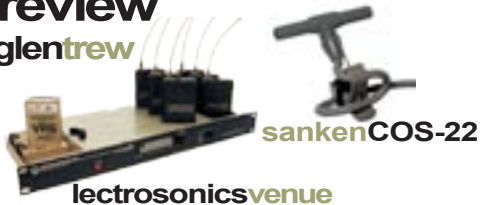


the mixer

volume 8, issue number 1

inreview

byglentrew



sankenCOS-22

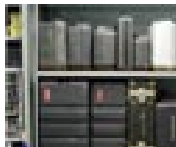
lectrosonicsvenue

notesfromthebench bystevegeorge



theconsignmentstory byskylormorgan

therental department byjoshharper



non-linear no fear

bytylerwade



thenewguys:

robmilnerandrobrightmyer

mixer profile: jon andrew's advice on reality tv: run fast, or run away!

"even at it's worst, this is a fantastic line of work!"



the top ten

byglentrew

- 1) DPA WindPac
- 2) Sony headphone parts
- 3) Metacorder
- 4) Mackie Onyx 1620 Mixer
- 5) Lectro Venue
- 6) Sound Devices 744T
- 7) Sanken CS-1
- 8) Ultrasonics Headphones
- 9) Zaxcom 2-channel camera link
- 10) DB Technologies Battery Powered Speakers



See our new US location!

Sound Mixers rarely meet other Sound Mixers. There's usually just one sound crew on a production set and even then, there's only one Mixer. From where I sit, talking to Sound Mixers all day long, day after day, I see a lot going with Sound Mixers that other Sound Mixers would be interested in knowing about and would benefit from. That's the purpose of this section, the "Mixer Profile". It's a way for us to see similarities or differences between ourselves and other people around the world who have a common thread: a passion for sound. The subject of this issue's Mixer Profile, Jonathan Andrews, keeps the standard high for all of us.-Glen Trew



From apprentice to "Apprentice", Jonathan Andrews' mild-mannered "Superman" approach and "Survivor" instinct from "Heaven's Gate" has made his "Amazing Race" to professional success as a Sound Mixer for Film and TV, Reality.

mixer profile:
jon andrew's advice
run fast, or run away.
the reality of reality shows!

Driven from the beginning by his interest in the creative combination of sound and electronics, Sound Mixer Jonathan Andrews is well suited for the best – and the worst – this unique profession has to offer. But don't let Jon's love for the artistic side his work mislead you: He's one tough soundman. How tough? He once coached the US Marine Corps Rugby team. Oooah!

Like many TV and Film Sound Mixers, Jon initially had his sights set on working in a studio, recording music. But fate soon had him crossing paths with film production, and Jon liked what he saw.

In the beginning...

"I guess it all started with my father, an aircraft electrician in the Royal Navy, who introduced me to electronics and instilled a fascination with circuit boards and what they could do. Then as I grew into my teenage years and my love of music took over, I read about the Sound Engineer 'Are you ready' Eddie Offord in Melody Maker, a British Music Newspaper. This article on the job of the Sound Engineer for 'ELP' and 'Yes' hit a nerve in this young teenager. Here a job was described that tied together two things I was interested in, Electronics and Music. With this in mind my High School curriculum was formed so that my studies became geared towards that goal. I was very lucky in that at my school a lot of my peers had similar ideas on their future, such as friends like Andy Turner who went on to lead Capital Radio in London, Mike Burdett who became a major UK jingle writer, Gary Tibbs, who was the bassist with The Vibrators, Roxy Music."



Pinewood Studios

First Job(s)...

“My first encounter with Sound Engineering was with British Movietone News. My School set up a work-study program (internship) over the summer of 1976 at their Denham Studios. This was not my goal as I wanted to get into Music Recording but it did enable me to learn about another side of the recording industry. As a Sunday afternoon film addict it was a very interesting experience to see how sound and film came together to form a finished product.

Don't tell Jon that there's something he can't do, unless you really want him to do it...

“During my last year at High School I was informed that the chance of a career in Sound Recording was virtually nil but the Career Advisor could set me on the path of Civil Engineering; or if I wanted to work in a windowless, air-conditioned environment, a Computer Engineer. I had other ideas and started writing letters to every recording studio in London. At this time I was introduced to Bill Rowe, the Head Mixer at Elstree, Borehamwood Film Studio. After a chat with him he suggested I look into Film Sound as an alternative. At the time he was working on ‘Tommy’, and pointed out that his job incorporated all aspects of Sound, and not just Music. With his words ringing in my ear...I redoubled my efforts before I had to decide on what University I should go to. Then I struck gold. De Lane Lea in Wembley offered me a job as a Tape Op. They also pointed out that on one day I would work with a band, but the next I may be working on a sound FX track for a movie. There was that word again: ‘movie’. I had 2 weeks to decide. I then received a letter from Geoff Lahbram at Pinewood Studios offering me a chance to come in and look around his Sound Dept. They were not employing at that time, but he was so surprised that a youngster was interested in film sound, off we went for my tour of the last of the ‘All-in’ Film Studios in the UK. Half way through our chat he quietly informed me that they were thinking about bringing on an Apprentice [ed: interesting preque...], and asked if I'd like the position!

Well, it paid double what De Lane Lea were offering and the fact it was an apprenticeship meant that I would have a broad training in all areas of Sound. I was lucky to have two choices, but the choice was easy.

So, at 18 I had a job doing what I had wanted to do since I was 11, and didn't have to go to 4 more years of School. Just 5 years of learning on the job and then I'll be off around the world on wonderful locations chatting with the stars and earning money doing my hobby, recording sound. But...”

Not so fast...

“I then spent the first 6 months polishing the Chrome on 5 Fisher and 2 Mole-Richardson Microphone Booms. I did not even look at a soldering iron during that time, let alone a microphone. Mind you, I can still strip a Fisher and put it back together with my eyes closed – I just get to charge lots of \$\$\$’s for that now.”

The big break...

“My first job on the set of a major Film production was setting up the Public Address System for the model unit for ‘Superman.’ My first Boom Op job was on the front projection unit for ‘Superman 2.’ And the first as a Sound Maintenance/Utility was with Danny Daniels on ‘The Mask’s of Death’. All this was part of my Apprenticeship training at Pinewood Studios just outside of London.



But my first big break into production sound came during ‘Heavens Gate.’ During pre production I was involved as the playback operator, working with director Michael Cimino and the Choreographer Eleanor Fazan, auditioning dancers for the big Waltz scene. When it came to production, I was released so a freelance Playback Operator could take over. Well, as they say, ‘A funny thing happened on the way to the Forum’. I had just sat down at my desk back at Pinewood when the AD phoned, asking if I could make it out to Oxford. Michael Cimino had missed me at the scout when he wanted the music played. With his statement ‘Wherever I go, Jonathan goes’, I was back on the crew. The next morning I was welcomed to set with a ‘Nice to have you back’. Here I was working with one of the top DP’s, (Vilmos Zsigmond) and a top Hollywood Director and he knew my name. For a young lad only half way through his apprenticeship it was awesome.”

