



Maxwell Balmain/Journal

Alberto Navarro, owner of Infinity Visions in Bellevue, is one of three people in the world who work independently to design fireworks displays.

The art of fireworks

Pyrotechnic designer is connoisseur of fire and effect

By **Cydney Gillis**
Journal Business Reporter

BELLEVUE — Alberto Navarro can show you how to stand in a shower of fireworks and not get burned.

That is, if you use very special simulation software that he's been working on for the past year and a half for his highly unusual business: Navarro is a pyrotechnic designer for hire.

A soft-spoken Spaniard, Navarro, 45, is a Bellevue resident you might not have heard of. But he's known — and sought after — around the

world for his artistry at creating lavish fireworks shows with laser lights, video projections and every other kind of multimedia effect.

Just a few of his credits in recent years include the opening of the Paris Casino in Las Vegas three years ago, a portion of the closing ceremonies for the 2000 Summer Olympics in Sydney, and a \$10 million show that's been running nightly since last September, when Japan's largest theme park — DisneySea — opened in Tokyo.

Navarro is also the man behind the New Year's Eve fireworks dis-

play at the Space Needle — a show that was no small feat to carry off the first year, in 1994, when the Seattle Fire Department insisted on an advance demonstration that had to be carried out in secrecy.

It went off without a hitch, just like the four to five productions he puts on every year for an undisclosed fee that's a percentage of each show's production cost.

Navarro is both painter and sculptor — one who found pleasure and a greater audience in fireworks displays — but even among artists he is rare. He is one of only three fire-

works designers in the world who work independently on contract, instead of being directly employed by a production company.

He typically works with Rialto, Calif.-based Pyro Spectaculars to bid on and design various shows for holidays, sports events and large celebrations. But, for the Tokyo show, Disney World Entertainment called him.

The show, which took two years to create from visuals and scores provided by Disney, is seen each night by 30,000 park visitors.

See FIREWORKS, C4

Fireworks

CONTINUED FROM C1

"It's ephemeral but if I were a painter and had 30,000 people coming into a gallery to see my paintings, it would be very satisfying," Navarro said. "It gives people happiness and surprise."

Virtual New Year's Eve

One key to the surprise is the software Navarro wrote in 1997, called ShowDirector, which Navarro uses to "cue" different fireworks to each note of a musical score. The software takes 26 parameters into account, including angle, attitude, caliber, time, type of effect and even the price — in case there might be a less expensive firework to achieve the same effect.

That's a far cry, he says, from the primitive way pyrotechnic design was once done — with sketches and educated guesses about the particular timing and trajectory of given fireworks.

Later this year, he will debut a new add-on software program he's been working on, Visual ShowDirector, that will take fireworks design one step farther. The program runs visualizations in real time — for the first time, Navarro says, allowing professionals and amateurs to create and instantly make changes to a fireworks show with fewer

live tests.

To debut the software, Navarro plans to give Internet users a pick of different cityscapes and music this New Year's Eve so they can create their own virtual fireworks show at home.

He demonstrated on a large computer screen, where fireworks "danced," sprayed and burst in the air above a virtual landscape of the Paris Casino. He then switched to a three-dimensional schematic of San Francisco's Golden Gate Bridge, showing that, with a joystick, a viewer can fly up into the fireworks.

"With the new program, we can rehearse virtually instead of firing things," Navarro said. "It's going to be a revolution in fireworks art."

How much bang for buck?

Once a design of Navarro's is final, the program is downloaded to chip-enabled control units custom-built by Pyrodigital, a California engineering company that Navarro has partnered with since 1989 — striking out with his own company name, Infinity Visions Inc., in 1995. Once the software is downloaded, it runs the show, sending electronic firing signals out to row upon row of small ignition panels connected to the fireworks.

It's a job for a programmer and artist. Navarro is both. Once a law student, he pursued painting and sculpture in the

1980s, until a European group of pyrotechnic artists called Epherme showed him what could be done with the sky.

"I was tired of collecting paintings, art and objects," he said. With fireworks, "You can touch a lot of people" — though not quite in the same way in Europe and the United States.

"In Europe, it's considered an art," said Navarro, who settled in Bellevue in 1993 because his wife, Susan Hunt, is a native. "In the United States, it's considered more of a bang."

"It's not about how the show is going to look, it's all about the bucks," he added. "(But) you could give me a billion dollars and I could give you a billion dollars worth of bad potatoes. Don't let's talk about the quantity, but the visual impression."

"My motivation is the people," Navarro said. "I like to do what I can to make people happy." When a fireworks show is crackling above their heads, he added, "They forget about the world and their problems. They get absorbed."

"I'm still lonely," Navarro said of being an artist. "But now I have crowds of people cheering, not (looking at a painting) saying, 'Hmm, I'm not sure about this.'"

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Sky

Lights

Fireworks shows go high tech

BY PAUL CLARKE

Technicians rig fireworks on top of the Space Needle in preparation for the spectacular New Year's Eve show.



ELAINE THOMPSON / AP PHOTO

High over the waters of English Bay, a palm tree of shimmering lights appears in the night sky. As hundreds of thousands of people watch from Vancouver's Stanley Park, a whole grove of pyrotechnic palms rises from the black barges anchored offshore, their amber "trunks" rising to final bursts of green "fronds" in the sky. The beat of a drum chorus thunders from a series of amplifiers, the meter of the music accented by the flaring

of roman candles. The crowd around me is still, every face turned skyward to watch the performance up above.

Vancouver hosts this show, the HSBC Celebration of Light, each summer. It's a competition in which some of the world's top pyrotechnic designers create elaborate displays of fireworks set to music. And while I know the Czech, Canadian and Chinese teams performing tonight employ state-of-the-art technology to create such stirring shows, the spectacle appeals to something primal, some modern echo of an ancient fascination with the dance of light.

Since the invention of gunpowder in China more than 1,000 years

ago, the flash and bang of fireworks have captivated spectators around the world. Every Fourth of July, towns and cities across the United States light up the summer sky with flaming bursts from roman candles and spectacular sprays from floral shells. Fireworks are now a frequent sight at sports events and civic celebrations, and breathtaking shows are performed nightly at theme parks such as Disneyland. But while today's shows—designed and choreographed by computer and produced using high-tech firing systems—are far advanced from the crackle and spark of early fireworks, the effect on the audience remains the same: captivation, awe and excitement.

"I've never seen another medium with as much power," says Eric Tucker, a pyrotechnic choreographer and director in St. Louis. Tucker has designed and conducted displays for more than 20 years, first with Ruggieri in France and later with two American companies, PPA and Pyro Spectaculars. Among the shows to his credit are Seattle's renowned Washington Mutual Family Fourth at Lake Union, nightly fireworks at several Disney theme parks and the impressive displays that have followed each of the last 13 Super Bowls. Tucker says a fireworks show, by its spectacular nature and massive scale, is inherently awe-inspiring. "It's larger than life," he says. "When you add in music and choreography, it becomes an experience unlike anything else."

For much of the history of fireworks, displays were rare. Made with black powder—a mixture of charcoal, sulfur



COURTESY: ALBERTO NOVARRO / INFINITY VISIONS INC.

