

STRINGSTATION

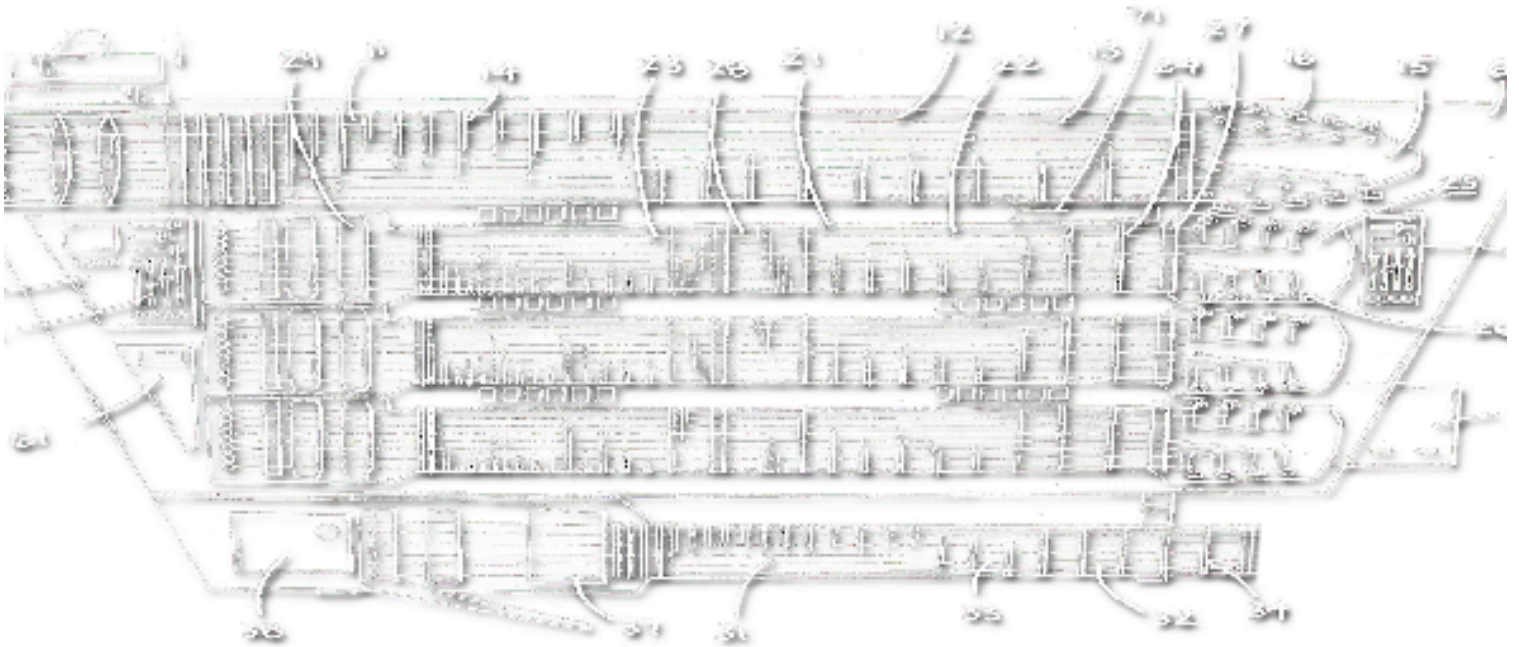
A SURROUND SOUND MUSIC INSTRUMENT



PROPOSAL
For Funding



tringstator



In four years, since leaving the pro-recording field to focus on developing this instrument, Jim Bartz has performed over 40 concerts, been granted a U.S. Patent, and has been featured in various media articles including the May 2005 issue of Guitar Player Magazine. Mr. Bartz has reached the limitations of his self made pre-prototype model and is now focusing all his efforts into realizing the fully-functional, final designed version of the StringStation™.

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PROJECT DESCRIPTION – A Musical Vision...

Music takes us out of the actual and whispers to us dim secrets that startle our wonder as to who we are. - Emerson

Music is the expression of one's soul and has deep roots throughout all of human history. Technology in the past several years has allowed our society to create, record, perform, and experience music in many new ways. The melding of technology to music has allowed for innovations in the way we experience music and helps to forge a shared culture across all social and political borders. As technology allows, it is very likely that our shared experiences as popular culture in various locales of society will meld into shared cultural experiences on a global scale. As Shakespeare quipped, "If music be the food of life.....Play on."