Every young professional needs mentors...

“Many people have influenced my approach to Sound Mixing. It obviously started with the article on Eddy Offord, where he talked about how there should never be feedback at a concert, then watching Gordon McCullum command his console in Pinewood’s Theatre 2. Both showed me the importance of attention to detail. Working alongside the engineers showed me how amps can be tweaked at the component level to provide a flat response. Watching mixers like Roy Charman, Claude Hitchcock, Chris Munro, David Crozier, and Ivan Sharrock showed me how a production sound crew worked as a team, within a team to provide post with clean usable sound...”



“I really don’t think I have a job. I have a hobby that people want to pay money for.”

“... John Hayward then would show me how the production sound could or couldn’t be used in the final mix. All of these people influenced my outlook on recording Sound but the one individual who summed it all up and gave me the motto I work by was the late Keith Wester. ‘High Quality, High Efficiency, Low Profile. Production never waits on sound because we are always ready.’ ”

Over the course of the last 25 years, Jon has had the good fortune to work on a variety of types of production. Preferring the lower profile city of Cleveland, Ohio for his family life, his professional diversity serves him well.

“Having started in Feature films, that is where my heart is; working with a crew of other sound aficionados, to record sound for a movie release. However, living in Cleveland, my schedule is very diversified. One day I may be working on a commercial for Nike or Visa, then I’ll be doing a documentary for the BBC or PBS, then I’ll be off on a reality show, and to return to a news crew. More recently I have been doing a lot of reality shows. If somebody is in need of a Production Sound Mixer, I’m happy to be working.

I really don’t think I have a job. I have a hobby that people want to pay money for.”

On different types of production...

“The challenges as a Production Sound Mixer on a movie set trying to stay ahead of the rest of the crew, then to hear the results in a Theatre is where I get the biggest buzz. However anytime I hear a sound track I recorded and recognize it as my work there is that ‘I did that’ feeling of pride.

There was one incident on the second ‘Amazing Race’ where I had to record in a Samba Club down in Rio. I couldn’t hear a word as the music was so loud. No rehearsal, just jump straight in, throw the pads in and hope the meters are working. When it came out on TV, my sound and dialogue was the only one in the club with no sub titles. That was a thrill!

The biggest joy with reality shows, is the ability to work with other mixers on a day to day basis. So often we never see each other, let alone get to sit down and talk. When you get 12 or more mixers in a room, you are always going to learn something. There is always more than one way to crack a nut, and the more ways you know, the more versatile you become.”



“My philosophy on equipment is to use the best tool for the job, and use the supplier with the best service.”

Since you’ve done a lot of Reality TV by now, what advice do you have for sound mixers about to embark on a reality show?

“Run fast, or run away. You must be in shape in order to carry the weight of an X-5 and 4 receivers and swing a pole whilst sprinting ahead of the contestants yet staying out of the shot. If you are out of shape or the production is disorganized, these shoots can be brutal. [ed note: When a long-time Rugby player uses the word “brutal”, take it literally!]”

Production will often say ‘This show is driven by sound. It may be a black picture, but if the sound is good we can use it’. But the reality is, if the cameraman doesn’t like his picture he may turn your tape recorder (the camera) off. So a lot of communication needs to go on between you and the cameraman. Reassure him he’s the boss, but let him know you need him to roll for audio. The best and experienced operators will do this, then find a shot. When it works, it is a joy. When it doesn’t you feel like a pack mule carrying camera equipment as well as your own. So get to know your camera operator, you’ll be living in close proximity with him for 4 to 8 weeks. You need to keep the air clear so that you both can perform as a team. If you stay out of his shot, he will stop swearing when he blows a focus mark, and will continue to roll so that the sound can be used.”

On choosing equipment for work:

“My philosophy on equipment is use the best tool for the job, and use the supplier with the best service. I would rather buy the best quality I can and maybe pay a little more for it, but know that with care, that piece of equipment will last for years, and will not be outgrown as soon as it leaves the shop. Keep looking at the new technology and try to work out what the future trends are. If you can stay on the leading edge you are better prepared to supply a good track, and still be able to supply tracks on the technology of the present. At present I use a Deva V as my primary recorder, with a DAT back up, as a lot of people still want the DAT, but I still have my first Grundig recorder from my teenage years and my first Nagra. They still work.

I want equipment that has been made with the same attention to detail as I expect from my boom op and myself. From a supplier I look for a place that I can call with a question or a problem and get an answer. With everything that is out there it’s this insight that makes good customer service essential. Trew Audio fits this criterion, and works well for me.”

Jon's first visit to Trew Audio coincided with a Rugby tournament he was officiating in Nashville, so he called to ask where our store was in relation to the tournament. As it turned out, the playing field began about 20 feet from the Trew Audio front door. Now that's service!

The word is that you are a Rugby enthusiast?

"I would say that I'm more of a Rugby junkie. Along side sound, Rugby has been a big part of my life. Once it's in your blood there is no getting away from it. I need my fix and I'll try to get it wherever I may be. It's a sport that gives me an outlet for all my frustration that I need to hold in at work. Plus it helps in keeping fit for when I chase reality TV contestants around or when I'm lugging a documentary package over mountains or through a desert.

Many people look at the game and believe it to be a rough tough game that only if you were insane would you play, and I've shown up on many a set with a black eye and cleat marks up my legs that just furthers this belief.

Pinewood Studios once gave me a 6-month dispensation in 1980 to travel to the US and coach the US Marine Corps. Since then I've been active in US Rugby as a player, coach and more recently as a referee. If I'm not working you can often find me somewhere in the US running around a pitch. Even during the shooting of 'The Apprentice' I would try to get off to go and get my fix on the Rugby Pitch in NYC.

At present even refereeing has taken a back seat due to work commitments, but I will be going for International Rugby Board training this year, and one tournament I always try to make is the US Military Club Championships. It was great on the last 'Survivor,' there were so many South African's, Australians, New Zealanders and Brits, that Rugby was a normal part of conversation."

On success...

