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Volume 7 #2

Fostex PD-6 Review

by Glen Trew

OK, here's your warning shot: The coming year will be when audio tape recorders for TV and film production become rare, bowing out to their superior non-linear replacements. And it's going to happen fast. There will be some choices that have to be made as to which non-linear recorder to buy, and the PD-6 is one to consider.



Non-linear got its sluggish start from big-budget films. A nice feather in Zaxcom's cap due to the Deva, but it unfairly stigmatized non-linear production sound as something for the rich and famous. Not true. The truth is that non-linear sound recording has always had more to offer lower budget productions than big Hollywood productions. In "producer-speak", non-linear production sound can save a larger percentage of the budget with commercials and other short productions than it does with major motion pictures. 2004 is the year that producers figure this out on a mass scale.

After years of anticipation, Fostex's entry into the non-linear race is now working in the real world, and by all accounts the PD-6 DVD-RAM portable timecode 6-track recorder is working quite well. Instantly familiar to PD-4 and PD-2 users, at first glance the **PD-6** looks to be the same machine with more buttons. Jokes aside, "familiar" is an important step in the psychological chore of winning the hearts and minds of the masses. Even our service tech seemed calmed when he noted, "Hey, it even has the same record button as the PD-2" (chalk one up for Fostex). It can be powered by either an internal

NP-1 battery or external 12V source through a full size 4-pin XLR. No need to wait for an after-market headphone monitor matrix (a la the early PD-4). The PD-6 has a complete monitor selection switch plus another switch for “soloing” your choice of recording track. Lastly, the PD-6 has an available carry case made by PortaBrace, taking the familiarity trump one step further.

Why the PD-6 when there is the Deva and the Cantar? True, while we at Trew Audio are big fans of the time proven Deva, and look forward to the future of the Aaton Cantar, the systems are different enough that some people will prefer one and some will prefer the other. Some of the preference will be personal, but most of the deciding factors will be based on the type of production normally done. But, if it is crucial to record directly to a piece of cheap removable media (8cm DVD-RAM, in this case), then the PD-6 is the only choice of any non-linear recorders available, as of this publication.

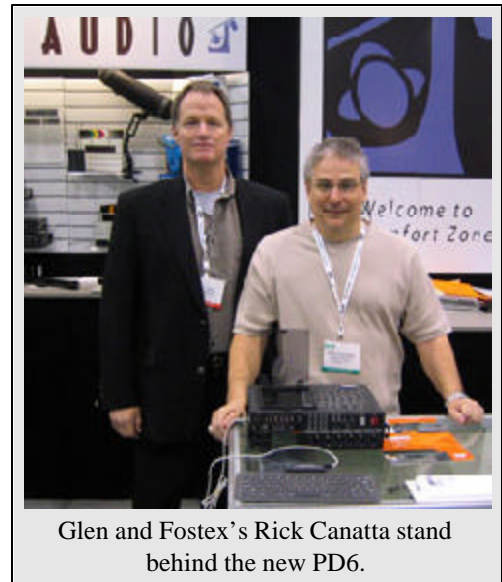
The ability to record directly to an expendable disk, and without being concerned with motion, can be an important difference for some types of production. Documentaries are the first to come to mind, where rugged conditions and isolation from normal amenities are often the case. Behind-the-scenes sports coverage, where the production style often resembles a documentary, is another. System simplicity is required in these cases, and the PD-6 offers that in a one-piece self-contained machine.

The primary concern from skeptics of the PD-6 was speculation about the reliability of recording directly to DVD-RAM, especially during movement. (Note: The Deva-II recordings are normally turned in on DVD-RAM, but are first recorded to a more robust hard drive). History will eventually make the skeptics look like either geniuses or morons. While trying make them look like geniuses, I recorded a tone onto six channels while shaking and spinning the PD-6, jumping up and down with it, running with it, and even tossed it in the air a few times for about a full minute. When I played back the recording, it was as stable as an analog Nagra full of D cells sitting on a sound stage.

Next, I quickly ejected and reloaded the mini DVD-RAM disk. It played back again perfectly, and half-way through the recording I pressed the record button; no problem (this is the start of what non-linear is all about).

Lack of redundancy is another thing the critics of the PD-6 bring up. However, redundancy can be had with the PD-6 with just a little effort. By connecting the PD-6's FireWire port to a notebook computer, an exact copy can be made onto any storage media, such as CD-R, DVD-R, internal hard drive, or full size DVD-RAM... whatever... even a flash card. Not sure about adding a notebook to your package? You mean you don't already have a notebook? OK then, let's do a little math: Selling price of the PD-6: \$8500. Selling price of a competing product ready to go: ~\$11500. The \$3000 difference will buy one heck of a notebook computer (with change left over) that you can also use for other stuff even more exciting than recording sound! True, you have to go through an extra step to make a field copy of your day's work, but the point is that you can do it.

How practical is it to transfer the PD-6 files to PC? Actually, it's not too bad. A 2-hour 2-track recording (a long day's work back in the DAT days) can be transferred in just a few minutes. Worried about having a few minutes when break-off is called? It is a simple matter to transfer to the PC during



Glen and Fostex's Rick Canatta stand behind the new PD6.

lunch or downtime between scenes, so that at the end of the production day there should be very little time needed to finish copying (probably less time than I used to spend labeling a DAT tape a few years ago).

The PD-6 display is probably smaller than most would prefer, but, it is high-contrast and well back-lit. Since the display gives the options spelled out in easy to read text, it is actually possible to find your own way around the menus without help from the manual. You can actually learn most of the PD-6 “hunt and peck style”. In short, you don’t have to have a cheat-sheet.

