

FLYING COLORS



LARRY MAURER ON UNITEL AEROSPACE

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By Tim Ventura and Larry Maurer, June 27th, 2006

For nearly two decades, Unitel Aerospace has been one of the great leaders in community space-activism with their “macroscopic quantum tunneling” approach to breakthrough propulsion. Unitel CEO Larry Maurer joins us to share the latest on this remarkable approach to future spaceflight, along some anecdotes about his latest experiences in the alt-space community...

AAG: We haven't talked in quite a while, but it's good to finally catch up with you....as you probably remember, American Antigravity's coverage of Unitel's remarkable research was our very first news-story back in 2002, and since then I'm sure a lot has changed. Let's start out by catching up with you on what you've been up to lately with Unitel -- what are some of the latest projects, and how have things progressed over the last few years in your research?

Maurer: You're right, Tim – it's been a while since we've touched base, but there are so many exciting projects going on these days it's no surprise that neither us has much free time anymore. Nonetheless, I'm glad that we have this opportunity to touch base and update your audience on our current endeavors...

We've decided to focus on the mass-transportation aspect of our patented aerospace laser propulsion design. Thus, we're in the process of changing the second edition of our “[Laser Propulsion](#)” book to include much more information about MagLev and electric train technology. We're doing this because we feel compelled to help provide solutions for the dangerous greenhouse effect and CO2 pollution issues seem to be spiraling out of control in our fragile ecosystems. Many believe, such as Virgin Galactic in the UK, that implementation of electric trains worldwide to replace the planes and cars choking our planet are the answer. Of course we intend to still perform research in space exploration and mining of the nearby planets, moon and asteroids for precious metals. We also will be constructing and testing our quantum computer HOLO-1 with the assistance of UIC MP Labs and Keele High Dynamics in the UK. We need to find a way to fund our projects. There has been a lot of water under the bridge and there are a lot of “powers that be” working against us (ie. oil interests, standard airline industry, etc.) Also, the difficult economy has made it more difficult to raise the necessary funding. But we're still hanging in there!



Future Propulsion: An artist's rendering of the Unitel macroscopic quantum-tunneling starship.

AAG: Now one of Unitel's key strengths has always been community-building: virtually everybody I've interviewed has at least heard about Larry Maurer and the Unitel project, even if they don't all understand the technology itself. For my part, in addition to yourself, I've always worked with your chief marketing & science officers - Doug Starfield & Michael Miller. So for the audience out there already familiar with the Unitel team, can you tell us how the company itself is evolving, and are you still working with the same staff members?

Maurer: Yes Tim, we at Unitel have been working on several projects to interact with our community. Not with just the production of our books, aerospace laser propulsion and the Quantum Computer HOLO-1 but also with the medical aspects of our patented invention which we have received encouragement from top Cancer research facilities, Fred Hutchinson Institute in Seattle, Swedish Medical Academy, Nordstrom Family through the efforts of our late associate Bertyl "Bart" Sjoblom. Bart passed away back in '97 and we have many recorded meetings whereby Bart attended on our behalf. Bart as an engineer worked for my Great Uncle Dr. C.N. Seborg, inventor of waterproof plywood during WWII in Racine Wisconsin and new the Boeing brothers and was a close friend of several top Boeing associates. The encouragement we received from researchers at Fred Hutchinson Inst. For Cancer Research for our "Frequency Targeting of harmful Pathogens" through Bart's meetings with them was important to us and still is.



MagLev: Converting the Unitel technology will create a 500mph mass-transit vehicle.

