

# *the Laserist*

Premier Issue  
Fall 1988

The Official Magazine of The International Laser Display Association





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**FRONT COVER PHOTO:** Static image from *Laser  
Fantasy's* animated choreography of "The Skyline  
Fire Dance," by musician David Lanz. The image  
used multiple scanner heads using a 1-Watt white  
light Krypton. Photo by Floyd Rollefstad.

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## EDITOR'S MEMO

Welcome to the premier issue of  
*The Laserist*, the first and only publica-  
tion geared specifically to the laser  
display industry.

Over the years, the industry had  
grown from a few small innovators to  
a large and diverse array of laser dis-  
play professionals. The time had  
come for our industry to group to-  
gether to share ideas and nurture new  
ones. From this need, emerged ILDA  
—the International Laser Display As-  
sociation.

ILDA's objective was to provide a  
clearinghouse of information on new  
and standing government regula-  
tions; a unified stance towards these  
regulatory bodies; to standardize a  
uniformly high level of professional-  
ism. As time passed, it became clear  
that a publication was necessary —  
not only to keep members informed,  
but to provide a vehicle of informa-  
tion for anyone interested in the art  
and science of laser display.

When conceiving the publica-  
tion, one thing was certain: we would  
publish in full color. Art Director Ann  
Marie Mascia and I worked to come  
up with a front cover design that  
would showcase the excitement and  
dynamics of laser light. Editorially,  
we decided to focus on all aspects of  
the laser industry, with information  
of interest to both the technologist

and the end user alike. In this issue,  
you'll read special reports from the  
Safety, Ethics and Technology Com-  
mittees. You'll find feature stories on  
producing a multi-media event, per-  
forming at the Olympic Games, and  
the trials and tribulations of overseas  
installations.

In order to continue bringing you  
articles that address the issues and  
concerns of an industry, we welcome  
your suggestions, comments and  
ideas.

In launching this publication there  
are many people to whom to be grate-  
ful. Special thanks must go to the  
Public Awareness Committee headed  
up by Daniel Cohn, and to Don  
Dorsey, Walter Gundy, Seiji Inatsugu,  
Joanne McCullough, Fred Read, Floyd  
Rollefstad, Dick Sandhaus, Mary  
Slusarski, and ILDA's Executive Direc-  
tor Barbara Inatsugu. Finally, we wish  
to express our deepest appreciation to  
our advertisers for showing their sup-  
port of *The Laserist* — and the laser  
display industry as a whole.

*Diane P. Burley*

## Are You A Member?

Annual ILDA General Meeting  
Georgia's Stone Mountain Park  
November 3, 4, 5

For information on membership call (213) 826-3838  
For information on the meeting contact  
Carla Groves (404) 498-0030

# PRESIDENT'S MESSAGE

By Joanne McCullough

*Joanne McCullough is Co-owner and General Manager of Audio Visual Imagineering, and President of ILDA.*

If I hadn't been at the exhibit area of the International Planetarium Society Conference, and seen it with my own eyes, I would not have believed it: Several competing laser display companies, most of whom were ILDA members, were sharing their technical advancements, successful business strategies and marketing techniques. They were speaking to laser display companies who were not ILDA members, and were encouraging them to join the association.

So why was this such a surprise? I remember when most laser display companies were so fiercely competitive, that very little information was shared. Don't get me wrong, member companies are still very competitive. However, out of our common commitment to raise the level of performance, ethical and safety standards in the entire laser display industry, laser companies have demonstrated increased cooperation and compatibility. As a result, we are raising the level of prestige of our industry as well as the professional practices of our members.

What is emerging is a win-win relationship among ILDA members. Members are supporting one another in the success of their shows knowing that each of our successes serves not only the individual laser company and their client, but also the entire industry.

Some of the other obvious benefits of our association are:

- We have the opportunity to learn about all the member companies and can establish a larger base for networking.
- We stand as a unified body, rather than many individual companies, and have a greater voice in our dealings with regulatory agencies.
- We have a greater chance of receiving better rates, prices and consistent treatment from our suppliers.
- We are provided with the opportunity to meet and discuss common problems and questions and work together for solutions.
- We offer the membership list to whom ever requests it. This provides clients with a selection of companies

from which to choose, as well as increased exposure for all members.

- Once a potential client knows ILDA's purpose and Code of Ethics, they will be able to see the value in selecting an ILDA member over a non-member.

A hidden but natural benefit of our association is derived from the competitive spirit. To maintain that competitive edge when so much of our technical advances can be purchased from one another and business practices shared, companies will be forced to continue to pursue research and development, creative programming and marketing. This will ultimately result in an expanded market place which, in turn, secures the future of laser display.

For some of us, membership can be very expensive. However, the time, effort and money you contribute to ILDA can only benefit your company in the long run. I recommend that more companies actively participate in the work of ILDA. And although all of you are busy in your own companies, your active participation in ILDA will help ensure the growth of the entire laser display industry.

# Multi-Media Showcase

When Science Faction was contracted for a laser show at the 1988 Winter Olympic Games, the company stepped outside its usual role of controlling lasers to become the technical producer and director of a multi-media extravaganza.

