

Illustration by Smart Communications.

A good voice-over track differentiates real communication from just a bunch of pretty pictures.

# Every Syllable Counts: The Craft of Recording Great Voice-overs

by Jay Rose

**M**y wife, Carla, used to do a lot of voice-over work. Since she's good with dialects and part Swedish, she once got booked as a Scandinavian spokesperson for Howard Johnson Motels. But the session didn't go well.

The producer kept telling her to "sound more Swedish." She poured on the accent, and finally started throwing in authentic Swedish ad-libs, but nothing satisfied the producer.

The problem was her hair. Carla is statuesque, but she's not a blonde. The producer couldn't look at a tall brunette and hear a Swede. So the engineer (not me) moved Carla to a far corner of the studio, where the producer wouldn't see her. Once the producer was able to concentrate on her voice, he bought the next take.

The point isn't that some producers are stupid, but that too many people in this business learn to listen with their eyes. The visual skills that make you a good videographer or editor aren't used in a voice-over session.

There are, however, many easily-learned techniques, mostly developed in radio, that will help you do a better job of recording and directing a narrator. Start using them and you'll find that sessions go faster, are easier to edit, and make a better contribution to your project.

## Engineer your own success

I suspect that a lot of you wear many hats (or headphones) in your work, and it's entirely likely that you'll have to function both as engineer and director.

I've organized this article to help you do both jobs with a minimum of

schizophrenia—engineering topics are discussed in the body of the text, and directorial issues are covered in sidebars. If you're lucky enough to be working with an experienced voice-over engineer—we do exist—focus on the sidebars.

Even if you're working in a studio with a staff engineer, you owe it to your project to understand the technical side of things. Recording methods that work perfectly well in a music studio can be totally wrong for voice-overs.

If you're going to be both engineer and director, brush up on your audio skills before the session. Do some practice recordings with a colleague until the button-pushing part becomes second nature. That way, you'll be able to concentrate on directing when the high-priced talent shows up.

There's a lot of preparation necessary to make a good recording, and you should start long before inviting that colleague in for a practice session. You have to make sure the recording space is right for a voice-over; you have to verify that you have the right kind of equipment; and you have to provide the non-technical accessories that make a session run smoother.

## These boots are made for . . .

To find out if a room is suitable for recording, walk around in it and listen for echoes. A voice-over exists in limbo—there should be no sense of a physical space between the narrator and the viewer. Any reverberation destroys the illusion of intimacy. Even most music studios are too reverberant for a voice-over.

As you walk, make a loud vocal sound that suddenly stops—I prefer to open my throat and say "Uck," like a seal barking—and then listen for how the sound reflects back to you. If you don't hear much of anything, the room will work well. If you do hear an echo, but it's short and has the same timbre as your test sound, you're probably still okay. But if the echo rings for a while, or sounds filtered or hollow, look for someplace else to record.

Do this echo test with a vocal sound, rather than hand clapping—you'll learn more about how the room responds to voice frequencies. You can turn around to bark in different directions, because some rooms sound bad when you face one wall, but sound a lot better if you just turn 90 degrees.

Once you determine that a room is suitable, keep walking around until you find the position in the room that sounds best. If you hear some echoes in a room that's otherwise ideal, all is not lost. Check *DV*'s November '97 "Audio Solutions" column (available on [www.dv.com](http://www.dv.com)) for tips on how to temporarily turn a room into a studio.

Once you find an ideal position, stand quietly and listen. If you hear traffic or other loud noises, the room obviously isn't going to be usable. But more subtle rumbles and hiss can also affect a recording.

Low-frequency sounds come from bad fluorescent fixtures—easily fixed by turning off the light—or are transmitted across the building's structure from air conditioning or elevator machinery. A high-pass filter, which is built into many professional microphones and mixers, and also available ➤

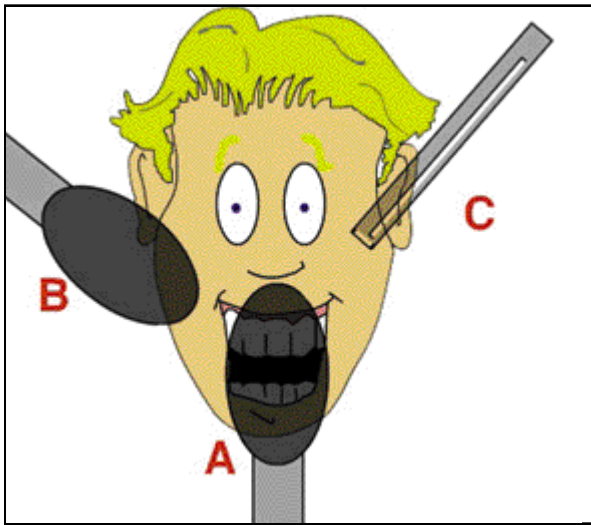


Figure 1—Three places to put a microphone. B and C work best for voice-overs.