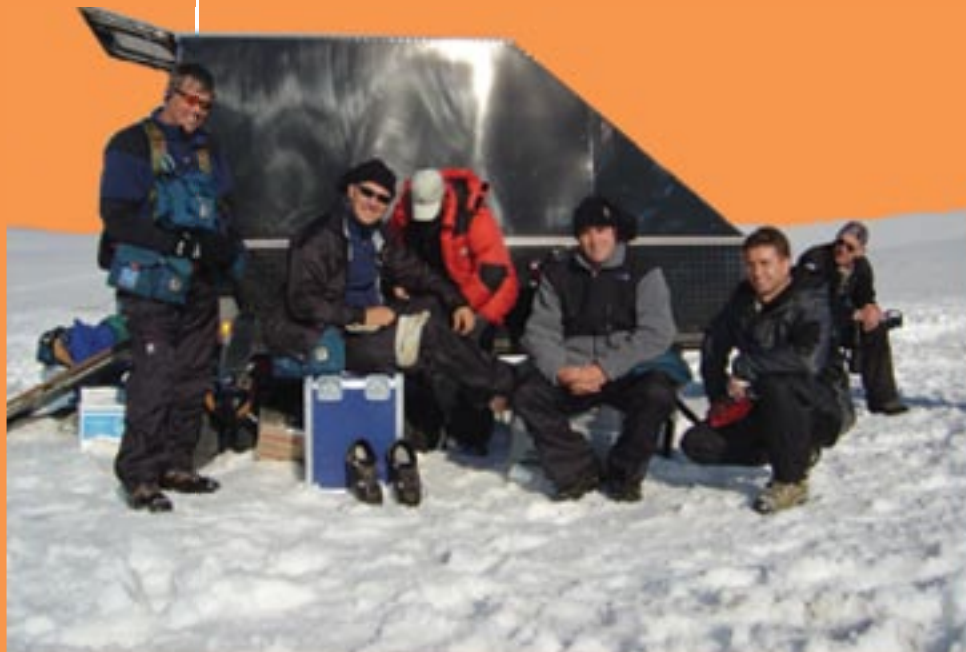
"I guess I don't feel I've been a success yet. I'm still learning my craft and I have a long way to go before I would put myself along side so many of the Mixers I have worked with. But I guess what has helped me so far has been the solid background training I received at Pinewood and a need to do better with each job."



“Even at it’s
worst, this is a
fantastic
line of work.”
Jon Andrews

Advice to those who dare...

“For somebody starting out in production sound, I would tell them to think about what they really want to do. Sound shouldn’t be a stepping-stone to camera. On a film set up to a hundred people are involved in making the picture look right. If you are lucky there are three people worried about the sound. It can make for headaches some days. If you don’t enjoy sound recording, you’ll hate it. Almost all of the best sound professionals I’ve met have one thing in common. They enjoy what they do. If you enjoy what you do, you want to learn more and get better. Talk with sound professionals, learn your microphones and what they can and can’t do. Then talk to the grip and try to learn a bit about his job, talk to the camera operator and know what the frame looks like with lens A and lens B. Listen. You don’t learn much when you are always talking. But most of all have fun. Even at its worst, this is a fantastic line of work.”



From left to right: Jon Andrews, Per Larson, Peter Wery and Jim Ursalak on Vatnajokull Glacier in Iceland

inreview continued...



But there's more; much more:

- Each receiver channel can be displayed and controlled through the Venue's front panel, but for even more display information and control ability, the USB port allows a PC or Mac (using "Virtual PC") to interface with the Venue system.
- A graphic spectrum analyzer displays RF activity within the entire two-block range of the Venue system and helps choose your best frequencies.
- A built-in "Walk Test Recorder" allows one person to do a walk test and document the locations where strengths and weaknesses occur. If a dropout occurs "...on the right side of the stage behind the fireplace set..." and then clears up "...now on the other side of the fireplace..." (for example) you'll know about it.
- Up to four Venue modules (24 channels) can be linked together to be controlled and displayed on a single computer screen.
- The 6-channel system is DC powered with about 1Amp of 10VDC-18VDC. Yeah!

Don't be misled by the very low price: This receiver system is top-of-the-line and holds its own with, or surpasses, any other analog wireless microphone system made for this use. The enormous difference in price is due to the amount of mechanical features that are no longer needed. For example, the individual receiver modules that plug into the Venue do not have XLR audio connections or BNC antenna connections, nor do they have any displays, external power connections or battery compartments. The receiver modules are very ordinary looking aluminum boxes with a suspicious looking circuit board edge connector. All of the audio, power, and antenna connections are mounted on the Venue master module, saving a small fortune in the process.

The small LCD window in the master module shows a surprisingly large amount of information about all six receivers at the same time: Audio modulation, RF signal strength, Pilotone function, transmitter battery condition, and antenna phase. Pressing the button for a particular receiver displays detail information for that receiver, including frequency, corresponding TV channel number, and required transmitter channel selector position. Scrolling through the menu options allows control of audio output level, audio phase, transmitter battery type, three levels of noise reduction, Pilotone function (on or bypass), emulation mode for the various Lectro transmitters, tuning groups, and some special choices for diversity mode.



While it is surprisingly easy to get around the menu options, the little LCD display can only show so much, and you do have to check several menus to verify certain settings. That's where the USB computer interface comes in very handy. With a computer, you can display all of the parameters of any receiver and make changes to the receiver remotely.

Recently on a 5-day television commercial shoot, I used the Venue system in my cart. I was particularly interested to find out how much difference the computer interface would make, and if using a notebook computer with the system would prove to be a benefit or an inconvenience.

The first thing that occurs to a Venue user is the extreme convenience of having six diversity wireless mic channels in a single rackspace module, powered with a single 12V cable and fed with a single pair of antennas. That, alone, is reason enough that this system will find a firm place in the market.

But once the thrill of spatial victory faded to a controllable level, I was drawn to the user interface options. The Venue is so compact, my first instinct was to assume that the computer interface was a near-necessity and that the LCD was merely a fail-safe. Surprisingly, I soon realized that I could get along just fine without a computer. At a glance of the LCD I could survey all six receivers, knowing all of the basics about the radios' performance. A half-second visual scan of the small LCD display told me about modulation levels, transmitter battery condition, antenna function, and RF signal strength of six transmitters and receivers. If a second rack unit of six receivers was placed just below the first, I could have just as easily scanned 12 channels.

But it's even better using the Venue with its USB port to connect to my notebook computer, and I decided that whenever practical, the computer interface was, indeed, an added benefit. First of all, more information is displayed on a single screen and easier to read. For example, when a transmitter battery goes below a preset level, the icon turns red and flashes. Even while engrossed in this month's Rider magazine during a 2-hour lighting setup, I couldn't avoid noticing the flashing red battery icon on the lead actor's display. So, I got out of my chair and changed the battery before we rolled.

Another advantage of using a computer with the Venue is the ability to make all setting changes through a single screen. The same changes can be made using the Venue's internal LCD display, but requires scrolling through several menus for each channel. Even for those who seldom need to make any changes once their system is setup, the day will come when the computer interface will make their job easier and the production better.

Final Score:

Internal LCD display: Very good. Notebook computer interface: Even better.

Here are the controls available through the LCD Display and through a computer:

Audio output level:

Adjust individual receivers outputs for levels from -15dBu to +10dBu

Audio phase:

Normal or reverse output phase can be selected. This can be very handy for a number of reasons, but particularly because some lav mics are phased differently from others.

