)

#### Site Requirements

- Electrical power: 5KVA single phase, e.g. 230V, 50 Hz or 60Hz; Spectrum can provide a transformer where necessary
- Compressed air: 7 bar (80 psi)
- Extraction: 50m³/hr (30cfm peak) 25ft³/min) or connect to optional ACS4 Air Cleaning System\*\*
- Cooling: System comes with built-in water cooling system — optional external chiller only required for operation above 35°C (95°F)\*\*

#### Dimensions

- Nova 800-860 systems: W 139cm (55") x H 171cm (67") x D 173cm (68")
- Nova 880 system: W 139cm (55") x H 171cm (67") x D 206cm (81")

#### Additional Options

- Please refer to the Nova Automation Brochure for all peripheral wire handling and wire collection accessories

\*\*Optional items subject to charge

For full information please refer to Nova 800 series Technical Specification.

CAPRIS is a Registered Trademark of Spectrum Technologies PLC. Nova is a Trademark of Spectrum Technologies PLC.

These products are covered by: US Patent No. 6144011, European Patent No. EP0882271.

COPYRIGHT 2008 SPECTRUM TECHNOLOGIES PLC.

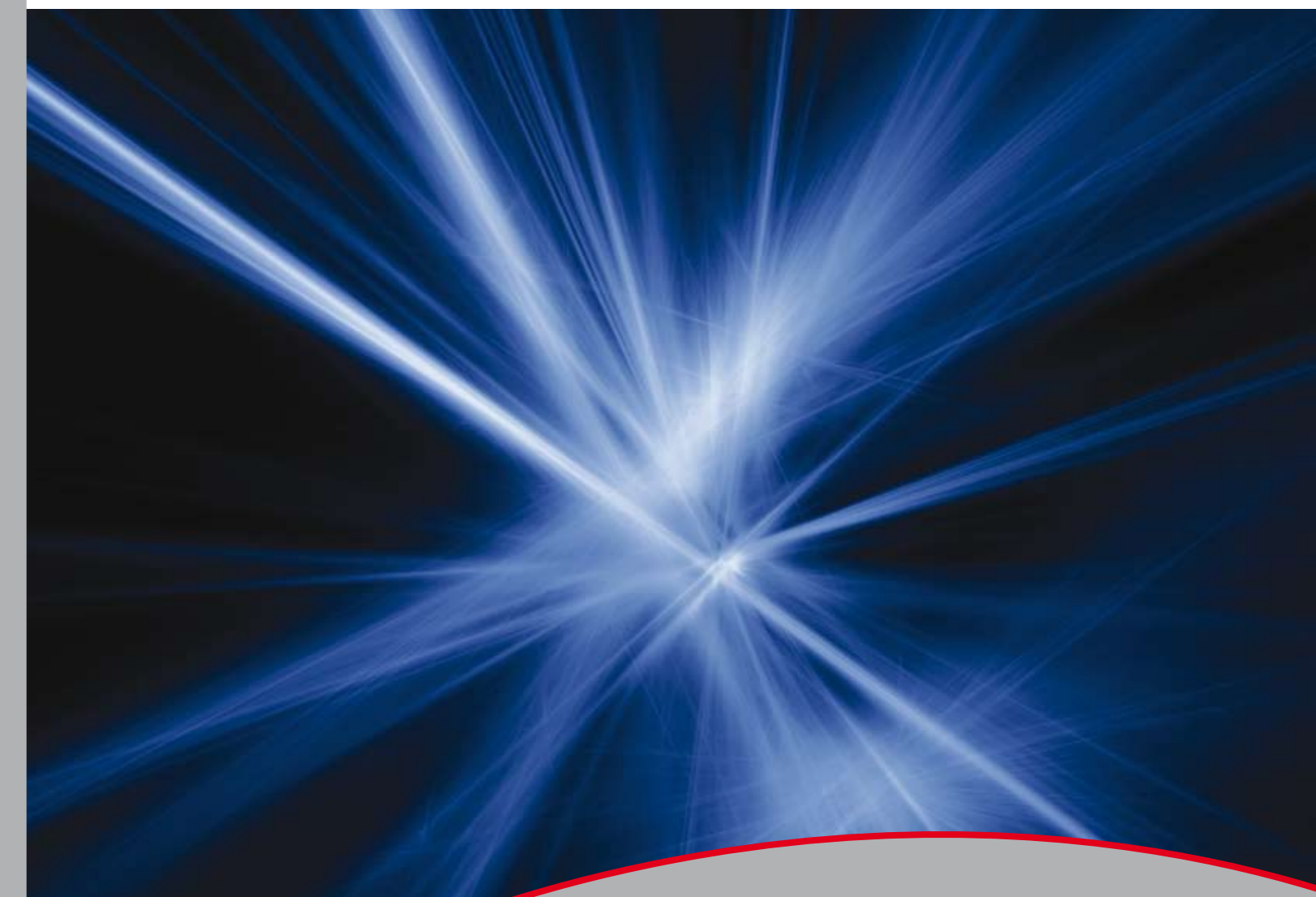
All rights reserved. Above specifications are subject to change without prior notice to provide for continuous product improvement.