A feature unique to the PD-6 is its USB port for a computer keyboard. The keyboard can be used as a convenient way to scroll through and select setup options, but the main attraction of the external keyboard is its ability to enter text onto your recording. This text, called “metadata” can be used for scene number, take number, and comments such as tracking information, etc. This information is starting to become relied on by editors. It can greatly speed up the process of knowing what is on a recording, where it is, etc. Think of it as information from your sound report that follows the recording wherever it goes. (More on the practical use of metadata can be seen at: http://www.trewaudio.com/mixerjan03/jersey_girl.htm#metadata (in the section called “Text Entry, or “e-Sound Reports”))

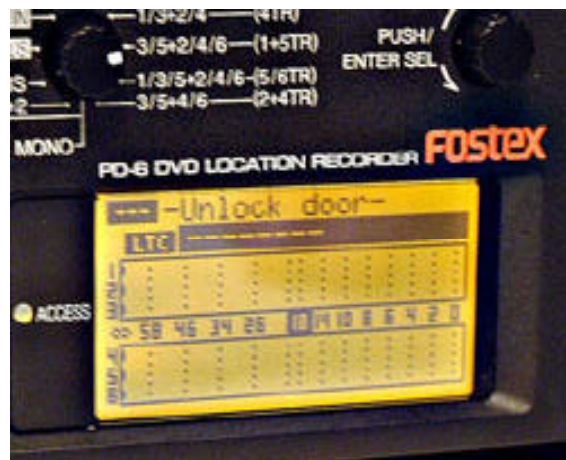
A feature that shows Fostex is optimistic about double system sound becoming standard with Hi-Def video production is the industry standard 10pin HRS “break-away” connection mounted on the PD-6. This connection was first standardized on ENG mixers as a way to quickly connect to a BetaCam camcorder with stereo outputs and stereo return monitoring.

Taking the non-linear possibilities a step further than any other available recorder, the PD-6 has the interesting and potentially very useful features called “4+2” and “5+1”. This refers to creating two separate files of the same recording; a mono or stereo mixed file (the “+ or +2) and an iso-multitrack file (the “4” or “5”). The first use that comes to mind for this feature is recording a mono mix for dailies that is separate from the isolation track file. For example, when only a mono mix is needed for dailies (or, hopefully, for the final mix), it can be transferred as the “+1” file, leaving the remaining “5” isolated tracks for future mixing when and if required. This feature saves transfer time and bandwidth when only the “+1” track is needed. Bandwidth? Yep. Not too long ago we joke about “phoning it in”. Well, it’s no longer a joke. Sound files can and sometimes are being sent via email, and the smaller the file size, the faster it can happen.

The 6-channel mixer section of the PD-6, in a word, is sweet. It is a very enhanced version of the 3-channel PD-4 mixer, and the PD-4 mixer proved to be demise of the competition 7 years ago. Enhancements to the mixer include **low-cut slope selector** for each channel (in addition to the PD-4-style low cut sweep), **variable input trim** (instead of the PD-4’s 0db, -15dB, and -30dB pad switches), **“T” microphone power** (left out of the PD-4), **pre/post fader track assignment switches**, and **L/R stereo buss assignment switches**.

6 Tracks: Why and How?

Two questions often heard: Why 6 tracks? How 6 tracks? Being a proponent of mono mixing, I, too, asked the question “why?” I eventually answered myself after using up all tracks of a four track recorder with just three microphones (mix on 1, mics isolated on 2, 3, & 4), still wishing I had another track for a music playback scratch track. As for the “how” question, two very good answers are the



Zaxcom Cameo mixer and the Cooper 208 mixer. Either mixer can easily use all six tracks of the PD-6, and both certainly have their own advantages. However, the logistical winner would have to be the Zaxcom Cameo not only because of its 6 mix busses, but also because of its ability to route and re-route 8 input signals, pre or post fader, mixed or isolated, to 6 different recording tracks — all without re-patching cables.

As luck would have it for Zaxcom, soon after their Cameo digital mixer with 6 mix busses became nicely refined as the “Cameo 2”, Fostex introduced a 6 track digital recorder. As if that weren’t lucky enough, both devices use a 25-pin D connector for digital INs and OUTs. This means that the Cameo can send 6 mixes to the PD-6 and monitor all 6 tracks back from the PD-6 with a single cable! To help put this into perspective, this connection is quicker and easier than a mono mixer to a mono Nagra 4.2 (required 2 cables). Anyway, the point is that all six tracks of the PD-6 can be used, used well, and used easily.



Some Practical Luxury

Understanding the past sometimes helps us appreciate the present, so here’s a little history lesson: In the beginning, the Fostex PD-2 DAT recorder received justified criticism for being too complex; trying to be all things to production as well as postproduction. The resulting flinch from Fostex was the PD-4, which was simple sometimes to a fault. This might explain why the PD-6 seems to have found the happy medium. For instance, the PD-6 has the ability to accept sync reference not only from AES, but also from video and word signals. This ability will become important when used in double-system High Definition production.

An unexpected nice touch is the addition of two 12V power outlets on standard miniature HRS 4-pin connectors. At 500mA total, they barely have enough capacity to handle more than a wireless receiver, but they are ideal for a Remote Audio miniature “Nite Lite” (plug ‘n play — in the dark!)

For remote control, the PD-6 uses the same 8-pin mini DIN connector and scheme as the PD-2 and PD-4. This means that the aforementioned Cameo and Cooper mixers can roll them remotely between record and stop. Trew Audio has cables that will allow the PD-6 and the PD-4 (or PD-2) to be rolled at the same time from a single switch.

What about Post?

