Chapter Four

311

North Hollywood, California

"Good rock played live will never go away."

311'S SOUND IS A HYBRID of alternative rock fundamentals mixed with reggae riffs, funky rhythms, and dueling voices which create a melodious rap/vocal interplay. This fusion—a distinctive trademark of the band since its early-'90s inception—has become a staple of the alt-rock genre at large, and its elements have infused practically every popular music style. But for whatever reason, many musicians and critics alike neglect or do not understand 311's seminal role in the art of genre-blending. No matter: 311 remains steadfast, vigilantly continuing to cultivate their craft and career. 311 is a case study in band perseverance, and the Hive—the studio named after the group's large and

311's live room, with (left to right) Nick Hexum, P-Nut (in the background), Chad Sexton on drums, and SA Martinez.

extremely dedicated fan club—is central to 311's perseverance, as its acquisition and renovation symbolizes and solidifies their dedication to each other and their music.

The members of 311 (Tim Mahoney, Nick Hexum, P-Nut, SA Martinez, and Chad Sexton) have plunked themselves and the Hive in the heart of the North Hollywood warehouse district, a place where musicians struggle for hours on end to rehearse and record in C-level through A-level studios. In a roundabout way, the Hive's locale can be seen as a reminder for up-and-coming L.A. musicians that maintaining a music-industry career means more than just landing a record contract, and much more than simply wanting to be rich and famous. 311 have sold over 7 million albums in the U.S. and have toured successfully for more than 12 years. As a result, the band members have made a good chunk of money from their music, but rather than spending it on opulent lifestyles, they've invested much of their earnings into the Hive, and they continue to reap the rewards of their musical returns.

311's commitment to their art is evident from the surroundings in the Hive. Numerous cargo rigs and crates with the 311 insignia are scattered about, a hint that the band is about to embark on yet another leg of what seems like a never-ending touring schedule. Mounds of guitar gear, such as Tim's Bad Cat and Mesa/Boogie & Bogner amps, are stacked in his section of the live room. Adjacent to Tim's alcove is P-Nut's nook, complete with an upright bass. Nick and SA's lyric books and sheets sit atop a few Old School black metal music stands, and Chad's kit is tucked in the back of the room, complete with stacks and stacks of drumsticks. Lead singer Nick Hexum and drummer Chad Sexton—the band's self-appointed studio devotees—give some insight into the Hive and why it is so important when it comes to perfecting their craft.

Cargo rigs and touring crates with 311's trademark insignia on the Hive's outside patio.

"We started out recording in my dad's basement—with just a pool table and a 4-track recorder." —Nick Hexum

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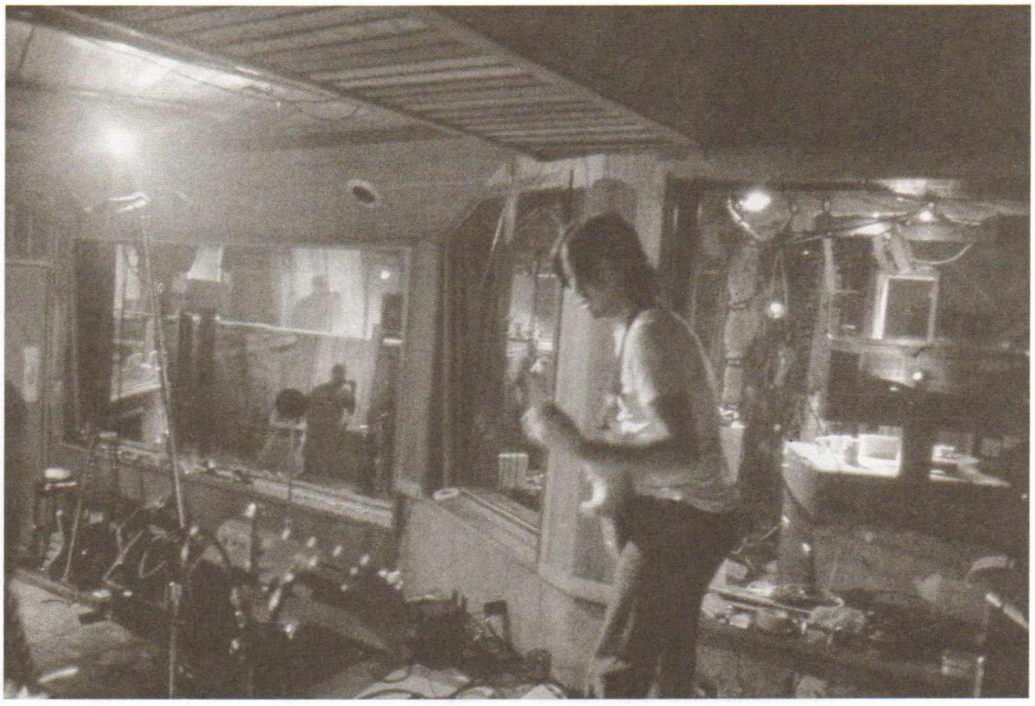
"We have learned the basics of recording on our own and have accumulated pieces of gear over time—but once we took on the Hive, it was another whole level," says Nick. It allowed the bandmembers to satisfy their technical curiosity and learn the formal aspects of engineering, in turn helping them cultivate their overall sound. Nick continues, "We have to give a huge thanks to our producer, Ron Saint Germain, because he was kind of like our engineering dad. He wanted to show us the ropes—helping to choose the board, redesigning portions of the rooms. He went all out for us and is an all-around amazing producer." Besides helping 311 with engineering techniques, Ron gave them tips on buying gear. He even phoned up friends and went on eBay to get the best pieces of equipment in good condition and at good prices. Chad elaborates a bit more on Ron Saint Germain's influence: "Saint deserves all of the credit. He got us started on learning about mic positioning, phase relationships, and all of that good stuff." Inspired by Ron, Chad has stepped up his efforts to study the science of acoustics and its role in recording. Nick explains Chad's new love for engi-