The renowned New Year's Eve show at Seattle's Space Needle (left) is first created virtually (above) by Alberto Novarro, using his software system, Visual Show Director.

PAUL GJORDING / COURTESY: SPACE NEEDLE CORPORATION

HAPPY NEW YEAR!

► **Rose Bowl: Why Huskies can't afford to lose today** SPORTS, E 1

MONDAY MORNING

JANUARY 1, 2001

The Seattle Times

25¢

KING, SNOHOMISH,
PIERCE COUNTIES
AND BAINBRIDGE ISLAND

50¢ IN ISLAND, KITSAP
AND THURSTON COUNTIES

75¢ ELSEWHERE



Weather

A chance of showers
today and tonight. High,
50. Low, 40. E 10

Nation greets 2001 with fireworks and parties

THE ASSOCIATED PRESS
AND SEATTLE TIMES STAFF

With cheers, fireworks and hugs, the third millennium officially began in the continental United States — a more subdued celebration than a year ago but, for many, still a great opportunity to party.

At Seattle Center, crowds milled about to the sounds of live bands both inside and outside the Seattle Center House, waiting for the traditional fireworks that lit up the Space Needle at midnight and sent a huge cloud of white smoke drifting over Queen Anne Hill.

Rita Furgison of Portland sat inside the Center House with two friends before midnight and was unimpressed with the activities so far.

"We're looking for some excitement," she said. "We can't get in anywhere where there is any excitement because we don't have that kind of money."

Others were finding cheap thrills at the International Fountain nearby. A few hundred people sat in a ring around the fountain while several reckless youth ran into the water, getting soaking wet in the cold night air.

At about 8:30 last night a crowd started gathering on Capitol Hill's Broadway and had grown to several hundred by the time it started walking down Pike Street to the Pike Place

PLEASE SEE **2001** ON A 8

Inside: More on 2001



- Assessing "2001: A Space Odyssey" in 2001. C 1
- World welcomes new year. A 3
- Money tips for 2001. F 1



Fireworks burst over the Space Needle in this 6-minute display

THE SEATTLE TIMES

Northwest firms brace for 2001

Local economy reaches watershed

BY STEPHEN H. DUNPHY
Seattle Times business columnist

It's late in the afternoon of one of those surprisingly bright, cheerful afternoons in the week before the new year, the hammer and clang of downtown construction projects competing with the lingering sounds of the holidays.

In one of the trendy downtown stores, a young executive paws through the sale items, absently looking at a shirt, then a tie.

"I don't know what I'm looking for," he says to his companion. "I've got everything already."

The exchange seems to fit as the Puget Sound economy ends 2000 and looks ahead to 2001. The past few years have been good ones.

At the same time, the Puget Sound region is reaching a watershed in its economic development. It is poised to see diversification work the way it is supposed to — the aerospace cycle at Boeing is now building as the software-computer cycle turns soft.

There are pluses and minuses to this new situation. While the region is less dependent on a single industry, it is more tied to the national economy. If

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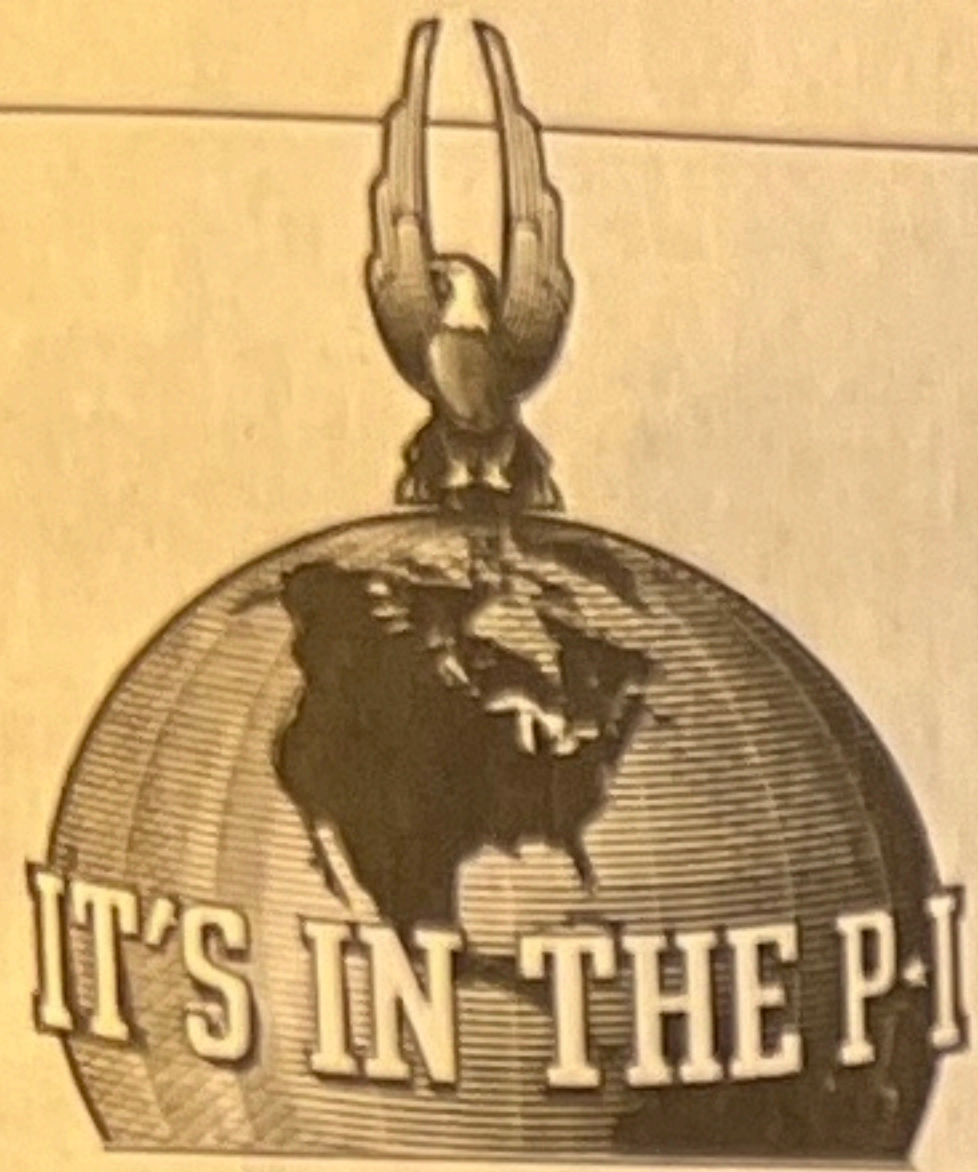
PLEASE SEE **Economy** ON A 9

Middle East killings return

Attacks kill 3 as peace talks wait

BY KEITH B. RICHBURG
The Washington Post

JERUSALEM — After pausing briefly last week to glimpse the elusive possibility of peace, Israelis and Palestinians yesterday closed out one of the bloodiest years of their tangled history in a painfully familiar



