

What you're about to hear is a pretty interesting recording I did with a guy named Rich Chadwick. The reason I called him is to do these recordings on my audio clip page, there are some things I need to understand and a little of software I'm going to need to learn about. What we talk about in this is some software called Modem Spy, which is software that you download off the Internet for about \$45 and record two ways of the conversation digitally. There is some software called Gold Wave, which is audio file editing software, and it's really no big deal. It will take a little bit of learning curve to get used to it, but hopefully I'm going to cut that learning curve down big time by listening to this audio clip. This audio clip is training on how to use Gold Wave. It takes us through every single one of the features of Gold Wave, what it's used for, how it's used and how to manipulate audio files. What I do here on the side is fairly simply. They're straightforward conversation audio files. There's very little that needs to be done to them except cutting out a little bit at the beginning or cutting out a little bit at the end or piecing in a recording, like what I'm doing right now will be pasted into the recording. It's very similar to a word processor, you cut and paste but instead of words, you're cutting and pasting audio file sounds. I hope you'll enjoy this. You'll want to make sure you get Gold Wave. I think you can download a temporary version where you're not paying for anything so at least you can look at the buttons on the screen and follow along as you listen to this audio clip. It's an incredible education, it's really helped me understand the system without reading the entire book, and I hope you enjoy it.

Michael: Hey Rich. I finally got you, it seems like it's one of these mornings. Just so you know, we're recording. I just need to get your approval.

Rich: That's fine, you're free to record and use this for your own use for reference for training on Gold Wave

Michael: What is your specialty, what do you do?

Rich: I'd like to think that we do all things multi-media.

Michael: Is this your own business?

Rich: Yes. It's called Media Management and we started it in 1996. We took it from a small 300 square foot office space out to 10,000 square feet and now back to a virtual company. We kind of rode the .com wave and did a bunch of projects along the way, including a very large streaming media site.

- Michael: Which one?
- Rich: DiskJockey.com.
- Michael: Is it still up?
- Rich: No. Unfortunately the only one left is Spinner, which of course was bought out by AOL and Time Warner.
- Michael: So what happened, the .coms were going crazy, the investors were spending tons of money and they couldn't spend it fast enough and they paid it all to guys like you.
- Rich: Correct.
- Michael: That's not bad! Were you charging premium prices?
- Rich: We actually were trying to do it advertiser supported. That of course is a model that never truly developed.
- Michael: I mean when you charge for your services to these .coms you could charge a nice price.
- Rich: Oh yes absolutely. That particular one happened to be one that I got involved in on in equities, so we all learned lessons.
- Michael: You took stock options. They didn't pay out?
- Rich: I was actually one of the few people to get a paper certificate so I do have that going for me.
- Michael: I've got some toilet paper too!
- Rich: Exactly, but along the way we did some fantastic projects, and my origins are in radio and television production. I also have a passion for music and computers and to combine those has been a fascinating ride.
- Michael: We're at the right time as more and more people are getting high-speed access. It's all going to play right into that.
- Rich: As a matter of fact, expect to see a bid from us soon on your CD-ROM project that you posted as well.

- Michael: Ok, great, I'm looking forward to that.
- Rich: It's something that we are definitely capable of handling, and just to briefly run down the laundry list we do everything from video editing, audio editing, I have the ability to produce highly interactive DVD's to use for sales and marketing purposes, same thing on the CD-ROMS side with either direct or a flash. I have tons of male and female voice talents available. We have obviously a website division to do website creation where we have copywriters on staff.
- Michael: How many employees do you have?
- Rich: Overall, there are nineteen of us that are working together on a free-lance basis. Also, there are six that pretty much don't do anything except work with me. Then we bring the others in on an as-needed basis. We have a ton of great programs that bring the voice mail and answering machine capabilities to computers by simply having your phone line looped through. Let me see if those can be adapted to just that particular function.
- Michael: Tell me about your Wildfire Answering Service. I remember when I first heard of it years back it was very expensive.
- Rich: Oh, what a great service! It is a bit expensive. I'm paying \$111 a month, but included in that I'm getting 1,000 minutes of long distance, so as long as I make it a practice to make all of my toll calls through Wildfire, it pays off. At \$111 a month, it's just a little over ten cents a minute. It's like getting the service for free. The secret is that unfortunately the company in my area doesn't offer a smaller package than 1,000 minutes, so in order to make it cost effective, I need to use the minutes every month.
- Michael: Tell me why it is so great. (Here is a sample of Wildfire and how it works.)
- Wildfire: Good morning. I'm Wildfire, and you have reached the office of Rich Chadwick. Please say your full name. "Michael Senoff". Please say, "Put my call through," or "Take a message." "Put my call through." Okay, I'll try to find him for you.*
- Michael: This thing is absolutely incredible. It sounds like a real person on the other line. Listen to the options available on this Wildfire system. I highly recommend it. We're looking at "Searching for Rich Chadwick." He can program any of his phone numbers into this system and it will look for them sequentially.