Along with the RF Frequency Targeting design we have also been offering the local community here in Portland, a GPS system for assisting blind people to navigate around the city of Portland. This all started when I was waiting for a bus near the Lloyd Center in NE downtown Portland when this blind lady came tapping her white cane across the intersection asking if "anyone was available to help guide her to the bus stop?" I spoke up and gently guided her where she should stand and wait for the bus and asked her if she would like to sit down at the bus stop shelter close by. She answered that "it was okay for her to stand", but then she asked if I would; "please help guide her to the bus doorway when the bus arrived?" I agreed to do so and as I arrived home after my assisting this blind person I began to think of a GPS/automated computer



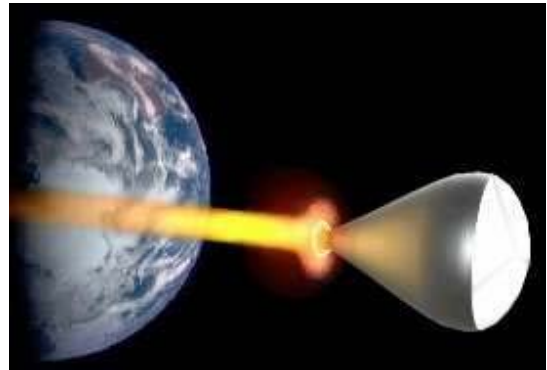
Larry Maurer: The CEO of Unitel Aerospace.

guidance system that could track and guide blind persons who would wear the earphones/tracking device (this is very similar to the ankle bracelet being worn by Jail/probation persons and tracked by a similar GPS system in use today). The system I had thought of would also alert bus drivers that a blind person would be boarding their bus at the next bus stop so that the driver could assist in that blind person boarding the bus. A chip could be located on the blind person's cane to interact with the bus doorway with receiving/guidance chip to guide the blind person aboard the bus.

I have met with several Portland municipal and traffic representatives who all were totally in agreement with the GPS tracking system for the blind. It was suggested that we contact the Lion's Club, the top donor for the blind who are going to decide

whether they want to assist us in our campaign to help blind people to navigate in and around the Portland area. City officials suggest that we first test a two or three block area in downtown Portland for the system. My thoughts are since the jail/probationary GPS system is already in place and in use everyday that it wouldn't take much to set up a similar system for not only blind persons but severely disabled or mental patients to assist in their navigation around the city. I have talked to many blind people who, virtually everyone I talked to are seriously interested in our ideas for the navigation system. It will take some time to see who will supply the money for the headphones and guidance personnel, etc.

We have another area of concern and that is to better house the many growing homeless persons in Portland with our "Tubes" design. The Tubes being an enclosed 6 ft. high x 5 ft. wide X 8 ft. long enclosed area of a fiberglass enclosure with an opening door at the front can be stacked two high in long rows. The Tubes design is not new it is very popular in Japan and the Orient especially at airports for travelers for an inexpensive overnight stay. We have received much attention from local humanitarian groups, Central City Concern (CCC) and Transitions Projects Inc. (TPI) who realize that these enclosed tubes will cut down on diseases & noises, create better security and are better suited to the individual with a radio & TV inside. This is another idea that has been "simmering" on the plates of city officials to decide what to do about funding, etc.



Wakefield: Sublight-propulsion achieved using the wakefield laser propulsion system.

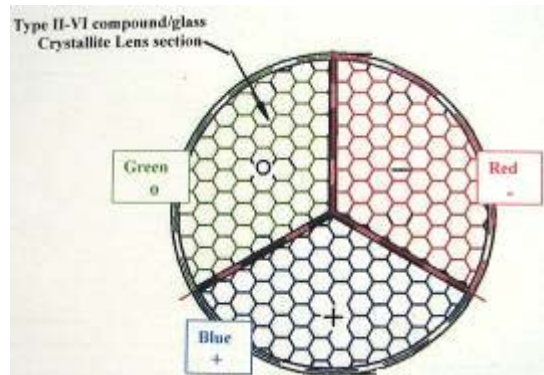
We have our basic team of individuals except with the recent passing of our Corporate attorney Dennis F. Tripp, who has been with us for over ten years who died in less than 8 weeks from Thyroid cancer and Andrew Moore, who was one of our Vice Presidents. Andrew created nearly all of the graphics for our web site, posters, movies, etc. and we will seriously miss both Andrew and Dennis a lot. This has been devastating to us. I might add here also that we were getting serious attention from Eugene Malove for sponsoring a grant for Unitel right up until the time of his recent death. We just have to pick up where we left off and keep on going with the personnel we have to date. Although Doug Starfield and Bryan Workman haven't been in touch with us as of late they are still listed as official Vice Presidents. David A. Carter has recently been duly elected as Corporate Secretary and as been working with us to publish and sell our books. Its hard to get anything done with out proper funding however we believe that through proper enlightenment of our corporate endeavors to the general public we will succeed in all of our projects, no matter how far advanced they may seem.

