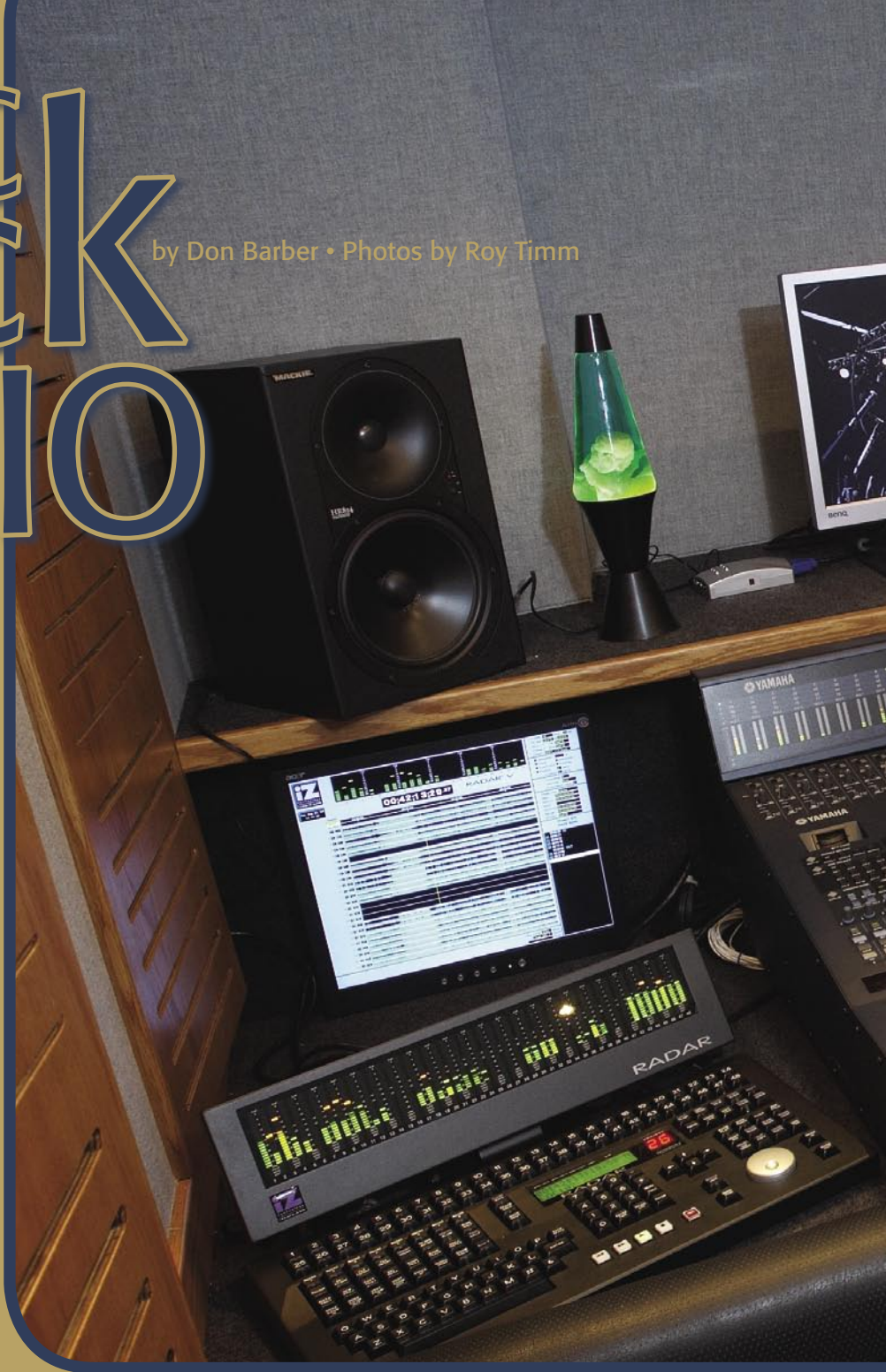
Click Track Audio

by Don Barber • Photos by Roy Timm



has been in operation in the Ottawa area for a couple of years now, but it was just this spring that Wayne Hawthorne and Pete Osborne launched their mobile recording services in a 2003 GM C5500 truck. The original concept was to build the entire studio from the chassis up, but budget set in and the realistic approach was to buy a used vehicle and custom modify the 18' aluminum box. Acoustic design was by John L. Sayers with construction by P.K Van Bodies.