Transmitter battery type

Choosing the type of battery in the transmitter allows the fuel gauge displayed at the receiver to give an accurate depiction of how much juice is left in the transmitter battery. There is even a timer that can be selected. This option keeps track of the total amount of time a battery has been used – factoring in power on and off cycles – to reduce “false positive” meter readings.

Three levels of noise reduction

Part of the 400 series’ brain is used on a digital noise reduction process that can actually reduce the self-noise of a microphone and other system noise.

Pilotone function (on or bypass)

In normal use, the Pilotone causes the system to mute when the transmitter goes out of range or is turned off. The circuit can be bypassed for testing purposes.

Emulation mode for the various Lectro transmitters

All UHF transmitters can be used with the 400 series receiver by selecting the proper emulation mode. There is even an emulation mode for Sennheiser transmitters! With the Venue receiver system, you can mix several different types of transmitters at the same time.

Tuning groups

Preset frequencies are stored in “groups” A, B, C, etc, which can be a very convenient time saving feature. For instance, if traveling from one city to another, six known good frequencies can be stored for “city A” and six others can be stored that are known to be good in “city B,” etc. When going from one city to the next (or one sound stage to the next), a single click on the group letter will change all six channels, easily leaving a few valuable minutes for browsing around the Craft Service table.

There are three choices for diversity mode:

1) “Antenna” or “Phase” diversity. This method is what is used by all Lectrosonics UCR (compact portable) receivers. With this method, when the system detects that the signal is being received by both antennas by more than 90 degrees out of phase, the B antenna is reversed to maximize the combined signal strength.

2) Receiver Diversity (often mis-nicknamed “True Diversity”). This method uses two receivers for a single transmitter, favoring the strongest signal of the two receivers.

3) Frequency Diversity. This is arguably the most reliable of all diversity options, but it requires two transmitters and two receivers. With this method, the talent wears two transmitters (on different frequencies) with the microphones directly next to each other. The Venue system then blends the two receivers, favoring the receiver with the strongest signal. If one transmitter should fail, the Venue would totally switch to the remaining channel.

There you have it: the long awaited – but worth the wait – Venue system by Lectrosonics. You’ll be glad you got it.

[Click here for detailed specifications](#)



Sanken COS-22

A long-time staple of the music recording studio, Sanken microphones also became commonplace in the North American broadcast and TV/film production market, seemingly overnight, just a few years ago with the COS-11 lav microphone. Other microphones from Sanken that our industry now depends on include the CSS-5 (shotgun stereo), the CS-3e (short shotgun) and CS-1 (short-short shotgun). In a relatively short time, Sanken has earned their prestigious reputation by being innovative in producing high quality microphones that are unique in a crowd of the same ol' same ol'.

At NAB '04 last year, the Sanken booth gave some VIPs a sneak preview of the COS-22. At NAB '05, Sanken's big news was that this interesting mic is in production and will soon be available.

The COS-22 is another example of Sanken introducing something completely different. At first glance (even at second and third glance), this miniature microphone looks strange. And, like anything else different on the playground, it will be the subject of many childish attempts at humor. It will no doubt be called the "push-me-pull-you" after the famous two-headed Llama, or the "Siamese Microphone" because of its conjoined construction. But long after the giggles are over, those with better foresight may be considering the unique possibilities this microphone (or is it microphones?) can offer.



CS-1 Short shotgun mic



CS-3e Shotgun mic



CSS-5 Shotgun mic

The COS-22 is two COS-11 mics joined together, facing opposite directions. There are three basic uses for this arrangement: 1) Stereo, 2) Directional control, and 3) Redundancy.

“Stereo on the tie.” I have long been an advocate for the advancement of stereo recording of dialog, even when there is only one person. The COS-22 allows an on-camera talent’s dialog to be recorded in the center of a more natural stereo image. It is an improvement. Don’t believe it? Give it a listen. You’ll see that dialog recorded with a stereo mic is easier to listen to, especially amongst high ambient levels. Of course, there are plenty of occasions that this technique would not be appropriate, but in my opinion more dialog should be recorded in stereo.

Direction with a Twist: The Figure-8 technique. All sound mixers are sound mixers partly because they want to control sound. A favorite way to control sound is with directional mics, but directional lavs are known for usually creating more problems than they solve, including increased distortion, wind sensitivity, and cable and clothing noise. The COS-22 can be used in such a way to give the directional control similar to a cardioid mic without the drawbacks of a cardioid.

Here’s how it works: When the microphone is placed in the typical fashion under someone’s chin (such as on their tie, for example) the mic is positioned with one element up and the other facing down. The phase of the bottom microphone is reversed (either with the mixer or with an adapter). Since the actor’s voice will favor the mic element that’s facing up, but most of the ambience will arrive at both elements equally, mixing in the bottom element will cancel more ambience than it cancels the voice, reducing the relative level of the ambience. The more you mix in the bottom mic, the more ambience is cancelled. This system can work quite well, but it should be kept in mind that the closer the mic positioned is to the mouth, the more effective this technique will be.

inreviewbyglentrew
continued...

Redundancy: Ever since Walter Cronkite made famous his signature 2-mic lav look, redundant micing has been a status symbol for on-air talent. I won't argue the real vs. imagined benefits of this technique here, but we have to acknowledge that it is requested from time to time. The COS-22 two-mics-in-one can satisfy this requirement with added style and less fuss. Whoever the Walter Cronkite of today is will probably be the first to use the COS-22 this way, and the rest will want to look just as important. This arrangement also conjures up new ideas for stereo wireless transmitters. Hmmmmm...

The two elements of the COS-22 are connected with a single cable to a single power supply module that terminates to a 5-pin XLR connector. At this time it is assumed that breakaway connections can be installed so that the mic can also be used with wireless transmitters.

Glen Trew



stevegeorge

Wow, so many new recorders and formats to pick from!

What brand, what recording medium, what number of channels? Decisions, decisions. It's worse than shopping for a PC! Gone are the simple days of having but two choices: analog tape or DAT.

So how does this affect my little repair world?

Thankfully, not much at all (yet). In fact our number one recorder repair (quite a few each week) is still the Fostex PD-4, followed closely by the Nagra 4.2 and IV-S units, and then the HHB PortaDAT, et al.

We were amazingly busy repairing PD-2's last year, but those are finally tapering off as the machines are being replaced (often with pre-owned PD-4's!), because even after extensive repairs PD-2 long-term reliability is questionable.

With all the repairs on PD-4's, shouldn't people be replacing these obsolete recorders?

Remember, the Fostex PD-4 is just 12 months out of production, and in its final iteration, the PD-4M (with built-in MS headphone matrix) was a great recorder. New repair parts are available from Fostex, so a PD-4 is still cheaper to maintain than to buy a new recorder (complete with a new learning curve).