Seattle Post-Intelligencer

BUSINESS

AND TECHNOLOGY

FRIDAY, JULY 4, 2003 SECTION C ★★

INSIDE

A new breed: A Qtek mobile phone and PDA is shown in Stockholm, Sweden. There is a new breed of mobile-phone makers, many of which started out designing, testing and packaging handsets for industry leaders, that now is challenging Nokia and its rivals. **SEE C2**



JONAS LEMBERG / BLOOMBERG NEWS

Bank goes public: Rainier Pacific Financial Group has filed for an IPO, the second IPO in recent weeks from a local company, following a similar application from Seattle-based American Seafoods Corp. **SEE C6**

JOBLESS SPIKE PUSHES STOCKS LOWER

Yesterday's closes:

↓ Dow Jones
72.63
9,070.21

↓ Nasdaq
15.27
1,663.46

↓ S&P 500
8.05
985.70

↓ Wash.100
8.40
1,587.77

Major markets: Investors unnerved by a larger-than-expected jump in unemployment sent stocks lower yesterday, taking profits from Wall Street's two days of rallies. But news of surprisingly strong growth in the nation's service sector helped offset the losses as the markets closed their holiday-shortened week. AT&T declined 46 cents to \$19.42 after S&P cut the company's credit rating by one notch to triple-B, saying the telecommunications service provider has a high long-term risk profile.

The Harris Washington 100: Zones International rose nearly 5 percent to \$1.10, resuming a climb that rescued it last month from the threat of Nasdaq delisting.

COMING UP

UW graduate students spent the last few weeks of the school year dreaming up new looks for businesses on "the Ave." Now some of their designs will be part of an effort to spruce up the district.

TOMORROW

Contractors and striking carpenters reached a tentative agreement last night to end a weeklong strike by about 8,000 union carpenters in Western and Central Washington.

The carpenters will return to work Monday and vote on the proposed contract next week, said Ole Olsen, a spokesman for the Pacific Northwest Regional Council of Carpenters. Olsen was joined in the announcement by Roland Dewhurst, Associated General Contractors of Washington local executive vice president.

Picket lines went up June 25 after contract talks collapsed. Carpenters struck in Seattle, Tacoma, Ellensburg, Wenatchee, Bellingham and other cities, Olsen said.

"Maintaining health coverage was our biggest obstacle at the bargaining table," said Dean Running, a carpenters union negotiator.

"We reached an agreement that will maintain both active and retired carpenters' health care programs for the immediate future. Labor and management made a commitment to continue to seek economical and efficient health care for the future."

SEE CARPENTERS, C6

A MOMENT WITH ALBERTO NAVARRO, FIREWORKS DESIGNER

Alberto Navarro thinks of himself not so much as a fireworks designer, but as an artist whose canvas is the sky.

After graduating from the University of Barcelona law school in Spain in 1979, Navarro met a group of pyrotechnicians in the south of France. Navarro, a painter who occasionally quotes Picasso, instantly became intrigued with what he calls "sky art."

Now, the 46-year-old founder of Infinity Visions is one of the leading fireworks designers in the world.

Navarro, who has conducted shows at the Space Needle, Eiffel Tower and Tokyo Disneyland, just returned from Greece, where he hopes to win the contract for the 2004 Olympic Games.

In addition to conducting shows, the Bellevue resident sells software to more than 100 fireworks companies. His latest, dubbed PyroPlayer Pro, allows consumers to design their own multimedia fireworks performances on their computers.

On his personal style: "I always do something different. I never repeat a show. I am always looking for new patterns and new dynamics. . . . Then I have a different style, maybe more Spanish and more passionate. You know, more flamenco."

On trends in shows: "Fireworks are going to get smaller

because there are many more restrictions on explosives. . . . Being smaller, there will be more precise and choreographed shows with many figures that you don't usually see."

On his favorite place to design a fireworks show: "The Space Needle. The structure is unique and it is a three-dimensional show. It becomes a sculpture of fire."

On the best music accompaniments to fireworks: "Movie soundtracks, classical and dance music."

On the cost of fireworks shows: "There are half-a-million-dollar shows in New York, but you can spend even more money. The Olympic project will run \$1 million."

On growing the business: "We cannot be very large because it gets out of control and then in the end it is crash. It happens with companies that grow too fast. They want to have big offices and headquarters and a lot of people and they last two years."

On the stresses of fireworks design: "It is like a bullfight. As we say *en español*: *suerte o muerte* (luck or death). Because there is only one opportunity. If you do well, then you go onto the shoulders of the people. If you don't, they blame you."

— JOHN COOK



PHIL H. WEBBER / P-I

Alberto Navarro, 46-year-old founder of Infinity Visions, with one of his fireworks programs in the background. Navarro says the Space Needle is his favorite place to design a show. "The structure is unique and it is a three-dimensional show. It becomes a sculpture of fire," the "sky artist" says.

TUESDAY MORNING

JANUARY 1, 2002

The Seattle Times



WELCOME 2002!



JIM BATES / THE SEATTLE TIMES

Fireworks at the Space Needle help welcome the new year to folks in Seattle.