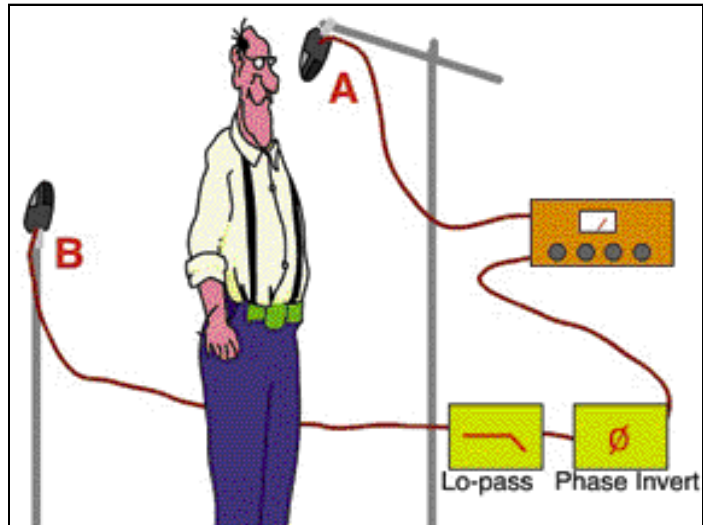


Figure 2—A two-microphone setup can reduce some kinds of studio noise.

as a hardware device (Shure's A15HP, \$40), helps reduce low-frequency noises.

But to reduce an extreme low-frequency sound, try the double-microphone technique in Figure 1. Microphone A picks up both the announcer and the rumble. Microphone B, facing away from the announcer, picks up mostly rumble. If

you invert the phase of B, the rumble will be cancelled.

The easiest way to invert the phase is an adaptor that exchanges pins 2 and 3 of a balanced mic's XLR connector. You can wire one yourself, or get a Neutrik PRX for \$17. A couple of warnings: This technique only works on low frequencies, where the

wavelength is long enough that both microphones hear the same part of the wave. Balancing the two microphones can be tricky, so you get the best results by recording them separately in stereo and combining them after the talent leaves.

High-frequency hisses are usually the result of air vents or computer fans. You ➤

## Long-distance Recording

You can record a voice-over without ever seeing the announcer—or being in the same state. Data compression makes it easy to send high-quality audio over ISDN in real time, and many projects can take advantage of this technology. You and the announcer each go to a convenient local studio equipped with a hardware ISDN codec. You direct using your studio's talkback system, the talent hears you perfectly along with any music or other cues you want to send. You record his golden tones on your studio's DAT recorder.

The most popular data format for this is MPEG-2, Layers 2 and 3, and most big studios now have compatible MPEG codecs from either Telos, Comrex, or Musicam USA. When used properly, MPEG produces amazing quality sound—a mono voice sent over two channels of a single ISDN wire sounds virtually indistinguishable from a DAT recording of the same voice sent by overnight courier.

Check carefully, however, when setting up this kind of session. Non-MPEG coding schemes aren't compatible with MPEG except through expensive bridge services, and studio pricing policies for ISDN vary widely.

You can avoid having to book two studios—many good announcers have digital studios of their own (usually in their

homes) specifically designed for voice recording. They'll throw in the studio, including the use of an ISDN codec if they have one, as part of their narration fees. They'll probably have connections between their equipment and normal telephone equipment, so you can direct by phone right from your desk. They'll record on their own DAT recorder, and ship you the tape overnight.

The MPEG Layer 3 technology used in real-time codecs can now be found in low-cost, file-processing software, so they even may be able to send you high quality tracks via Internet. You can get details on this kind of software from [www.audioactive.com](http://www.audioactive.com), or do a Web search for "mp3."

Two warnings about these long-distance sessions: Make sure the distant engineer knows exactly how the track will be used, since you're at the mercy of his processing decisions. Also, take copious notes and insist that he record a slate number for each take—your comments or slates might not make it to the final tape.