Well, there are several reasons for the increased number of PD-4s here for service. The number one reason is that many recordists are still sitting on the fence with regard to the non-linear units, waiting for just the right moment. The other reason is that the PD-4 is still very much a viable choice as a main recorder, and not just a backup -- although it will likely become that backup once their new nonlinear recorder is chosen.



Another reason for increased PD-4 activity is that Fostex no longer repairs DAT recorders in-house. At the same time Fostex enacted this policy, they trimmed the number of Authorized Service Centers to just a select few. Plus, since we at Trew Audio have earned a nice reputation among PD-4 owners as a good shop, word of mouth is generating a bunch of new clientele (thanks for all the referrals, folks! You know who you are).

Which brings us to the main reason for this article; how can we, as your Authorized Service Center, keep your PD-4 reliable?

I'll tell you. It's called Preventative Maintenance (AKA stopping future failures before they occur).

Courtesy of knowledge obtained at the School of Hard Knocks (years of extensive repairs of PD-4's), we learned not only how to fix them, but also got a decent insight into what makes them fail.

From this we've created a program of mostly physical retrofits and upgrades that help prevent future problems. The good news is that most of the maintenance procedure lasts for the life of the machine!

Here's what we do:

1. We remove and apply Loctite to 26 screws that commonly get loose. Three of them form the electrical GROUNDING for the Transport Controller Board and if they get loose cause all kinds of transport lunacy because they eventually fall out and short-circuit the Main Board (which costs \$1000 to replace). Those three screws also get star washers applied for better security.

2. We epoxy the 15 LED Lenses. At least one will be sure to fall out and then you better pray they don't get into the Transport Gears. We epoxy ALL of them just to be safe.



3. While the Front Panel is apart to do the Lenses, we clean all 4 Gain Pots (Main, Channels 1-3 Gain Faders).

4. We glue (with a very special adhesive) the Top Panel plastic frame surrounding the Transport Plexi Lid. It will come loose (if not already) eventually causing downward pressure on the Capstan Bearing Cap, which either wears out the Capstan Motor or causes speed fluctuations with red LEDs galore -- or both.

5. We overhaul and LokTite the four Transport Shock Mounts. If and when the Right Rear Shock Mount works its way loose (they're spring-loaded) you will not be able to close the tape lid without damaging the lid mechanism. We lock all four.

6. We reroute the Transport Data Cabling for better RF immunity, and replace the ribbon cables if necessary.

7. We replace the plastic NP-1 Release Lever with a new one. (It's real fun bunging up your ATM card on location trying to get an NP-1 out when that lever breaks.)

8. We perform a visual inspection for dirt or oxidation. We remove all the dirt and sand, and if any evidence of corrosion is present, we coat it with either a light silicone or a heavier antioxidant depending on its location in the machine. We also clean and re-lube the Transport.

9. Once all the above steps are complete, we calibrate the unit to Fostex Spec's and send her home.

Average cost of the above Preventative Maintenance:
\$200-\$300 – a small price for such increased security



Once the procedures are accomplished, we affix a nice, big blue decal to the bottom stating that the Preventive Maintenance has been done. This could easily increase the resale value -- as it's that comprehensive.

So, why would a service shop want to prevent future failures? Isn't that like biting the hand that feeds? (We even had another DAT repair shop question this logic and comment along those lines).

We look at it another way. First of all, we get plenty of first-time repair business (thanks to eBay!). For repeat business, we count on our reputation for PD-4 repair quality. You guys are a tight knit community, and talk amongst yourselves, and we try to make sure our maintenance of your recorder reflects well on us -- even if it means your machine may never need to come back.

Our way of thinking about it might not make us rich, but it does make us proud. We hope it shows.



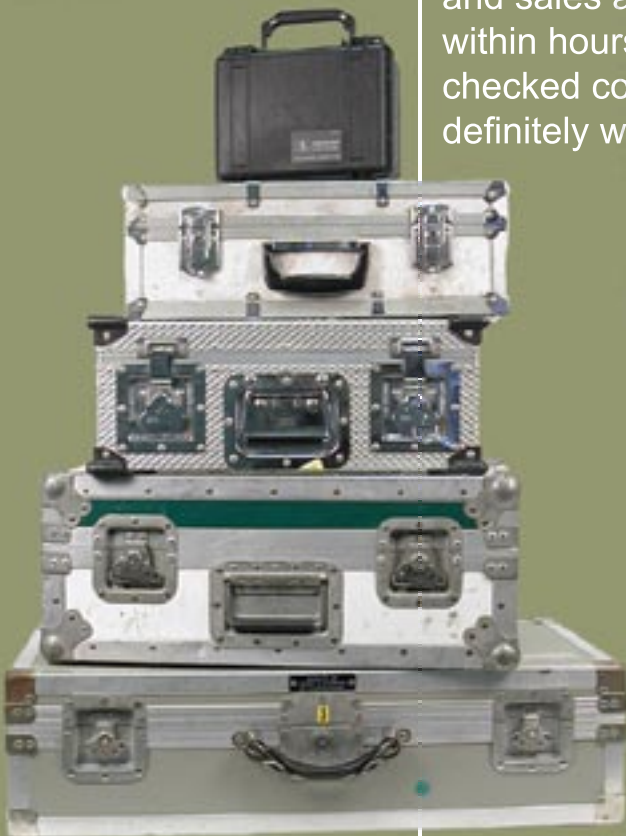
for your information

the consignment story

skylor morgan

A tribute to its service to our customers, the consignment program at Trew Audio continues to grow by leaps and bounds. Whether you participate, or are one of the thousands who lurk, you may have noticed a few positive changes.

Additions to our Information Tech and Marketing departments help insure that the consignment listings are updated, complete with photos, often and on schedule. Most listing changes, additions, and sales are posted online within hours. If you haven't checked consignments lately, it's definitely worth a visit.



for your information

the consignment story

continued...



If you've strolled through the consignment section of our website at any time during the last few months I am sure you've notice the little red maple leafs and blue stars dotting the landscape. The "★" and "🍁" indicate the location of the item listed (US and Canada, respectively) and which currency is listed (\$USD or \$CAD). Extending the consignment program to our Canadian store in Toronto has been big hit and is beneficial for everyone, no matter where they are. First, if you are looking for something to buy, there are many more items to choose from. Second, if you want to sell something, more people are checking out the lists. In addition, customers who are in the Toronto area can actually visit the store and see the Canadian listed items in person. When shipping anywhere within Canada, shipping expense is greatly reduced compared to crossing the border. And, if a buyer in Canada wants to return an item for refund, it is much more convenient. As always, the same is true for US purchases within the US.

for your information

the consignment story

continued...

If you are interested in turning some seldom used professional gear into new equipment, or if you are looking for a great deal on some good previously owned gear, check out our consignment homepage here: <http://www.trewaudio.com/consignm.htm>. While you're there, be sure to read the FAQ page for detailed answers. For any more information, the Sales Department will be glad to discuss it on the telephone.