The show's sponsor was Federal Express, and its objective was "to enliven the Calgary citiscap with light and create the sense that the city itself—its buildings, its airspace—was performing, for both the live, and the world-wide television audience," described Richard Sandhaus, president, Science Faction.

A 24-hour reminder of Federal Express' presence was the Wall of Winners, a 140' x 70' mural, depicting action from each Olympic sport. The show itself was to be centered around laser projections, and an "integration of fireworks, sweep searchlights, music and video," said Sandhaus, who was in charge of the "integration." The first design challenge for Sandhaus was to set the stage. The Wall of Winners was set before the Olympic Plaza, and behind the wall were three of Calgary's tallest office towers. Enormous projection screens were rigged to the

upper facades of these glass towers. A video screen was built into the lower right hand corner of the wall. And in the center of the mural was a gold-colored, circular gel panel.

There were 14 principal sports in competition and demonstration at the Games, and each had to be represented in the show. Sandhaus wanted to use scale to elevate each sport to "mythic and heroic proportions," while using several very different visual media to achieve the ultimate vision of movement and activity in each sport. "We were making a laser, light and sound show," explained Sandhaus, "so it was important to maintain beautiful and striking imagery and light quality throughout. The imagery could not be just an enlargement of the real action."

The duration of the entire show was seven minutes, and was made up of individual sport sequences, each about 15 seconds in length. The show began with the "stage" darkened. The gold gel panel, representing an Olympic medal, was back-lit to come to life. For the XV Winter Games, the actual medals had images of all the tools of the Olympics—skis, skate blades, bobsleds. Using the red 5-Watt Krypton laser, the symbols from the medal were outlined on the gold panel. A second laser in a contrasting color would outline one symbol to indicate the sport sequence. For example a skate blade was abstracted, then moved through a figure eight across the mural until it ended up super-imposing on the blade in the mural. This blade dissolved into a complete outline of a skater—which then animated back across the mural towards the video screen. As the laser image reached the screen the skater disappeared and the video screen faded up with footage of that day's skating results.

As the footage ended, the video screen faded to black and color burst on to the three towers (using hundreds of PAR and ACL instruments). The screens on those towers displayed scenic projections, which were super-imposed by 130' animated laser images. The images faded down, color burst again, faded to black and then back to the gold panel on the Wall—where the next sport sequence began. In the air between the towers, running almost continuously throughout the show, were large-scale, kinetic light sculptures (using 20-Watt Argons) and fireworks.

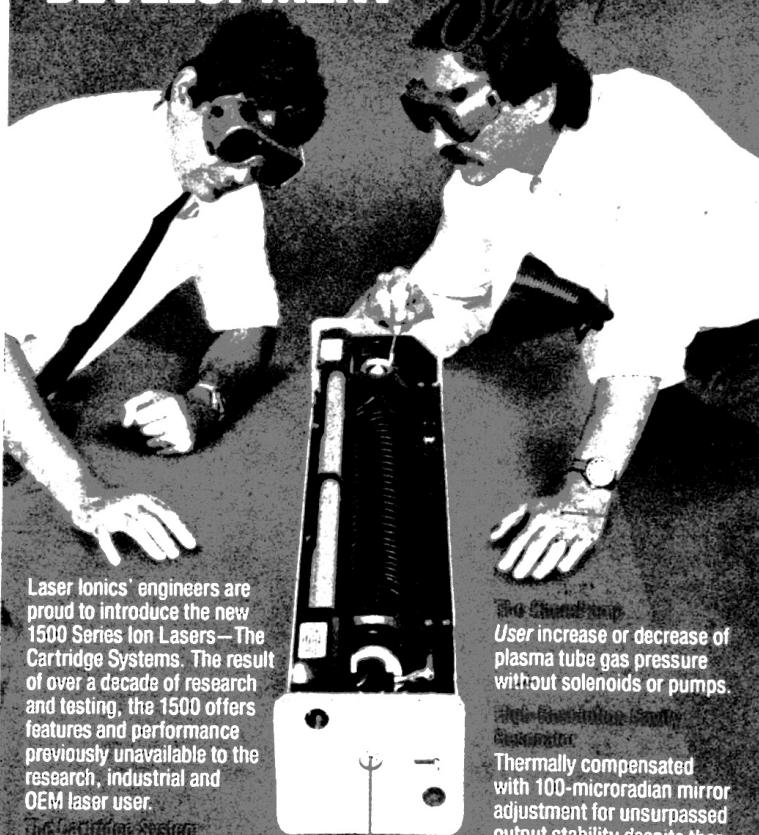
The musical score was an original composition—written for the Games. Sandhaus worked with composer Peter Fish to determine the order that the sports would be depicted. "You had to consider what made sense musically as well as visually," he explained. All the video footage was selected and provided by CTV—the host broadcasters. "We only had time for four to five seconds of footage within each 15 second sequence," Sandhaus added.