Helping bring about the melding of music and technology is the StringStation™. The StringStation™ is an innovative 40-stringed musical instrument that will take full advantage of the power of computer technology and digital signal processing. It will integrate several string based instruments into an extensive computer-based control platform that will feature audio effects, mixing capabilities, and automation. The StringStation™ uncovers a powerful new range of multiplied sound, color, and tone that will allow for the layering of elaborate 'live' sound fields under complete tactile control of the performer. Further, all of these technology features will be realized in a single instrument with the exquisite human touch and nuance of live steel strings. For the listener, emerging formats of surround sound and Digital Sound Modeling (DSM) provide a new and unique way to experience music created by the StringStation™.

The concept of the StringStation™ is the focus and passion of Mr. Jim Bartz. His vision is to create exotic, 3-D music beyond what has been known and heard of before. This music will be shaped and formed with the advanced functions of this powerful new instrument. The StringStation™ will provide a means for expressing music which cannot be described but which is impossible to be silent.

Mr. Bartz has created a working test model that hints at several key features envisioned but lacks the playability and precision of a finely-tuned and well-built instrument. As it is further developed, additional intellectual property is certain to be identified and protected. This proposal seeks funding for designing and building a full working prototype of the StringStation™ in exchange for exclusive rights to the intellectual property to be realized. This proposal does not seek funding as an investment for financial return and no business plan or revenue model is envisioned by this proposal. Rather, this proposal seeks friends of the arts interested in furthering the human experience of technology encompassing music and music shaping technology.

fig.1

STRINGSTATION



Artist Concept

BACKGROUND – A Musical Conundrum...

“Music is the universal language of mankind.”

- Henry Wadsworth Longfellow

Vision:

The StringStation™ concept was devised by Jim Bartz, a professional audio engineer and musician. It's one of the first new musical instruments created exclusively for the emerging technology of surround sound. Its numerous playing techniques are familiar to guitarists, yet have evolved to accommodate the instruments many innovations. The StringStation™ outputs twelve separate groups of strings within a surround sound field to create a stunning 3-D audio atmosphere. A laptop computer will supply all individual signal mixing and audio sweetening allowing the StringStation™ to be programmed into detailed audio architectures for instant recall. This innovative approach allows a next generation level of music creation and expression in joining strings with advanced computer technology.

The StringStation™ is played somewhat like a keyboard instrument; in a standing up or sitting down position. The current working model is assembled from a customized triple neck 8-string slide guitar, a 10-string Chapman Stick and a modified 6-string electric guitar. It plays well as a proof-of concept model but has few of the advanced features of the eventual design. The soon-to-be constructed version introduces advanced onboard electronics and integrated computer controls giving the player an unprecedented and immense range of sound potentials during performance.

The resulting surround 3-D audio from the StringStation™ may be sculpted into new forms of fascinating music and expression for High-Definition (HD) release. Collaboration may be realized with other talented artists and producers to make emotionally sophisticated music derived from the expanded sonic pallet of this innovative instrument. It is envisioned that a debut release will be accompanied by touring and video production to showcase the power of this new sonic marvel in live performance.

State of the Art:

Mr. Bartz spent time in his early career at a major world-class recording studio, (Royal Recorders) known for providing the best pro-audio environment possible for its clients (Neve and SSL rooms). He taught himself to program the studio's abundant state-of-the-art signal processors and eventually utilized those crafted sound designs in his own music. This studio was an experimental musician's dream laboratory and he developed his engineering and audio skills by recording at every chance. His own musical vision gradually coalesced into a debut international CD release entitled "Pictures of Earth & Space". The album was recorded using unique instrumentation and guitars and upon release, met with acclaim for advancing electronic music into new forums (that of sound design from stringed instruments over that of synthesizers).

In the studio, a solo recording artist can layer multiple performances to a recorded medium by overdubbing one instrument upon the other to build the illusion of many players at the same time. The music on this album, was crafted in this way, but to an extreme resolve using electric guitars and other stringed instruments sent through an expanded chain of custom programmed signal processing gear. Time and care were taken to tweak and polish exotic sounds when overdubbing them onto tape, layering them into rich orchestral effects, and perfecting the artist's expression. This experimental style of sound creation allowed a foray into innovative sonics from stringed instruments along with a development of clever ways to achieve them. It is the development of this specialty as an audio engineer that bore the spirit of the StringStation™ concept.

With his contacts in the industry, Mr. Bartz has cultivated a field of interested professionals. When signed to a recording contract by Larry Fast, this respected icon in modern music and keyboardist/sound designer with platinum recording artist Peter Gabriel expressed much interest in furthering the project. Additional luminary George Massenburg (Billy Joel, Dixie Chicks) has also expressed an interest in being involved. Mr. Bartz's personal intrigue with cutting-edge engineering techniques in ultra modern recording facilities along with his abilities as an experimental musician sets the stage for what is anticipated to grow into a unprecedented 3-D musical instrument.