AAG: I know that yourself and Michael Miller have put a lot of time into explaining the Unitel technology in simplistic terms, but you've created such a complex & refined design that I think there's still a lot of confusion about it. Let's review some of the fundamentals about your most well known project - the Unitel Starship. Can you give us an overview of the features & performance that you expect from this design?

Maurer: Well Tim, we have been acquiring more and more support from the scientific community as of late, especially in the basic design area for our Chirp Pulsed Amplified (CPA) laser system. We have been in touch with Professor Chandrashekhar Joshi of UCLA who took over where John Butler left off with us as John passed away a year or two ago. I had talked to Prof. Butler at UCLA on the telephone and with email correspondences, who was in agreement with our design and CPA technology that he mentioned to me then that he was working on. Prof. Joshi is the Author of the article "Plasma Accelerators"- A new method of particle acceleration in

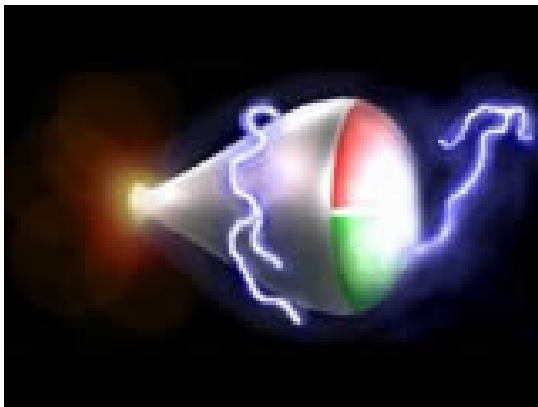
which the particles "surf" on a wave of plasma promises to unleash a wealth of applications in this year's February Issue of Scientific American magazine. I had contacted John Butler at UCLA as we had tried to contact Prof. Donald Umstadter at University of Michigan after reviewing his CPA laser system design in the May 2002 issue Scientific American magazine entitled "Extreme Light" by Donald Umstadter and G.A. Morou , Pg. 80. (<http://www.eecs.umich.edu/USL-HFS/>).

We did not get any response or reply in our efforts to contacting Dr. Umstadter. Although Prof. Joshi understands the basic workings of our CPA application he does not understand how we have applied the pixel and Berry's Phase in our projected laser plasma beam. That is where we have gained the insight and support from Aki Tomita and Dr. Raymond Y. Chiao who have produced the Berry's phase or monopole effects to RF waveguides and optical fibers. The (Berry's Phase) effect has been successfully produced with a laser system whereby adding the red, green & blue pixel sections increased the efficiency of the effect with lasers by an amazing 60%!



Multispectral Laser: Pulsed system for space propulsion using the Wake-Field Effect

In simplistic terms, we had both Matti Potenkin, Ph.D Physicist, Univ. Finland, Helsinki, FN and Dr. Edward Halerewicz, Jr. individually create the math description of our laser system and they both came up with the same answer 1028 gauss. They each, individually kept redoing their math over and over and they kept coming up with the same conclusion: 1028 gauss. This is very strange as this amount of power; now that's 10 X 28 zeros, a million being 6 zeros that is similar in strength to a collapsed neutron star or black hole! We knew from the gate that Prof. Umstadters and Joshi's working laser systems would produce a vast amount of energy with their one-cm diameter laser beam from their CPA Table Top accelerators. In the Umstadter article in Scientific American magazine it was stated that one of these small table top accelerators would produce more energy than all of the energy output from all of the combined hydroelectric dams in North America! Now our CPA laser system is four feet in diameter. We expected that much power but both Matti Potenkin and Ed Halerewicz, Jr. are still astounded with the power output potential of our laser propulsion system. Neither Matti or Ed were ready for this much power described in their math which was conservative as they could be. Michael Miller believes that the total combined strength of our propulsion system is more likely to be on the order of 1039 gauss. At any rate to get an idea of the strength of our design, and one must admit it be a very strong system; Do the math!!