I keep a large directory of announcers, studios, and radio stations sharing MPEG technology (and available for sessions) on my Web site: [www.dplay.com](http://www.dplay.com).

can quiet a vent by prying off its grill—most of the noise comes from turbulence around the vanes that direct air around the room. If an equipment fan can't be turned off, you have to get as far away from it as possible. Fortunately, you can easily control high-pitched sounds with sound blankets.

## Sound check

Gather and test all your equipment long before the session begins so you can fix anything that's not up to snuff. Many mics that work fine for field videography won't work well for voice-over. You need to use the right kind of microphone:

- The lavalier or tie-tack mic that's so useful during a shoot holds little value for voice-overs. These mics are often omnidirectional, so they pick up more of the room's echoes than is desirable. If you absolutely have to use a lav, don't pin it to the announcer's chest. Suspend it a few inches above and slightly to the side of the announcer's mouth. Remember to put in a fresh battery.

- Mid-size or large cardioid (semi-directional) mics usually work in a studio. They can be aimed to avoid echoes bouncing off the control-room glass or script stand—yes, that's a very real problem. Popular choices range from the \$400 AKG C-3000 to the multithousand-dollar Neumann units. But cardioids are more subject to popped Ps, so you may have to experiment to find the best position.

- A short shotgun or hypercardioid mic gives you the most flexibility in a less-than-perfect studio. Placed six or seven inches away from the announcer's mouth, it'll be far enough away to avoid popping, but still manage to reject any residual room echoes.

I like the AKG CK-93 (\$650), but Sony and Sennheiser make similar popular mics.

- Condenser mics are almost always a better voice-over choice than dynamic ones. Radio engineers and stage performers love dynamic mics for their ruggedness, but

## A mono voice sent over two channels of a single ISDN wire sounds virtually indistinguishable from a DAT recording.

these mics lack the crispness and overall tonal balance that makes a voice-over track outstanding.

You should also hunt for a microphone stand that lets you set a variety of positions. Don't put the mic directly in front of the performer's mouth (see Example A in Figure 2)—not only is this position more prone to popping and other mouth noises, it also gets in the performers way as he reads the script.

Placing the mic above and slightly to the side (see Example B) is better. Moving the mic a few inches up or down from this position helps you avoid sibilance. A short shot-

gun can be placed even higher. A mic stand with a short boom arm gives you the most flexibility.

The best recording equipment—particularly if you're trying to both direct and engineer at the same time—is whatever will let you put off decisions as long as possible. You want to be able to concentrate on the performance, not on a bunch of dials.

- Don't record directly into a nonlinear editor if you have a decent-quality tape medium available. Recording on a hard drive is more exacting than using a tape recorder (see the October '98 "Audio Solutions" column), and transferring to hard drive after the session gives you the chance to fine-tune things. In addition, tape costs less than hard disk space—recording to tape means you can save every take.

- Don't try to equalize or compress during the session. These processes are irreversible. After you've recorded to tape, you can experiment with settings and shape the sound when you digitize it into your editor. It's better to put off all these decisions until the final mix, since music and dialog can affect how you process the voice-over.

## Tools of the trade

The best recording chain for a professional announcer is a microphone, a simple preamplifier (perhaps with a bass roll-off switch), and a DAT recorder. The

## A Director Prepares

Successful directing starts long before the talent arrives.

### At least three days before:

Sit at your desk and read the whole script aloud with a full voice. Make note of any sentences that are hard to interpret, or don't make sense to your ear, and then fix them. The fix can be as easy as adding a couple of extra commas or dashes to break the sentence up. It might require a change that has to be approved higher up, which is why you're doing this preparation long before the recording.

### At least two days before:

Read through the now-corrected and approved script and note any technical words or jargon. Prepare a pronunciation guide, including which acronyms are spelled out and which are

pronounced as words. Some narrators prefer this on a cassette tape; others on a page they can refer to. Print out a clean copy of the script, in at least 12-point type and using upper and lower cases. Send the guide and the script to the narrator.

### At least one day before:

Find the person who has ultimate approval over the project and make them initial a copy of the script. Remind them that changes will be very expensive.

Read through the final script one more time, and mark where the emotion or pacing should change. If you can't find any changes, you've got a very boring script—go back and look harder.

