



**IMAGE IS EVERYTHING®**

*HOLOGRAPHIC PRODUCTS AND SERVICES*

14 Bridge Street • Montville, CT 06353 860-848-7422 [www.rayvel.com](http://www.rayvel.com)

## Autumn 2004 Newsletter

# TimeShare™ Display featured at MD&M Trade Show in NYC



Joining Technologies needed to make a splash at the Medical Design and Manufacturing Expo taking place at the Jacobs Javits

Center in New York City. This leading supplier of laser welded surgical devices and distributor of Trumpf lasers commissioned Rayvel to hologram Trumpf's PFO (Programmable Focusing Optics) laser head and fabricate a TimeShare™ display. The results; an eye-catching display featuring a 3D hologram of the PFO that continuously faded in (opaque) and out (transparent) and back again. In the TimeShare™ behind the hologram, were samples of actual products welded by the PFO, visible during the hologram's transparent cycle.

The hologram recording had one particularly tough challenge.

Joining Technologies not only wanted to show the laser head but also simulate the luminous flaming that occurs during the welding process. We could not use any external lights or sparklers during the exposure since it would pre-expose the holographic film. Our engineer, Ikuo Nakamura, developed a technique to solve the problem. We took one of the products that Joining Technologies creates with the PFO that looked like a flat wafer, and we affixed a layer of foil underneath it and punctured with pinholes. The same laser pulse that we used for the holographic exposure was piped underneath the wafer and through the pinholes, illuminating a short, but thick layer of dry ice smoke. This resulted in simulating the PFO welding in action.



Trumpf's PFO Laserhead

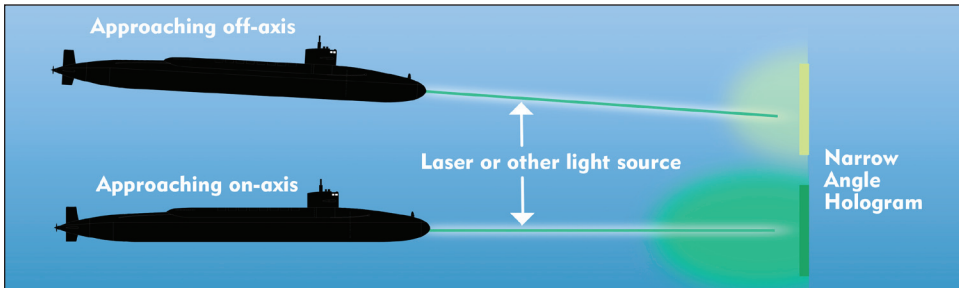


← Opaque Transparent →

TimeShare™ display

## Utility Patent Filed

We converted our provisional patent to the higher order utility patent entitled "Narrow Angle Hologram Device And Method of Manufacturing Same". This technology is used in our HoLocator product; a hologram that illuminates from a perpendicular light source, like a headlight, rather than an overhead light source. We also envision it to create a critical angular alignment tool for vehicles, such as a ship docking with a station. The hologram gets very bright at a specified color when illuminated at a specified resonance angle. The hologram dims and shifts in color as you deviate from that angle.



Some benefits of our technology include:

- 1) Illumination (not just reflection) from a narrow angle, even perpendicular, light source.
- 2) Provides for a passive device, thus requires no power.
- 3) Invisible when light source is absent.
- 4) Provides for image recording of numbers, letters, or graphics to create signage.
- 5) Inexpensive mass production.
- 6) MADE ENTIRELY IN THE UNITED STATES!

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## Registered Trademarks

We received registered trademark status on both the Rayvel logo and our tagline "Image Is Everything".

All new company materials will use the ® symbol rather than the "TM" for these marks. We knew we had something unique. It is nice to know that the federal government officially acknowledges it as well.

## Three Rivers Welcomes Their "Top Scholars"

**TOPSCHOLAR** Three Rivers Community College supplied Rayvel promotional leather key chains for the incoming students this year. On one side was a stock hologram (Sun) while the other had the school's custom logo on laminated vinyl. We were honored to be recognized and chosen for this project since Three Rivers has a strong photonics program.



This is an example of how we can provide unique, eye-catching premiums at affordable prices, even for short runs. We have added to our selection of stock images used for promotional key chains, coasters, and custom items. 44 images are now available, including the following new ones: soccer, puppy, cat, dollar signs, eagle, stegosaurus, T-Rex, shark, hockey, earth, turtle, brains, and butterfly.



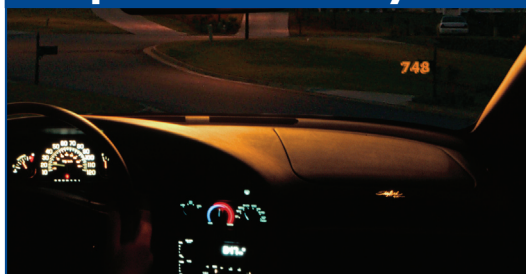
Coaster with stock slot machine hologram in center.

## Rayvel Presents at Manufacturing Competitiveness Summit

Speaking at Central Connecticut State University Institute of Technology and Business Development, Joe Ciaudelli, President of Rayvel, addressed members of the manufacturing community on the economic landscape for next generation manufacturers.

Challenges identified include suspension of several "incubator" programs due to the State's budget shortfall, declining domestic manufacturing base, and how new technology such as voice-over-internet-protocol (IP) is spurring overseas out-sourcing of even skilled jobs. "Highly skilled job growth, not just job growth, is vital for our state and nation's economic prosperity. Seeds for success include creative professionals producing quality content and driven entrepreneurs bringing new products to market. They need to be fertilized by availability of capital as well as updated government policy and programs that reflect long term vision, recognition of new social paradigms, and reduced regulatory complexity for employers." We thank Contact Advocate ([www.contactadvocate.com](http://www.contactadvocate.com)) for inviting us to present.

## Help visitors find your house at night!



## HoLocator™ Address Number Hologram

**NEW!** This reflection hologram of your street address number fully illuminates in any oncoming vehicle's headlights (no batteries required) so that visitors or emergency vehicles can quickly identify your address. The included mounting hardware is easy to install and adjustable for achieving the optimal angle to traffic. Whether you mount it to a mailbox, a telephone pole, or a tree, the HoLocator™ is the perfect safety and convenience accessory for suburban and rural homes. Available in Standard (up to 3 numbers) and Extended (4 to 5 numbers) versions.

**\$24<sup>98</sup>** (up to 3 numbers)  
**\$29<sup>98</sup>** (4 to 5 numbers)  
Please add \$4.95 for shipping

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