The coming together of a multi-media show is a production in itself, made more challenging by the inclement weather. To fight against the bitter cold (40 below zero) and high winds, heated shelters had to be built for the equipment. For a week, Science Faction forgot about laser entertainment and was in the construction business instead.

The six large-frame Argon and Krypton lasers and SFC-360 projection systems; hundreds of lighting instruments; thousands of firework shells; 6 scenic projectors; and four, 4-head Skytrackers (searchlights) were installed throughout downtown Calgary at 15 locations. A city-wide closed-circuit phone system had to be established. This system had to contain

*Continued on page 12*

## A DECADE IN DEVELOPMENT—



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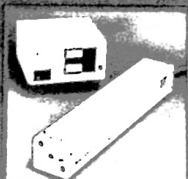
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# ETHICS COMMITTEE REPORT

By Don Dorsey

*Don Dorsey is a laser consultant out of Anaheim, California, and Chairman of ILDA's Ethics Committee.*

Members of the International Laser Display Association (ILDA), with few exceptions, derive their total livelihood from successful and profitable operation of laser-related businesses. ILDA was created to support and improve conditions within the laser industry so that all may benefit.

To reach this goal, the ILDA Code of Ethics was designed to address aspects of the industry directly related to making our businesses both "successful" and "profitable."

There are laser professionals who differ from ILDA in their definition of both terms, however. It is possible to produce a stunning, "successful" visual presentation by using unsafe practices and creating dangerous conditions. (Is it "successful" because everyone loved it, or because no one got hurt?) It is also possible for a company to make a tremendous "profit" one year by selling inflated services, and then go bankrupt the following year when its clients have all found better value elsewhere.

These approaches to the laser business often are neither intentional nor conscious. Some laser operators don't realize the impact that an inadvertent miscalculation or mis-statement of fact can have on their future, or on the future of the industry. When they do not get called by the client again, they usually never find out why. And if the bad impression was strong enough, the rest of us may never get a call either.

In any industry, sales are made and client relationships are built on a number of factors, which include not just price and features, but also availability, reputation, service and an often underestimated intangible item: business style. Style could include presentation, creativity, personal contact, communication, expectation and other aspects of doing business which leave strong subconscious "feelings" or impressions. How many of us have had clients tell us after the show they "expected" something else? Do you think this affected their level of satisfaction with the job?

ILDA's Code of Ethics is intended as a statement of acknowledgement that our industry is one that serves. Our stated commitments are to issues that

will directly effect their satisfaction, their success, their profitability. To the extent that we choose to set and follow exemplary standards of behavior and responsibility, every potential client will be able to see the value in selecting an ILDA Member over a non-Member. Continued adherence to these standards will result in long-term growth and enhancement for the entire laser industry.

## ILDA CODE OF ETHICS

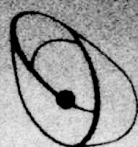
- Members desire to promote cooperative, responsible and ethical application of laser display.
- Members agree to conduct their business in a professional, ethical, safe and courteous manner, and to make a good faith effort to resolve any and all complaints made against them.
- Members agree to respect the goals, desires and objectives of their clients.
- Members agree to observe and obey any and all regulations governing the use of lasers in any country or area in which the Member operates.
- No member will knowingly take or receive credit for work done by another Member or, through inaction, knowingly allow an incorrect credit to persist.
- Members agree not to make inaccurate or misleading claims in advertising and/or promotion.
- No member will knowingly make inaccurate or slanderous statements about any competitor or through silence lend credibility to statements made by others.
- Members will not misrepresent their capabilities or the capabilities of the medium in general.
- Members agree to keep privileged information obtained by reason of their position in ILDA confidential.



# When bigger are better



Laser performances and installations by



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Creator of thousands of laser performances worldwide since 1978 including:

- FIRST NEW YORK INTERNATIONAL FESTIVAL OF THE ARTS (June-July 1988, shown above)
- 1988 WINTER OLYMPICS (Calgary) • EXPO 86 (Vancouver) • 1982 WORLD'S FAIR (Knoxville)
- ANNUAL NEW YEAR'S EVE LASER SHOW—TIMES SQUARE
- QUEBEC PARLIAMENT SON ET LUMIERE (1985 LUMEN Winner)

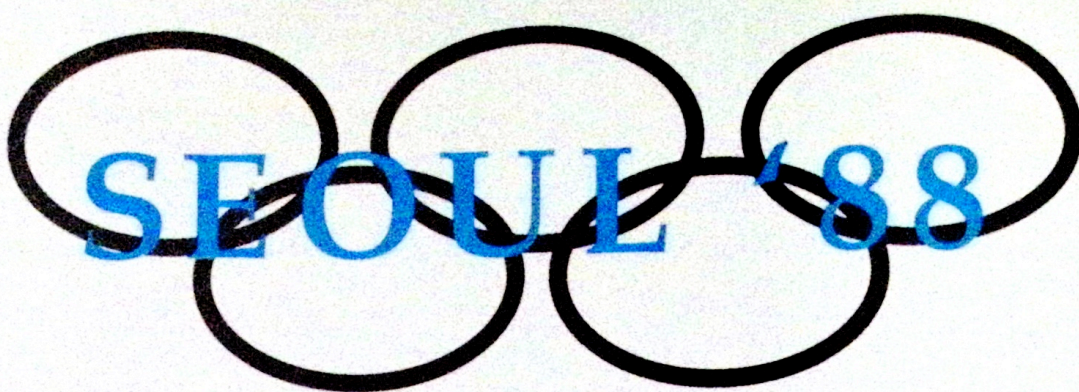
Manufacturer of the LASERITER "360," the unique 360-degree laser graphic projection system and LASERCHASER 2, the special effects laser beam machine chosen by theme parks and nightclubs around the world.