### The day of the session:

Now you're ready to have some fun.

preamp doesn't have to be anything special; a Symetrix SX202 (\$300/two channels) is fine for narration. As a general rule, stay away from the preamplifiers built into mid-price portable DAT recorders—they can be noisy.

If the announcer is less than professional and can't control his projection, a limiter such as the dbx 166 (\$300/two channels) helps rescue otherwise marginal takes. If a limiter seems to add noise or distortion, turn down the preamp's volume control. By the way, professional engineers regularly break this rule and apply all sorts of processing to the original recording. But unless you've had lots of experience with this kind of equipment, it's better to work with the safety net of an absolutely clean original tape.

A simpler recording chain also helps you make a cleaner recording by avoiding extra circuitry that contributes hum or noise. Enlist a colleague to help test your chain. Have him read a script, and adjust the recording level for his voice. Next, have him stop while you record about 30 seconds of silence at those settings. When you play the silent part, turn the monitors as loud as you can.

If you hear hum or hiss, pause the tape. If the noise continues when the tape stops, it's probably coming from the audio monitor. If the noise pauses with the tape, you've got problems in the recording equipment. These noises are almost impossible to remove, and can make both editing and mixing more difficult, so get them fixed before you invest any money in a voice-over recording. Sometimes hum results from a marginal power supply or from cross-connections through the AC power line. Try using battery-operated equipment and see if it goes away.

Don't forget to bring a monitor for the talent. Professional announcers need to hear themselves through high-quality headphones so they can adjust their own performances. Closed-ear headphones are essential if they'll be working with music or other cues to keep the sound from getting into their microphones. These headphones tend to be big and heavy, though.

If the talent doesn't need to hear cues, a pair of good-quality, portable CD-player headphones will be a lot more comfortable. Talent headphones don't have to be anything special, just unobtrusive and

## In Union There is Confusion

Most major-market announcers belong to AFTRA (American Federation of Television and Radio Artists, SAG (Screen Actors' Guild), or both. The good news is that you can choose from an incredible pool of performers, with national experience and credits without having to negotiate rates or working conditions. The bad news is that there's no room to negotiate.

Union scale for industrial voice-overs is based on two factors: how long the performer is in the studio, and whether the video will be kept in-house or shown to a larger audience (at a trade show or point-of-purchase display). As a minimum, base pay scale is \$333 for a one-hour session of an in-house video.

Union scale for commercials is based on a myriad of factors, including the length of time on the air, the number of cities it'll be shown in, and even how the time is bought. Minimum base pay scale is \$360 for the recording, and then anywhere from a few dollars to thousands for the usage.

But that's just the base scale. Most performers are represented by agents, who tack on their 10 percent and may demand more than scale for popular commercial performers. Then there's the union itself: It insists that the performer becomes your employee for the duration of the session, making you responsible for payroll and unemployment taxes.

Of course, the union gets its own cut to support its pension fund. Figure another 28 percent for taxes and pension. To top it all off, figuring charges and making the payments in the proper form is a job for an expert. Most producers who use union talent also employ paymasters, who handle the whole nasty mess for a mere 10 percent more.

You do have other options. Many performers—particularly those in smaller markets or who have their own home studios—have opted to ignore AFTRA and SAG. They'll work for the same union-mandated scale, but don't require any of the extra payments. And if you want to use a union performer for a particular project, you don't have to agree to do all your work with the union. Most studios maintain their own union contracts and will sublet talent to you on a project basis. For a fee, of course.

relatively accurate—the closed-ear (\$40) Radio Shack LV-20 or portable-style PRO-25 are fine.

Those tiny IFB ear pieces used by on-camera announcers and newscasters are also comfortable, but don't sound good enough to give an announcer useful feedback.

If you're going to be monitoring through confidence heads, make sure the announcer has a non-delayed signal for his headphones. Also, provide a way to adjust his monitoring volume separately from your own. Both the Radio Shack phones mentioned above have in-line volume controls, a handy—if sometimes fragile—convenience.

You may need one other piece of equipment that's often overlooked in temporary recording situations. If you and the talent are going to be in separate rooms, make sure there's a way to communicate with him.

Professional consoles often have a talkback system built in, but the simple mixers found in most video editing suites don't. If nothing else is available, a \$15 battery-operated home intercom like Radio Shack's 43-222 makes an adequate talkback.