Through refinements and experimentation, Mr. Bartz assembled a working model having five separate stringed instruments integrated into one tabletop like combination. Each instrument can produce different sounds and each of the strings on each of five instruments are handled differently in the stereo mix. This mockup version, even in its early stages, is an extremely versatile and powerful instrument. Its strategic layout offers the ability to play bass, rhythm, melody and orchestration with two hands and create a sophisticated layered sound 'in a live setting'. It also allows the exploration of technologies that actually forge new sound. In short, the possibilities of great musical innovation are limitless.

As such, the current version of the StringStation™ is a strong proof-of-concept model. It shows the concepts and ideas envisioned to be proven and workable and merely awaits prototype design and construction.

PROJECT DETAIL – A Musical Innovation...

“A painter paints pictures on canvas... but musicians paint their pictures on silence.” - Leopold Stokowski

Project Objectives:

The primary objective of this proposed project is to design and construct a fully-functional final version of the StringStation™ with a talented team of professionals. Specific individuals have been contemplated and some have expressed a strong interest in being involved in the project. Nevertheless, the project team may be flexible enough to accommodate for cost savings where applicable. In the end, an exceptional team of people will design and construct a first-of-its-kind, world-class surround-sound, instrument unlike anything known before. The secondary objective is to record High-Definition surround sound albums for commercial release that will be supported by touring and video promotion. With the professional skills and abilities of Mr. Bartz, a successful launch and management of this project is within reach. By building, writing, recording, performing and touring once the completed version of this instrument is built, the benefits of the innovation will expand exponentially. The debut of the StringStation™ will be unprecedented and is likely to create a buzz in certain audio and entertainment circles. It will advance the state-of-the-art in 3D audio technologies beyond what is considered possible. It's a rare chemistry of science and music brought to light.

Project Design Phase:

The first phase of this project will consist of design consultation, design layout and engineering. Specific details of instrument and its functions will be drawn and drafted into 3-D by an assembled team of professionals brought in from known contacts and other like-minded individuals. It will involve meetings and group design sessions with select builders, electronics designers and computer designers.

Consulting & Design -- \$45,000

There are many fresh and exciting innovations in the guitar making and digital electronics field that will be successfully applied to the StringStation™ to give it longevity and future functionality. These refined ideas will be drawn up to be presented to the hired craftsmen for startup construction. The instrument will be hand-made. It will be built from scratch from these completed design sessions.

- o Guitar-making Specialist @ two months \$10,000
- o Digital Signal Processing Engineer @ two months \$15,000
- o Software Specialist @ two months \$15,000
- o Draftsperson @ cost \$2,500
- o Contingency \$2,500

Initial Project Management -- \$30,000

The project will likely require specific legal issues to be addressed initially as well as living wage to Mr. Bartz during the time he devotes full attention to the project. There will be patentable aspects to the design that will need to be perfected and protected in the construction phase of the StringStation™. These issues may be addressed by patenting, trademarking and copyrighting various intellectual property aspects along with general legal contract work.

- o Stipend for Mr. Bartz @ two months \$6,000
- o Establishing a Business Entity, Due Diligence, Insurance \$4,000
- o Intellectual Property Legal Services \$15,000
- o Licensing, Government fees, start-up costs \$2,500
- o Contingency \$2,500

Project Construction Phase:

With schematics and plans refined, the many separate elements that comprise the StringStation™ will be constructed into a smooth playing instrument. The overall phase of construction will be directed by Mr. Bartz with assistance from professional colleagues. The entire final design and building process will be less than one year from start date.

Assemblies and Materials -- \$25,000

There are many different raw materials that will be utilized for the final construction process such as woods, metals and composites. In addition, various computer platforms, interfaces, and assemblies will need to be acquired and developed.

- o Guitar parts, substrate, mechanical assemblies \$5,000
- o Computer platforms and assemblies \$10,000
- o Control Interface \$5,000
- o "Glue" \$2,500
- o Contingency \$2,500

Fabrication -- \$30,000

The main frame of the instrument will be built along with a variety of custom designed parts and pieces including machined custom metal parts, custom magnetic pickups, wiring of custom electronics and computer interfacing/programming. It will be built to specification allowing all fitted parts and pieces maximum playability and function.