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The road to the Olympics was an arduous one, but once there the experience was exhilarating. It may be surprising to note that those sentiments were ones not expressed by an athlete, but by Image Engineering Corporation's laser crew as they prepared for and performed at the XXIV Summer Olympic Games in Seoul, Korea.

From the moment they arrived at the Games, there were logistical problems that bordered on nightmares. The first and foremost was the language barrier. Communicating for weeks on end in a language with which you are not fluent (nor really even proficient) is exhausting. "It got to the point," said IEC Executive Producer Walter Gundy, "that rather than asking us to repeat ourselves ad nauseam — our contact would just shake his head — as if he understood." But often the contact did not, and simple tasks seemed to take forever. After 10 days of broken down communications, a young Korean who spoke perfect English happened to tap line producer Bryan Hemberger on the shoulder. Hemberger hired him as a translator on the spot. Pleased with his good luck he quipped, "It was as if I had rubbed a magic lamp."

Hemberger is one of those chiefs every company should have. Having spent a few years in Asia, he knows how to be tough but diplomatic, tenacious but patient, fearless but pragmatic, and can drive anything from a crane to a hard bargain. Hemberger was the coach whose team pulled off one of the largest laser shows — under extremely adverse conditions.

But he wasn't the only MVP. It's no secret that running lasers requires a lot of power. But the Koreans apparently believed current should be negotiated

like currency. Electrical Engineer Fred Fenning endured an exasperating week trying to convince the Koreans that he really did need 400 Kilowatts of 480 Volts 3-phase. It seemed that in Seoul, anything worth doing — was worth arguing over. The savvy translator kept repeating "MIT" throughout his explanations, and on Day 7, Fenning showed up wearing an MIT T-shirt; within hours the transformers appeared.

One of the more stressful jobs was held by Jennifer Morris, the on-site programmer. Morris spent every day programming new material from her "studio" — a bunker dug into the dirt just in front of the stage. At night she operated the show, relying on production assistants some of whom had little or no production experience, and certainly no prior familiarity with lasers. Morris' story boards were created by Korean art professor D.H. Chang, who had quickly grasped the potential of laser animation and knew which Korean art lent itself to lasers.

The actual set-up was divided to serve two locations — both visible to the audience.

Lone Star Laser's full-color laser projector and three Technique Mirage 6KW Pani projector put images up on a 55 x 75 meter screen, affixed to Seoul's largest building, a 300 meter glass-clad structure, standing less than one kilometer from the stage. The other gear was arrayed on and around the main stage, which was custom built for the festival. It's poured concrete deck supported a quarter sphere of geodesic space frame, 20 meters at its apex.

This space frame was uncovered at the rear, allowing the audience to see beyond the stage to the fireworks exploding over the river. Extending from

the stage to a broad line of bleachers, was a field, 100 meters deep by 200 meters wide, where performers and spectators danced together.

The lasers were reconfigured four times in two weeks to accommodate the designs of different directors. The IEC AO/RGB head, rear-projected on a 7 x 10 meter screen from September 10 through 16, when it was moved out front to draw graphics on a 10 x 15 meter painted scrim. These full-color graphics were part pre-programmed, part live and always custom-edited, show by show. Six 20-watt Argons were arranged even more frequently, but were always controlled by two beam controllers and an animation console. On two nights, one of the Argons was used to project through a 20-meter long Dancing Fountain.

As for atmospheric conditions, Seoul was hazy, and of course there were the fireworks. Outrageous fog was produced by crack-oil spritzers, "operated by 'black-belt' fogmen," described Gundy, "who apparently felt this was their 15 minutes to be famous."

