

CAPRIS Nova

Cable Processing and Identification Systems

The market leading wire markers used in harness preparation throughout the global aerospace industry. The capabilities and performance of CAPRIS Nova systems enable jobs to be completed in hours that previously would have taken days, delivering increased productivity and substantial cost savings over older ink based marking systems. Spectrum wire marking systems

use the latest technology to deliver the most cost effective solutions on the market.

Please review our product data sheets and contact us to see how we can help you with your wire harness production needs. The following is a brief overview of the current range:

Ref: 080843 - 09/08



CAPRIS® & Nova™

UV Laser Cable Processing and Identification Systems.



CAPRIS 50-100 Entry level Wire Marking System

The world's first bench top system has been developed specifically to provide an affordable replacement to hot stamp wire marking for lower volume applications such as aircraft repair and overhaul and low volume production.

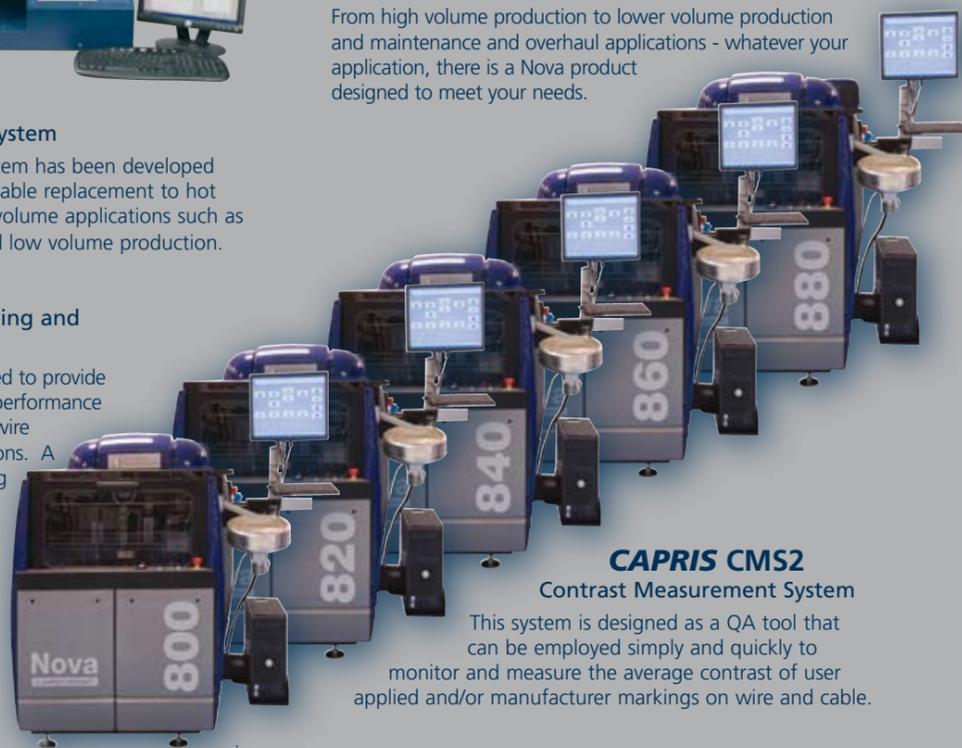
Nova 800 series Laser Wire and Cable Marking and Processing Systems

Nova systems have been designed to provide cost-effective, reliable and high performance marking systems for a range of wire harness manufacturing applications. A range of peripheral wire handling automation products are also available to enable customised systems to be put together to meet customers' 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.

Nova 800 is a new low range system for lower volume applications, with a step-up in throughput and system performance through the Nova 820, Nova 840 and Nova 860

to the top-of-the-range ultra high speed Nova 880. All Nova systems are available manual or automated versions and are fully upgradeable in the field.