The advantages of the truck over the mobile location format are the consistency of the monitoring environment and the isolation from the live stage. They also don't have to lug all that gear and set it up and wire it every time, which saves wear and tear on equipment and humans, as well as set-up time.

The original designs needed to be scaled back to accommodate the smaller box size, but with a collaborative effort and the experience that P.K. Vans brought to the project the results have worked very well; one of the advantages being the smaller size lets them locate where a larger truck or semi-trailer wouldn't fit.

P.K. introduced the idea of having a separate machine room in the back of the box, which gives them isolation from the noise and heat generated by the various computers and hard-disk recorders. This also acts as their storage bay for the mics and stands and other on-stage gear. The truck can operate on location power, but also has its own generator if there are isolation or noise issues or if they are located in a farmer's field.

The generator and air conditioning units were carefully selected for their quiet and vibration-free operation and are further isolated from the body of the truck itself. Particular attention was paid to the ducting system for the air to insure that there was no air turbulence noise.

During construction they realized that there was an important feature they hadn't originally incorporated into the design, being a levelling system. Having the truck level is nice versus sitting on a slant and having your mix chair rolling away on you, but more importantly they noticed that some of the other trucks that P.K. had in their shop that didn't have the levelling system rocked as you moved around the truck. Now we all know rocking can be a good thing, but in this case it was going to be much too much of a distraction, so the Big Foot levelling system was added on. The system is fully automatic; press one button and the auto level takes care of the rest.

Wayne is the audio guy – he deals with the clients and does the mix. Pete is the systems man and deals with the truck and the power. He's also the one dealing with the stage gear and the mic preamps. There is a combination of 24 Yamaha DM2000 preamps, three True Systems Precision 8 high-gain, low-noise units that have "great drive" capability, along with 16 Tascam DM-24 preamps and an 8-channel Presonus Digimax LT. By locating the preamps at the stage and bumping up to line level they can run a 400' snake which gives them a lot of location options and flexibility as well as good isolation from the live sound.

The signal goes directly to the hard-disk recorders. Their first and most important equipment decision was to go with two IZ RADAR V Classic 24-Track Digital recorders complete with DVD Multi Drive. "We spoke with several people and did quite a bit of research, and the word of mouth was that the RADAR machines were the way to go and we've had nothing but excellent results. The RADAR V units came through Dave Dysart at HHB Communications whom they contacted very early in the process of gear selection. HHB loaned Click Track a demo RADAR system and spent

Wayne Hawthorne, at left, and Pete Osborne. Below: the truck's generator.

quite a bit of time discussing options and configurations, variations, etc. for the RADARS as well as some of the other gear that was sourced through HHB. Previous to the hard-disk recorders they had been using mechanical helical scan tape machines, which worked well and were quite reliable but they required considerable maintenance time. Wayne says the RADAR machines "sound great and are rock solid."

The 48 channels of RADAR Classic V have a bit rate up to 192 kHz and 48 K A to D conversion. The new Adrenaline Plus engine gives them "a ton of horsepower," so there is no bit rate reduction as you go up to higher track counts. They also have built-in redundancy; you can write to two drives simultaneously so the

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client can walk out at the end of the session with their own drive in hand. The iZ RADARs have become the standard as location devices, included in the CBC's mobiles and currently on tour with The Rolling Stones and the White Stripes. If you look at the IZ client list it literally runs the full gamut from AC/DC and Aerosmith to Yngwie Malmsteen and Zane, and every letter in between. You'd be hard pressed to name a band that's *not* using RADAR.

Great attention has been paid to the construction, with robust drives, really good converters and solid grounding techniques. There is a dedicated control surface for tracks and transports just like the Studer and Otari analog machines of the past.

Click Track is in good company with Producers like Hugh Padgham of Genesis, Sting fame and the (brilliant) XTC *English Settlements* album using RADAR.

When asked about his experience using the RADAR system Hugh Padgham replied, "It's such a great system for recording. It's an ideal way to work in a recording session. The sound is fantastic and the fact that it's all together in one box is really appealing. Pretty much everything I've done in the last seven years or so has been done on the RADAR."

Mark Howard is an Engineer/Producer that has worked for 15 years with Daniel Lanois and with artists such as Emmylou Harris, R.E.M. and U2.

"I like to keep technology out of my way," relates Mark. "RADAR is a good example of technology that serves the user instead of the other way around. It frees me up to listen and create; it keeps technology out of my way and the sound is incredible."

The Adrenaline process has features like "file flattening" that will take a number of punch-in takes and convert them to one file for export and easy editing on a workstation platform such as Pro Tools. There's also a "bug log" that keeps track of every keystroke for analyzing any glitches should they appear.