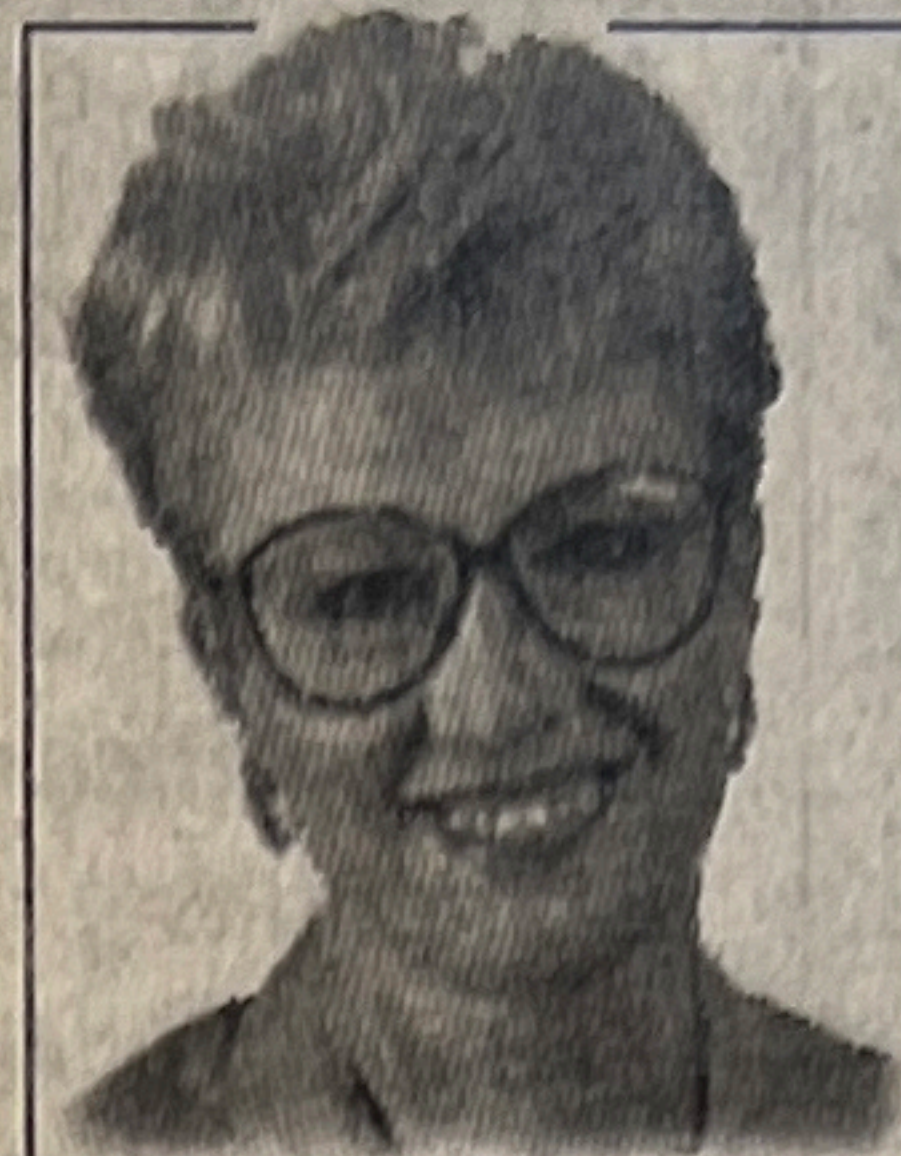
GREG GILBERT / THE SEATTLE TIMES

Here comes New Year's Eve and there goes the Needle up in fireworks. See "Dancing" for a New Year's dance and "Seasonal Events" for the giant fireworks display.

This mom and dad are really cool dudes

When it's time for their turn at school career day, 5-year-old Mateo and 2-year-old Bryan Navarro of Bellevue will have it made.

When the teacher asks, "And what do your parents do?" what kid wouldn't want to say, "My mom's a juggler and my dad explodes the sky with fireworks and laser beams?"



Susan Paynter

"Cool!" the kids will say. "Can we see?"

Today, they could see Mom — Susan Hunt — juggling at Bumbershoot.

But to catch Dad's displays of pyrotechnics, dancing images, inflatables and water screens, they'd have to go to Jerusalem. That's where Alberto Navarro is *this* week. He designed the explosive magic to be used at today's opening of a yearlong celebration marking the 3,000th anniversary of that city's designation as the capital of King David's kingdom.

Then, in 10 days, Navarro goes to Barcelona, where more music, light and magic will open a new harbor. (Susan and the children will catch up with him there and visit family in Spain.)

Susan, who is from Bellevue, moved back home when the family settled there in 1993, the year after Navarro designed pyrotechnics for Seville's Expo '92.

Sometimes Navarro's multimedia events are done in concert with the large California-based company PyroSpectacular. Sometimes he designs explosive "sky painting" events for the family's own business, the Bellevue-based Infinity Visions Inc. (Susan Hunt, president).

On a single day in late August, Navarro and company heralded the coming of Microsoft Windows 95 with multimedia projections on the walls of an inflatable dome at the Totem Lake Mall and set off the erupting mountain at Auburn's new SuperMall of the Great Northwest.

Today's show in Jerusalem may be the biggest yet. "Think of (Disneyland's) Fantasmic show times 15," Susan says. With an international crew, projected images, fireworks and live actors, it will try to tell the history of Jerusalem and the story of David in the sky, on water screens and on the walls of the Knesset.

This winter, Navarro will do his second Space Needle New Year's Spectacular.

Sparkle: Fireworks for Needle

Continued from B1

the structure.

Saturday's display will be broadcast on "New Year's Live," a television program shown on 60 stations from New York to Honolulu. Seattle will be one of six Western cities shown on the program, which airs locally at 11:30 p.m. Saturday on KIRO-TV Channel 7.

The Space Needle is sponsoring a contest for the best color photo of the fireworks display. The contest is open to amateurs and professionals alike. First prize is \$500, second prize is a plaque and dinner for two at the Needle, and third prize is a plaque. For more information, call 689-1579.

Revelers who want to witness the fireworks first-hand can join a free

party at Seattle Center's Mural Amphitheatre or a bash hosted by local radio station KMPS 94.1 FM.

The all-ages KMPS party begins at 7 p.m. in the Center House and features the "country grunge" band Ridler. The bash also offers workshops to create Western party hats and bolo ties, and a supervised children's party. Admission is \$5; children 12 and under are free.

For more information on the radio station parties, call 684-7200.

The Seattle Center Monorail is extending its hours Saturday until 2:30 a.m., with free service from 12:15 a.m. to 2:30 a.m. The Monorail stations are located at Seattle Center and Westlake Center, where the station is accessible by stairs or elevator.

Eastside artist uses the sky as his canvas

By Joanne Plank
Journal Reporter

When the New Year arrives, Alberto Navarro's eyes will be trained alternately on a fast-scrolling computer screen documenting 1,500 cues and the fireworks on the Space Needle the computer is programmed to ignite.

Born in Spain, Navarro side-stepped a law career in favor of painting, but grew weary of the solitary life and the silence of wine-sipping art patrons who viewed his work in galleries.

Hearing the crowd roar for his work when he made the sky his canvas changed his life, he said.

In November, he earned another gold medal in an international fireworks competition. This one, held in Japan, was the first to require all competitors to design and fire their work using computers.

How long have you been integrating fireworks with computer technology?

Since 1988.

It adds dynamics, control on the timing. You have a sequence, and you can time perfectly the change in rhythm or emotion and precisely meld the fireworks with the music.

It becomes a language, a dialogue.

Fireworks weren't your first medium as an artist, though.

I was a painter. I got my degree in law in Barcelona. And then I went to New York to do a master's. I was living in SoHo ... I just start painting, and I decide to try painting. I went to France, and I start painting for 10 years.

It was hard. It's a monk life being a painter.



Steve Shelton/Journal

Painter-turned-pyrotechnician Alberto Navarro, who lives in Bellevue, designs the annual New Year's Eve fireworks spectacular at the Space Needle using computer technology to control the dynamics and timing.

I wanted to do sky art.

You had a friend who introduced you to the use of pyrotechnics?

I started working with (the friend's group) ... doing street performances.

In those years in France, we were mixing lasers, actors, inflatables, sculptures, image projections, pyrotechnics and making like a big opera, a modern multimedia opera.

How does the Space Needle show compare in complexity to others you've done?

Every year is easier. But I want to make it different. I ask what they want; they say the same as last year.

Why not do that?

An artist needs motivation. And for the crowd, too, to see something surprising.

The night of the show where will you be?

On the firing computer. About 300 feet from the Space Needle.

There is a person who actually holds the button (for firing the devices). I don't have a license in Washington.

Are you able to sit back and watch the show?

I have little moments of enjoyment. But mostly there is concern.

Last year, they started the countdown instead of one minute before midnight, two minutes before midnight.

Then I notice and I say that's impossible, this is not going to work. Fifteen seconds (before the first shot) I say, 'Stop everything.'

I had this cold blood, and you need it, like a matador, you need to react.

We had only one minute. I reset the computer to start the

QA

Alberto
Navarro

Pyrotechnician

Age: 41

Residence: Bellevue

Known for: Designing the New Year's Eve fireworks show at the Space Needle.