Guitarist Tim Mahoney.

neering: "Chad is a student of the art. He knows what he's doing—not just when it comes to drum sounds, but also with mixing and live miking. I love how Saint always gives us a new perspective, but Chad can do it now as well. Sometimes Chad is even pickier than Saint!" Whatever the situation, 311 finds how to control things and make it work for them, and such is the case with their studio.

311 had to revamp the Hive (formerly known as Chateau Studios) to make sure the facility stayed up to modern standards, but they also took the opportunity to transform the place to fit their recording style. First they had to perform some basic modifications. The floor had been torn apart, likely an aftereffect from when the former occupants took out all of the cabling. 311 asked Saint, Todd Smith, and Tommy Hillman to help rebuild the whole room. Chad explains, "It took a good three months. The floor had this messed-up configuration, so we had to set down a solid floor foundation." Nick elaborates on the floor's renovation. "There was this huge trough, which they filled up with sand and cement. They also flattened out this weird dip in the back." The floor in the live room is now up to par, with a great sound.

After dealing with the live room, 311 researched what board would work best for their tight but raucous performances. They were looking for a console with the warm sound of older analog boards, but they also wanted state-of-the-art automation. "We always said that if we could ever get a Neve, we would," says Nick. "Neves sound so amazing. But we just kind of figured that the older Neves were out of our reach. We've also used digital boards like the Yamaha O2R for pre-production and loved its 'recalla-

Chad Sexton pulls up a few mixes on the AMEK 72-input 9098i board.

bility.' So we were looking for a board that had both great sound and great automation." With Saint's guidance, 311 began to research the AMEK 72-input 9098i designed by the world-renowned Rupert Neve, who was responsible for creating the indispensable old Neve analog boards. "The AMEK ended up being almost exactly what we were looking for," says Nick. "It's a really good analog board, but you can recall and control everything digitally." Chad adds, "The AMEK is essentially a Neve, but it obviously has different configurations and, more important, a vertical patch bay—which means everyone has to relearn a few things." That takes time and energy, two things most producers and engineers don't have.

"I sent our new material that we recorded on the AMEK to our mastering guy, Joe Gastworth. He has worked with everyone: NoFX, the Beach Boys, the Grateful Dead, you name it. He called me freaking out, saying, 'I don't like modern music, but I love this shit!'" —Chad Sexton

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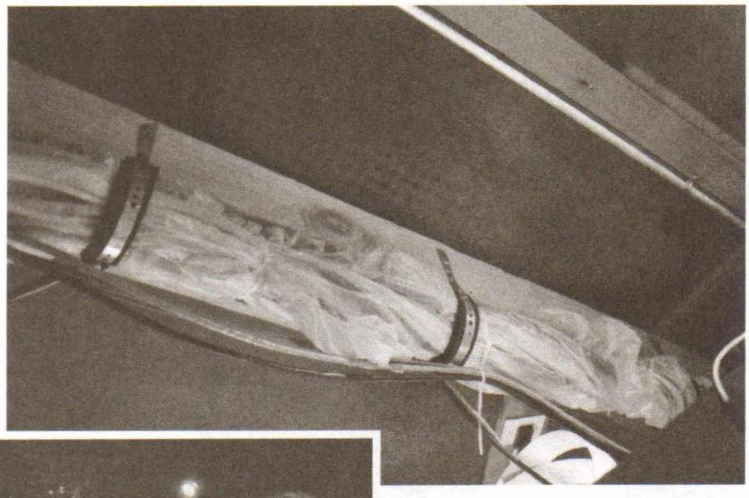
When looking for a board, most audiophiles ask for an SSL for its ease of use, or an old Neve console for its warm sound. The "newness" of the AMEK did not scare off 311. They were already in the midst of learning the intricacies of other high-end recording systems—consoles, outboard gear, and the like—so learning the fine points of one more board did not matter. "We never really knew the full ins and outs of boards, except for a few digital models," Chad continues. "So in a way we were starting from scratch on the AMEK, and that made it easier for us to learn the board's



(Top) Cabling runs to guitar amps isolated upstairs. (Left) 311's Studer A-827 24-track machine.

details. Basically our minds were open to almost everything." Nick interrupts, "But Chad is the one really going all out in the learning process. The rest of us are just kind of learning the board's basics." Although the AMEK is not generally sought out by audio aficionados, its availability and great sound make it a perfect board for a band like 311.

Overall, the Hive has been customized to capture the raw essence of 311's live shows while maintaining the sonic precision of a high-tech studio—to bridge the gap between a studio recording's sterility and the unholy feedback of a live show. That balance can be hard to attain. "One of the charms of working on analog gear is that it leaves in more personality," comments Nick. "If we relied too much on digital, we'd be naturally inclined to move things around to make more of a slick product." 311 has also tried changing the rooms' logistics to track live. Nick continues, "We like to track live but without atmosphere noise. Normally we put all of our guitar cabinets in iso booths to prevent bleeding, but since our space was limited, we decided to use an

empty room upstairs to house the amps. We ran all of our mic and speaker cables to the cabinets upstairs. Now we can all play and track at once to get that live vibe, without the extreme ambient noise." At first 311 worried that the sounds from the upstairs room would be clinical or contrived, but as Nick puts it, "We feel that we are getting some of the best sounds we've ever gotten, and that is what matters." Still, Nick points out that having a dialed-in live-room setup doesn't mean there isn't room for tweaking. "We are still constantly adjusting the sounds. The room's dynamics keep changing—the liveness, the positioning, all of that—but in the end, tracking live helps us maintain that raw sound."