### Little things count

Some non-electronic equipment can also make a big difference in the quality of a voice-over recording:

A tall stool (if the script is more than a page or so). A good announcer will almost always prefer to stand—or at least, lean—while he works. If he's sitting, he won't be able to control his breathing as well.

A proper script stand. Typical music stands aren't tall enough for standing ➤

## The Narrators Speak

The best people to tell you how to direct are the performers themselves. So I spoke to two of PBS's busiest voice-over artists. **Don Wescott** has voiced more than 75 *Nova* episodes, as well as most of the promos for *Mystery*, *American Experience*, and *Masterpiece Theater*. **Wendie Sakakeeny** was *Nova*'s first female voice, and has done almost as many episodes as Don, along with narrations for *National Geographic* and many Fortune 500 companies. Even if you don't watch public television, you've heard Don and Wendie in thousands of commercials.

**Don:** The more you can tell me about the project, the better. It's great to know the audience and who you're trying to appeal to, as well as what's going on in the pictures.

**Wendie:** But don't waste our time with a whole lot of background information. It doesn't matter how many versions you've done before, or the history of each source in the video. Tell us the attitude and tone and who's going to see it, and then let us do our jobs. What we certainly don't need is for you to read the entire script, paragraph by paragraph.

**Don:** One guy gave me a 20-minute read, in a monotone. He read the entire script. That's crazy. If you have to do a line-read, save it for the lines we've read wrong. But definitely give

us constant feedback. I love to hear back, "I like this, I don't like that, speed up here, breathe here." The more talkative a director, the better—you have to tell us what's good as well as what's bad.

**Wendie:** It's important to establish how you're going to give direction, and what you expect for retakes. If we make a mistake, let us finish the sentence, but don't [let us] go on for several paragraphs. Catch us while we're still in the same frame of mind. Also, are you going to slate everything, or just pause? Do you want us to pick up whole paragraphs or just the previous sentence?

**Don:** There should be just one director. The fewer people in the control room, the better. The best sessions are just the performer, the producer, and the engineer.

**Wendie:** But make sure the producer is empowered to make changes if something doesn't work. The worst sessions are when the script is written by a committee, and nobody is available to answer questions about it.

**Don:** You want to be a good director? Come fully prepared and maintain an open flow of communications during the session. And know how to say it yourself.

announcers. Small stands force them to look down as they read and constrict their throats. You need something tall enough to put the script at eye-level. Also, you need a stand that won't echo. The talent's mouth, microphone, and stand are all very close together, and reflections from the stand can cause hollowness in the recorded sound.

A piece of carpet over the stand provides a partial solution. You can improvise a totally non-echoing stand from a lighting flag and clothespins. But a more elegant solution appears in Figure 3. It consists of an ordinary mic stand, a gooseneck mic adaptor, and a large document clip from a stationery store. The total cost runs about \$35, and the talent can easily adjust the set-up for the best reading position. Make sure to keep a solid table or counter nearby so the talent can write down the inevitable script changes.

Plenty of no-n-glare light. If you're using overhead lights, make sure the microphone (or talent's head) doesn't cast a shadow on the script. Some narrators prefer clip-on lights that can be attached directly to the script stand.

### And, action!

If you prepare correctly, engineering chores during the session itself are fairly simple and let you concentrate on directing the performance.



Figure 3—This versatile script stand is hardly there at all.

Before you begin working with the script, record about 30 seconds of the microphone, or a test tone, and then play it back. This not only verifies that the equipment is working, but it also keeps you from losing something important to the kind of tape damage that sometimes occurs at the head of the roll.

When the talent first walks up to the microphone, stay near him and ask him to read a little of the script. Every performer stands differently while they work, and you want to fine-tune the microphone placement.

Then go to your equipment and have him read a little more so you can adjust the recording level. Even if you find the ideal level, you may want to keep one hand on the volume control during the first few takes—inexperienced performers tend to read a little louder when they know it's for real.

Once you're ready to record, you have only two on-going responsibilities as engineer:

- Keep track of takes and take numbers, and write them down on the script. Even if you're using timecode or DAT index

## Rent a Studio? Build Your Own?

If you record only one or two voice-overs a year, it makes sense to book time in a recording studio—for a hundred dollars or so, you'll be able to take advantage of top-notch equipment and an experienced engineer.