Family: Married to Susan Hunt; two children, Mateo, 7, and Bryan, 5.

Quote: "You find in fireworks ... different approaches. Some people want to make money or they want to blast things ... Some people approach it like art."

fireworks and music at midnight.

How did you end up in Bellevue?

Susan, my wife, (her family) lives five houses north.

We moved here in 1993.

How did you meet your wife?

Susan is an actress, comedian, juggler. We met at a festival in France. She was doing her show. She was the founder of a troupe with two Americans, two English and one French. They were great. They were like the Flying Karamazov Brothers ... with comedy and juggling. And I saw her on the stage, and I follow her.

She is fantastic. That helps a lot when you have a love. Love is the fuel of the artist.

Needle to sparkle with Eastsider's design

By **Elizabeth Brown**
Journal American Features Writer

BELLEVUE — At the stroke of midnight Saturday, Alberto Navarro will light up the Space Needle like a giant sparkler.

From behind a computer screen on the ground, the Bellevue man will carefully monitor a sequence of explosions, his thumb poised above the emergency stop button.

"The Space Needle is going to produce the fireworks," said the 38-year-old Spaniard, who has won three gold medals in international pyrotechnic competitions. "It's like the Space Needle is the theater and the drama is the fireworks."

A former painter and sculptor, Navarro is considered one of the world's top fireworks designers. He works for Pyro Spectaculars, a California fireworks com-

■ Where to go, what to do on New Year's Eve B3

pany with an office in Olympia.

Navarro won international acclaim for the fireworks and multimedia displays he designed for the 1992 Universal Expo in Seville, Spain, and the 1992 Olympic Games in Barcelona. This year, he designed fireworks shows for the 1994 World Cup soccer championships and the Harbour Festival at the 25th Commonwealth Games in Victoria, B.C.

Navarro originally planned to be an attorney, like his father, and graduated from the University of Barcelona in 1979 with a law degree.

He traveled to New York City for further study, but instead dedicated all his time to painting and sculpting. He then

moved to southern France, where a friend and amateur fireworks designer introduced him to pyrotechnics.

Suddenly the sky beckoned as the biggest canvas Navarro could find. He combined his new-found love for sky art with his talent for computer graphics and started designing fireworks shows.

"It's like building something in the air that's ephemeral but makes an impression on people," Navarro said. "It's a community experience. You have the whole sky and the atmosphere filled with lights, and the people coming to watch."

Sparks at midnight

For Saturday, Navarro created a show that takes full advantage of the Space Needle's distinctive architecture and its customary New Year's Eve role.

Fireworks will detonate along the

Needle's spine as the traditional silver ball rises to the top of the structure, signalling the start of 1995. At midnight, the Needle's rotating top will explode with a spray of sparks 300 feet into the air.

A computer program with 928 firing cues will ignite the pyrotechnics in 260 seconds. The whole show will be synchronized to music.

The fireworks won't be the same type used in aerial displays on the Fourth of July, Navarro said. The star mines, comet tails, color crossettes and illumination lances that will be used Saturday don't burn as hot or soar as high. The pyrotechnics should be visible from any place with a good view of the Needle.

For safety's sake, crowds at the Space Needle will be kept 300 feet away from

See **Sparkle** on B3



Rick Schweinhart/Journal American

Alberto Navarro is an artist who found the sky to be the biggest canvas around.

Space Needle will sparkle for New Year's

LIVING, B1



Sparkle: Fireworks for Needle

Continued from B1

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Technicians rig fireworks on top of the Space Needle in preparation for the spectacular New Year's Eve show.

Sky Lights



Fireworks shows go high tech

BY PAUL CLARKE

rotates; with a few clicks, he zooms in on the roof, where digital markers indicate where he would place the mortars for pyrotechnic shells, were he to reproduce the show. This demonstration is possible thanks to Visual Show Director, a software program Novarro created that allows pyrotechnic designers to create shows virtually, using the structures and landscapes they'll use in real life.

Novarro's system is one of the most widely used design tools among show producers. He cites prestigious displays such as the Eiffel Tower New Year's show, the New Year's Eve fireworks in Sydney, and Fourth of July shows in New York and San Francisco as examples where Visual Show Director is used. As a show designer himself, Novarro uses it to create the celebrated New Year's Eve fireworks on Seattle's Space Needle.

Using this software, Novarro says, "You can design as if you're actually firing the show." Designers can designate shell placement, trajectory and altitude, along with the placement and firing of roman candles, mines, comets and other pyrotechnic devices. The firing of each device can then be choreographed with a musical soundtrack.

With tools such as this, show producers can create tighter, more impressive performances. Tucker says that in the past, a typical show may have had 200 firing cues; using a computer, he recently completed a show that has 3,200 cues, with each cue igniting up to 10 pyrotechnic devices. And the change isn't evident only in the quantity of fireworks used; designers can now repeatedly rehearse and refine displays to create more complex performances. "You can create new things that would be impossible to conceive without this tool," Novarro says.



COURTESY: ALBERTO NOVARRO / INFINITY VISIONS INC.

In the basement office of his Bellevue, Washington home, Alberto Novarro is turning back time. On his computer screen is a three-dimensional representation of the Louvre in Paris, the way it looked in 1739 when a fireworks show was fired from there to celebrate the marriage of Louise Elizabeth to Prince Philip of Spain. "It was one of those pieces the kings used to organize," Novarro says. "They were the fantastic multimedia shows of the time, and I'm recreating that virtually."

Novarro drags the computer mouse, and the entire structure

The renowned New Year's Eve show at Seattle's Space Needle (left) is first created virtually (above) by Alberto Novarro, using his software system, Visual Show Director.

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Computer Scientists Help Create Fireworks of Your Dreams

College Park, MD (June 27, 2002)-The Fourth of July is synonymous with fireworks displays, but before all the bright colors and thunderous booms, scientists are hard at work behind the scenes making each firework display its best. Computer scientists at Infinity Visions Inc. in Bellevue, Washington have teamed up with the pyrotechnic magicians at Pyrodigital Consultants in Pebble Beach, California to develop software that makes any firework imaginable.

"With the Visual Show Director 4D (fourth dimension) software we can design any color, height, size, speed, or combination of firework effects," says Alberto Navarro, President and Art Director with Infinity Visions Inc. "The fourth dimension is timing, which means that we can create effects that seem impossible."

The software combines the laws of gravity and meteorological conditions such as wind. The result is a "virtual" firework display on screen. Not only do the pyrotechnicians get to preview the display, but they also receive the list of the chemicals needed to make the colors, and the timing for igniting each firework shell to match the rhythm of the virtual show.

Timing is very important in pyrotechnics. Especially when a firework needs to hit a musical note with a bang. The key is a special computer chip located inside the firework shell. "We use the Magic Fire electronic time chip to fire each and every fireworks shell to burst at the correct time as visualized on the computer," says Ken G. Nixon, President of Pyrodigital Consultants, "That way, we can ensure we have absolute precision between the 'virtual' firework display and the actual display."