REDUCTION IN BOARD PRICE:

"We were able to get the AMEK at a fairly inexpensive price—our board came from R. Kelly's old studio." —Nick Hexum

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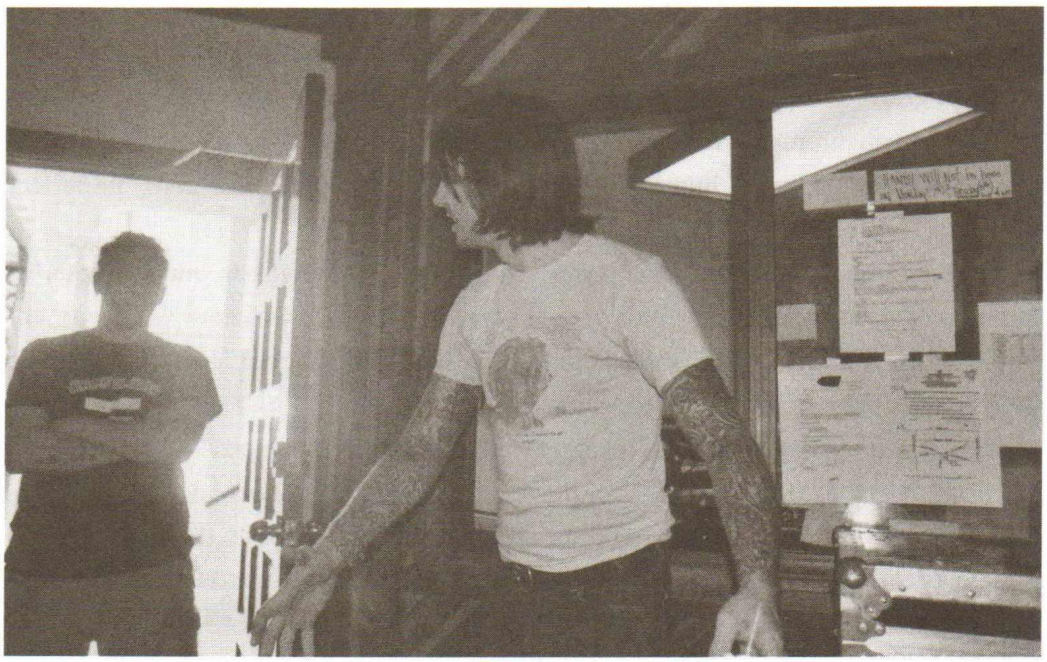
The refurbished Hive has brought 311 into a new realm of experimentation in perfecting sound while understanding acoustics and sound dynamics at a more professional level. Nick adds his perspective: "We've learned that overall we want a crisp yet warm sound, which we get with the AMEK. We don't like to have to muddle with too many effects." Chad adds, "I think people can tell our songs are full performances, not just the clip-and-clip of editing through Pro Tools." While not opposed to digital editing, 311 wants to avoid getting to the point where entire songs are clipped *ad nauseam*. "Some people want drums to be perfect, so they cut up the live drums to match a perfect grid," says Nick. "We might take a drum loop and move it a bit to match up with the live drumming. We basically wrap the loops around everything else so it has more of a live, natural, human feel. So we have a slightly different, imperfect approach."

Diving into sound engineering has given 311 a more precise ear, one that can differentiate between subtleties they once ignored. "You have to know what you are doing when you are recording digitally," says Chad. "Getting hot levels on digital is a complete mistake. Even at home on my Digi 001, a cheap Pro Tools card, if I keep pushing a sound past the normal level, I hear brittleness, like a 'tzzzz.' The sound just fractures. I can hear the squareness of the wave topping out." Chad adds another esoteric theory to his digital recording approach: "I get worried when the highs start to cut off, because I think all of the imaging is up there around 100kHz. Basically our ears stop hearing at about 20k, and most Neve boards go up to about 40k. The AMEK board responds to around 110k, so it's still getting that high end. I think in that range, people hear something subconsciously. When we're playing or recording, I think we have this connection around 100k; it's there, but we can't hear it. It's a hippie kind of