What about postproduction? Actually, your local postproduction facility will find it very easy to move into the 21st century of non-linear sound. In fact, gearing up for non-linear production sound will be, by far, the least expensive format change in the history of the business. For telecine sync transfers, the Fostex DV-40 will handle both the 5” DVD-RAM disks typical of a Deva production, the smaller 8cm DVD-RAM disks from the PD-6. The DV-40 sells for under \$5000 (much less than a studio timecode DAT machine). If they only need to transfer files into an Avid or ProTools workstation (an enormous time saver), then a \$300 DVD-RAM drive is all that’s needed. If your regular post house has questions, just send them our way. We have been initiating postproduction facilities in non-linear production sound for years now.

The PD-6 portable recorder and the DV-40 postproduction machine are available and in stock at Trew Audio. We also have common accessories such as the flexible USB keyboard, umbilical cables, and cases. As always, our famous expert customer support is included in every package.



Meet Trew Audio: John Algee, Sales VP

Interviewed by Steve Abbott

John Algee joined the Trew Audio team in 1996, when the company was a much smaller operation than it has become. Hired originally to manage the rental department — which soon became a tightly run ship — John now leads a sales staff of five. He became Vice President of Sales two years ago.. Because John started when Trew Audio was a size that required everyone to wear many different hats, the influence of John’s high standards is found throughout the company.

Q: *Did you have experience in film/TV production before coming to Trew?*

A little, you might say... When I was 18 I worked as a studio camera operator for at a television station in Nashville for a couple of years while going to college. We did a lot of country music shows with “up and coming” stars like Porter Wagoner and his side-kick Dolly Parton, and Johnny Cash, to drop a few names. But the army and the draft had other career plans for me. After that, and after I got the emotional pangs of being a musician out of my head, I needed a job. A friend of mine was working with a production company and asked if I would help. From there in a 20-year stretch, I went from grip and electric to studio manager at a production company to camera assistant. I was fortunate enough to be able to work on some things that had decent budgets with producers that knew the way to get things done was not to hire the smallest crew they could get. Eventually I injured my shoulder and had to find another avenue. I worked at a camera rental house around the corner from Trew Audio and noticed business seemed to be pretty good for Mr. Trew. Glen and I had worked together over the years, so I popped in one day and said howdy. The rest is as they say...uh, still being contemplated.



Q: *You have mentored more than a few employees at Trew. Who would you consider to be among the most influential people in your career?*

I think Don Knotts. I always liked the way he stood up to Andy. Yeah, uh... as far as audio goes — and he’s gonna laugh — it would have to be Glen. When I started at Trew Audio, I did know one end of a cable from another but I really didn’t know how it all tied together as far as production goes. I knew production and I knew slates, because I had one in my hand all the time, but I really needed someone to fill in the blanks for me about location audio. As far as location audio goes, there is no one more knowledgeable from a comprehensive aspect, than Glen Trew. Unlike a lot of sales situations, our customers expect us to be able to talk intelligently about what we sell and Glen is a big part of that knowledge base. His knowledge and problem solving are essential to Trew Audio and customers have come to rely on that knowledge and skill.

Q: *What do you feel is your most important contribution to Trew Audio?*

Although my duties cover a lot of territory, I still feel that the most important thing that I do is interact with the customer on a daily basis. There is no better way to get a handle

on wants, needs, attitudes and peoples' problems than direct contact. It's also the part of the job that I like best. I like to think that we do a better job than anybody in meeting critical needs of people in the field. And I think it comes from knowing first hand how it feels to be hanging over a ledge in the field, hoping somebody can grab the rope, and also hearing personally from these guys every day.

Q: *All companies have a unique personality. How would you describe Trew Audio's?*

I see other businesses that do what we do but I see them from the outside. I think...not bad. But then I hear from the customers and I realize that we are different. We are doing business in a better way. I don't know all of the reasons but I have my suspicions. We have monitored our size and growth cautiously, knowing the sometimes-negative changes that can accompany it. I think that we approach customers in a much more personal and earnest way. It's just the way we do things. Call it Southern courtesy, or whatever, but it's here and it's for real. We will work extremely hard to find an answer to your question or your equipment needs whether you're spending \$10,000 or a dime. It can't work any other way.

Q: *What would be one of the top ways customers and sales people could help each other make a smooth transaction even smoother?*

I would say that patience is number one on both sides. Not in terms of being slow, but patience on our part in regard to taking the time to ask the right questions and patience on the customer end to provide answers that in the long run will only help to make it all happen correctly. We all know cables go in and out but we don't all connect them to the same holes. Questions need to be asked and descriptions given. This can take time in a business where often there is no time. What may seem like unnecessary grilling when placing an order is merely an attempt to get it right the first time so the customer can receive items with the confidence deserved.

Q: *At one time you and Glen were the entire Sales Department. Has Trew Audio changed for the customer as people were added to the sales department?*

I hope that the basics have not changed. When I first started in sales at Trew, my basic philosophy was that if you just treated people fairly and did what you said you were going to do that the rest would take care of itself. Not much has changed in that regard. What has changed is that we now have more sales people on which to draw for product input and ideas. This year we have added 2 more people to our sales staff. They are Skylor Morgan and Summer Smart. Both are graduates of the well-known Recording Industry program offered at Middle Tennessee State University. They're doing a great job and are enjoying the wide variety of customers that we serve. Literally bringing a different voice to the department, Summer is the first female in our sales area. Their formal training and practical experience in audio is a very valuable addition for our customers.

Q: *When you first started with Trew Audio the internet was nearly nonexistent. What impact has the internet had on the way the sales department works with customers.*

The internet is a great help most of the time. Because of the internet, I believe that we are working with a more informed customer in regards to product information and how things

work. The better the customer understands the product, the more likely they are to purchase it. We can also refer the customer to references on our own website and if needed, all of our manufacturers are listed on our Links Page. The internet also extends our customer reach with both our website and our Online Shopping. One downside to the internet that we see are sites that entice less experienced customers in with cheap products, offering no expert assistance with their decisions and no support after the sale. Support for our customers is a huge emphasis at Trew Audio and you don't have to pay extra for it.