*Wildfire:* I'm still looking.

Michael: The system is probably calling his mobile phone, his office phone, and his home phone.

*Wildfire:* I'm sorry, he can't take your call right now. Would you like to leave a message so I can have him get back to you? Yes or no?

Michael: Yes.

*Wildfire:* Okay, first I need your area code and phone number. Please enter using touch-tone followed by the pound key.

Michael: (Enters his phone number).

*Wildfire:* Now leave your message and hang up or press pound. Go ahead.

Michael: Hi, Rich it's Mike Senoff here. I'm actually doing a recording for all of my listeners on hardtofindseminars on what Wildfire sounds like, how it works, and some of its options. I'll be placing this into our audio recording that we had done and this is purely a demonstration. At the same time, I had left you a message earlier. Please get back with me when you have a chance.

*Wildfire:* Got it. Hang up or press pound to send it. Otherwise, to hear your message, press "1."

Michael: (Presses "1"). "Hi, Rich it's Mike Senoff here. I'm actually doing a recording for al of my listeners on hardtofindseminars on what Wildfire sounds like, how it works and some of the options. I'll be placing this into our audio recording that we had done and this is purely a demonstration. At the same time, I had left you a message earlier. Please get back with me with you have a chance."

*Wildfire:* Hang up or press pound to send it. Otherwise, to hear your message, press "1"; to re-record it, press "2"; to cancel it, press "3"; to mark it Urgent, press "4"; to send it and compose another, press "5."

Michael: (Presses "3").

*Wildfire:* I'll erase it then. Thanks for calling. Goodbye.

Rich: The best part for me and particularly since becoming a “virtual” again with the company is that I can program a schedule into Wildfire when I call in and I can basically tell her where I’m going to be for the day, and I can have a regular schedule, and I can also change that schedule on the fly. When someone calls in, if you ask for their call to put through, if I’m in a mode where I’m taking calls, she knows where I am. She will place you on hold and she will go find me.

Michael: She will either find you on your cell phone or she will call your home number.

Rich: Right, depending on where my schedule says I am. Most of the time I have it set to “mobile”, so if I’m at a client location or am at a place where I can be disturbed, I’ll let her call through, and she’ll present the call and say, “I have so and so on the line. Do you want to take it or take a message?” Then simply by giving verbal commands, she will take care of all of that and take messages. She has all of my contacts so once I get in a session with her, I can say, “Wildfire”, and I’ll say “Call”, and she’ll say “Call who?”, and then she will recognize my voice and I can say, “Michael Senoff” or whoever, and she will say, “At which place?”, and I will say “Work”, wherever I want her to call you and she will call. Then I can put you on hold and get somebody else on the line if I want, or if other people are calling through, she’ll whisper in my ear that they are on the line. I can set it so that I am only taking important calls; I’ll make a list of who I’ll take calls from, or set it to “away” in which case she’ll tell you she’s covering the calls for me.

Michael: How long of an outgoing message can one leave on the digital recording?

Rich: It is dependent upon your provider and how they have it set up. I happen to be pretty friendly with the provider in my area, and I happen to know how their whole setup is. It’s basically being run on a couple of Pentium PC’s, and they have a phone trunk coming in. They have offered in the past if I wanted to send them my outgoing message on a disk in a low-quality GSM or Wave file, they could accept it that way. Your question makes me think of a bunch of different ways to use it by having her deal with often callbacks or things of that nature would be interesting.

Michael: There’s another service called Freedom Voicemail out of San Diego, which is very similar for about half the price. It does all the same things.

Rich: Is that right, Freedom Voicemail?

Michael: Freedom Voicemail.

Rich: The one thing that I'm disappointed in Wildfire is that a company called Orange, a telecom company from the UK, bought them and they have pretty much focused on all the new features set, not on individual users but on PBX users. For instance, imagine having the same type of thing as your auto attendant, and she'll run your call through to somebody's office, and you'll get her before you get the person, and she'll say "So and so is calling on line 1. Do you want to take it?" Just like having somebody up front in the reception area. They have really not adapted to the current features. For instance, it would be great if she could read email to you or if she would handle faxes. It's kind of limited, and unfortunately at least in my area I'm stuck with just the feature set that was out a few years ago. The best resource is to go directly to Wildfire.com. Ironically, they happen to be here in my area. They're in Massachusetts, in Waltham I believe. That's the corporate site, and that's where I tend to find out about the new features that I don't have.