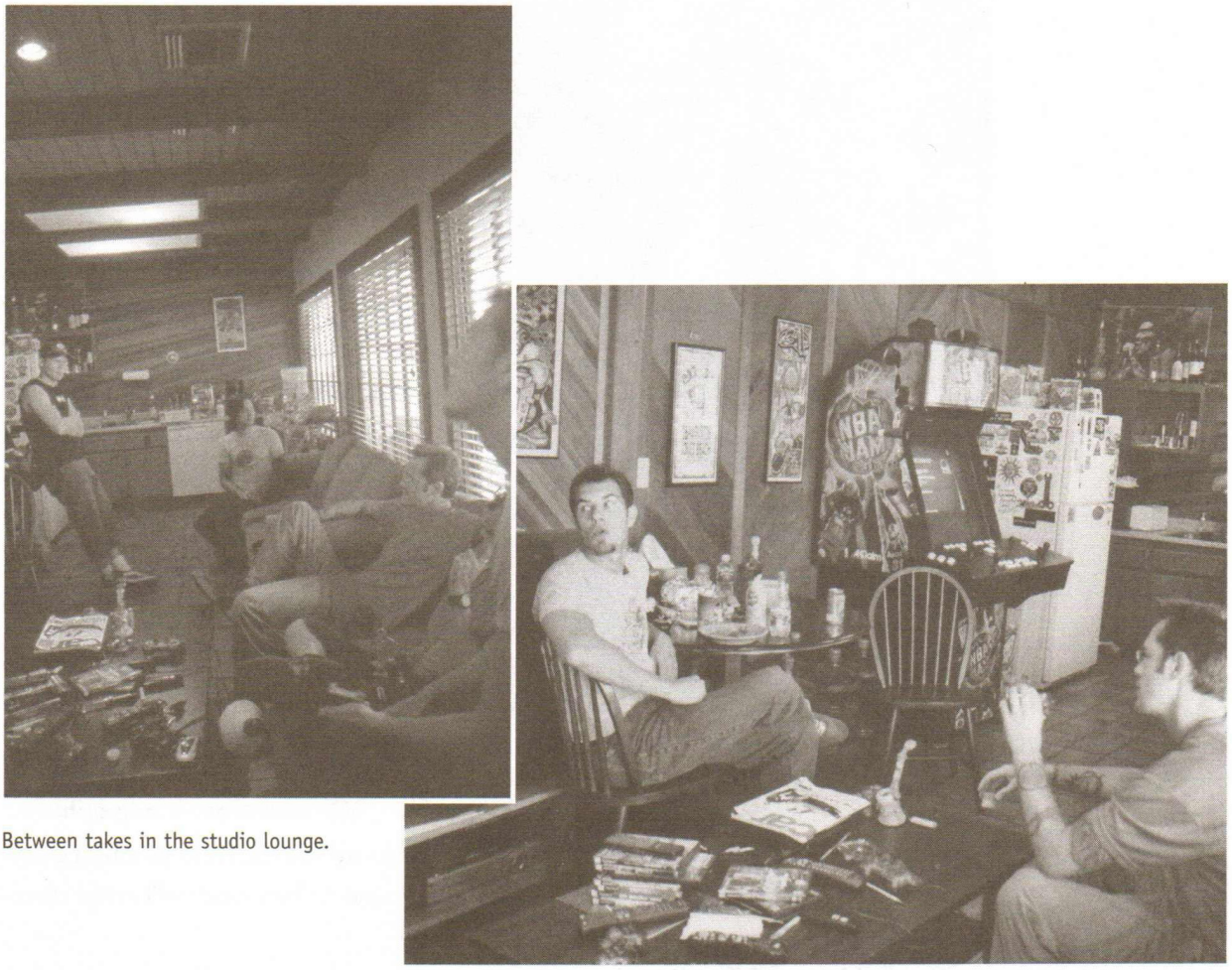
"Owning a studio just makes much more sense. The money that goes in and out is basically ours and is not going out the window." —Nick Hexum

theory. But hey, it follows similar theories, you know, where scientists proclaim that all atoms are connected by a string." Chad's high-frequency theory may be a bit esoteric, but it works for the band. Nick adds, "Whatever it is, we definitely have this subconscious feeling when recording, vibing off each other. It's kind of like when you're taking a hearing test. You can't say, Okay—now it's on or off. It's like messing with the other sound waves."

For 311, the Hive is a training ground for learning all the theories and techniques of recording music—esoteric or otherwise. The band's love for making music, combined with their ardent drive and solidarity, has allowed them to keep their grassroots fan base and fulfill a lifelong dream with the Hive: to evolve and cultivate their craft and career on their own terms. "We don't listen to what other people say," says Nick. "We are really strong-willed about what we are going to do. We've always made it about us and our music. We try to be just a classic rock band with a great natural vibe. I think what we have achieved is more of a timeless sound."



Tim in the Hive's entryway.



Between takes in the studio lounge.

TECH TALK

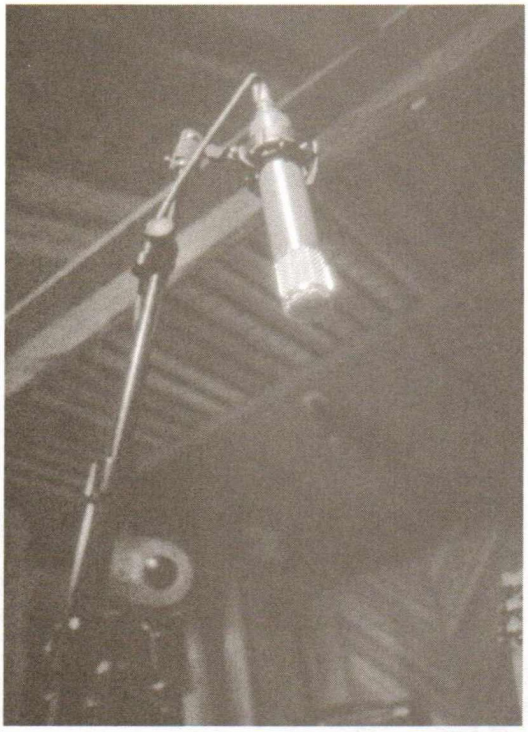
Microphone Basics

Microphones are transducers that change sound waves into electrical signals. A mic is often the first piece of gear in a recording chain, and each mic has a unique sound quality and characteristic.