Designing an explosive career

By Herbert Atienza
Journal Reporter

BELLEVUE— Alberto Navarro recalls his arrival in his new home of Seattle five years ago. As his plane descended, he scouted the city's environs for an ideal site from which to mount a fireworks show.

"I immediately saw the Space Needle and I thought it was perfect," said Navarro, 42, who now lives in Bellevue.

A native of Zaragoza, Spain, Navarro now is one of this country's foremost pyrotechnic arts designers. He's had a hand in designing many fireworks spectacular shows, including the recent Commonwealth Games in Victoria, B.C., and the Fourth of July fireworks show in Washington, D.C. This is his fifth year designing the AT&T New Year's at the Needle fireworks show.

The four-minute show, which begins about 11:59 p.m. on Dec. 31, will feature more than 1,200 effects set to classical music.

Q.How did you become involved in this business?

A.My father was a lawyer and I studied law, too. I came to New York in 1979 to study at New York University. I wanted to concentrate on environmental law and nuclear law. Also I started to paint. Later, I moved to France and started painting there. While I was in France, I met a friend who was an architect. He was with a group of pyrotechnicians.

They had other professions—architects, musicians—but they did that for fun and as an art expression. They were involved in concerts, street theater and illuminating monuments like castles and cathedrals. I liked what they were doing and I, myself, became involved in fireworks in 1984.

Q.What do you like about fireworks?

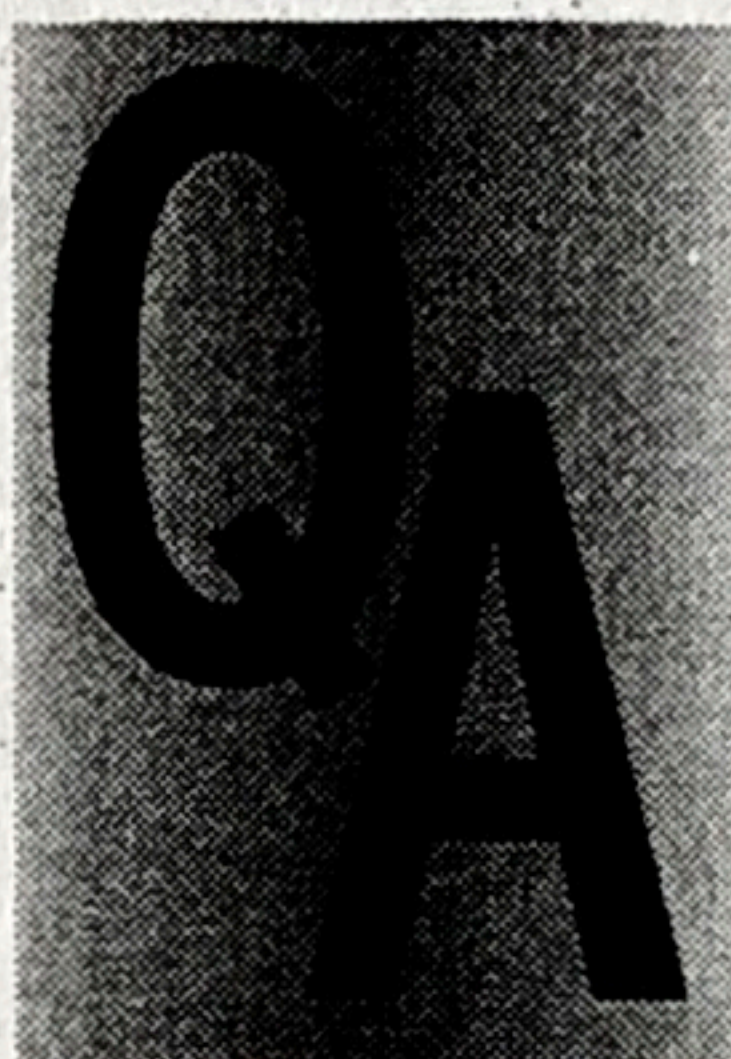
A.The attraction with pyrotechnic arts is that it's a performance. It's a combination of art, science and technology. Also, it's entertainment. Painting is an internal experience, while fireworks is more a public art. I like doing both, they are different experiences. In my mind, with fireworks, my painting is in the sky.

Q.How much does it cost to stage your average fireworks show?

A.For the Space Needle, I would think about \$50,000. The Lake Union Show, maybe around \$100,000. The Macy's show in New York, over \$500,000. The Fourth of July fireworks in Washington D.C., around \$100,000. I'm involved in that one and that's for a 25-minute show.

Q.What's special about the Space Needle fireworks show?

A.It's in the most special place, the most special building in Seattle. It's like the Eiffel Tower. We actually started



Name: Alberto Navarro
Age: 42
Hometown: Bellevue
Occupation: Pyrotechnic arts designer
Family: Wife, Susan, 40; sons, Mateo, 8 and Brian, 6

work on it last September. Right now, they are packing the products in California. There are about 1,700 devices and 1,500 cues (firing instructions) for that show. We are working on a building that's 500 feet tall. Of course, we always have to be secure and we use safety harnesses. There's a lot of individual responsibility involved.

Q.What local shows do you plan to do in the future?

A.For the year 2000, I'd like to design a big show. I'd like to create something magnificent. Maybe the Space Needle can be the center, but it can be expanded to Lake Union and Lake Washington. I'd like to get a combination of land art, sky art and fireworks. That should create a very powerful image.



Alberto Navarro shows off his fireworks finesse during last year's New Year's show at the Space Needle.

Steve Shelton/
Journal File

Kenmore clinic closes, p.7 • Martin's 'Nuts,' p.29 • New Year's blast, p.30

DECEMBER 28, 1994 **FREE**

Eastside **week**

Arts & Leisure

'Scuse me while I paint the sky

Bellevue pyrotechnic expert lights up New Year's Eve

By Kimberlie Keefer

Alberto Navarro, a 38-year-old Bellevue resident, one-time lawyer, and environmental artist will make his local debut