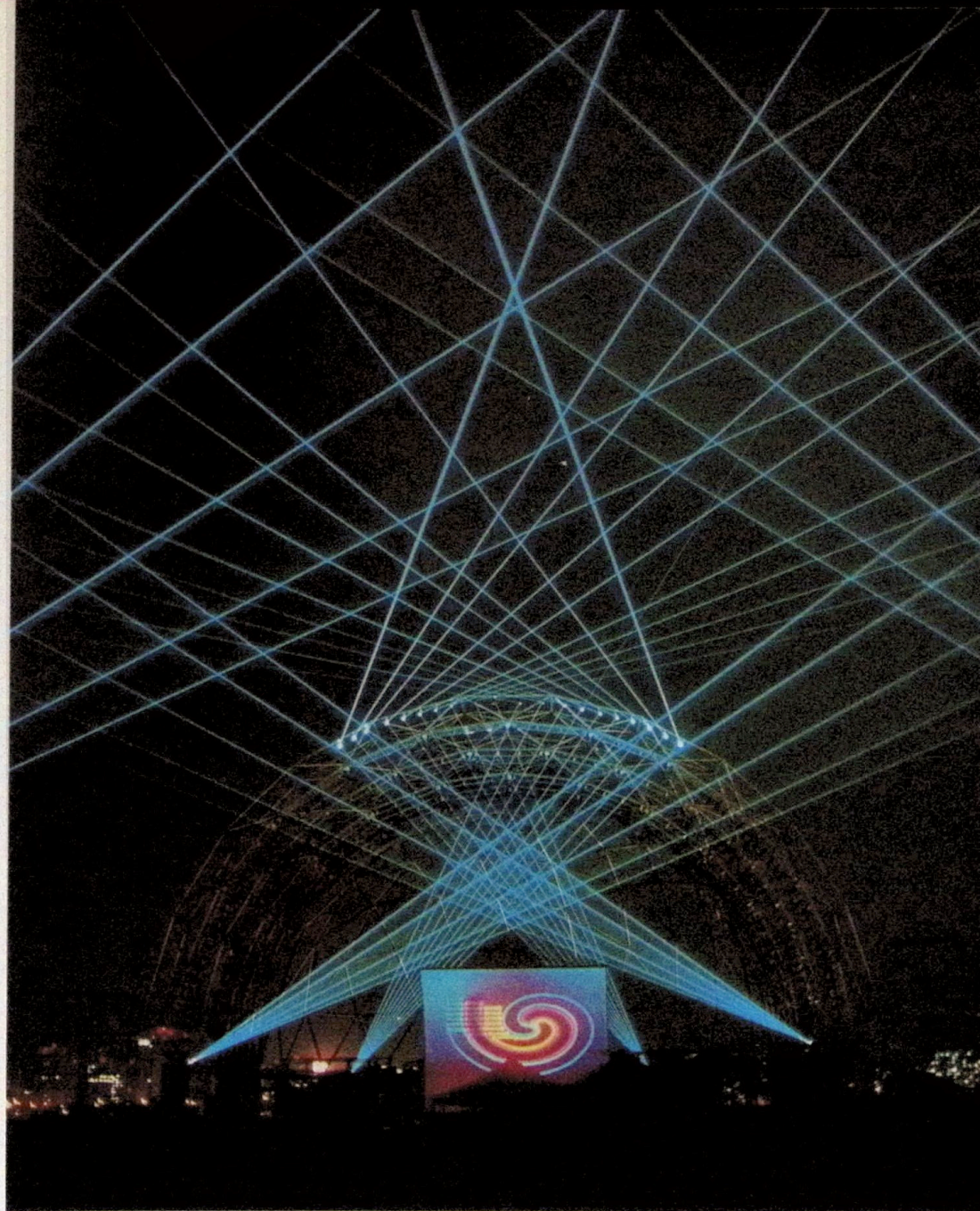
To supplement the lasers, IEC brought in Phoebus Lighting from San Francisco, who controlled the Skytrackers, Carbon arcs, and Brightlights; also, Technique Mirage of Atlanta, operated the 6KW Panis. These were integrated with plenty of truss lighting, closed neon strobes and Vari-lites.

On three nights the one-hour show was a mix of only lasers, music and Skytrackers for a truly "Son et Lumiere" experience. The laser graphics pulled their weight and the Koreans were very receptive.

"The Koreans made a wonderful audience for these shows," said Gundy. "Despite their lack of experience with



*SCANNER BEAMS  
from six 20 watt argons  
were frozen for this photo,  
while an IEC AO/RGB laser  
projector (5 watt Krypton/20-Watt  
Argon) drew the Seoul Olympics  
logo on a 7 x 10 meter rear-  
projection screen.*



lasers, and some cultural differences, we had a swell time in their country. For warmth, courtesy and sheer aliveness, the Koreans can't be outdone."

And Gundy had others to thank. Three American laser companies, Lone Star Lasers, Laser Rays and Showlasers were contracted by IEC to send crews to Seoul. A fourth company, Aura Technologies, did not work on-site, but digitized some of the cells. "We've always

been proud of our own crews," stated Gundy, "but we had to take our hats off to these guys, who were super in every way."

As the Olympics represent a spirit of amity between nations who may even be at war with each other, so five competing laser vendors found it rewarding, perhaps inspiring, to team together for this Olympic performance.



# SAFETY COMMITTEE REPORT

By Fred M. Read

*Fred Read is vice president and co-owner of Laser Productions, Miami, and a member of ILDA's Laser Safety Committee.*

In support of the ILDA Code of Ethics, the Safety Committee was established to set forth safe practices while at the same time, make these practices reasonable.

Throughout the year, the committee has worked on several projects that should help make adherence to regulations more "natural," and thus encouraging less government intervention.