Michael: It sounds like an invaluable tool.

Rich: It's exceptional. The biggest thing, especially for doing collaboration projects is having her handle the conference calls. For instance, the other day I was on the phone with a client and we had a particular voice talent they wanted to audition. We were trying to track the voice talents down, and I was on the phone through Wildfire with the client, and the talent called in at the same time, so Wildfire comes in my ear and says, "I have so and so on the phone. Shall I have him join your conference?" So I go back to my client and say, "I have him. Shall we have him join the call?", and then I instruct her to do that. Meanwhile, the client can hear all of this as I'm talking to her, and she's referring to people by their name because she asks you to record your name. It sounds so professional. I don't think I've tapped into even half of the features that it comes with. You said the other one is Freedom Voicemail?

Michael: Freedom Voicemail, they're out of San Diego.

Rich: I'm going to check that out because I'm a bit of a gadget junkie.

Michael: Give me one other gadget you use that's invaluable.

- Rich: I just recently got a Toshiba pocket PC. My Palm is on the shelf, I don't use it any longer. My wireless in my building here or in some of my clients' locations I can get online from it. It has AOL Instant Messenger built in; it has Outlook and Excel and Word; it's just been a very valuable tool to have.
- Michael: Is it a little hand-held thing?
- Rich: Yes, it has a full color screen.
- Michael: How big is it?
- Rich: It's no bigger than a Palm-505.
- Michael: Is it wireless?
- Rich: It does not have a wireless modem built into it. What it has is a Wi-Fi connector, like a 2.11 adapter in it. If I'm here in my building, I obviously have everything set up wirelessly so I can go about my business, or I'm in a client location or at an Internet café, by setting it to a PCHP, I can get onto the net directly from it.
- Michael: What did that cost you?
- Rich: I think it was \$520.
- Michael: What is the model number?
- Rich: It is E-740. I have looked at a lot of devices, and I found that one to be the best. I really believe that Wi-Fi is going to make huge inroads in the next two years.
- Michael: In a nutshell, what is Wi-Fi?
- Rich: Wi-Fi is basically Ethernet, Internet connection and land connection wirelessly. It operates on the 2.4 GHz band, so for instance if I am in an area serviced by Wi-Fi, I can simply have a Wi-Fi Ethernet card connected to my laptop and I can wirelessly connect to the net and share resources like printers and files. A great study of this was in Aspen, Colorado. A gentleman named Jim Selby basically decided to take his DSL lines and share them with the whole community. He's put these very powerful repeaters throughout the mountains of Aspen. Anywhere in Aspen, you can get onto his Internet connection wirelessly. That's done in a non-commercial



fashion. On a pocket PC, within 100 square mile of Aspen, I can get online and check my mail or instant message somebody. In the piece I saw on Tech-TV, they showed somebody sitting at an outdoor café with their laptop checking their mail and browsing the net, and of course it's good up to 11 millabytes per second, so it's Broadband speed connection in a wireless fashion, a far cry from the cellular dial-up.

Michael: Will it show you a full web page on it?

Rich: Absolutely. The neat thing about the pocket PC being used as a web browser is it pretty much knows, if someone has designed a web page so it's very wide, it will sacrifice certain elements of the page in order to make it look proper for you. There are a few settings, and of course that will only get better because what we're starting to do with some clients is actually we can detect the browser they are using, so if we see that someone is connecting to a site with a pocket PC 2002 browser, we know they're coming from a wireless device that has a limit of "X" amount of pixels across, and we can redirect them to a different version of the home page if they're connecting with that browser. It's like if you have a "text only" version of someone connecting with their cell phone.

Michael: Do you have Modem Spy?

Rich: I have Modem Spy. I'm actually on the main page.

Michael: Explain to me what this Gold Wave software is.

Rich: Sure, Gold Wave basically allows you to open a single file, whether it's Wave or MP-3, at a time and to make changes to that file in several different ways. The two major ways in which you manipulate an existing file are to perform actual surgery, if you will, on the contents of the file. That would include trimming some blank space off the beginning or the end of let's say you have a conversation that you want to go through and take out the "uh's" and the "um's."