Macro-Quantum Effects: An artist's rendering of tunneling in the Unitel starship.

AAG: So in the most simplistic of terms, the way that I like to envision the Unitel design is as a type of "Macroscale Quantum Tunneling Effect". Most people are familiar with quantum tunneling that occurs when a particle disappears at one point in space and reappears instantaneously in another, but I don't think that most people realize that this can be applied to large-objects as well -- at least in theory. Can you tell us how this tunneling effect works in your starship design?

Maurer: Quantum Tunneling has been applied to various precise instruments including the well-known "Tunneling Electron Microscope"

or TEM. Now the electrons in this instrument do not just disappear and then reappear at another location by magi, the particles traverse through a potential barrier by using higher dimensions; dimensions 5 through 11 using the right hand rule or 11 through 22 dimensions with the left hand spin. So using the right hand way or rule, if you will, makes it so our system doesn't go against the grain. Now we have had many an argument such as with the infamous Prof. Michio Kaku who is very vehement in his stance using the WKB Approximation that states that tunneling can only be performed at microscopic levels. That is why one of our associates, Yoshinari Minami, Mgr. NEC Patent Services, says that the WKB approx. has nothing to do with our design. Yoshinari has written the math describing tunneling process with our ship and projected laser plasma on a macroscopic level.

I have read several physics articles from respectable and reliable sources describing the tunneling process that involves "Fluxons" produced from niobium metal and the Josephson Junction whereby the pair (electron-positron or hole pairs are transferred to in the tunneling process). The fact that we are "fooling Mother nature" into thinking that our ship to field system capped-cone or cigar shaped ship design is one gigantic particle system whereby one end-point (projected laser beam) is required to move at the speed of light and the surface of the particle be "1/3 fractionally charged". We have papers that have proven the creation of virtual fractional 1/3 charge on niobium spheres. We thoroughly believe that we have all the bases covered to produce MQT and the fact remains that we must construct a working prototype to prove this effect that we will take advantage of to traverse the vastness of outer space. At least we have the "potential" to perform MQT which is important in our design for the ever competing world of who gets funded for their spaceship design. It certainly seems obvious and does make sense that with all the UFO sightings that these space vehicles have to be performing MQT in order to travel to new areas of outer space and to visit our planet.



The Dream is Alive: Unitel's technology may make space-travel accessible to everyone.

AAG: Now as I understand it, part of the magic involved with the quantum tunneling process is the craft's exterior skin, which you're going to construct out of Niobium metal. Doesn't this metal provide the key component to creating a macroscale quantum wave-coherence to allow the entire shell of the craft to behave as a single giant particle? Can you tell us a bit about this?

Maurer: The niobium-tin hull with synthetic doped diamond layer at surface will produce 1013 gauss which is 300,000 times stronger than the earth's magnetic field. The EM Labs at UC Berkeley broke the world record for an electromagnet using same material (niobium-tin). As Ed Helerewicz pointed out when he did his math study, the diamond layer will produce a very important effect, the "halo" effect that particles create which is another integral part of our system which the prime mission is to fool Mother nature into thinking our spaceship is one gigantic particle system. As I mentioned before there is a special relationship between the flux lines produced on niobium (which is a natural type II superconductor) and the "fluxon" particles that interact with the tunneling process of interacting with the Josephson junction for the