But basically, our consignment program has become an extremely popular way to buy and sell professional production sound gear that is still in good condition.

Give it a try and find out why.





therentaldepartment

byjoshharper

Desperate Sound Mixer Saved!

On most Saturdays I sleep in and rest up from another busy workweek at Trew Audio. But on this particular Saturday I was finishing moving the Rental Department into our new US location. I was exhausted from days of packing, moving to the new rental office, but after the first cup of fresh ground, fresh brewed coffee I was ready to embark on another day.



We still had a few bugs to work out in the new phone system, which I mention only because of what happened next. Glen Trew's cell phone rang. It was Brian Harefeld, the office manager from our Toronto store, calling the cell phone because our office phones weren't working yet. Brian relayed a message from a production manager in desperation, calling from Phoenix, Arizona, saying that they needed us to call them immediately. Glen called the production company and came back with a list of equipment they needed. A long list. He proceeded to tell me that sound mixer, Lisa Pinero, a Trew Audio regular, had lost most of her equipment in a fire on a movie set in Tucson. Fortunately no one was hurt, but all of the equipment was either burned, soaked, or otherwise made useless.

therentaldepartment continued...



the sound cart after the fire



packing cases full of water



the sound lounge got quite wet

It turns out that the production wanted to start shooting again the next day – Sunday. The production company had not been able to reach our US office, but they noticed on our website that the Toronto store is open Saturdays from 9am to 1pm. They explained their desperate situation to Brian, who then called Glen, who then called the production company, who then asked us to do the impossible.

This is when my mission for the day quickly shifted from moving into my new office space to helping out a customer in desperate need. The movie that Lisa was working on, ironically enough, is a Steven King television movie titled “Desperation.” Trew Audio to the rescue!

therentaldepartment continued...



after the fire, cases in water



the day after; set on right

As soon as Glen finished the phone calls with Lisa and the production manager, we knew specifically what we needed to ship out. I was informed that there would be a courier at the office in an hour to pick everything up and get everything on the next flight from Nashville to Phoenix. This was no easy task. Most of the rental equipment was still in cases from the move, but I located the equipment and began to sort out everything that Lisa needed. A Deva V, PD-4, quad pack of Lectro 411A's with COS-11's, Sennheiser MKH60, Schoeps CMC6 with MK41, Cooper CS106 mixer, DVD-RAM burner, boom cable system with talkback, and all of the necessary cables, etc, etc.

With a little help from Southwest Airlines, we were able to get the sound equipment the production needed delivered from our Nashville office to Tucson, Arizona that night, in time for them to resume Sunday morning. Impossible? Yeah, but it usually is.

I wonder what will happen this week.

sounddevices744T

byskylormorgan

Sound Devices 744T Hard Disk / Flash Card Recorder



Over the last few months I have had the pleasure of diving into the Sound Devices 744T portable hard disk recorder. Sound Devices has earned a wide reputation for good designs and functional style, and the 744T actually raises Sound Devices' own standard. In fact, at first glance, the unique clear finish of the aluminum top and bottom plates, bright LED's, and well lit LCD give it the feel of some sort of surgical testing equipment. But alas, it is just another example of a good company getting better. This 4-channel 4-track recorder was designed with the utmost care and thought.

A Brief History:

Non-linear recording is not a new concept, but non-linear portable recording in the film/video industry is still quite young. The Zaxcom company led the way in the late 90's with the Deva II which held the market for most of 5 years. As the need for faster copying, processing, easier editing, more tracks, and more complex mobile recording has exponentially increased, other manufactures began their own quest to join the non-linear race. Currently Fostex, HHB, Zaxcom, Aaton, Marantz, and Sound Devices are in the ring. With all of this competition, Sound Devices had to design a box that would stand out. Did they succeed?

What's the Difference?

While the larger recorders boast 6, 8, or 10 tracks they also start at \$8500 and quickly jump up to over \$15000 without accessories. The 744T is just \$3950 and though it is a 4-track recorder, 2 or more can be linked together giving up to 8 or more recorded tracks with linked timecode and word clock information. That is why the 744T can hang with the big guys and still fit a nice budget niche'.

Without exception, everyone's first reaction is something like "Wow, it's smaller than I thought it would be!" The small box is just 1.8 x 8.2 x 4.9 inches, and only weighs 2.6 pounds including the included lithium battery. It feels quite sturdy; like a solid block of forged aluminum.

sounddevices744T

continued...



It's About Time(code)

Germany's Ambient Recording designed the timecode clock for the box. It is rock solid. Using the standard 5-pin Lemo connector for timecode IN/OUT, users can generate and jam to and from the 744T. I had no trouble syncing to a Deneke slate, and the slate was just as happy jamming to the 744T. No worries!

To record: Push RECORD. The 744T is a "record priority" machine, meaning that whatever you are doing with the machine at the time (with the exception of adjusting file parameters), push record and the machine starts recording. The most amazing thing of a non-linear recorder is, while playing back a take, going into record without the worry of erasing anything. This miracle alone is reason enough to move into non-linear. But there's more.

Some Hands-on

During an impromptu test recording of a long take, the LCD window warned me that the Compact Flash was full and not recording. I worried a bit that this had also stopped recording to the hard drive, but no worries: The 744T records to compact flash card and an internal hard drive. Everything still went to the hard drive, ready for copying to another flash card if needed.

I played back the files later and used the "transport" to scrub forward and reverse through the audio files. It was nice to identify trouble spots and quickly rewind back to it. I then saved my setup as a default in the quick setup menu. "Quick Setup" is the first item in the menu screen. Most situations can be preset in "Quick Setup."

After I had recorded a few tracks here and there I plugged the firewire into my Mac (OS X Panther) The Hard drive and flash card popped right up on the desktop where I did some clean up. Removed bad takes, false starts, and the "Is this thing on" sound check information. I also, pulled the files up two ways on a pc. The firewire connection once again mounted the hard disc and flash card. The flash card also opened later with a compact flash reader.

sounddevices744T

continued...



After the Recording

I do recommend checking the file type and file name preferred for your audio editor. Some systems like the Broadcast Wave Format (BWF). Others default to WAV files. ProTools (LE6.1.2) would take either file type. I did learn a few things about the file structure. When I imported the audio files into ProTools, they couldn't be edited. RED LIGHT...what do you mean it can't be edited? Well they are actually read only files. All I had to do was duplicate the file in the edit menu, and then drag the copy to a new open track space and the it could be messed with all I wanted.

Some 744T Ins and Outs

Routing signal through the 744T is also easy. Sound Devices has several routing presets. One of the alternate menu scrolling buttons also acts as a shortcut directly to the routing menu from the main screen. You can route any combination of inputs to any tracks. Four tracks with up to four inputs can lead to numerous combinations. Four inputs to one track or one input to four tracks; only your need limits what you can do.