The classification of a mic depends on how it converts acoustic energy into electrical voltages. *Dynamic mics* have membranes that move within a magnetic field. These membranes (or *diaphragms*) move slightly when sound hits them, creating a small electric current. Dynamic microphones come in two varieties:

Moving coil: This variety uses a magnet and a coil wrapped with wire. When the sound pressure hits the diaphragm, the coil moves across the magnetic field.

Ribbon: These use very thin strips of metal (sometimes gold) that also operate in a magnetic field. Ribbon mics are usually rectangle-shaped, have a very low output, and have a softer, non-grating high end good for brass or drum overheads, and sometimes vocals. They can distort more easily than other types of microphones.



An AKG C-12 VR placed as an overhead mic.

Condenser microphones use thin metal diaphragms, flat and back-to-back, with an electrical current running between them. When sound hits the metal, the current changes, which is extrapolated as sound. Most of these mics need 48 volts of phantom power to operate. Condensers usually sound brighter and can track high frequencies more accurately than dynamic microphones. Tube mics are condenser mics that have tube power supplies, so they don't need phantom power, and the sound is amplified through its own tube circuit, which warms the sound. Some condenser mics come with a –10dB pad.

Mic patterns: A microphone's pattern refers to its directional response—how it picks up sounds from different directions. Sounds coming into the front of the mic are said to be *on axis*; all other directions are called *off axis*.

Cardioid or unidirectional mics (for example, the Shure SM57) are most sensitive to sound coming from directly in front. Sounds coming from the rear and side end up being lower in volume than on-axis sounds.

Hyper-cardioid mics (for example, the Audio-Technica ATM41HE) are similar to cardioids, but with an even narrower pattern: Sounds coming from behind are picked up even less by this kind of mic.

Figure-8 or bi-directional mics (for example, the RCA 44) pick up sounds on either side but are least sensitive to sounds that are 90 degrees off-axis.

Omnidirectional mics pick up sounds evenly, with an even frequency response, from all directions.

Some mics, such as the AKG C-414, have a switch that allows you to change the pattern. Others do not; for instance, the RCA 44 is a figure-8-pattern mic only.

Mic Preamps

Mic preamps (or mic pre's) can be outboard, such as the Neve 1073, or included in the mixing console. (Outboard mic pre's tend to be a bit better in quality.) Mic signals are very weak, so it's necessary to boost the signal to line level so it can be used by the

console. A mic preamp sometimes comes with a pad. A pad is simply a few resistors that cut the level going into the mic pre. If the pad button is punched, it reduces the volume (usually by –10dB), which is needed if the circuit is distorting.

The Console

Major manufacturers of mixing boards include Trident, Neve, Mackie, Helios, SSL, and AMEK. A console allows an engineer to take mic- or line-level signals, blend in effects, shape the sounds, mix them together, and record them onto tape or disk, and also to create monitor mixes for the musicians who are tracking. A console can also be used solely for monitoring. Here are a few basic console-flow principles.

Understanding console signal flow:

1. A mic signal must first be boosted by a mic preamp (either in the board or outboard). Once the signal is at line level, it can be recorded and/or monitored.

2. The signal now goes to a multitrack tape machine or to a digital recording system such as Pro Tools. One possible path is for the signal to be assigned to travel through the channel's fader to a *bus*. A bus is a common signal line; it can comprise one signal or a number of blended signals. The bus delivers the signal to the tape machine at a certain level, which is set by a fader for that bus.

3. The signal can be routed back to the console again through a line input and into another channel (now called a monitoring channel). At this point, the signal is sent internally to the board's stereo bus to be monitored. The signals returning to the board (perhaps from different tracks on tape) can now be sent to both the studio's monitor speakers and a 2-track recorder, which can be another analog tape machine, another couple of Pro Tools tracks, or even a cassette deck.

So, the general signal chain is as follows: Mic input, to channel fader, to assigned bus, to multitrack recorder, to monitoring channel, to the stereo bus and stereo bus master fader, to the monitor speakers and 2-track recorder.

Console designs: In a *split console*, there is one path for each I/O (channel). Basically, the signal travels into the channel and then goes to the multitrack or monitors. In an *in-line console* (311's AMEK has in-line architecture), each I/O has two

The Hive's Studio Gear

AMEK 9098i Rupert Neve 72-input console
Pro Tools 192 HD (2)
Pro Tools Sync
Pro Tools MIDI Time
Pro Tools 80GB HD (5)
Studer A827
Otari MTR 90
Eventide H3000D/SX
T.C. Electronic D-two
Lexicon Super PrimeTime Digital Delay
Lexicon 200 digital reverb
Effectron 2
dbx 120XP Subharmonic Synth
Summit Audio EQF-100 (2)
Tube Tech PE-1C
Avalon 737sp mic pre (2)
Empirical Labs Distressor EL8-X (2)
Universal Audio 1176N blackface (2)
Universal Audio/UREI LA-4 blackface
dbx 160SL stereo compressor/limiter
Alesis Masterlink ML9600 hard-disk recorder
Apogee PSX100 24-bit A-D/D-A converter
Little Labs AES digital audio router
HHB CDR 85 CD-R recorder
Timeline/Micro Lynx
Rosendahl Nanosyncs reference generator
Brainstorm Dual Timecode Distributor/Reshaper
Byston 4B amp (2)
Tannoy 1200 monitors
Pro Acc CC2 monitors

Mics:

AKG C-451B (6)
AKG C-12
AKG C-414B/ULS
AKG C-1000S (2)
Beyerdynamic M160 (2)
Coles 87 (2)
Crown PZM 30D (2)
Electro-Voice RE-20
Neumann KM184 (2)
Neumann M149
Sennheiser MD421 (4)
Sennheiser MD441U
Shure SM7
Shure SM57
Shure SM69
Shure SM91

separate input and output paths, or two faders. One fader can go to the multitrack, while the other fader can be used to listen to the signal coming from the multitrack. One could be set for tape monitoring, while the other could then be set for the mix. Most in-line consoles have a button that allows the engineer to assign either fader to either job.