Q: *What do you like most about your job?*

I actually like talking to customers. I think it's because you can feel the progress of the day and also feel that you helped someone make a decision on gear that they weren't sure about or reassure them on some decision that they have come to about a particular product. We don't do hard selling here, we just help people work through their own thoughts and process them into some decisions.

Q: *What question are you glad I didn't ask?*

Superman or Boxers?

Trew Audio Adds to Sales Staff

Summer Smart and **Skylor Morgan** are both graduates of the well-respected Recording Industry Program at Middle Tennessee State University in Murfreesboro.

Skylor is originally from Missouri and has had extensive experience recording the Nashville Symphony Orchestra.

Summer is originally from Washington state, has worked on sound effects for Warner Bros productions, and likes to work on her own studio projects.

We are very pleased to have both on our sales staff. We expect the increase in our sales staff to enable us to process your orders quicker and have better response times for information and inquiries.

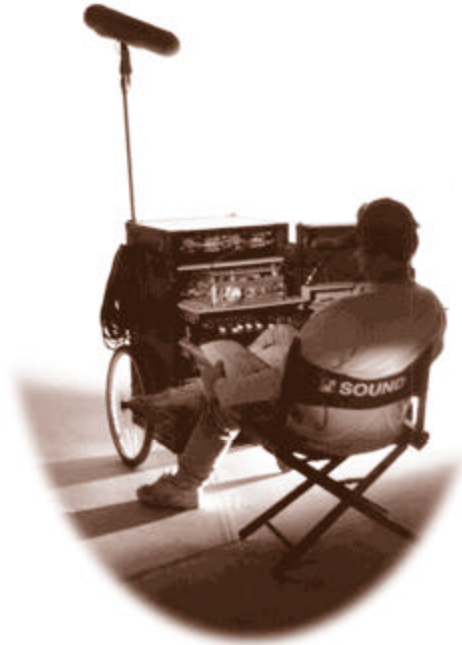
Ask for Summer or Skylor on your next call and say "Hi."



Memoirs of a Sound Mixer: The Re-shoot

Additional Photography for “Dirty Dancing 2: Havana Nights”

by Glen Trew



Something I've noticed during my day job at Trew Audio is that occasionally working as a sound mixer on productions really helps Trew Audio relate to our customers. Think of it as a self-imposed continuing education program. So far I've been lucky enough to work at least one major production each year, but with the end of this year fast approaching I thought my luck may have finally run out. But a few weeks ago I got a call: “Hello?” “Are you Glen Trew?” “Yes.” “Do you have a Deva and a Cameo?” “Yes, but I don't normally take telemarketing ca—.” “Can you be in Puerto Rico in a few days to work a couple of weeks?” “Uh...yes.”

The production was for additional photography (commonly referred to in the industry as re-shoots) for a 1950s period prequel to the Patrick Swayze hit, “*Dirty Dancing*”. This show is called “*Dirty Dancing 2: Havana Nights*”.

One benefit for me doing re-shoots is that they are almost always relatively short (it's tough for me to be gone for several months), and this re-shoot would keep me away for only two weeks. But there is an extra burden also: You have to take the same equipment and do the same amount of preparation as for a full-length shoot, but usually with much less notice and for fewer paydays. For instance, from the time this deal was made, I was in San Juan with all of my gear in about four days; two weeks later the gear and I were back. Oh well, I guess it's a good reminder of why they call it work.

Formats and Methods

Probably the first thing to do when taking a re-shoot job is to contact the original sound mixer. As luck would have it, I was already familiar with the production through prior conversations with the original sound mixer, Billy Sarokin. Since this had been a non-linear sound production from the start (in this case using the Deva recorder and Cameo mixer), the producer very much wanted to do the re-shoots with the same format.

By duplicating the same formats and methods Billy had used originally, the postproduction process and archival elements will hopefully be seamless between the original and additional production scenes. I also used the same boom microphone schemes as Billy, which were, primarily, the Schoeps MK-41 for interiors and the Sennheiser MKH-60 for exteriors. An odd coincidence was that I also used the same model of machine for music track playback: A Fujitsu Life Book B series computer with touch screen. This actually had a practical benefit in that I was able to get the same playback operator that Billy used, San Juan local Pablo Hernandez. (More on this computer later.)

As done during the original production, the sound elements that I turned in each day were DVD-RAM disks with BWF-M files (Broadcast Wave Mono, meaning that each track of a multi-track take is an individual file). I kept a Fostex PD-4 machine accessible (it seemed the responsible thing to do), but it was never even turned on. Metafile text was generated by the Cameo mixer and recorded by the Deva recorder, creating a “virtual sound report” that is attached to each take. This process was nearly identical to what I used last year on “Jersey Girl” (which is explained in this link: http://www.trewaudio.com/mixerjan03/jersey_girl.htm).

Sanken CS-1 Gets its Chance

For quite some time I had been looking forward to using the new Sanken CS-1 in production. As you may know, the CS-1 is a very short shotgun mic (about 1/3 shorter than most short shotguns). It has about the same front pattern as a Schoeps MK-41 hypercardioid capsule (fairly wide) but with much more off axis rejection to better control ambience. During the Havana Nights re-shoot, the perfect scenario eventually presented itself in a scene that required two booms. The scene had two actresses: One girl in the foreground was looking into a mirror at another girl in the background. Simple; we use two booms. But then we realized that the camera was looking into the mirror to see both girls, and nearly everything else in the set. My first reaction was disappointment in having to wire the girl in the background (I hate having the person the furthest away sound the closest). I had decided on a Schoeps MK-41 for the foreground girl, but it seemed that the headroom of such a long mirror shot was going to keep a second boom too high over the distant girl to be effective.