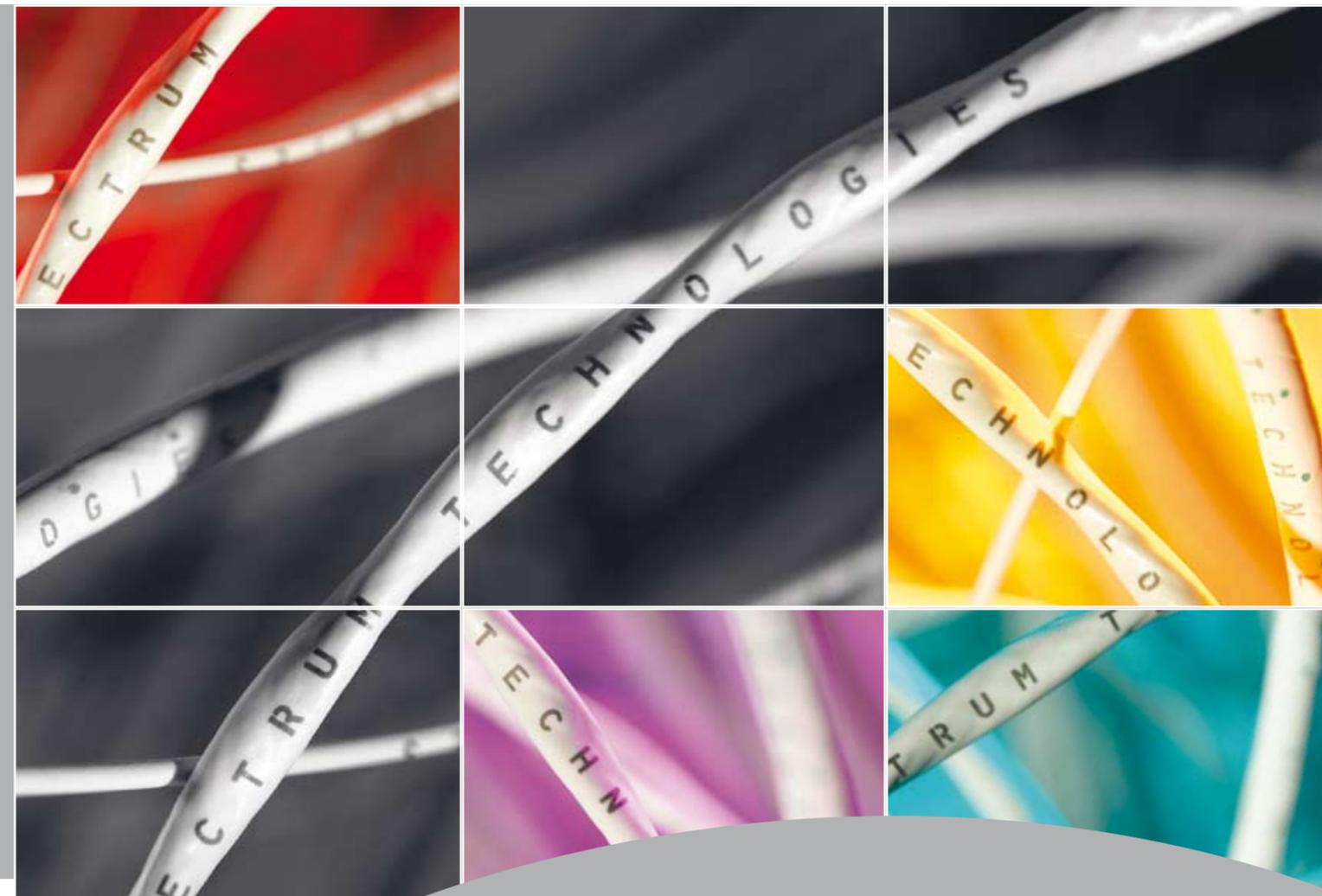
From high volume production to lower volume production and maintenance and overhaul applications - whatever your application, there is a Nova product designed to meet your needs.



CAPRIS CMS2 Contrast Measurement System

This system is designed as a QA tool that can be employed simply and quickly to monitor and measure the average contrast of user applied and/or manufacturer markings on wire and cable.

These products are covered by: US Patent No. 6144011, European Patent No. EP0882271. CAPRIS and Longbow are a Registered Trademark and Trademark, respectively, of Spectrum Technologies PLC.
Teflon and Tefzel are Registered Trademarks of DuPont.
COPYRIGHT 2008 SPECTRUM TECHNOLOGIES PLC All rights reserved.
Above specifications are subject to change without prior notice to provide for continuous product improvement.



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 sales@spectrumtech.com

marking

CAPRIS Nova

UV laser wire markers

UV laser wire marking - the industry standard:

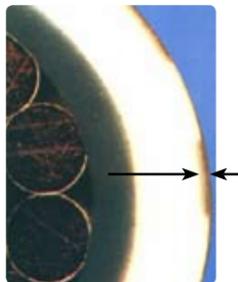
Spectrum Technologies has pioneered the development and introduction of UV laser marking technology to meet the need for safe, non-damaging, permanent identification coding of thin wall wire insulations to meet the requirements of the aerospace and defence industry. The Company was established to commercialise UV laser wire marking following its discovery and development in 1987 by BAE Systems.

UV laser is the accepted international standard for wire marking within the aerospace industry. It allows marking of high definition alphanumeric and bar code characters on a wide range of high performance "non-stick" fluoropolymer wires as well as multi core jacketed cable and some coaxial cables. It can also mark fibre optics. For information on marking specific wire and cable types please contact Spectrum Technologies.