Faders and their roles: Each channel fader takes in a line- or mic-level signal and sends it to the multitrack tape machine. This is accomplished with a direct patch or by using the multitrack busses.

Chad Sexton and 311's studio engineer Zack Barnhorst check to see if the faders work.

The stereo bus master fader is one stereo or two mono faders that control the level of the stereo bus. The stereo bus is where the channel signals come together and are sent to tape; the monitoring bus goes to the speakers. Sometimes this is the same signal, but one fader controls the volume coming out of the control room monitors, and the other controls the level going onto tape.

Each monitor fader receives a line input from the multitrack tape recorder. The job you give the fader—e.g., guitar, bass, vocal 1, etc.—determines the fader's name for the rest of the mixing process.

"Rupert Neve actually stopped by the Hive to see our AMEK. He walked into the control room and began moving his hand about two inches over the board. He stopped at one spot and said, 'There is one fan out.' Sure enough, a fan was disconnected in the back. So he reached around and plugged it in. It was amazing." —Chad Sexton

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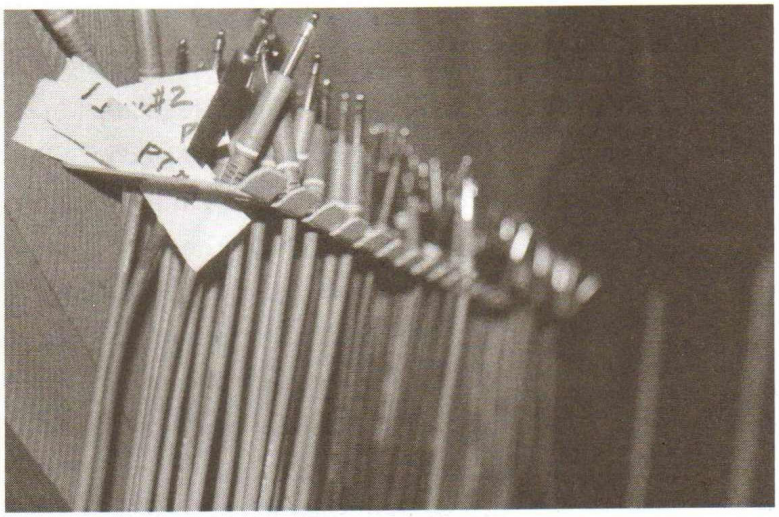
Patch Bay Basics

The *patch bay* is a system of panel-mounted connectors that form groups of inputs and outputs. They are routed with plug-in patch cords. The patch bay allows an engineer to connect gear in an easy manner without having to crawl behind the console.



A bundle of TT patch cables.

A typical horizontal patch bay is built with two rows stacked on top of each other. Ordinarily the top row is for outputs and the bottom row is for inputs, although each patch bay setup is tailor-made to fit the studio. (311's AMEK uses a less common vertical patch bay, which is set up a bit differently.)

When nothing is plugged into the patch bay, the hard-wired gear functions normally. For example, a keyboard might be hard-wired through the patch bay to go to a certain console channel. But if the engineer wants the keyboard to go to a different channel, he can do this simply by inserting a patch cord into the patch bay—there is no need to rewire the synth. This simplifies studio wiring and rerouting.

A room view with Nick's hard-wired keyboard and SA's turntables.

Normaling: If a patch cable is plugged into any input or output, the signal path is broken. This is called *full normaling*—the patch bay connection remains intact until another piece of gear is plugged in. In *half normaling*, the signal path is uninterrupted when a piece of gear is plugged in, allowing the engineer to split and redirect the signal somewhere else, similar to what can be done with a Y connector.

Patch bay types: There are a few fundamentally different types of patch bays. Smaller studios and home installations often use economical "home-grade" patch bays (they normally cost about $100) fitted with ¼" jacks for ¼" unbalanced plugs. These patch bays can use standard guitar cables for connections, but runs should be no more than 20 feet long—unbalanced cables longer than 20 feet can degrade high-end frequencies and may also pick up a bit of hum. Balanced cables use three conductors and often have TRS (tip-ring-sleeve) plugs. Balanced cables can be used for runs up to 1,000 feet without significant sound degradation.

Studio-grade patch bays are not the same as less-expensive home patch bays. TRS connectors are needed for studio-grade patch bays. Both types use ¼" jacks—but unbalanced guitar-cable plugs don't fit precisely in these TRS jacks and will eventually spread a studio patch bay's jacks and ruin them. A studio tech will kill someone if he sees a guitar cable plugged into a TRS studio patch bay!

Many higher-end studios use patch bays fitted with smaller TT ("Tiny Telephone") connectors. TT cables offer optimal sound quality in a small size, allowing for a greater number of patch points in a small area compared to ¼" TRS plugs.