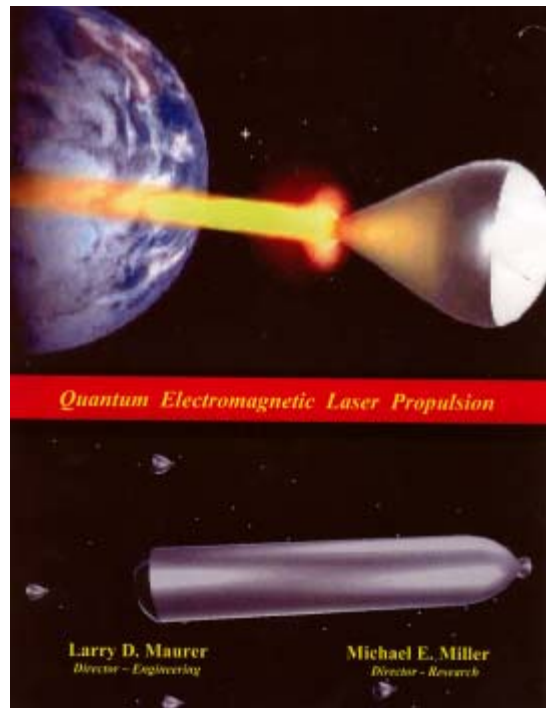
quantum tunneling process to take place. Again it is upon us for the burden of proof to physically perform MQT. Until then we shall not get any recognition from the scientific world for our efforts until we physically perform this effect. As soon as we can construct a working prototype that is one of the effects we shall test for.

AAG: Another key component in your design is a 3-color laser system mounted in the nose of the craft. Can you give us a bit of insight into what role they play in your propulsion design?

Maurer: The three-color system or pixel technology employed herein provides the full spectrum three-part field required to produce the adiabatic pressure that draws the ship up the projected laser field with “string-like” qualities. The lens must be curved top handle the incoming wave-packets that interact with the lens and cause the lasing process that traps and accelerates the charged particles within the lens and beam. This is purely fiber bundle technology put to use in our CPA laser system. As I mentioned earlier, the RGB pixel process adds to the Berry’s phase process producing monopolar “stringlike” qualities in the projected CPA laser beam. The RF targeted II-VI semiconducting compound doped spun RF transparent glass will have 255 lumens per each 1/3 RGB section producing a true “White Light” laser. The RF system is chirped to produce the overall CPA laser effect.

AAG: Realistically speaking, there's only so much technical detail that we can discuss in this interview, but anybody interested in learning more about this project can get more details in your book, "Flying Colors". I have a copy myself, and it's a very informative primer for your design and contains wonderful reference info. Can you give us some details on the cost of the book, and where people can purchase a copy? Also, I hear that you're selling them on Amazon now -- how's that going for you?

Maurer: I think you mean our “[Laser Propulsion](#)” book, which is sort of “technical” in nature whereby most everyone that picks the book up doesn’t understand it. That is why we are currently watering down the second edition and adding the public mass transportation focus to the book. The second edition will be slightly larger and be around \$39.95 at most all of the bookstores. The original however is still available for \$19.95 at most bookstores and [Amazon Books](#).



Laser Propulsion 2nd Ed: The official Unitel book by Larry Maurer and Michael E. Miller.

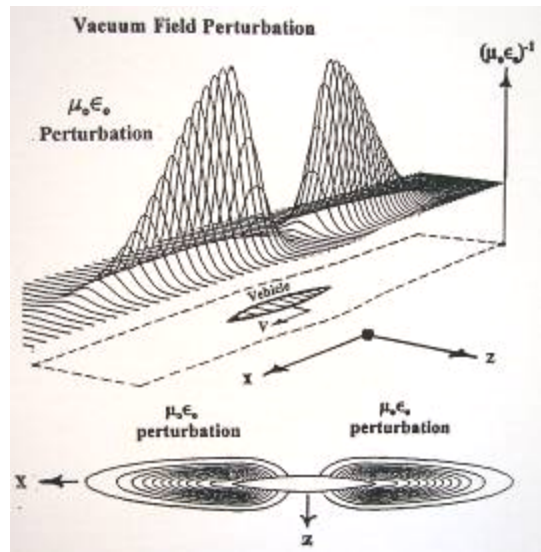
AAG: Now over the last few years, you've done presentations to a number of high-power funding groups, and while a lot of people are deeply interested in testing your propulsion model, I understand that the high-cost of building the craft is what keeps most of these funding groups from investing. What type of price range are we looking at for the full-fledged starship, and have you come up with some ideas for low-cost prototypes that could test the theory on a budget that most R&D groups would feel comfortable funding?