At some point in my decision making process the comfort of a known compromise (wiring the girl in the background) was out-weighted by the possibility of something better. So, with the Schoeps positioned about 1 foot above the foreground girl and the Sanken CS-1 about 5 feet above the background girl, we ran a rehearsal. Based on the level of ambience I was hearing through the CS-1, I set the levels for what I expected to be about right for the second girl. Well, as soon as she spoke I realized that I had underestimated the CS-1; she was way too “close” in my mix. So I lowered her level for the next take, relying on the ambience from the Schoeps to add some “distance”, and it was great. In this situation the Schoeps and the Sanken blended well together and sounded fine in the mono mix.



Notebook Playback

As you might expect of a movie about dancing, over half of the scenes we shot had playback for dancers, so it was important to have a reliable and fast system to cue. By pure coincidence, long before these re-shoots were known about, while in New York this past Spring I had dropped in on a film set to visit with boom operator George Leong and sound mixer Billy Sarokin. Their show had a lot of music playback and Billy showed me his “playback machine” – a notebook computer. More specifically, a very small Fujitsu Life Book with touch screen. “Get ‘em on Ebay for a few hundred bucks”, Billy said. He was using a program called Cool Edit to play the sound files that were loaded in by CD. He quickly demonstrated how he could do “pull-up” and “pull-down” processes, loops, edits, and instant cueing.

Well, I had no playback jobs looming in the future, and I keep praying that I’ve done my last music video, but I still had to have a Life Book of my own. So, a few months later I finally got on Ebay, and, sure enough, I found a really nice one (P-3, 500mHz, 15G HD, 128 ram) for \$400. The Cool Edit program that Billy used would have been fine, but I already had a license for another program called Sound Forge (overkill for this use, but why not?).

Amazingly, just as I got the computer up and running, and got familiar with the playback features, I was playing with it on my desk when the call came asking me to go to San Juan. They even suggested that I call Billy Sarokin and ask him what he used for playback. As Einstein might wonder, “What were the chances of this happening”?

How did I like the computer for production playback? Well, I've done 1742 music videos with Nagra and DAT tape machine, but I now hope to never to use tape for playback again. For this use, it was very simple and did not require the sound card. I simply loaded in the tracks from the CD that the music director supplied, and took the playback signal out of the headphone jack.

The notebook computer is the better system on many different counts: 1) It's much faster. Cuing is instant to an unlimited number of cue points that you determine. 2) It's more convenient. You can load many different songs and tracks and jump quickly from one to the next. 3) It's speed agile: You can pull-up or pull-down music tracks by .1% or any custom amount you want. For instance, you can do double-speed or half-speed playback for those famous motion effects. 5) It's battery powered. 6) With a proper sound card, it can actually double as a backup recorder. 7) It's more versatile. Not only can it do playback better, faster, and cheaper than any tape machine, but I also use it to print sound reports and disk labels. In fact, I'm using it right now to write this article. Try doing that with any other recorder!

Ground Adapter

The last comment I'll make regarding this show and equipment is about an item we didn't have but sorely missed: the boom pole stand. The Remote Audio Products version is called the Ground Adapter (http://www.trewaudio.com/ground_adapter.htm), but they are also known as a "boom caddy". For those unfamiliar, the boom stand gives the boom operator a safe and convenient place to put the boom on the set when not in use. If you don't have one of these stands, the boom usually has to come back to the sound cart. We were sold out of the Ground Adapters before I left, so we lived without, but not very well. Anyway, an important reminder from this production was how important and helpful that little odd-looking piece of furniture can be. I promised myself that we would re-stock as soon as possible. My apologies to those who've been waiting for theirs.



The Mixer's Chair

As has always been the case when I get in some real production time, the most significant benefit is being reminded of what it feels like to be in the "Mixer's Chair". What's important and what's not important take on newly defined lines. When not in The Chair, urgencies are, well, they're important. But as you know, when you're in The Chair, urgencies become a non-optional critical event that can have a permanent effect on your career. The difference is huge. Each time I get back from a production, as our staff will confirm, I make it a point to explain the difference. We hope you notice.

What's the Software Version?

The Firmware of Your Digital Device — and What it All Means

by Steve George, Service Manager

Exactly like personal computers, our digital recorders, digital wireless, and mixers such as the Cameo rely on a boot sequence during power up that involves the machine reading code from a chip that provides instructions on what it is, what to do, and more importantly; what the machine is capable of doing after boot.

Within the EPROM can be support for bigger hard drives, Time Code frame rates like the new 23.976, proper operation with Lithium Batteries, and even Year 2000 compatibility of the internal clock. The list goes on.

These instructions are written to a Programmable Read Only Memory chip called an EPROM (the E stands for endlessly, because they can be reprogrammed over and over many times). EPROMS are firmware devices, not software. The data in an EPROM exists only within a chip (unlike software which can be run from a diskette, hard drive or CD) yet is erasable and reprogrammable so they're not hardware, either. But since so many folks call it "software", we'll use the term here.

An EPROM based device is upgradeable as long as the manufacturer is willing to write updates, and they write upgrades that comply with existing hardware capacity. (You can't just upgrade a PD-4 to 24/96 by telling it to do so: the AD/DA converters aren't capable of anything over 48K, but you can tell a PD-4 to send Confidence Monitoring to the Output XLRs because confidence is already a part of the headphone monitoring circuitry. This was done in Version 2.40 of the Fostex Firmware).

Here at Trew Audio, we have a complete EPROM programming setup. We use it on Fostex PD-4's, Zaxcom Deva II's and Cameo's, Lectro 400's and the Time Code boards of Nagra T-Audio, IV-STC's and Nagra "Harvey Mods". We maintain a comprehensive EPROM copying and archiving system that allows us to keep software copies going back several versions to best assist our customers needs. (Sometimes the latest version is discovered to be buggy, so a downgrade is required to get back on track).