But if narrations are a regular part of your work flow, you may want to consider building your own studio and amortizing the cost over numerous projects. Here are some typical costs to plug into your spreadsheet:

**MICROPHONE:** Between \$400 to \$600 for a reasonable studio condenser. Cheaper types can add distortion.

**PREAMPLIFIER:** Around \$150 for a bare-bones, wire-it-yourself unit. Maybe twice that for something with built-in controls and connectors. You don't need anything fancier—tubes, "classic warmth," and special circuitry are more appropriate for music recording than for voice-overs.

**RECORDER:** A basic, studio-quality DAT recorder will cost around \$1500. Cheaper units might also be usable, but they can be a bad investment if you plan to grow your studio—consumer decks often don't allow unlimited

digital dubbing, or support the 48kHz sampling rate used in digital video.

**MONITORING:** For best results, you need a full-size speaker. Budget at least \$600 each, with amplifier. Smaller nearfield monitors may be a little cheaper, but can hide problems from you. Hi-fispeakers are a no-no. You'll probably use the same monitoring system for mixing, so that can help absorb the cost. If you absolutely must monitor with headphones, expect to pay about \$150 for a good pair.

**ACCESSORIES:** Mic stand, lighting, talkback intercom, stopwatch? Check your junk closet, or be ready to shell out about another \$150.

**ACOUSTIC TREATMENT:** At least \$100 for some sound blankets or foam tiles. But this number can quickly climb to the thousands, depending on the room.

You may already have some of this equipment and not know it. As stated in the article, a good camera shotgun mic can work for voice-overs. You may even be able to use your digital camcorder for audio-only recording, if it has good built-in preamps and a way to defeat the automatic level control.

numbers, a verbal slate can save time during editing. This doesn't have to be any more complicated than writing "take three." If you don't have a slate mic in your setup, slate into the talkback system—the talent's mic will pick it up.

•Keep an ear open for problems that can build up during the session, and be ready to stop the session to fix them. As the narrator's mouth dries out, you might hear clicks and snaps in his voice. Stop and give him water. If he moves too close to the microphone and his voice is starting to pop, reposition the mic (or spike him by moving the script stand). If a mic battery starts weakening and you hear distortion, replace it. It's difficult, if not impossible, to fix any of these problems during post.

After the final take, play back a little bit of the tape to verify that the recorder is still working.

### Once more with pictures

Recording to pictures makes things a lot more complicated, both for you and the performer. Since it's so easy to move voice tracks around in an NLE, it may make more sense recording with a stopwatch instead of watching the picture. If the talent has to see a scene to understand the emotion or rhythm, play it once and then let them perform.

If you absolutely must record to picture,

•Give the talent a video monitor that's near their script, so he doesn't have to keep refocusing. This adds another heavy piece of equipment causing audio reflections, so make sure the monitor is on the dead side of the microphone.

•Give him some other form of cue along with the picture, such as a flashing light, dialog track, or series of beeps. Very few performers can concentrate on both the written script and an on-screen image. If he has to switch his concentration suddenly, he'll probably come in late.

•Don't obsess about timing. If a perfect take overlaps the next shot by a few seconds, you can probably fix it during editing.

Timecode isn't as helpful as you might expect for this kind of recording. Unless you have an elaborate, automatic logging system, you'll have to repeat the master video's timecode with every take. This confuses the edit controller or DAT recorder's chase circuitry, and the long pre-roll you need for each new timecode pass will just slow down the session.

The easiest way to synchronize with modern equipment is to have some kind of reference audio—dialog or a scratch track—on the video. Dub the reference to

one channel of your recorder and record the narrator on the other. You can slide the stereo pair around in your NLE until the references match, and then delete the reference.

Engineering a voice-over session is just a matter of understanding the process, doing your homework, and learning to hear with your ears instead of your eyes. **DV**

*Over the past 30 years, Jay Rose (jrose@dv.com) has directed and engineered national radio series, narrations for clients including PBS, IBM, and the USIA, and more than ten thousand commercials. He also writes DV's monthly "Audio Solutions" tutorial column.*

For more information on the products mentioned in this article, please go to the Data Vault at [www.dv.com](http://www.dv.com).

CK-93	AKG	DV#213
C-3000	AKG	DV#214
dbx 166	dbx	DV#215
PRX	Neutrik	DV#216
LV-20	Radio Shack	DV#217
43-222	Radio Shack	DV#218
A15HP	Shure	DV#219
SX202	Symetrix	DV#220