"I think we put two mics on the drums and crossed our fingers." —Chad Sexton

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Mic Preamp Testing

Sometimes it's hard to figure out how the sound changes with a new mic preamp, or if it changes at all. Here's a basic way to test out a new mic pre:

1. Listen to a mic like a Shure SM58 (or any mic, really) through the existing chain.
2. Plug the same mic into the new preamp—which is now sending a line level to the mixer—and then plug it back into the existing preamp and compare and contrast the sound.
3. Try different sources—guitar, male vocal, female vocal, piano, etc. Continue to test and make notes of how the sounds change—it's all about comparing and contrasting.

Mastering Programs

Musicians recording digitally can benefit from the good home mastering programs/plug-ins available, such as T-RackS 24 Stand-alone Analog Mastering Suite for

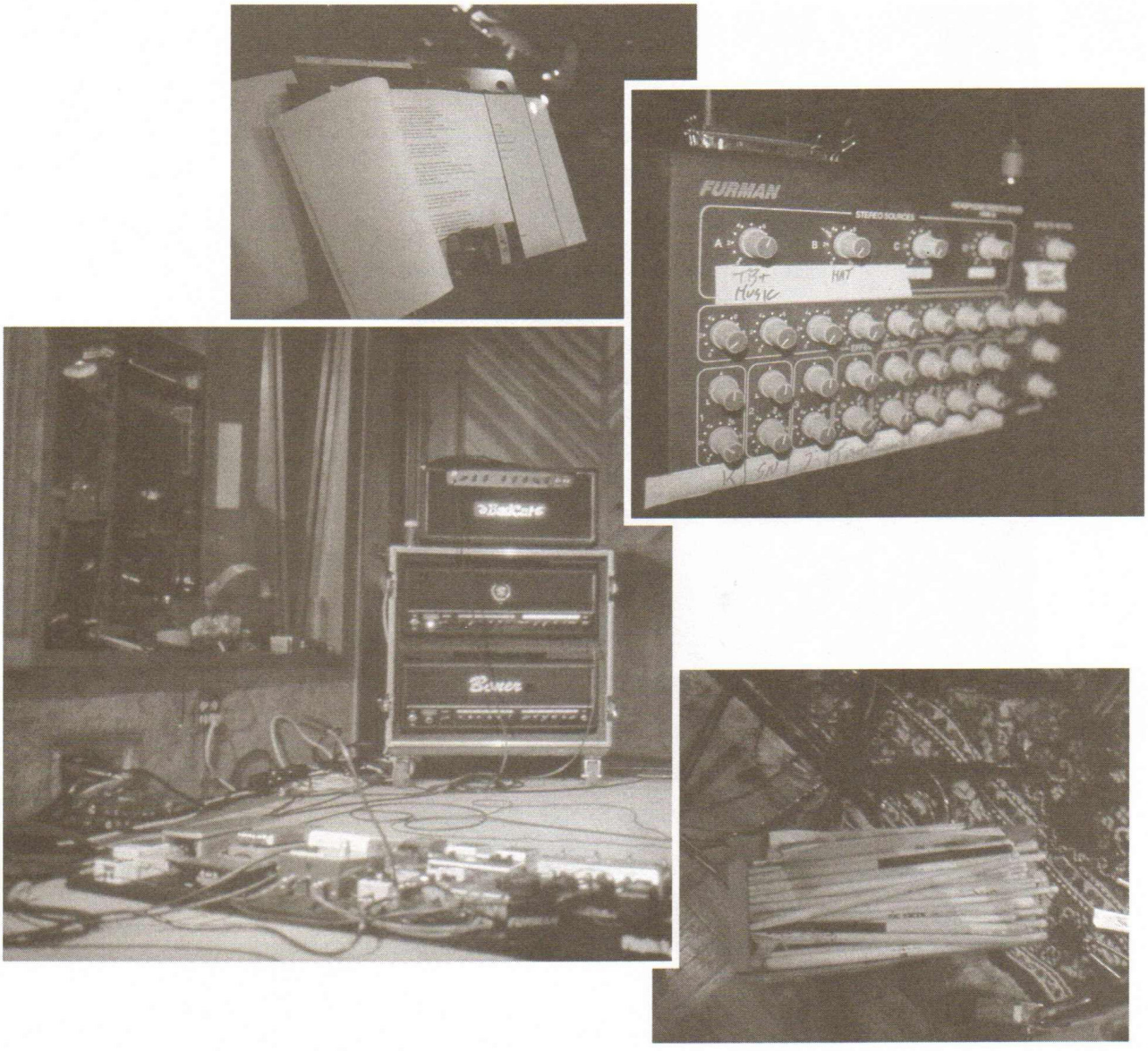
SA and Nick tracking in the live room.

Mac/PC. It allows musicians to master their own mixes on the desktop. (Of course, such a program will not replace a good mastering engineer.) T-RackS 24 includes: a 6-band mastering EQ, tube-modeled stereo compressor, multi-band master limiter, soft-clipping output stage, and studio mastering presets.

The Hive's Solid Floor

The Hive's rebuilt floor is solid and "floated," or mechanically isolated from the rest of the building. If a studio floor is not solid or floated, noise can travel through the mic stands and into the mics.

Drum loops: A drum loop is a few bars of a drum performance that is pasted over and over again, so that it loops. It's possible to build an entire song out of four or five loops.