Eventually all units will, no doubt, be user-upgradeable via a personal computer, a downloaded file from the manufacturer and a USB or Firewire cable, but until then, we offer the service of burnin' a new one for you.



Treat Your Gear Well — So We Can Sell It For You!

by Summer Smart

Have you seen our Consignment page lately? It's huge! It's grown to the level of activity we now see because it works — for sellers and buyers.

The Trew Audio Consignment program has been very busy finding new homes for used professional equipment, turning it into cash or new equipment for you. Likewise, the program has been a great source for professionals like yourself to add industry standard equipment to your package at reduced prices. If the Consignment program here at Trew Audio is starting to sound pretty good, read on!



All of our consignment items can be seen, with photographs, on the [Trew Audio Consignment Website](#). All images of items for sales are images of the actual item, photographed at our facility. When you order an item that you see on our consignment page, you can be sure that it will arrive exactly as seen in the photograph.

Whether you are a buyer or a seller, there is no risk. To protect the seller, all items are pre-paid prior to shipping. To protect the buyer, all items come with a 5-day inspection period, during which time they may be returned in the same condition for whatever reason. After the inspection period has passed, the seller is either sent a check for the balance, or it can be left on account to be applied to purchases.



With the exception of Nagra recorders, all consignment equipment is sold “as is.” Nagra recorders (models IVL, 4.2, IV-S, & IV-STC) are sold with a 120-day warranty from Trew Audio to perform at new Nagra Specifications.

For more details about our Consignment program visit the [Consignment FAQ](#) page, or just give the sales department a call and ask for Summer. She manages the consignment program and will be happy to discuss the details and arrange your Consignment Listing!

If you are like most sound mixers, most people don't have a clue what you want. With technology changing so fast, it's more difficult than ever for them to choose a meaningful gift.



In an effort to keep holiday spirits high, we're here to help them help you. Just drop them a hint about **TREW AUDIO GIFT CERTIFICATES!**

Available in multiples of \$25.00 through the holiday season, we've made shopping very easy for your friends and family. They can order over the phone, or direct from our website at: <http://www.trewaudio.com/catalog/items/item93.htm> (or just click "[Gift Certificate](#)" on the homepage).



Put a smile on the faces of those who love you, Tell them about **TREW AUDIO GIFT CERTIFICATES.**

Gift Certificates

Top 10 List

Tone-Plug **1**

This item has been featured here before, but the increasing use of portable mixers with “direct outs” has created a common question we hear at Trew Audio: “How do you send a line-up tone from a direct out? The perfect answer is the Tone Plug. Just plug it into any mic input with phantom voltage and, — viola, problem solved! — you’ve got tone for lining up your inputs to isolated recording tracks! Just set your input trim (or pads) for optimum input level then zero the tone on the recording track. Built inside a standard XLR connector, the Tone Plug has a wide array of user selected tone functions. The LED doubles as a phantom power indicator.



2 Sanken CS-1



Sanken has done it again: They’ve developed a very different microphone proving to be a valuable tool for film and television production. This time, it’s a very short shotgun called the CS-1. The Sanken CS-1 is about one third shorter than its CS-3 bigger brother (which makes it about one third shorter than other traditional “short” shotgun microphones. It is light-weight and is the same diameter (19mm) as the Sanken CS-3 or Sennheiser MKH416. The CS-1 combines a wider pattern typical of a hypercardioid microphone, but with even more side and rear attenuation than longer microphones. Its price is as aggressive as its design: \$795 list.

3 Trew Audio Gear

Feel and look like the part with cool Trew Audio sound mixer’s gear. Let’s face it: You have to dress for some of the worst conditions on a daily basis, so you want to add some professional style where you can. The new Trew Audio gear helps you do just that. For example, our new ‘Freq Out’ T-shirt grabs the curious attention of everyone while reminding you of the standard frame rate and sampling frequencies (don’t let them know it’s your “cheat sheet”). Walk through an airport with wearing Trew Audio gear and you’ll likely find a colleague to kill some time with between airplanes. All T-Shirts are heavyweight 100% cotton, and the high-quality ball caps are the sharpest look we’ve had yet.



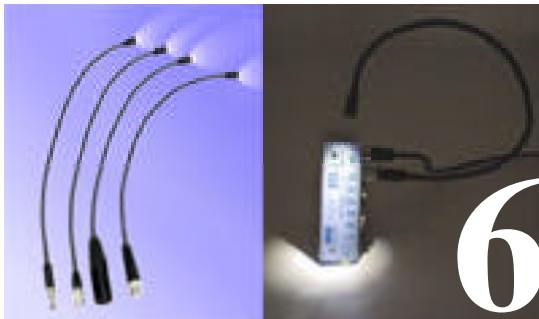


4 PSC AlphaMix

PSC really hit the mark with their flagship mixer, the AlphaMix. Joining the ranks of the trendy 4 input, stereo output, plus direct outputs of each input, the Alpha mix introduces some unique tricks of its own. In addition to the NP-1 battery compartment and 4-pin HRS power outputs, it is the only mixer to have two standard ten-pin camcorder connections (balanced stereo outputs with stereo returns). It also has three-stage input level indicators to take the guess work out of optimizing the variable input trim. All of this with a price low enough that it can't be ignored. [Click here for additional technical information.](#)

Connectors & Wires 5

Trew Audio offers raw cable and connectors for making and repairing all of the audio related cables you use. Everyone in this business would be well advised to have at least a small supply of the common stuff on hand. We have all types of balanced and unbalanced audio cable, large and small gauge power cable, low-loss 50ohm antenna cable, and the connectors to make them work. If you're running low on these items, remember to ask for them with your next shipment from Trew Audio.