The two XLR inputs can be used as mic or line 1-2, or 4-channels of AES/EBU. Gain controls for the XLR inputs are located on 2 pop-out pots on the front of the recorder. They provide smooth response and give an awesome amount of gain while staying very quiet. If the 744T recognizes signal on the BNC digital inputs they override the XLRs. The BNC digital inputs will take AES/EBU or SPDIF signals. Additionally, there is a pair of TA3 line level inputs. Their input levels can be controlled via the menu screen under the properly labeled INPUT 3 LEVEL, and INPUT 4 LEVEL selections.

The 744T is also capable of sending five stereo output pairs. Two of them are digital outputs on BNC connectors. The other three are analog signals. The first analog pair is in two balanced TA3 connectors. The other two are in unbalance stereo minis: the tape out and headphone monitor.

Whaddaya Know... I Like It!

There are not too many things I would change in this recorder (but if Sound Devices wants to, they can change it with an email!). It does exactly what it was designed to do. It fills a void in this price range and still gives sound mixers most of what they want. I am happy to know that Sound Devices is working on a software update to allow the recorder to write directly to an external drive. It's just another great example of more hard work to make their reputation explode in the industry. They have earnestly delivered on their promises.



SOUND DEVICES 744T CIRCA 2005

non-linear no fear by tyler wade

The impossible has become the inevitable and non-linear sound has risen. New technologies are again eliminating older ones. Now, even timecode DAT recorders are no longer being made.

I don't come from an analog background. I grew up in the digital realm playing Nintendo. Since working at Trew Audio, however, I can appreciate that older analog recorders like the NAGRA are strong and solid recording machines with deep, rich, and unparalleled sound quality, especially for its time.

But now, parts can be tough to find and the cost is usually high. Trew Audio's own Steve George is a genuine mastermind in repairing these older machines and timecode DAT machines if you still need to nurse yours along. But it might be worth your while to take a moment to consider the pros and cons of the step to nonlinear.

For example, the DEVA V, the latest and greatest from Zaxcom, does 10 tracks and can record for hours without stopping! Multitrack production tracks are no longer a novelty, but are being insisted on by many producers and directors. No more waiting to reload the recorder. "Roll-outs" are a thing of the past (for those of us raised in the Nintendo generation, "rolling out" meant running out of tape during a take, which used to be a common fear of sound mixers). There is no need for recalibrating your machine to adjust for wear. Updates to non-linear recorders are done instantly by email. Though change will continue to come quickly, most non-linear recorders are designed to evolve with changes in technology, which was a proven advantage of the earlier Deva-2 recorder.

non-linear no fear

continued...

Nonlinear digital recording may be a scary idea for some people but it is comforting to know that in a short time, everyone who takes the plunge soon considers nonlinear an easier, better way, with creative options and safety features impossible with older recorders. Recording is as simple as it has been in the past by hitting the record button. Playback is even simpler because there is nothing to rewind! Just press play and your recording instantly plays. Press record while playing, and you are instantly recording after the end of the last take. It is impossible to erase a take by recording over it. There goes another fear of the previous century!

For post production, non-linear editing has jumped light years ahead of its predecessor. Perhaps you remember sitting in front of a reel-to-reel machine waiting for just the right moment when the bad sound crosses over the play head, taking off the tape, marking and slicing the spot, and finally taping it all back together. With the non-linear recordings, such as those made with the PD-6, 744T, Metacorder, DEVA, etc, a simple click-and-drag at the workstation and the edit's done (and undo is just a menu function away). You can see the waveforms, zoom right in on them and be a surgeon with your audio. Mixing and effects are laid on easily with adjustable presets that make quick work of complex mixes.



NAGRA-KUDELSKI RECORDER CIRCA 1984

non-linear no fear

continued...

Some audio people are still concerned about the sound quality lost in the digital world. I suggest that is now myth, but you should listen for yourself. Properly used, 24 bit digital audio commonly used today will far surpass the dynamic range of even the best 7-1/2ips and 15ips analog recorders, and the sound quality certainly surpasses that of the still-used, but discontinued, R-DAT recorders.



ZAXCOM DEVA V CIRCA 2005

A major advantage of nonlinear is the ability to transfer recordings much faster than real time (this is a favourite feature of producers). To accommodate this ability, Firewire and USB connections are abundant in the new recorders. USB 2.0 and Firewire are simple plug and play technologies transferring data very fast. If you have these ports on your computer (newer models usually do) then you can easily download your recorded sound files directly into your computer. If you have any editing program at all (there are even many free downloadable versions available), you're off to the races.

With a little research and some time playing with the equipment, you will become familiar and at ease with nonlinear. We can already see it happening as more post houses are passing the word down to the productions that they want non-linear production tracks.

non-linear no fear

continued...

These machines are running out the doors at Trew Audio and many are being bought by sound professionals who have made their livings with Nagra analog recorders. These people realize the benefits and so will you. Now is the time to give it a chance. With the fall of EMTEC and with the future of the reorganization of Quantegy questionable, " " tape stock is becoming less and less available as the sound guys with older gear rush to buy out the remaining stock. DAT can't be far away from the same fate.

Still feeling intimidated? Drop by Trew Audio's Toronto or Nashville office and let us show you the nonlinear recording systems to choose from, and ask all the questions you want. We're here to help you get the system that suits you best, and we try to have these recorders in stock and on display (we even have complete Metacorder packages, including Mac computers!). If you're not in the area, we will gladly help you on the phone or over the internet. Check our site for some quick and easy product breakdowns. Here is a great link for more information on these items and on non-linear sound.

<http://www.trewaudio.ca/nonlinear.htm>

See you there.

Tyler Wade
Sales Associate
Toronto



POWERBOOK G4 WITH
METACORDER CIRCA 2005



“Part of the enjoyment of the job is talking to regular customers and getting to know them. It’s not your typical sales position.”

Rob Milner, Sales

the new guys rob milner and rob rightmyer

Rob Milner is one of our fresh new faces at Trew Audio. He joined our company at the end of 2004.

Like Rob Rightmyer, Rob Milner has a degree in Recording Arts from Full Sail -- but prior to that he already had a solid foundation in electronics. Rob was an Electronics Technician in the U.S. Navy where he was trained in Radar and Aircraft Navigation Systems. While in the Navy, Rob also learned complex signal flow and component level troubleshooting – just the kind of experience that comes in handy working with today’s complex audio gear!

Since graduating from Full Sail, Rob has worked as an Audio/Visual Technician. Although most of his prior audio experience was in music production and studio recording, Rob has welcomed the shift into location sound recording for film and television. “I’m surprised two similar worlds could be so different!” he admits.

As it is for all audio professionals, learning the endless amounts of gear has been a challenge and continues to be an exciting experience for Rob. As he puts it, “I am honored to be a part of Trew Audio. I can’t wait to get my hands and ears into everything and pass along the information! I look forward to serving our customers and working alongside this unique staff for a long time to come.”