These projects include:

- designing a laser safety course for the laser display operator.
- creating standard ILDA filing forms
- arranging for a Federal Aviation Administration (FAA) spokesman to appear at ILDA's general meeting in November.

The laser safety course is being designed and is tentatively scheduled for early 1989, in Orlando, Florida. The two-day seminar would be geared specifically to the laser display operator. For insurance reasons, neither ILDA nor Rockwell Associates will be able to endorse those operators that take the course, however certificates of completion will be issued.

While details of the seminar are still being negotiated, it is likely that the trainers will be Rockwell Associates, specialists in laser safety. Cypress Gardens and EPCOT Center facilities have also been approached to offer assistance. The cost of the seminar will be in the area of \$300 - \$450. Those interested in signing up for the course should contact Fred Read at (305) 754-6885.

Jim Martin, ILDA Safety Committee member and owner of Peachtree Lasers Inc., Atlanta, has been busy developing standard forms for reporting shows to the Center for Devices and Radiological Health (CDRH), FAA, and state and local authorities, with the cooperation of those groups. The forms should ease the burden of figuring out what must be reported and to what detail. Forms should be available at the meeting this November.

Outdoor laser shows are becoming more and more popular — especially for opening night or premier performances. But since the beams could cross the flight path(s) of planes, the FAA re-

quires that it be notified prior to a show. Some of the information needed and the terminology used can be quite confusing. Terry Williams, air safety officer from the FAA's Southern regional office will provide information on what resources to use to get the information quickly and easily, when he is guest speaker for the ILDA general meeting on November 5.

Williams is arranging for up to 18 people to tour the FAA facilities, including the radar room and control tower at the Atlanta airport, as he explains how the FAA handles a laser show.

More muddy waters ahead for Class II and Class IIIa laser operators. With most distributors claiming that these low-powered HeNe systems are exempt from government regulations, audience scanning seems to be the norm — despite the fact that most systems did not have any sort of scan-loss safeguard or shutdown.

At a recent trade show, while two low-powered systems were being demonstrated, the audience was exposed to stray beams. When confronted, the manufacturers asserted that the the CDRH was fully aware — and had approved of these systems. However, when the CDRH was confronted by ILDA members, the CDRH quickly responded that the systems in question were not in compliance. It further stated that Class II and IIIa lasers are not eye safe, and beams must still be maintained above the audience's heads.

Unfortunately, it appears that manufacturers of these low-powered systems are not about to change their marketing tactics right away. Possible further action by ILDA will be discussed in greater detail at November's meeting.





# It's A Small World

By Mary Slusarski

There's nothing so compelling as a blazing laser war. In fact, you could almost consider nature's extreme light form as another of the natural wonders. Like sunsets and diamonds, rainbows, rock and roll and art, laser wizardry is appreciated around the world.

The advancements in laser special effects are so astonishing that international curiosity is rampant. Of course, countries like England, Italy and France have more applications for laser use than do China, Saudi Arabia and Russia. But even remote and sparsely-populated countries are utilizing the services of laser companies for their entertainment needs.

Laser Media, Inc., is one of the world's largest international laser effects companies. Credits include nightclub installations in Italy, Finland, Japan, Korea, Taiwan, Thailand, amid over a dozen in Mexico. Other special

installations have required trips to Saudi Arabia, Australia, Japan, Belgium, Norway, Germany, Brazil, New Zealand, Oman and Puerto Rico. And LMI has traveled to every major venue in Europe, Australia, New Zealand, Japan and Brazil with rock and pop acts like Michael Jackson, George Michael, Pink Floyd and Def Leppard.

Sixty percent of Laser Media's revenues are generated from world markets. According to Chief Executive Officer Ron Goldstein, Laser Media's goal is to "continue to export products and services through the distribution network we have created in many different countries."

This experience has bred expert employees who keep their cool when traveling abroad. Jerry Wyant, Laser Media's Customer Service manager remembered an "adventure" that he thought would never end. In 1985, Wyant and five other's of the Laser Media crew, assembled three full-color

systems at the Sultan's palace in Oman. The laser display was part of a celebration for the heads of state of the oil countries, the Gulf Cooperation Consulate.

Security was tight. The Sultan's personal guards carried automatic weapons. "There was a lot of tension because of the threat of terrorism," said Wyant.

With the help of 50 Arab-speaking Pakistani workers, the Laser Media team installed systems in the portholes of two 17th century military forts on the palace grounds. Using crossbars and sticks, the workers lifted delicate equipment up the "crumbling" steps of the fort.

The third installation was the big challenge. Lasers were flown by helicopter to an island in the bay across from the palace. The island fort was impregnable. Lasers were hoisted up the steep walks with ropes and make-

*continued on page 12*

## AT LAST!

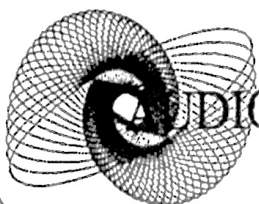
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## It's A Small World

*Continued from page 11*

shift pulleys. A generator was installed and fresh water for the cooling system was boated in, 25 gallons at a time.