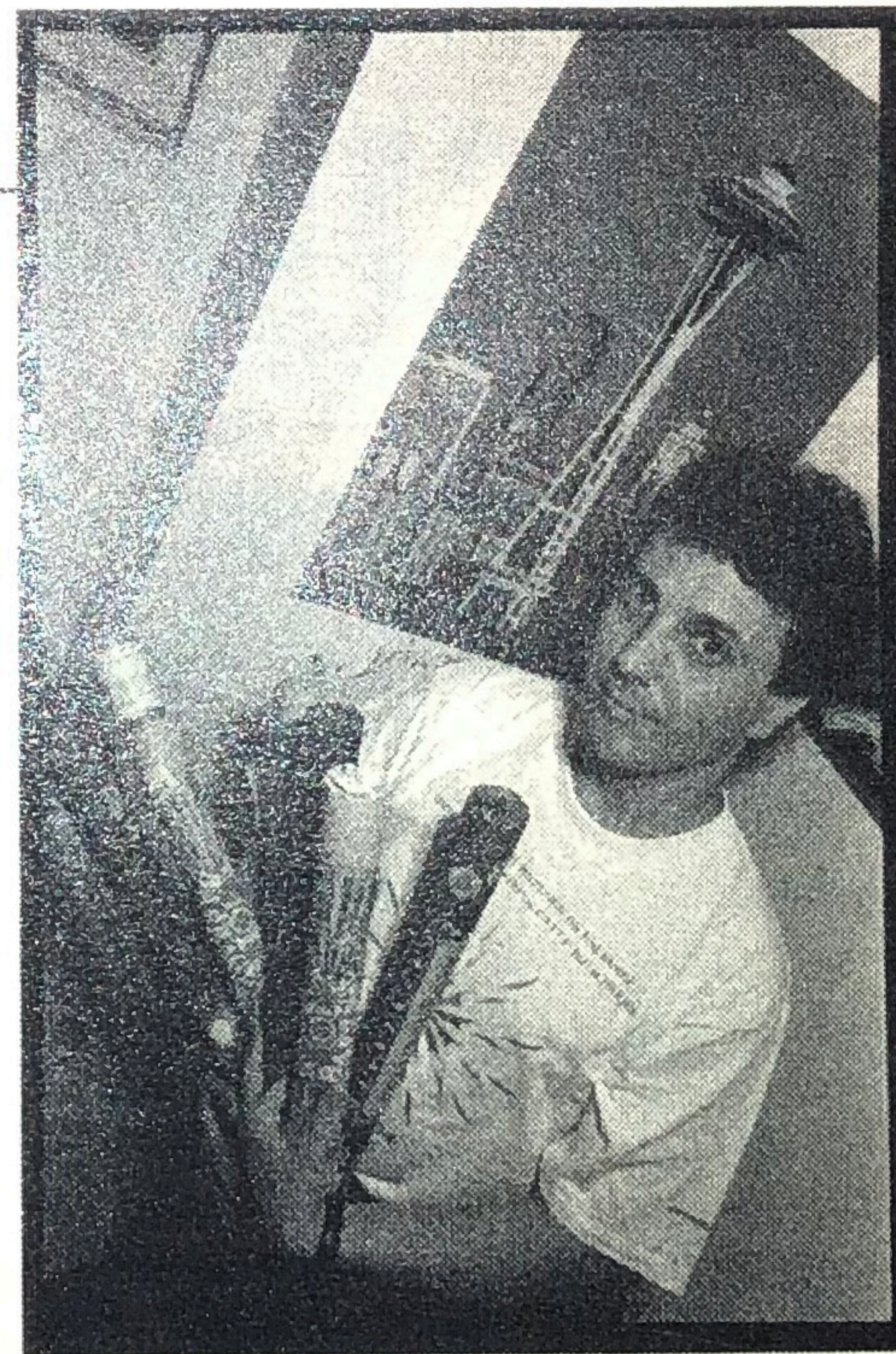
People by staging a "pyromusical" New Year's Eve countdown at the Space Needle. The event will culminate with computer-controlled fireworks bursting out of the famous needle like a Don King hairdo, accompanied by music and sound effects. Navarro, who designed the pyrotechnics for the 1992 Universal Expo in Seville, believes his creation will be an "ephemeral painting in the sky."

Navarro could be described as the Christo of pyrotechnics, using lasers, image projections, and giant inflatables to create high-precision, large-scale "life experiences." In addition to the 1992 Seville Expo, Navarro has also lit up the

Barcelona Olympic Games, the '94 Commonwealth Games, and the '94 World Cup Ceremonies. The Spanish-born artist will stage a celebration for the Chinese New Year in Hong Kong in late January.

Navarro moved to the Eastside in 1993 with his wife and two children. Though he offers the standard newcomer's praise for the Northwest's natural beauty, he also reveals the core of his attraction. "The first time I saw the Space Needle out the plane window I thought, wow, *there*," he says. "Architecturally, it's an interesting structure. A good theater for my work."

Navarro has far grander plans for his own neck of the woods. He hopes some day to bring a semi-permanent installation to the Eastside, using his work at the Seville Expo as a model. In the six months of that show's run, 20 million people stood in line for hours to get seats



DEBRA LA COPPOLA

Fireworks king Alberto Navarro knows how to shoot 'em off.

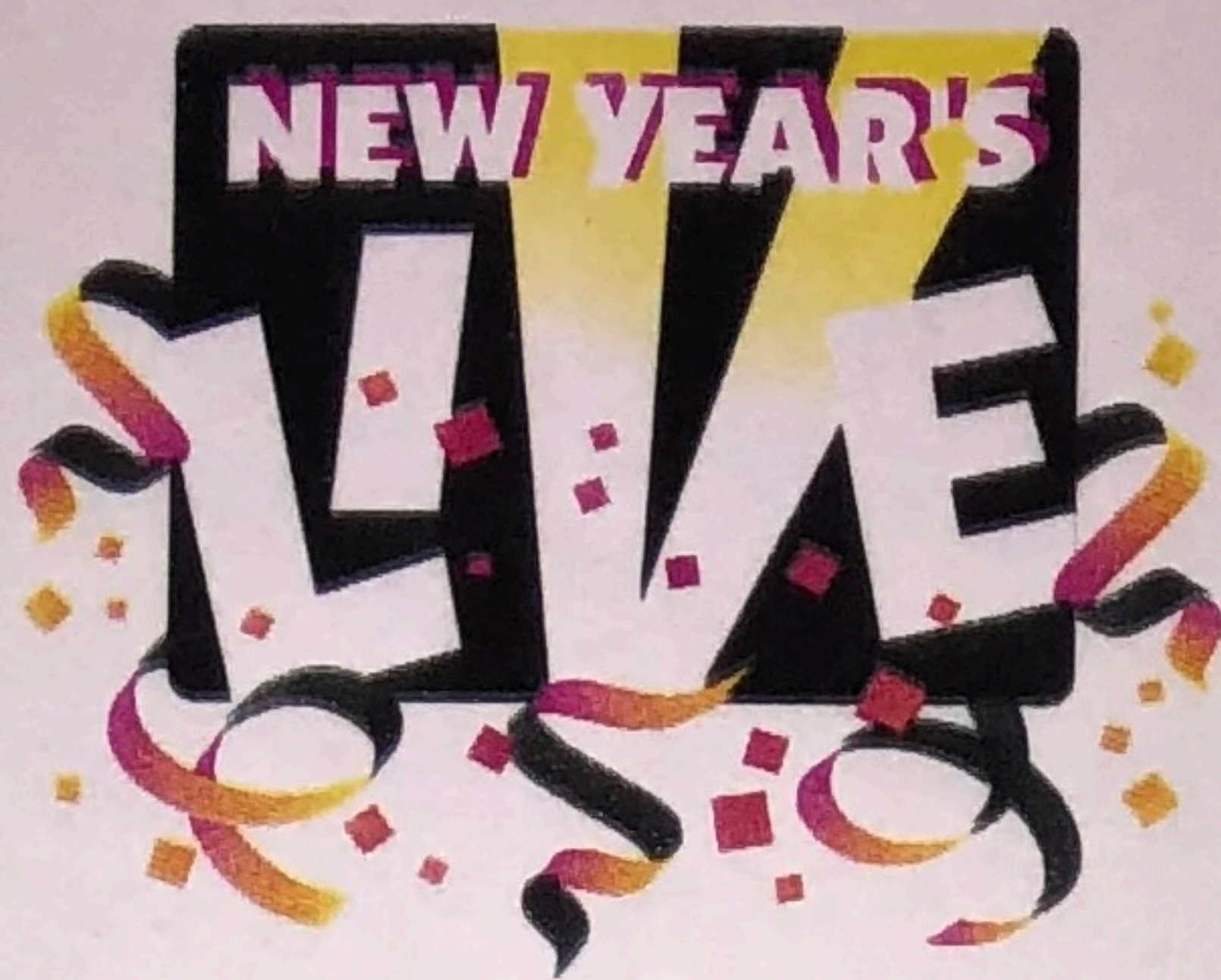
for performances, which included music, lasers, pyrotechnics, and images projected onto water screens and floating structures.