We’re very glad to have him on board.



The New IT Guy:
Rob Rightmyer

“He is a digital audio and video specialist, and will be a key figure in the ongoing development of our website, newsletter and online store.”

robrightmyer

Trew Audio has recently hired Rob Rightmyer as Director of Information Technology. Rob comes to Trew Audio with a Degree in Digital Media from Full Sail, and is uniquely qualified to take on the responsibilities of managing our hardware, software and website presence.

Prior to coming onboard, Rob was a lead programmer and multimedia developer for the Digital Divestment Corporation. He is a digital audio and video specialist, and will be a key figure in the ongoing development of our website, newsletter and online store.

Look for exciting new features and improvements to the website later this year. Our goal is to continue to provide superior customer service and benefits as we grow, and Rob will be putting in place the tools and systems that we require to accomplish this.

Welcome aboard, Rob!



1) DPA WindPac

We like new items that are innovative and useful, and the DPA WindPac windscreen and suspension system is certainly both. Areas where the WindPac breaks new ground: It is lighter, more sonically transparent, more versatile, and (initially) more expensive than anything else of its type. It requires no furry cover, the super-lightweight suspension is indestructible, and the wind-screen folds to fit in your back pocket.

2) Sony Headphone Parts

One of the most popular items for our on-line customers is replacement parts for headphones. We keep a large stock of replacement cushions, headbands, cables, and the elusive 1/8" – 1/4" gold-plated adapters.



3) Metacorder

It's the most quickly accepted non-linear recording solution since the race began. Metacorder turns a Mac computer into a powerful but economical 24-track nonlinear recorder. Meta-text of SCENE, TAKE, NOTES, etc, make it particularly tailored for film and television production.



4) Mackie Onyx 1620 Mixer

Is it a miracle that the Mackie Onyx Mixer series was introduced about the same time as the Metacorder? Regardless, it certainly seems like a match made in heaven. The Mackie Onyx 1620 Mixer has 16 inputs plus a host of outputs and returns, and it even has a talkback circuit perfect for talking to boom operators. But what makes it perfect for the Metacorder is its Firewire port that supports 16 prefader outputs, 2 mix busses, plus return monitoring to and from your computer, all on a single cable. Need another reason? It's under \$1000 US.



5) Lectro Venue

It's finally here!!! We've been touting the virtues of the Lectro-sonics Venue wireless microphone system for nearly two years now, but it has only recently begun shipping. New owner response: Awesome. A lightweight single rack space unit holds up to six receivers. The complete package is so inexpensive we're always asked to repeat the price. The receivers will even work with some competing brands of transmitters. Combine the low price, high performance, and compatibility, with its ability to be displayed and controlled by a notebook computer's USB port, and no matter what you currently use, you have to consider the Lectro Venue.

6) Sound Devices 744T

The long talked about 744T nonlinear flash card and hard drive recorder from Sound Devices began shipping in the fourth quarter of 2004. 100% of the new owners had the same first words: "It's smaller than I thought!" The styling, ergonomics (both hardware and software), and solid build quality make it a guaranteed winner.



7) Sanken CS-1

We introduced this unique microphone one year ago, and now that it has a track record we can let you know that it is a very good one. Its relatively wide front-pickup pattern, combined with an amount off-axis – particularly in the low frequencies – that even rivals traditional long shotgun mics, is now being appreciated by sound mixers around the world. Selling for well under \$800, it is also one of the most affordable.



continued...



8) Ultrasonne Headphones

These phones really do take professional headphone monitoring to a new level. Since most readers of “The Mixer” make their living while listening with headphones, they’re a must to learn about. Trew Audio recommends choosing between two models: the 650HFI (for those in love with your Sony 7506s), and the 750Proline for those who want a better idea of how their recording will sound over a speaker. They are both built with an innovative design to reduce hearing fatigue.

9) Zaxcom 2-Channel Camera Link

While we’re on the subject of unique and innovative, the Zaxcom 2-Channel Wireless Link to Camera system can’t be overlooked. There simply is nothing else that offers what the system does (except maybe a hardwire – on a good day). The system uses a single miniature transmitter attached to the output of your mixer to send two channels of digital audio to a single compact camera mounted receiver. Yes, it’s impossible, but Zaxcom does it anyway.



10) DB Technologies Battery Powered PA Speakers

There are other battery powered speakers available, but none that sound quite as good as the new entry from DB Technologies. Trew Audio recommends the “Opera” series to use on the production set for playback or VOG. They can be ordered with an internal, frequency agile wireless receiver (made by Beyer Dynamic) and either a handheld or bodypack mic and transmitter. Standard features include mic/line inputs and outputs, with the ability to link several together. Battery life is about a full day. Need another reason: They’re less expensive than you’re used to for a speaker of this type.



trewaudiogrowsagain

The US office of Trew Audio has grown into a new facility!



welcome to our new office



our classic nagra collection



demonstration stations



Since 1981, each of the five times that we moved, we've wondered how we had managed in the previous space and wondered what on earth we would do with what seemed like the vast space of the new.

Now, in 2005, our most recent move has doubled the size of our facility. While we still wonder how we managed so long in the previous space, we will no longer be surprised as we fill in the new. Now a company of 24 strong, the first five things we did after our move were to add positions in Marketing, I.T., Sales, Fabrication, and Shipping – all to better inform you and to better deliver what you want.

trewaudiogrowsagain
continued...



John Algee, sales vp



sales department



marketing & IT department



shipping department



service department

For those who have visited our store before, we are still in the same neighborhood, on the same street. But when you visit the new store, allow a little extra time for the tour: There are more people to meet and the walk takes a good bit longer. We have a nice large showroom for displaying all of the latest gear in a working setup. You can check out the latest wireless systems, make a listening comparison of different microphones and headphones, test the new non-linear recorders, etc. You can even try your hand on our antique – but fully functional – Mole-Richardson Perambulators (microphone booms). Pull a chair up to our internet café to check your email or browse our website while relaxing with a cup of coffee. Behind the scenes we have an improved fabrications facility, private meeting rooms, increased bench space for the service department, more area for processing and shipping your orders, an improved photo stage for our website production, and an additional office for creating publications (such as this issue of “The Mixer”).

Needless to say, we like our new home and we think you will too. Whether you visit us in person, or by telephone, or through the internet, we feel our new facility will improve the quality of service we can provide you.

For those who have been with us along the way, thank you. If you are new to Trew Audio, we hope you’ll soon understand what those before you have found: our growth is the result of many people working diligently to enhance the careers of the sound professionals we serve. And while adapting to change is part of what we do well – whether it be changes in trends and technology, or simply the need to have more space – the fuel that powers Trew Audio remains unchanged: our never ending passion for Sound.

Glen Trew