Wayne says, "the support has been excellent; there was a small glitch at the very beginning, and Barry Henderson the President of IZ Technologies, came out personally to solve it."

With additional Alesis ADAT HD-24 machines Click Track can provide a full 96-channel capability with SMPTE timecode to interface with broadcast. HHB supplied the Rosendahl V3 Nanosync time clock that keeps the Yamaha console and the RADAR machines internally synchronized and with external broadcast or video. They can "Jam-Sync," also referred to as

Synchronization, Video & Communications

Clocking & Synchronization

1 – Rosendahl V3 Nanosyncs
1 – MOTU Digital Timepiece Universal Synchronizer
1 – Brainstorm SR-15+ timecode reshaper

Communications

1 – Clearcom MS-232 Base station
1 – Clearcom TW-12B RTS Interface
2 – Clearcom RS-601 Beltpack
2 – Clearcom CC-95R headsets

Video

1 – Main Video Monitor
3 – Secondary Feed Video monitors
Monitoring Closed Circuit Video Camera

RADAR Alpha and Omega

In 1989 Barry Henderson was mixing in his Burnaby, BC, Creation Studio using a Studer A80 MKIV tape machine. They were getting growingly frustrated at the amount of time it took to wind and rewind tape and decided they needed a Random Access Digital Audio Recorder. Since nothing existed, they would just have to make it themselves.

Conventional wisdom (or "they") said there was not enough processing power and speed available to do that, let alone allow for punch in and out editing capability. When Barry and Co. determined that they also had to have the D to A and A to D converters inside the same box "they" said there would be so much noise and digital hash it would be impossible, particularly with a resident switching power supply.

Along with some partners, Barry formed Creation Technologies to develop a number of electronics products with RADAR being one of them.

In 1993 Creation Technologies shipped the first RADAR 24-track 16-bit 48 kHz digital recorder. At the 1994 AES convention some people from The Otari Corporation walked into the booth and said they had been looking for something like this for years and immediately negotiated an agreement to market and distribute an Otari branded RADAR machine.

This put RADAR on the world map and was a successful relationship for five years. After a time Otari's marketing focus was steering away from the professional market.

Barry formed iZ Corp. to focus solely on professional audio, and with his original development team repatriated the RADAR name and technology.

Other current workstation recording systems are focused on processing and plug-ins. RADAR technology has always been focused on excellent sound quality, reliability and ease of use. They are also focused on service and support.

"We have a specialized product in a niche market. It just works. If someone calls with a problem and says their system doesn't work we give them the Rolls Royce response – "yes it does" and we make sure it does. I work directly with the end users. When I visited Technicolor, Toronto's largest post-production facility they were having and intermittent glitch, so I stayed to track it down. It took all day running the transports back and forth to finally find the bug. I contacted my program technician; he sorted out the problem and we had them running 100 per cent that day. They asked why I would spend my time doing this and not just send in the tech, but I know the word of mouth about our commitment to service will result in future sales."

This is exactly what happened after Dave Dysart of HHB made a call on CBC Montreal. He sorted out a minor issue with them and walked out with a $75,000 PO.

RADAR was the first digital multitrack and since it now seems that any of the other players that had machines on the market have abandoned them RADAR is the last man standing. Alpha and Omega – the beginning and the end right here in Canada.

Truck & Truck Equipment

Chassis
2003 GM C5500, 19,500 GVWR

Control Room
Custom Modified 18' aluminum box, acoustically designed by John L. Sayers and constructed by P.K. Van Bodies.

HVAC
2 – 11,000 BTU Air Conditioning Units
2 – 1,500 W electric heating

Power Requirements
2 – 30 A, 120 V AC required (1 for Utility Power, 1 for Technical Power)

Generator
7.5 kW Onan quiet diesel generator

Power Conditioning & Backup
2 – Unison 2KVA UPS
2 – Group 31 12V Batteries w/timer and auto shutoff
1 – 80 A, 12 V Power supply & battery charger
1 – Furman PL-Plus 15 A Line Conditioner
2 – APC BackUPS350 UPS

Stabilization
Full 4-point hydraulic automatic levelling system

Audio Equipment

Recording Consoles
1 – Yamaha DM2000V2 24 fader, 96-channel fully automated Digital Console w/3 MY-AT16 16-channel
ADAT Interface cards
1 – Tascam DM-24 32 x 8 digital mixer with 2 AD/DM
ADAT Expansion cards