Nite-Lite

We often find ourselves working in the dark, feeling for knobs and settings we need to check or adjust quickly. Well, you can now take the mini-light out of your mouth and get the Remote Audio NiteLite. With a current draw of less than 30mA at 12V DC, you will probably not even notice an effect on your battery source. Available in several connector choices, the Remote Audio NiteLite can be plugged directly into the Remote Audio BDS box or the common 4-pin HRS power connectors such as found on the PSC and SQN mixers and on the back of many camcorders. Also available with TA-4M (miniature XLR 4-pin), XLR-4M (full-size XLR 4-pin male), and BNC connectors. Attached to a custom made flexible steel tube that stays where you put it, the wide dispersion lens gives an even beam of light over a typical ENG audio bag.

7 Adapt-a-Pak



This kit of audio adapters was specifically designed by Remote Audio for situations the location sound mixer will eventually (if not often) encounter — see the complete list on-line at <http://www.trewaudio.com/catalog/items/item629.htm>. At a price of only about 20% of what custom adapter cables would cost, this could be the best investment on your kit you can make. With secure partitions that can be repositioned, the see-through case has room for your personal additions.

What a response! This item was featured on a previous “Top Ten” list, but something amazing happened since then: It seems that every branch of the TV/Film production sound industry has found a unique use for this 9V battery powered speaker. Sound mixers are using them on their carts; news producers are using them with their portable Avid notebook systems; they are found in make-up and wardrobe trailers (with a Comtek receiver) to listen to the set; Directors are using them to cue actors during car scenes; etc, etc. Powered by either an internal 9Volt battery or external 6-15VDC, the compact Speak Easy has XLR and RCA connectors for either +4dB or -10dB signals, with high fidelity, and plenty of volume for its intended use.

8 Speak Easy



9 K-Tek Short Shockmount



This mount got our attention because its length seemed perfect for the new Sanken CS-1, and it is. But, its use doesn’t stop there. The softer rubber supports made specifically for the CS-1 are also ideal for other low-freq sensitive microphones such as the Schoeps series. Unique to this mount are threaded holes on the side, enabling low profile mounting on camcorders. The solid rubber supports grip securely, insuring that it cannot be shaken free.

10 Acoustic Foam

An important factor in what separates good sound mixers from the great ones (and their differences in income) is their preparation and ability to improvise. That’s why a roll of Acoustic Foam should be in every sound mixer’s kit. For example, it’s perfect for adding additional wind protection for “planted” microphones. It can be used to separate clothing from lav mics without sacrificing high frequencies. But more often than not, you’ll find that it’s used for situations you hadn’t planned for, which means you’ll use it often.



Inside Lectrosonics

Trew Audio has a long and proud tradition with Lectrosonics and their wireless microphone systems. Responsible business practices, engineering excellence, and great customer service has resulted in Lectrosonics earning an amazing 90% share of the portable wireless market in the US.

From their beginnings of making lecterns with internal powered speakers (thus, the name, "Lectrosonics") to becoming a world leader in TV and film production audio, they have been committed to being the best they can possibly be. They are very proud of the business they have built, and it shows. A recent trip to the Lectrosonics facility in Rio Rancho, New Mexico gave some more insight into their success.

The staff at Trew Audio has known the Lectro staff for years. We see them several times a year at our Nashville office and at trade shows. But seeing them work - where they work - tells it all.



Rio Rancho, a close suburb of Albuquerque, is a like a location straight out of a classic Western movie. Correction – it actually is a location straight out of many classic Western movies. You can see forever there. Maybe I just got lucky with the weather on the day of my trip, but I have a feeling that people who live in Albuquerque and work in Rio Rancho feel they are the lucky ones. It could be that the 5000 feet altitude, clean crisp air, and common clear blue skies tend to make you want to put in a full but happy day at work.

Pulling into the Lectro parking lot with Gordon Moore, VP of Sales, in his fully restored British Racing Green MGA sports car that he personally re-built from boxes of rusted parts, sales associate Frank McKenna pulled in beside us in his pristine white MGA that he bought ready-built. That began a show of competitive camaraderie that gave a glimpse into the Lectrosonics company personality that shines in their products.

Walking through the front door and into reception of the Lectro building, there is the sense of a business that gets down to business. The guided tour by Gordon takes us through the sales offices, I.T. room, boardroom, account-

LECTRO™



Trew Audio:

Expert Assistance and Support

Whether it's the 700 series full digital, the 400 series digital hybrid, the 211 and 201 series synthesized analog systems, Trew Audio offers expert assistance in helping you decide which model is best for your application. We do our own unbiased field-testing and are happy to share our findings with our customers. We also assist with frequency coordination in your primary areas of operation.

Trew Audio is a full-line Lectrosonics dealer and we stock most of their wireless microphone products. We also stock accessories such as adapter cables, antennas, strap and pouch kits, and optional lavalier microphones.

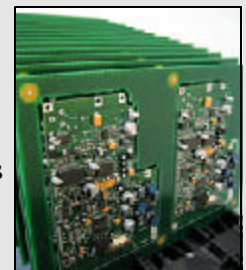
Our cable shop can fabricate nearly any specialty cable you want. If there is something you need right away, we can likely ship it to you the same day you call.

While we consider personal customer service a requirement for many of the Lectrosonics systems, we do offer a limited range of Lectro products for sale at our on-line store.

For the 201 series and the IFB systems, visit <http://www.trewaudio.com/catalog/cat43.htm> (prices may vary slightly on some of these items if the sales department is called directly).

For a complete selection of accessories including antennas, strap and pouch kits, battery eliminators, etc, visit <http://www.trewaudio.com/catalog/cat28.htm>.

If you are new to Lectrosonics, find out why so many of your colleagues buy them, and find out why.



ing, and then into the break room for a cup of coffee before going into the factory. All along the way, it was great to put unfamiliar faces with voices well known from years of phone conversations.