- o Guitar Specialist @ 3 months \$10,000
- o Design Consultant/Engineer @ 3 months \$15,000
- o Design modification \$2,500
- o Contingency \$2,500

Electronic Assembly and Computer Interfacing -- \$50,000

The main audio control interface of the instrument will be a laptop computer. Meetings with computer technicians will see us draw up the blue prints for digital signal flow and control. There will be twin working computer systems with mirroring software, the second one for back-up/interchange and for tweaking ideas to software structures without bringing a halt to other developmental work. The StringStation™ on-board control panels will be designed, programmed, and wired to interface with the main computer running pro-recording software. The software for it may be off-the-shelf but tailored by specialists to fit the specific unique needs of the instrument. It will process all sound signals and special effects making the instrument recordable in surround sound at any time.

- o Electrical Engineering Specialist @ 3 months \$15,000
- o Signal Processing Specialist @ 3 months \$15,000
- o Software Specialist @ 3 months \$15,000
- o Contingency \$5,000

Further Project Management -- \$50,000

As before, this phase will also likely require specific legal issues to be addressed initially as well as some compensation to Mr. Bartz during the time he devotes full attention to the project. In addition, there will be business meetings with builders, designers and fabricators across the country. A small cargo van will be required to carry the current version instruments and equipment around to different areas of the country for consultation and construction work. There will be need of custom road cases for the final version to insure safe travel. There may also be air travel and accommodation considerations during design and construction meetings.

- o Stipend for Mr. Bartz @ eight months \$25,000
- o Continuing legal issues/patent and trademark pursuit \$20,000
- o Contingency \$5,000

Summary Review of All Costs: \$230,000

- Consulting & Design \$45,000
- Initial Project Management \$30,000
- Assemblies and Materials \$25,000
- Fabrication \$30,000
- Electronic Assembly and Computer Interfacing \$50,000
- Further Project Management \$50,000

Project Summary: A Musical Precipice...

***"Art washes from the soul the dust of everyday life."
- Pablo Picasso***

How often does someone come up with a new musical instrument? What is it all worth? These questions are hard to answer unless risks are taken to see the ideas through. The possibilities of this groundbreaking instrument are limitless and Mr. Bartz has the vision and expertise for what this is, and can be.

continued...

The StringStation™ is a modern composite of unique personal talents coming together to make something inspiring. There are music compositions that await recording and Mr. Bartz is devoted to making a memorable debut, not only as a 3-D instrument inventor but also as a musician who happened to build something new to express something new. The curiosity, interest, and power this innovation will continue to generate promises to yield a creative and unique market of opportunity.

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Bartz Brief Biography :

Officially a music fanatic at the age of 6, Bartz discovered the muse of creative freedom early after finding an older sisters Jimi Hendrix LP accidentally left behind on the living room stereo. Bartz as a teen began to develop his own lefty guitar playing techniques fueled by desires to step into the recording studio. Through repeated exposure to the ins and outs of producing his own bands, Bartz fell in love with audio recording. After graduating from an audio engineering school at 21, Bartz was hired by the prestigious Royal Recorders in Lake Geneva, Wisconsin. There he worked with major artists and producers such as Adrian Belew, Bon Jovi, Roy Thomas Baker and Jerry Harrison. He was soon signed to a record label as a solo guitarist by Larry Fast of Peter Gabriel's band.

While completing his debut album deal for Passport/Audion, Bartz envisioned a custom new stringed instrument. He went on to design, assemble and patent a 40-stringed version called the StringStation.

Recently, Bartz has developed a playing style with the StringStation that is beyond what most have experienced with two hands and a set of strings. He has proven to be a first class innovator of high technology sound and music. The StringStation is something to be experienced first hand to feel its beautiful power and potential. *Learn more- www.stringstation.com*

appendices: >



Press articles, Patent >

Guitar Player

MAGAZINE

SURROUNDED BY STRINGS

By Barry Cleveland | May 2005

The idea for the StringStation came to guitarist Jim Bartz by way of serendipity. "It was one of those magic moments," he enthuses. "I have all my instruments closely by while recording, and I accidentally bumped the low C on my Chapman Stick while hitting a lap steel at the same time. I thought, 'Wow, maybe I don't have to overdub these instruments separately.'" Shortly thereafter, Bartz created a mock up of the StringStation—an instrument that combines a Stick with a modified triple-neck steel guitar and a 6-string.

"I have the array of 40 strings tuned in groups of favorite chords," explains Bartz. "Under the steel necks, there's a sheet of Plexiglas with detents where the fret markers are, and a small bridge with felt on the bottom under the strings, so I can move the bridge to change keys."

The StringStation's multiple signal paths are routed to a digital mixer for effects and dynamics processing, before being output to various surround-sound formats. Bartz has patented the design, and he is currently seeking funds to build a working prototype that will include multi-string bows, Hipshot-like tuners, MIDI triggers, DAW controllers, and, possibly, even Roland VG8 technology.