The Eastside has "great potential" for this sort of event, having the water, the

people, and the accessibility for a successful operation, according to Navarro. "This could bring some new life to the Eastside," he says, and perhaps a sense of community too. "Europeans spend more time in social groups, walking around in the streets, and sharing life experiences. I'm trying to recapture that feeling in my work here."

Navarro is working on the Space Needle show in conjunction with PyroSpectaculars, a California-based fireworks company which also handled the Statue of Liberty Centennial. ●

Navarro's show will be broadcast live on KIRO TV, starting at 11:30pm, December 31. If you want to view it on site, you can attend any of several parties at the Space Needle. KJR is hosting a '70s party on the skyline level (\$47.85 per person); KLSY is throwing a "stand-up style reception party" on the observation deck (\$46.25 per person); and KING FM has dibs on the revolving restaurant (\$98.10 per person). Call Ticketmaster at 292-ARTS for tickets. Also, KBSG is sponsoring a free party at the Seattle Center Mural Amphitheater, just west of the Space Needle's base, starting at 9pm.



ALBERTO

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WHERE TO HAVE AN EXPLOSIVE NEW YEAR'S EVE



BENJAMIN BENSCHNEIDER
Here's a preview of tonight's fireworks display at the Space Needle, courtesy of a photo taken during Wednesday night's test run by pyrotechnicians.

BY LARRY BROWN
Seattle Times staff reporter

For many, this is a three-day weekend. Also known as getting a Happy New Year off to a good start.

Options for celebrating are plentiful, with events for all age groups:

- The **Seattle Center** is a major draw this weekend, especially tonight, for the 10th anniversary New Year's Eve Celebration at the Space Needle, **Times Square of the West**, presented by Cellular One.

The three parties inside the Needle have been sold out. However, at ground level, there's plenty of room for the free KBSG party at the Mural Amphitheatre stage, 10 p.m. to 12:05 a.m., with The Amazing Blues Revue featuring The New Blues Brothers. All ages are welcome. No alcohol allowed on the grounds. Dress warmly, wear comfortable shoes and you'll have an up-close-and-personal view as the Space Needle elevator rises during the last seconds of 1994, followed by a fireworks display produced by Pyro Spectaculars.

The show will last only 260 seconds, beginning at 25 seconds after 11:58 p.m., but it promises to be spectacular, with an average of three bursts a second radiating from 12 positions on the rooftop and multiple locations on riggings along 560 feet of cable near all three elevator shafts. Installers have worked for three weeks, sometimes all through the night, readying the display, designed to convert the Needle into a giant sparkler, with 14 colors.

"It's very exciting to see this dream become a reality," says Alberto Navarro of Bellevue, who designed the sky-art program. Unlike pyrotechnic displays over water, this one uses comets and cascades with no harmful fallout to reach the ground area around the Needle. But to further insure safety, a fence will be placed about 300 feet around the perimeter, with foot traffic at the base of the Needle redirected from 11:15 p.m. to 12:05 a.m. Vehicle traffic on Broad Street from Denny Way to Fifth Avenue will be closed from 11:50 p.m. to 12:05 a.m.

The KUBE New Year's Eve celebration in Exhibition Hall has been canceled, but families are invited to the **New Year's Eve Country Dance** sponsored by KMPS at 7 p.m. in the Center House (\$5, children 12 and under free when accompanied by an adult). The event includes workshops for creating Western-style party hats, bolo ties and magnets, plus a children's party with supervised activities and child care.

The **Monorail** is extending its hours, with free service after the fireworks from 12:15 a.m. to 2:30 a.m.

If you get to the Center early, you can enjoy **Winterfest**, with holiday lights, decorations and activities. It opens at 11 a.m. today and Monday, the final day.



From atop the Space Needle roof, fireworks expert Alberto Navarro checks the installations for tonight's display.

BENJAMIN BENSCHNEIDER

The Center House is closed tomorrow, but the McDonald's Ice Rink in the Flag Pavilion, benefiting Ronald McDonald House, is open from 11 a.m. to 10 p.m. today and tomorrow, and 11 a.m. to 7 p.m. Monday. Admission is \$3.50 and skate rental is \$1.50.

Children of all ages are invited to celebrate **Jurassic Holidays**, 10 a.m. to 6 p.m. today through Monday at Pacific Science Center, featuring The Dinosaurs of Jurassic Park exhibit (\$5.50-\$8; for information call 443-2001).

- **First Night Pierce County** is an eclectic blend of music, theater and regional art, presented by the Pierce County Arts Commission as an alternative to the alcohol-oriented revelry so often associated with New Year's celebrations. The concept, begun in Boston, now is

traditional in 100 cities.

First Night buttons (\$8-\$10) are available at Safeway supermarkets and Key Bank branches in Pierce County, the Sheraton Tacoma Hotel and Steilacoom Community Center. It's your admission pass to more than 40 downtown Tacoma theaters, restaurants and businesses that will become art galleries and stages from noon to midnight. The button also is good for activities from 6 p.m. to midnight in Steilacoom. Children 12 and under are admitted free to all First Night activities.

Programs with maps and schedules, available where buttons are sold, will help you make your entertainment choices. Jazz, dance, country music, folk-rock, rhythm and blues, comedy, street artists, artmaking activities, jugglers and a giant puppet procession are planned.

The Washington State Chapter Gospel Choir does the countdown-performance honors beginning at 11:30 p.m. on the Broadway Plaza Main Stage in Tacoma, and at the same time, on the Main Stage in the town of Steilacoom, the musical group Bochinche will help welcome the new year.

Food will be available from downtown restaurants and street vendors. Pierce Transit provides express service from the I-705 and Tacoma Community College Park and Ride lots to downtown Tacoma.

Also in Tacoma, consider a visit to **Zoolights** at Point Defiance Zoo & Aquarium. Exhibits and depictions of animals, nursery rhymes and local landmarks are outlined with 450,000 lights, 5 to 9 p.m. today and tomorrow, 5400 N. Pearl St., Tacoma, \$3; (206) 591-5337, ext. 118.

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BENJAMIN BENSCHNEIDER

Here's a preview of tonight's fireworks display at the Space Needle, courtesy of a photo taken during Wednesday night's test run by pyrotechnicians.