But the tides had been miscalculated and the crew discovered their equipment crates had floated out to sea. When returning to the palace, the kodiak's baseboard hit a wave, collapsed and nearly tossed the technicians into the bay.

Laser safety must be carefully observed, especially in countries which lack understanding about the hazards. During rehearsal, a guard became concerned when a few stray beams flashed within 20 feet of the Sultan. The guard turned on the producer and pointed an M-16 into his back. Rather than take chances, the system was quickly shut down.

Shipping expensive lasers to foreign countries is a job for the unflappable. Lead time must be properly calculated and cargo picked up promptly from airports and shipping ports.

In order to insure that nothing is sold in another country, carnets must be filled out, duty lists of equipment checked before and after crossing borders. Surety bonds are insurance on carnets underwritten by the cargo com-

pany and often difficult to obtain.

Carrying packages across borders is tricky. The traveller is sometimes forced to pay a duty, 10-20 percent of the total cost of the item. This can become an expensive proposition.

And replacement parts are hard to get. Sometimes even getting to a parts store is hard. On the way to obtain parts for a show at the Saudi Company for Recreation Centers, Jerry Wyant found himself detained by a traditional Muslim custom. At the pre-ordained time, the bus driver got out and began to pray. Laser technicians must also be ready to adjust water and power fluctuations in other countries. To combat inconsistencies in water pressure, many clients are installing air-cooled systems or closed-circuit water chiller units.

Fusing different cultures together with laser magic can be very rewarding. Synchronized to music, lasers become an extension of the "international language." Whether in Thailand or Africa, Australia or Mexico, that one fantastic beam of light initiates the same responses in all people: Wonder, joy and the urge to dance.

*Mary Slusarski is a writer for Laser Media.*

## Multi-Media Style

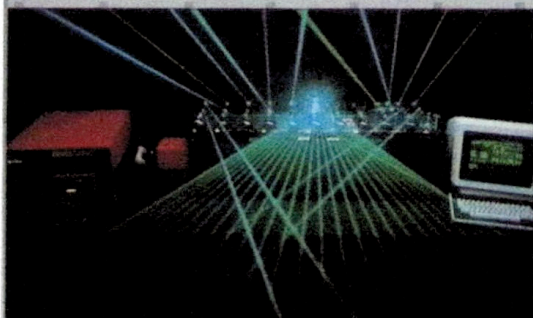
*Continued from page 4*

over 80 circuits — and while that could have been a nightmare, "the phone company did a super job," lauded Sandhaus. All projections were synchronized to an original musical score via SMPTE, tone bursts and prerecorded voice commands fed to the various locations over the phone system.

"We worked very hard to be sure that the laser projections and each of the other media were always complimentary and never competitive," said Sandhaus. "Our laser animations brought static artwork and architectural lighting to life, and that artwork and illumination in turn contributed to the overall impression of very full pictorial imagery. The aerial laser projections provided a 3-dimensional context over the entire city for the fireworks, and the fireworks brought wonderful color and great, if momentary, highlight brightness to the sky show portions of the performance."

But for Science Faction, the finale each night was the thunderous applause coming from the tens of thousands of viewers who had crowded into the Plaza and overflowed throughout the downtown streets and sidewalks to catch a glimpse of this Olympic show.

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# TECHNICAL REPORT

By Seiji Inatsugu

*Seiji Inatsugu is Senior Vice President, Research & Development at Laser Media, on ILDA's Technical Committee and has a PhD in physics.*

What's in a name? Sometimes not as much as you think. A new product on the market, Laser FX, is touted as a home entertainment system. Marketing literature states that "Laser FX is the first and only laser effects light show for the home. It projects huge multiple color images (on walls, ceilings, etc.) in response to your music system..."

The product is manufactured in Korea by a company "with design in mind" from Chatsworth, CA, and sold through direct mail and chain stores like "Sharper Image," at about \$200.

We bought one, operated it, and opened it up (in that order). Here is what we found:

The product comes in a nicely designed package complete with an easy-to-understand instruction manual and all the necessary cables and accessory parts. Connect the device to an 110V outlet (not three-phase power and water) and to the audio system, and in a few minutes you are ready for the show. Turn off the room lights (you must do that to see what's happening) and, after fiddling with the "image size" and "focus" knobs, you will see a dim display of multi-colored squiggles on the ceiling, throbbing with the beat of the music. There are no additional controls with the unit (no color controls, no pattern generators, etc.). All you get is multicolored squiggles synchronized with the sound.

The light source is not a laser but a halogen bulb, perhaps 10 Watts or so, placed behind a pinhole. In front of that is a wheel with four color gels (red, yellow, green and blue). A rack-and-pinion mounted positive lens collects the diverging beam from the pinhole and directs the beam onto the diagonally mounted vibrating front surface mirror that is cleverly mounted on a loudspeaker voice coil. By adjusting the lens position via "focus" knob, the pinhole is imaged on the projection surface.