The engineering room is full of, well, engineers, in front of their computer stations, oscilloscopes, and service monitors. The introduction was like a starting line up of a Monday Night Football game: “Bob Jones, MIT, UCR201 Display”; “Joe Smith, UNLV, 400 series DSP”, and the list went on in front of the proud Coach Larry Fisher.

With a background in factory machine work, I was most interested in seeing where and how the products were made. I wanted to see metal being cut, screws being turned, and solder flowing. I was not disappointed.

More and more, the trend for manufacturers is to have many parts built by outside specialty manufactures. For instance, it is common for the metal chassis, circuit boards, molded plastic pieces, label engraving, circuit board stuffing, etc, to all be done at different specialty factories then brought in for assembly and testing. However, this is not the case at Lectrosonics. What impressed me the most about the Lectro tour was how much of the product, from the most complex part to the least significant, is made right in the factory.

At one end of the factory there was a large plasma machine cutting out the flat aluminum antenna brackets seen in their dipole antenna kits. Next to that, a machine milling out the waterproof enclosures of the UM400a transmitter. Stepping into a clean room revealed several automatic machines placing surface mount components onto circuit boards. Nearby is a room filled with laser machines engraving the Lectro logo and labels onto the chassis. When I asked about smell of molten plastic, Gordon took me to the injection molding room. I was very surprised when I saw what they were making: the tiny rubber grommets for the UCR201 receiver antennas. At the end of the line is the testing area where every wireless transmitter and receiver is thoroughly tested (no “spot” checking).

The point here is that nearly every piece of every Lectro product is made right there at the Rio Rancho factory. When they say they make audio products, they make audio products, from the concept right down to the knobs and rubber grommets. This gives Lectrosonics an important amount of quality control: Everything about the Lectrosonics products, from design, development, manufacture, assembly, testing, and service is done right here.

What happened after the tour was as impressive as the factory itself. During lunch with Gordon, founder John Arasim, President Larry Fisher, engineer Bruce Jones, software designer Dave Thomas, and others, most of the conversation was them wanting to better understand the situations that their products were used in. They wanted to know things like, “What is the percentage of wireless microphone use compared to hardwire boom mics on a movie set?” and, “What is the optimum time between battery changes for a production?” Etc, etc. To their credit, they acknowledge that their expertise is in making equipment, the customers’ expertise is in using it, and big part of their job is understanding what you, the end user, want and need. And that, probably as much as any other single factor, explains is the key to their success.



Shopping After Hours

by Skylor Morgan

If you haven't visited the Online Store in a while, stop by! You'll be glad you did. It's a great way for you to get what you need after hours. Next time you find yourself getting home around midnight from a shoot where the actors ran off with your vampire clips, just get on-line and order the stuff you need.

Items like batteries, DATs, DVD-RAMs, gaffer's tape, replacement headphone ear pads, and lav clips are some of the most popular, but we have a huge number of other products available online. Some may surprise you!

Lavalier microphones are among the mainstays of the TV and film industry, and our online store carries four of the most popular ones. Each listing has several color and connector options, spare accessories, and options for with or without power supplies, etc.

We have nearly every lav mic accessory you can imagine: clips, mounts, windscreens, each type of B-6 caps in every color, etc.. The online store carries accessories for Countryman, Lectrosonics, PSC, Sanken, Sennheiser, Sony, Sonotrim, and Tram lav mics.

Speaking of lav accessories, we also carry the **"Eumel"** by Ambient Recording. The Eumel is a 48-volt Phantom adaptor that converts the voltage to electret power for most lavaliers. For instance, the Eumel wired for Lectrosonics has the popular TA5F connector, and powers any lav mic properly wired for Lectrosonics transmitters. They are available for lav mics wired for most other transmitters as well.

The vast number of connections between today's audio and video equipment can be mind-boggling. You may catch yourself mentally walking through signal flow to make sure you are ready to roll on "Action."

Remote Audio Products has developed an extensive library of the most commonly requested ENG cables. The next time you need a cable check our cable page in the online store. Also check out the [Mixer Cable Chart](#). We may have a cable that gives you an option you haven't thought about!

Along the same line, the Remote Audio Products **Adapt-a-Pak** is always a popular item because its connector adapters were selected specifically for Film/TV sound professionals. Need to add to it or just get one-zees and two-zees? The online store has every adapter from the Adapt-a-Pak available in as single purchase items, 36 different adapters in all!

It is a brave and proud lot who make their profession in film and TV production. Such bravery deserves a badge of honor, so to help let others know what you do we have added the **"Trew Audio Gear"** section. High quality work clothing and accessories with unique cool graphics tell insiders that you are well connected and tells outsiders that you are involved with something special. Walk through a major airport wearing a Trew Audio T-shirt or ball cap and you're likely to meet someone else in the business. Check out the "Trew Gear" section in the online shopping zone.



We sometimes receive calls and emails from customers who have just completed an online order. The most frequent question is “What about shipping?” After considering all of the options, we decided that the customer is best served by calculating the actual shipping cost of each package. Therefore, unlike other on-line stores, you never over-pay for shipping as a result of estimates.

Trew Audio Gear

Our default shipping method within the continental United States is UPS Ground, and it is FedEx for international orders. However, you have the convenient option of specifying Federal Express Priority (morning delivery), Standard Overnight (afternoon delivery), 2-Day Economy, 3-Day Express Saver. When you item ships we send you a tracking number that can be used with our package tracker to follow your items to your door.

From the Sound Devices 442 Mixer and TopStick, to Vampire Clips and top-quality microphones, the items in our online store are vast. When you know what you want and need the convenience of shopping on your schedule at prices you know are competitive, our on-line store is always open for you.

As always, even when you buy on-line we will be here for you after the sale with our famous customer support.