"There are dozens of playing techniques you can use to exploit the many tones and sounds available on this instrument, including tapping, harmonic plucking, and hammering," says Bartz. "And I've been working very hard to use the instrument in a way that's really amazing and magical, because that's the only way to inspire people to play it. Otherwise, it just becomes a novelty item."



The StringStation's multiple signal paths are routed to a digital mixer for effects and dynamics processing.



For more information go to www.stringstation.com

About The StringStation - by Jim Bartz

The StringStation is all about fascination with music and uncovering new sound. Like many instruments, it cajoles great music... but the StringStation allows new freedoms providing a comprehensive and articulate new artistic expression. It's a device that allows one to peer into sonic discovery at the farthest reaches of where music flows from. Well outside of the arms of industry and the grid of music that exists around us.

The StringStation is very much like building a space exploration craft. It's designed to perform many intricate and specific experiments that allow us to view deeper into the science of what lies beyond. My ultimate wish is to professionally design and build the final working construction and then actually take it where its designed to go... exploring and evolving the mysterious power of music beyond known forms.

The StringStation is a sophisticated Surround Sound machine. It's designed from the ground up as a custom surround music creation device. Its wide array of 40 strings are tuned in resonance- add to that its strategic surround pickups and it presents a totally unique and detailed 3D sound grid. Its huge harmonic resolution can be harvested and brought back into the mix as an integral interplay in the machine. It allows the performer to play the surround soundfield as an instrument. It will make a 3D sound unlike anything ever heard.

It introduces intriguing built-in functions that combine with the latest digital technology to allow enlightening expeditions into the sonic unknown. The layers of sound and music we could now summon with its maximized abilities is perhaps 10x deeper, wider and more dimensional. It's a higher resolution of music's powerful depth delivered within a widened scope of newer technologies.

When the finished StringStation, in its maximized versatility, finally arrives at its destination... it begins to reveal to us a new space, and we are always amazed at the beautiful vistas and truths that abound. We see and learn more with these future tools and it beckons us into a conscious evolution. As audio architects, we capture that data via sound and music and bring it back like pioneers on an expedition... for all to share. Everyone gets to explore it and maybe find new inspiration that will help us into a better world.

Beyond just evolving sound, the StringStation introduces a fresh and inventive playing surface allowing one musician to play in real time on a instrument that offers thunderous bass, compelling rhythm, 3-D orchestration and melody. It uses new ways to approach groups of strings that find amazing intertwined performance techniques. It opens and lays out new paths to evolve tactile music composition skills.

I was inspired as a young recording enthusiast by the Alan Parsons Project model... in that a recording scientist of sorts could assemble and record with a wide variety of other artists to make an ultra hi-fidelity music experience that kept advancing the frontiers of sonic and melodic possibilities. Although I didn't have the good fortune to record Dark Side Of The Moon, I did get signed to a recording contract by Larry 'Synergy' Fast of Peter Gabriel's band... and that was a nice way to start too.

My big dream with this completed new instrument is to set up recording sessions with a talented production team in a secluded rural area where you can view the stars of our galaxy strewn across the night sky... along side the Earth's beautiful panoramas ...and then infuse that visual grandeur and awe into the music born in that moment with this new instrument. A natural way to make organic music that comes pure from the source and inspires a future thought.

It will be a beautiful release of energy to do this recording with the full function of this instrument realized in Surround Sound. It will be a recording that will be an expedition into deeper forms of musical expression and sound... It will speak of beauty to the spirit, heart and mind.

Jim Bartz 2008



US006765134B2

(12) **United States Patent**
Bartz

(10) **Patent No.:** **US 6,765,134 B2**
(45) **Date of Patent:** **Jul. 20, 2004**

(54) **STRING STATION ASSEMBLY**
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(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 244 days

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(52) **U.S. Cl.** 84/291; 84/645
(58) **Field of Search** 84/290, 291, 314 R, 84/327-329

(57) **ABSTRACT**
An instrument or assembly utilizes a foundation, or platform, which foundation or platform houses a combination of separate and different string elements. The first string element uses the concept familiar to the Chapman Stick, a ten-string fret board. The foundation also includes other string elements, including a plurality of altered eight-string slide guitars and at least one modified six-string guitar all of which are similarly mounted to the foundation or platform. Various controllers are used to output the string vibrations of these various stringed elements to a programmable digital surround mixer which allows for sound processing, enhancement and blending of the sounds generated by the different string arrays used within the instrument.

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20 Claims, 2 Drawing Sheets