Maurer: Yes we have in our plans to build a micro-version of our proposed ship that will hopefully in turn bring us the necessary funds to build and test full-sized working prototypes.

AAG: Now one of your latest projects has been repurposing the Unitel technology for a new MagLev train design, which looks very similar to the starship, but obviously is designed to levitate above a track and carry passengers between stations instead of through the stars. Can you tell us a bit about the train project- how it came to you, and what kind of progress you're making in shopping the idea around to funding groups?

Maurer: The mass transportation concept initially to us around 1998 when we realized we were getting mired down with the MQT business. That is when we realized that whether or not the vehicle with payload can or can't travel at faster than light speeds we can at least employ the craft for a cleaner, safer public mass transportation for medium and long-range distances anywhere on earth.

We haven't had too much success with any one funding group although we have some in mind that we are courting. We have signed a corporate agreement to meet with Northrop-Grumman Corp. however they haven't made any moves yet to make a technical or corporate meeting date. That is why we are focusing on our book and lecture program to meet with various physicists and engineering groups to debate our design and get the public familiarized with our projects. We firmly believe that we have the better mousetrap as far as future transportation and it should be implemented for public use as soon as possible.



Warp Drive: Topology of a Vacuum Field Disturbance region, drawn by Dave Froning.

AAG: From what you've written about it so far, the train's chief advantage is performance, with a top speed estimated at 500mph, compared to 145 mph for the electric Tilt Train in the UK. Can you elaborate a bit on how the train achieves this remarkable speed?

Maurer: Even at 500 MPH the beam attraction will have to be "feathered". That is kind of like de-tuning the reception for a TV channel in so the magnetic attraction to the vehicle wouldn't be at full strength which would be a bit too much for public transportation. Most likely we will have to build a special lens for the public transportation model whereby the lens will only produce a maximum of say 500 MPH. The other lenses will be built for space exploration at a full attraction for a fast tilt boogie!

AAG: The other interesting aspect of this technology is the magnets that you're proposing for it -- very powerful superconductive electromagnets, capable of suspending up to 44 tons per square centimeter. Can you tell us a bit about them?

Maurer: This is the well known Halbach array of magnets to support the vehicle from underneath and to the sides. Permanent magnets under an inductrack train car are arranged in a Halbach array so that the magnetic-field lines reinforce one another below the array but cancel one another out above it. When moving, the magnets induce currents in the tracks circuits, which produce an electromagnetic field that repels the array, thus levitating the train car. Halbach arrays can also provide stability if they are deployed alongside the tracks circuits.

(See - [MAGNETIC LEVITATION TRAIN TECHNOLOGY II](#))

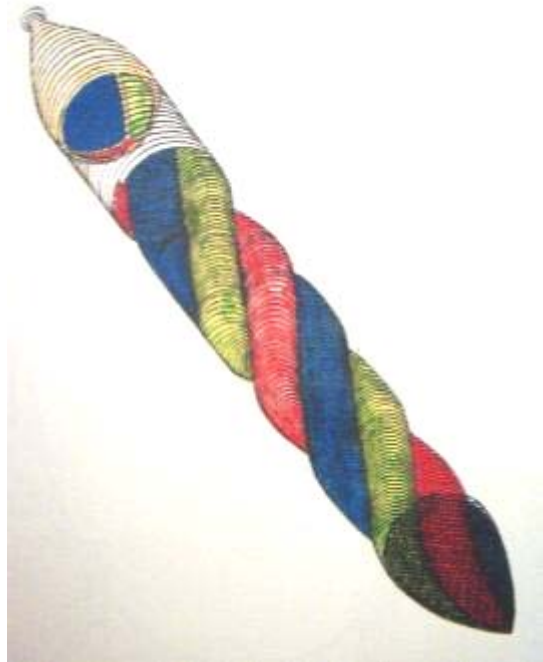
AAG: Overall, how much electricity will this train take -- I'm wondering about the efficiency of your design, and what kind of power it will take compared to a traditional MagLev design?