Recorders
2 – IZ RADAR V Classic 24-track digital recorders w/DVD Multi Drive
1 – Alesis ADAT HD-24 24-track digital recorder
1 – Alesis ADAT HD-24 Fireport 1394
1 – MOTU 2408 MKIII 24-channel interface
1 – 2.4 GHz P-IV Backup Recording computer
1 – Tascam DA-78HR 8-track recorder
1 – Alesis Masterlink ML-9600 CD Recorder

Preamps & Input
3 – True Systems Precision 8 (24 onstage channels)
24 – Yamaha DM2000 Preamps
16 – Tascam DM-24 Preamps
1 – Presonus Digimax LT (8 channels)
3 – Whirlwind IMP-2 passive DIs
3 – Rodam TD100 passive DIs

Monitoring
Mackie HR-824 Nearfield Monitors
1 – AKG K-240 Headphones
1 – Apex HP80 Headphones
1 – dbx DriveRack Studio Monitor Management

Distribution
Symetrix Model 581E Audio Distribution Amp

Cabling & I/O
1 – 400' 58-channel Main trunk
1 – 100' 24-channel trunk
1 – 25' 24-channel sub snake
1 – 10' 24-channel sub snake
1 – 58-channel 2-way isolated split box
1 – 24-channel isolated secondary split box
2 – 25' 12-channel stage boxes
1 – 50' 12-channel stage box
1 – 75' 12-channel stage box
1 – 25' Communications Snake

Miscellaneous
1 – Clearsonic 5.5' 4-section drum shield

lock-and-drop, whereby the machines initially lock to an externally generated timecode and then run at their own relative rates or "Freewheel" when they run their own internal clock generator and then synchronize the audio at a later time.

Mixing is done on a Yamaha DM2000 V2 and Mackie HR-824 Nearfield Monitors. The digital recall allows them to have two or three projects on the go at any one time.

Another design change requirement was to relocate the outboard equipment racks from the sidewall to below a production desk in the middle of the floor. This actually resulted in the equipment being located directly behind the mix position, which is actually more accessible. The production table allows clients to sit in on the mix, but is also used as the video production table. Wayne can send a live mix to broadcast, typically comprised of a number of sub-mixes, and the producer can call the camera shots and hear the live mix. Wayne says it's not really distracting at all to have the show being called behind him and it gives the video production people a good sense of security to be able to hear the show in progress, and they have the convenience of telephone and Internet access. He says he gets surprisingly little backseat mixing advice.

Initially the biggest challenge was time. They had a fixed due date dictated by a spring booking for the Cisco Systems Bluesfest with a live stereo mix for Rogers Broadcast. As with any project there are inevitable setbacks that start crunching you into a deadline. The truck was delivered to them as a bare shell. They already had all the equipment up and running in Pete's dinning room, so it became a matter of installing everything into the truck and wiring it up. Their cable vendor was Audiolynx; George Kurtland had the unenviable job of wiring the whole system over one weekend before their inaugural gig. It took a couple of late nights to get it all done but when they fired it all up they had 98 per cent systems go, which was incredibly satisfying.

Pete says his biggest satisfaction is when people come into the truck from the FOH position and say, "It sounds so much better in here!"

They would like to get another set of speakers, not to replace the Mackies, but as another reference. They have had occasion on particularly loud shows where a little more bass handling and some additional horsepower would have come in handy.

Click Track has an interesting symbiotic relationship with "Two of the finest professional audio facilities in Eastern Ontario" – Blue Bear Sound and Sound of One Hand Recording. This gives Click Track access to a "stunning array of microphones" that goes well beyond the ubiquitous SM58, including AKG, Audio-Technica, Beyerdynamic, Electro-Voice, Neumann and Sennheiser as well as some more esoteric models.

The studio relationship allows Click Track's clients the ability to do post-production mixes and overdubs and the studio's clients can get remote recording facilities without having to disrupt the studio's operation (see above about lugging gear).

Click Track also works with Healey Disc to offer complete DVD packages. They also stay in close touch and in "friendly competition" with a number of other mobile recorders so that they can collectively service the local area and beyond and hopefully avoid some of those pesky foreigners from getting involved.

So far Click Track has worked on a number of outdoor festivals and classical recitals. They see a great potential market in the corporate world – it would seem to make sense that after spending the amount of time and money it takes to put on some of the corporate events that happen these days that some CEO or COO is going to want a DVD made out of it so that everyone in the company has that "take-home value" and will be able to fondly replay all those rousing speeches and scintillating presentations. ●

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