The sound signal from your audio system line output goes to an internal audio amplifier (or you have a choice of connecting to the speaker output of your audio system, thereby bypassing this amp) to drive a small DC motor to turn the color wheel, as well as the voice coil to drive the vibrating mirror. I do not recommend connecting to the speaker output. This method may blow your expensive amp by accidentally shorting the wires in

the process. The amplitude of the sound signal controls the speed of the color wheel and the size of the mirror vibration to generate the ever-changing multi-colored squiggles.

The optical power from the system seemed at best a milliwatt or so, and the spot size varies with the projection distance: about a quarter inch at a few feet away to a half inch at the ceiling, which is very fuzzy compared with a small Helium-Neon laser.

There is a disclaimer of sort in small letters on the box saying: "Laser FX (Laser effects) produces a laser-like beam by using a specially designed light source."

The system contains no intelligent electronics components in its workings, and I estimate the cost of components to be roughly \$30. The price tag of \$200 seems too high for the novelty value ... but after all it seems a fair price for a "laser light show."

There are specific laws which govern advertising to protect consumers. You can not call a product "Leather" if it is indeed "Vinyl." Nor can you state a product contains butter, when it really contains margarine.

Therefore, if a product contains the name "Laser" the inference would be that the product contains a laser. The Federal Trade Commission (FTC), which has jurisdiction over false and misleading advertising, may consider this to be a violation of the Truth in Advertising Act.

If anyone believes that Laser FX, its name or advertising is misleading, then a complaint should be registered with the FTC.

The FTC will analyze the complaint and conduct an investigation if it warrants one. If the FTC finds it misleading, it will begin steps to issue an injunction against the company.

The complaint must be in writing and contain all pertinent information about the product: the name of the manufacturer, where it can be purchased, etc. While all complaints are kept confidential, a contact name should be included, so that any technical questions can be addressed.

Complaints can be sent to:  
Federal Trade Commission  
26 Federal Plaza  
New York, N.Y. 10278



# INDUSTRY WATCH

Laser Productions, a Miami-based company, kept busy with a four-week show for Ford's Autorama in Caracas, featuring indoor and outdoor laser stations, both producing beam grids, and laser graphics ... Albert the Alligator came back to life for the third straight year at the Gator Growl Festivities at the University of Florida, Gainesville with a great laser show ... and for McDonald's corporate meeting, LP gave an 18' King Kong laser-like eyes guaranteed to get the red out! ... LP sailed a laser yacht (violent thunderstorms) in the Annual Fort Lauderdale Christmas Boat Parade. The vessel sported two high-powered laser stations with a 28' x 22' rear-projection screen for graphics ... Audio Visual Imagineering installed two 25-watt Argon lasers atop the AT&T building in New York City to commemorate National Science and Technology Week ... performed live with composer Jerry Goldsmith, conducting the National Symphony Orchestra in McLean, Virginia... installed

an automated laser display system in the exhibit gallery of the commercial real estate developers Charles E. Smith Company ... opened its newest laser light show LIGHT WAVES. Choreographed to the music of U2, the Cure, Depeche Mode, INXS, OMD and more. LIGHT WAVES is currently playing at Planetariums in New York City, Toronto, Pittsburgh and Flint, Michigan ... Science Faction produced the nightly show for the Calgary Winter Olympics... filled the New York City summer skies nightly from June 11 - July 11. The kinetic laser sculpture show was part of the First New York International Festival of the Arts ... SF's schedule also included a one-week run in New York's Javits Convention Center for Career Expo, a job opportunity showcase put on by the State and City and attended by every New York high school student ... and they just finished a four-week, four-city new product tour for Pontiac and a weeklong run in Las Vegas - for Buick ... Image Engineering's John Campbell

wasn't taking any chances with Korean cuisine -- he toted cans of Dinty Moore and a propane torch to Seoul. The hosts indulged him and gave Campbell a parting gift from Kentucky Fried and Pizza Hut ... TARM, West German laser firm, was also in Seoul -- at the Kunst Disco, erected for six weeks by the Goethe Foundation.

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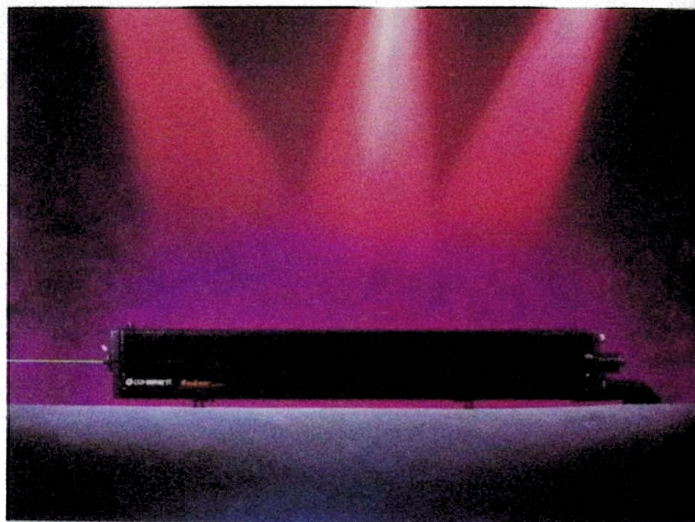
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