UV laser wire marking - clearly a safer mark:

- High legibility marking
- Permanent under all known operating conditions
- Non-aggressive process - does not affect the properties of the wire
- Non-contact high-speed marking 'on-the-fly'
- Marks single core wires and jacketed multi core cables, screened and unscreened
- Processing of wire from 28 AWG up to 6 AWG (0.7 to 6 mm OD)
- Marks white and coloured insulations including PTFE (Teflon), ETFE (Tefzel), XLETFE & FEP
- Variable font sizes matched to wire gauge

UV laser marking is the only acceptable method that meets SAE AS50881 (previously MIL5088L) and FAR 25 for permanent non-aggressive marking of modern fluoropolymer wires and cables.



Wire cross section
- dual wall extruded ETFE
wire
Laser mark depth
<math>< 20\mu\text{m}</math> (0.7 mil)

CAPRIS & Nova UV laser wire markers - the industry benchmark:

Spectrum CAPRIS Nova wire markers is a comprehensive range of UV laser wire mark, measure and cut systems and peripheral wire handling equipment for use in the production of complex wire harnesses. Produced originally for the aircraft industry they also have application to harness production for space systems, locomotives and rolling stock, military and specialist ground vehicles including trucks, yellow goods and other transportation systems and control systems and other electrical products.

All CAPRIS and Nova systems include:

- Proprietary Longbow™ solid state UV laser technology
- Fully integrated turnkey wire mark, measure and cut capability
- Options for fully automated wire handling
- Automatic computer control with data-link to customer host computer if required
- Fully programmable:
 - o Variable wide and / or close mark spacing over entire length of wire
 - o Wire length selection and cutting
 - o Additional printing of source and end destination codes
 - o Text and barcode ident marking combined if required
- Intuitive Windows user interface with touch screen option

All Spectrum laser wire markers are CE marked and comply with all relevant BS/EN and North American product standards. They are 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

CAPRIS and Nova laser wire markers are in full compliance with/qualified with key OEM Process Standards including Airbus, Boeing - BAC 5152, Sikorsky Aircraft SS7333

Created to meet the requirements for a wide 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 CAPRIS or Nova product designed to meet your needs.

**SMOKING WIRES
CAN SERIOUSLY DAMAGE
YOUR HEALTH!**

Hot stamp wire marking can lead to:

- Damaged wires
- Insulation breakthrough
- Arc tracking initiation
- Electrical systems failure

Wire identification - old technology: problematic, harmful and expensive

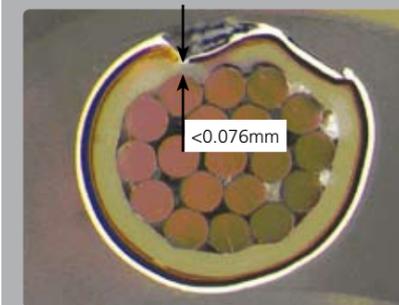
In the past a range of wire marking technologies have been employed in industry, including direct methods such as hot stamp and ink jet, and indirect methods such as heat shrink sleeves. For identification of modern thin wall non-stick fluoropolymer insulations, such as Teflon® (PTFE) and Tefzel® (ETFE) materials, which are now widely used throughout the aerospace and other key industries, ink marking is no longer appropriate.

Hot stamp marking of aerospace wires, in particular, is considered an aggressive and potentially harmful process. Standards organisations, regulatory agencies including the US FAA and the UK CAA, and airframe manufacturers as well as many end users no longer allow or recommend hot stamp marking for aerospace use.

If you thought ink marking was low cost, think again - it's not. Case studies have demonstrated that the typical cost of preparing hot stamp marked wires is some 3 to 4 times more expensive than doing the same job with a CAPRIS UV laser wire marker. And the cost of wire and cable identification using heat shrink sleeves is up to 3 to 4 hundred times the cost of direct laser wire marking. (Cost comparisons based on set up and process times and labour costs and materials - for more information and case studies please contact Spectrum Technologies).



Electrical failure resulting from hot stamp
Photo: US Air Force



Cross-section through damaged hot stamped wire from commercial jet liner investigation.
Photo: US National Transportation Safety Bureau (NTSB)

Short list of key customers

Agusta Westland
Airbus
BAE Systems
Bell Helicopter
Boeing Commercial/Military
Bombardier Group
British Airways

Eurocopter
European Aerospace & Defence - EADS
Fokker Elmo
Japan Airlines
Kawasaki
Labinal Group
Lockheed Martin
Lufthansa

Mitsubishi
Northrop Grumman
QANTAS
Raytheon
Royal Air Force
Sikorsky Helicopters
Sukhoi Civil Aircraft
US Air Force/Army/Navy

quality, accuracy and performance

www.spectrumtech.com

sales@spectrumtech.com