Maurer: This will take a large power plant. One much like the standard maglev design calls for, which was originally designed by John Joannopoulos at MIT in 1984. (See 1973 Scientific American Magazine article "Electromagnetic Flight"). We have yet to implement a MagLev here in the U.S. but perhaps for good reason. Our "trackless" design is by far superior and is basically a super-design of the same concept.

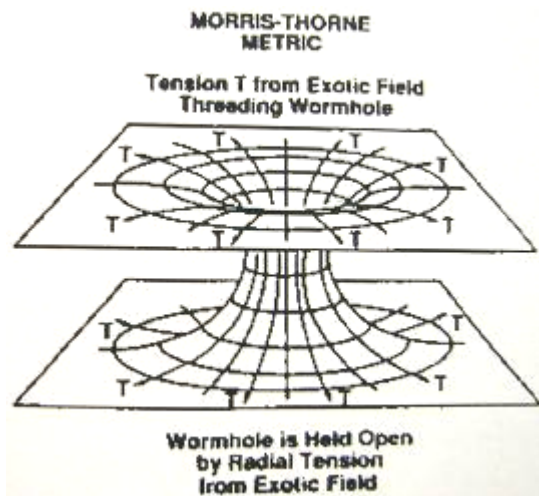
AAG: Given the cost of the starship design, I'm worried about the pricetag for the train. Is lower cost a selling point - I mean, at least in terms of demonstrating the technology on a smaller scale to later sell the starship project as an extension of related technology?

Maurer: As in most cases the first prototype model is always expensive. However, once the vehicles and system are being built by popular demand then they will last for many years with electro-polishing techniques to maintain the vehicle's conductive charge, etc. Even the first chip cost over a \$million now what are they 19 cents?

AAG: Now you've had a patent on the starship for a long time, and I understand that you've just received a patent on the train technology as well. Can you tell us a bit about the patents you've obtained, and the process you went through to get them? Was it pretty straightforward, or does the revolutionary nature of these technologies make them harder to get through the patent-office?



FE-Dynamics: The laser field & craft simulate a large, single quantum-particle.



QM Wormholes: Instantaneous travel via quantum-tunneling through interstellar space

Maurer: Our patent process was fairly straight forward, however because of having ten (10) claims, and the lengthy description it did cost us much for the fee and annual maintenance fees. The Japanese patent took us eight (8) years while the American patent took us only two (2) years. The Japanese are much more thorough in their patent process and actually publish the patent for any dispute to the claim from the general public before they grant the patent. Our American Patent The "Acousto-Electromagnetic Hologistic Resonant System", No. 4,817,102 and our Japanese patent no. 1,864,717 has expired. That is why we are at a quandary with acquiring our new patent which we have made several changes and modifications on. According to our patent attorneys, who say the patent office say we cannot discuss these changes

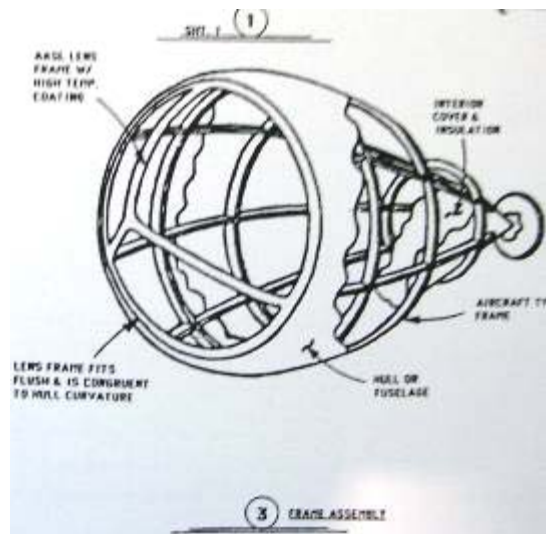
with the public or it becomes public domain whereby a patent would be negated, so unfortunately I can't discuss the changes and additions or modifications we have made here.