Ref: 080816 - 08/08 v1



## Nova™ 800 Laser Wire Markers

High performance UV laser wire marking and processing systems for complex wire harness manufacturing applications.



quality, accuracy and performance

[www.spectrumtech.com](http://www.spectrumtech.com)

[sales@spectrumtech.com](mailto:sales@spectrumtech.com)



**Europe:**  
Spectrum Technologies PLC  
Western Avenue,  
Bridgend,  
CF31 3RT, United Kingdom  
tel: +44 (0) 1656 655437  
fax: +44 (0) 1656 655920

**North America:**  
Spectrum Technologies USA Inc.  
2445 East Southlake Boulevard  
Suite 200, Southlake,  
TX 76092, USA  
tel: +1 817 442 9129  
fax: +1 817 442 9448

Metro Business Park III,  
2320 West Peoria Avenue,  
Suite C118, Phoenix, AZ 85029, USA  
tel: +1 602 493 9343  
fax: +1 602 493 8003

**Hong Kong:**  
Spectrum Technologies Asia-Pacific  
Room 1B, 14/F Albion Plaza  
2-6 Granville Road, Tsimshatsui  
Kowloon, Hong Kong  
tel: +852 2270 7205  
fax: +852 2125 5371

[www.spectrumtech.com](http://www.spectrumtech.com) [sales@spectrumtech.com](mailto:sales@spectrumtech.com)

POWERED BY  
L O N G B O W

marking

# Nova 800 series UV Laser Wire Markers

Nova is a brand new family of innovative wire processing equipment from Spectrum Technologies providing mark, measure and cut capabilities. A range of peripheral wire handling automation products are also available to enable customised systems to be put together to meet precise requirements. Every subsystem and every component has been carefully designed and specified to maximise performance and reliability. Choose the marking system that meets your capacity needs and complete it with the wire handling and peripheral modules you require.



Above: The Nova 800 range of UV laser wire markers - Nova 800, 820, 840, 860 & 880

Below: Nova 860 manual setup wire marking system - single station, powered, enclosed dereeler included as standard



## UPGRADEABILITY

### Mark Quality and Legibility

Nova wire markers are designed to provide optimum mark quality on aerospace wire and cable. Careful design of the laser and optical system ensures that the laser marking energy density at the wire remains constant throughout the whole of the marking process in compliance with Aerospace Standards AS5649 and prEN4650. In addition Nova offers the widest range of font sizes and orientations to maximise mark legibility.



Above: Nova UV laser marked wire and cable samples. Note combination of 4 font sizes / orientations

## INNOVATION



Above: Automated Nova 880 with ASL pre-loaded with 32 wires for faster processing and changeover

Right: Automated Nova 880 wire processor with 6 m (20 ft) stacker for production of marked and cut wires by connector group



### Nova Benefits

New Nova systems offer the following key attributes:

- **Range of performance** with models to suit all needs
- **Highest throughput and productivity** with Nova 880, especially for longer wire segments and longer character labels
- **Maximum number of wires** handled by the automated version (up to 32) allowing rapid set up and processing of more wire types for manufacturing the most complex wiring harnesses
- **Fastest wire changeover** with Nova ASL (6 seconds) allows wires to be processed efficiently and automatically and grouped by connector, in place of subsequent manual sorting
- **Maximum system reliability and mark quality** combined with minimum running costs
- **Upgradeability** – Thanks to its modular design, Nova systems are fully upgradeable so as your volumes increase and your business grows, so can your Nova system!