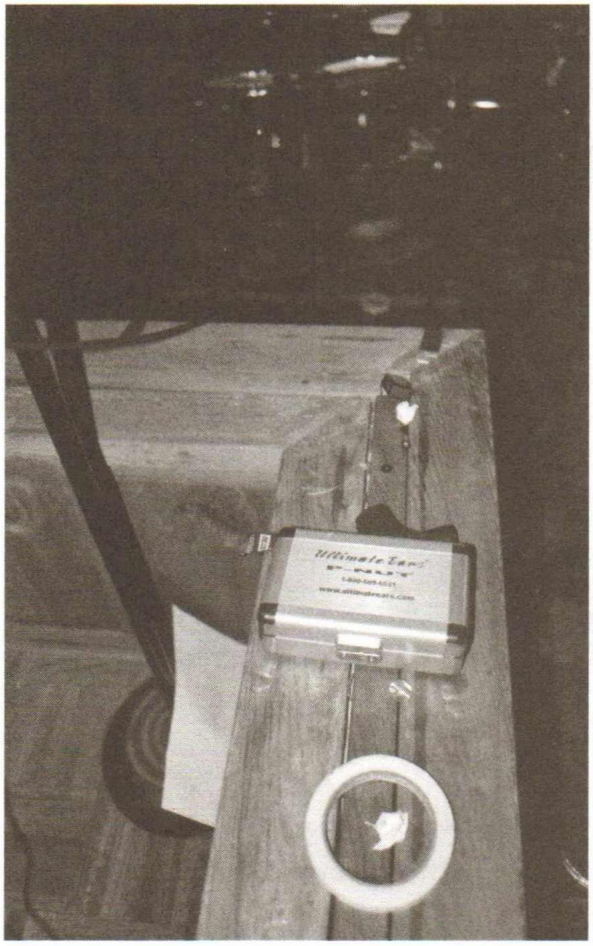


(Clockwise from top left) SA's music stand; Tim's Furman headphone mixer; Chad's pile of Zildjian sticks; pedals and a head stack including a Bad Cat, Mesa/Boogie, and Bogner.

311's Gear

Nick Hexum's guitars include: Gibson Les Paul, Ovation acoustic/electric, and Martin acoustic. His amp is a Rivera Bonehead with a 4x12 cabinet and 2x12 subwoofer. Nick uses Seymour Duncan pickups. His non-guitar gear includes: Macintosh G4, Nord Lead keyboard, Akai S-3000, Roland JV2080, Waldorf Pulse. He uses Pro Tools, Unity Session, Sample Tank, Battery, Echo Farm, and Amplitude software.

Tim Mahoney's guitars include: Paul Reed Smith Standard 24 (light blue, all mahogany, with a Bob Vessells custom tiki-mask inlay on the headstock), PRS Santana, PRS Custom 24 (mahogany w/maple top), PRS McCarty archtop, PRS



P-Nut's Alcove: (top) custom-made earpiece by Ultimate Ears; (right) a pair of Warwick basses.

Standard (all mahogany), Schecter C7+ 7-string, and Washburn Dimebag Darrell Signature Model. His amps include: Mesa/Boogie Triple Rectifier, Bogner Ubershall, and Bad Cat Hot Cat Fender Twin Reverb, with Mesa/Boogie and Bogner speaker cabinets. Effects include: Boss Octave; Electro-Harmonix Small Stone Phaser, Q-Tron, Memory Man, Small Clone Chorus, Holy Grail Reverb, Mu-Tron 3 envelope filter, Mu-Tron Phasor 2, Fulltone overdrive, Buda Wah and Dimebag Wah pedals, Rocktron Intellifex, Lexicon PCM 42 digital delay, Line 6 DL4, and Boomerang Phase Sampler. Tim uses Seymour Duncan pickups and Handycableable custom-fit cabling by Handroll.

P-Nut's basses include: Warwick Streamer Stage II amber 5-string with afzelea body, Warwick Streamer Stage II chocolate 5-string, Warwick Corvette bolt-on-neck 5-string with bubinga body, fretless Warwick Thumb Bass bubinga 5-string, Warwick Streamer maple 4-string, Warwick Alien acoustic bass, and '64 Fender Jazz Bass. His

Chad's maple-shell drum kit made by Orange County Drum and Percussion.

amps include SWR Bass 750 and SWR 800 power amps, and two 8x10 Megoliath speaker cabinets. P-Nut sometimes uses an Electro-Harmonix Big Muff pedal; his pickups are Basslines in a Jazz-style configuration.

SA Martinez uses Shure wireless mics, Rane mixers, and Technics turntables.

Chad Sexton's maple-shell drums are made by Orange County Drum & Percussion. His toms include: 7x8, 8x10, 10x12, 12x14, and 14x16. Chad uses Remo drum heads: clear Emperors on top, clear Ambassadors on bottom. His bass drum is a 18x 22 with reinforced shell, coated Power Stroke head on the beater side, black Power Stroke with hole on the front side. His snare is a 5½x14 or 6½x14, sometimes with a Falam head—both coated and clear (yellow), or sometimes a coated Emperor or Ambassador.

Chad's Zildjian cymbals include: "A" Custom 14" hi-hat, "K" 17" Custom dark crash, two "K" 20" Pre-Aged Dry Light Rides, "A" 22" Ping Ride Brilliant Finish, "A" 10" splash, and two "A" 18" Medium Thin Crashes. Specialty cymbals include: 20" Oriental series China, 12" and 10" Latin Azukas, and 8" and 10" Oriental Splashes.

Chad's hardware and pedals are made by Pearl. His pedals include Grip Peddler pads. He uses Zildjian sticks.