AAG: Since I mentioned community-activism earlier, I should ask you about upcoming events. I know that you were trying to put together a conference last year in the Portland area, but I haven't heard much about your plans recently. Do you have any scheduled conferences or media presentations in the future that you'd like to tell us about?

Maurer: Yes Tim, we plan on putting on lectures and selling our books, posters, etc. here sometime in mid-July (after allergy season as both Michael Miller & I have allergies this time of year). Our associate at UC Santa Barbara, Paul Kirsch is finalizing our power point presentation as we are finalizing our second edition book which will be larger and have color graphics in it. I shall keep you posted as to where and when. Probably at Portland State University with Physics & Engineering dept. invitations to interact with us.

Its kind of ironic that when IO boarded a trolley a couple of weeks ago I got into a discussion with a PSU physics student who asked me to give him a quick rundown on describing our propulsion system. His reply was; "So you have an Electromagnetic propulsion system right? Well what you have there my friend is a time machine!"

I thought to myself well it certainly didn't take this kid long to figure it out now how long will it take some foreign entities to figure it out and start wanting to mess withy our history? As a matter of fact our book "Flying Colors", The story behind the creation of our invention, looks like a possible movie may be happening real soon as a local band has just agreed to do some of the remake title songs such as "Two Thousand Light Year From Home", originally done by the Rolling Stones in the late sixties. Apparently the cover song came out extremely good as I just found out. Oh and there are many more songs and plot that includes the entire town of Eugene, OR in February 1982 and the Eugene Office of the FBI, and more recently the current investigation by Homeland security in Tacoma, WA and D.o.D. Intelligence.



Airframe: A cutaway schematic of the Unitel starship's reinforced titanium-hull airframe.

AAG: Given the launch of the train design, and of course your hard work & dedication to Unitel's existing technologies, I'd like to ask what the future holds for yourself and the company. Any projects currently in the pipeline, or are you focused on funding the existing technologies? Where do you plan to take things in the next few years?

Maurer: As I mentioned before, we are getting ready to do a media public support blitz with our books and lecture circuit whereby hopefully we will gain a professional reputation and get invites from places like MIT, Cal Tech, etc. to gain more support and money to get our projects up and running. We have been working on creating the movie, but that was supposed to be further down the road. With this newly performed music by Billy Hagen and his band from Portland things may move along at a faster pace now.

AAG: Let's close on an activist note: how can the public get involved with Unitel? How can they help support your work, and where can they find more information about Unitel online? I

know that you changed the website to a new URL a while back, so I'd like to get all your updated info in one place to help our audience keep track of what yourself & Unitel are up to...

Maurer: The public can support us with any donations they can send to our P.O. Box:

Unitel, Inc.
P.O. Box 42585
Portland, OR 97242-0585

Or, they can buy our books from any book store, especially Powell's book store here in Portland as they are waiting to sponsor our second edition along with posters and so forth. Our website URL is www.unitel-aerospace.net and/or they can order books directly from me at larsmaurer@yahoo.com. Thanks for your interest in Unitel's projects, Tim and good luck with American Antigravity!



Mass-Transit: This scale-model shows Maurer's vision of Unitel providing eco-friendly railway transportation.

[Larry Maurer](#) is the CEO of Unitel Aerospace, an R&D organization specializing in quantum-computing and propulsion located in the Portland, Oregon area. In addition to his work at Unitel, Larry is also a community space-activist and ardent supporter of open-source research. To learn more about Unitel's innovative research, visit them online at the Unitel-Aerospace.Net.