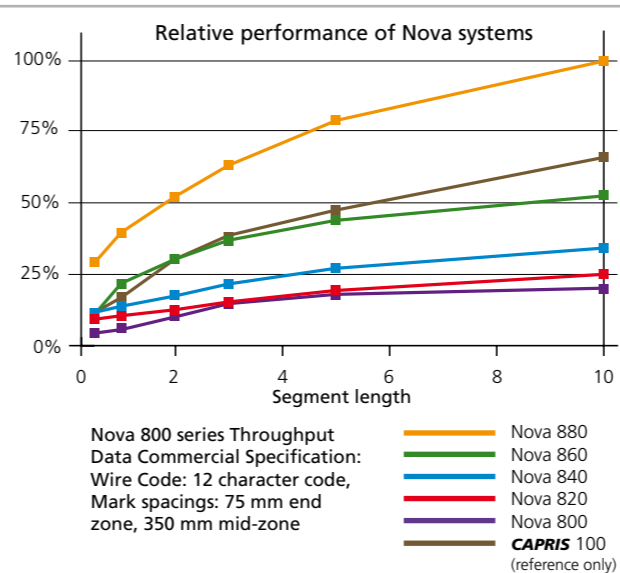
## PRODUCTIVITY

### Nova Performance and Productivity:

The throughput chart (right) compares the relative performance of the different systems in the Nova range for representative situations based on a typical commercial marking requirement. The throughput is calculated based on measuring the total process time for complete wire segments of varying lengths, taking into account the complete machine cycle.

#### Speed versus throughput:

Some manufacturers only quote the maximum wire marking speed for their equipment. In reality throughput is the most meaningful parameter — the volume of wire processed under realistic operating conditions. We are happy to provide full data on the performance of systems and to undertake tests using customers' own job data to provide a clear indication of system performance. Please contact Spectrum Technologies for further information.



CAPRIS Nova		800	820	840	860	880
<b>Standard Features and options</b>						
Wire loading system	Manual	includes single powered dereeler				
	Automated	includes wire auto select & load (ASL). Specify multi-station dereelers as required. (See Nova Automation Brochure for details)				
In-line real time wire tension monitor		Optional	Optional	Optional	Optional	Optional
Coiling pan - 12 inch / 30 cm diameter		✓	✓	✓	✓	✓
Coiling pan - 15 inch / 38 cm diameter		Optional	Optional	Optional	Optional	Optional
Coiling pan motion sensor actuator		Optional	Optional	Optional	✓	✓
KSD knot & splice detection (digital & optical)		✓	✓	✓	✓	✓
Front-end trim clamp (manual only)		Optional	Optional	Optional	✓	✓
Built-in Energy (Fluence) Monitor		Optional	Optional	Optional	✓	✓
Touch Screen - 17 inch / 43 cm		Optional	Optional	Optional	✓	✓
Transformer (208/480V to 230V)		Optional	Optional	Optional	Optional	Optional
Heat management options for operation at ambient temperatures of:	30°C (86°F)	✓	✓	✓	✓	✓
	35°C (95°F)	Optional	Optional	Optional	Optional	✓
	40°C (104°F)	Optional	Optional	Optional	Optional	Optional
Bar-Code marking on wire		Optional	Optional	Optional	Optional	Optional
Upper/lower case marking		Optional	Optional	Optional	Optional	Optional
<b>Available Field Upgrades</b>						
Nova system upgrade		to 820 / 840 / 860 / 880	to 840 / 860 / 880	to 860 / 880	to 880	n/a
Manual to automated wire handling upgrade		✓	✓	✓	✓	✓
<b>Nova Wire Marker Performance</b>						
Throughput and marking speeds*		Nova systems offer the highest performance and marking speeds available at any level up to the Nova 880 = 120m/min (396ft/min) Please contact Spectrum Technologies for full details and like-for-like product comparisons				
Equivalent CAPRIS predecessor model		None (new model)	50-300	50-300ES	60-200	None (new model)

\* Please note: Some competitors do not provide full information with regard to speeds and throughput of their equipment, and try to disguise system performance by referring only to the maximum speed in the most optimistic scenarios – please make sure that you have clear data when making comparisons.



Spectrum Service Centres | Spectrum Sales & Service Partners

### Customer Support

- Full 1 year on-site warranty for parts and labour
- Maintenance contracts available
- In-depth technical training courses available from a dedicated training department, on site at customers location or at our in house training facility
- All equipment supported for at least 10 years, guaranteed
- Spare parts stocked in the UK, US & Hong Kong for same day dispatch
- Round the clock global support network with rapid response to any issues and 24 hour telephone hotline support
- 15 dedicated field service engineers based in 3 continents, and sales and service representatives in over 26 countries.
- Optional diagnostic software for remote assistance via internet.