Michael: Are there tools on this Gold Wave that allow you to do that automatically?

Rich: Not in Gold Wave. There are more complex programs where you can look for patterns in things. Most of it is still done manually. With the proper tool, it can be done very quickly.



- Michael: I've opened a file in Gold Wave, and I'd like to look at some of the tools.
- Rich: Mine pops up two windows; I have the main window, which is where the audio file is, green and red signifying left and right channels. Mine also pops a device control window, that's the way it's set up by default.
- Michael: I have just the green because I believe it was recorded in mono, and I have the device control.
- Rich: Okay, obviously the device control is very similar to a tape transport, if we're looking to do a playback or a rewind, fast forward, etc. There are some other helpful controls that are in the device control area to the right of the transport controls, and they include an overall volume, a left/right balance and the bottom one is pretty interesting, that's the speed.
- Michael: Is the speed a tool as I am going through the audio?
- Rich: Exactly.
- Michael: It won't save it at a faster speed, will it?
- Rich: There is another tool for that which is up in the toolbar called time warp. That's where we would actually do that.
- Michael: These are just for me. I'm playing a file right now and I can control my volume.
- Rich: Yes, and you can change your balance and change your speed. For instance, if I want to zip through something I can use that device control as a shuttle. There are other tools, I'm going to make some comparisons to a program called Vegas Audio, which I consider to be the Cadillac of audio editing tools. It's from Sonic Foundry.
- Michael: Where would someone download that?
- Rich: From SonicFoundry.com, you can obtain a trial version of the program free. I think the limitation is either thirty days or it puts a beep tone in anything you render out, something like that. There is some limitation to it. If I was to find an exact type of program like Gold Wave but made by Sonic Foundry, that program would be Sound Forge. The difference between programs like Gold Wave,

Sound Forge, and Cool Edit Pro, and programs like Pro Tools or Vegas Audio is whether you have a need for multiple tracks at once.

Michael: That's for when you're doing music.

Rich: Exactly, for instance we do books on tape so we need one track for the narrator and another track to add in the music at the beginning of each chapter or add in sound effects as appropriate. In that case, we need a multi-track editor, where I can physically look across a timeline like you're looking at that green file now, except I can see multiple files and I can slide them along a timeline. I can set the volume and the panning for each one individually. In the case of Vegas, we have Vegas Video here, I can also add tracks that contain video content.

Michael: I see, then the finished product is all of the tracks at once.

Rich: Exactly, rendered out as an AVI or as an MP-3 or whatever you like. For programs like Gold Wave and Cool Edit Pro, which I don't care for, and Sound Forge, they are basically where you are working with existing content that simply needs to be modified in some fashion but not mixed with another file.

Michael: Okay, so for what I'm doing, I'm just recording audio like this in mono, nothing fancy.

Rich: You just want to clean it up, you want to trim the head and the tail of it, maybe apply a little bit of compression onto it, or some sort of equalization, this type of tool is perfect for that.

Michael: Okay, we have the device controls that speed it up, control the sound as I'm working with the file. It's a tool for that only. It's not going to control the outcome of the file.

Rich: Correct. I want to talk about the tools that actually allow you to do surgery on the file first.

Michael: Okay, so that's going to be in my toolbar.

Rich: Right, so if you take a look at your file, no doubt there's probably a second or two or maybe even more at the beginning that you'd like to eliminate in order to clean up so it starts right from the beginning. That's a rather simple function to do. What we can do is if you bring your mouse across the file, it looks like a solid line with two

arrows pointing left or right. If you were to take that and simply click it at the point where you feel you need to eliminate what's there, it should blacken some portion.

Michael: Okay, it blackens that portion and you just delete it.

Rich: Correct.

Michael: What's the difference in delete and trim?

Rich: Good question, when you are deleting you are taking out the highlighted portion. When you trim, you are taking out everything but the highlighted portion.

Michael: Let me make sure I get that straight. When I click and I have the darkened portion, when I delete, I delete the darkened portion.

Rich: When you delete, you are deleting the highlighted portion. When you trim, it's the opposite way.

Michael: Are you sure? Wait, let me think about that. Okay, I see. When I delete I take out the highlighted portion.

Rich: Right. Picture the black or shaded area to be the safe zone, if you will.

Michael: When I delete, the shaded area stays there.

Rich: Exactly.

Michael: When I trim, I'm taking out the shaded area.

Rich: Exactly, it's just the opposite. Let's say we are taking out the heads and the tails, if you just highlight the blank section, that would be a delete function. If you highlight the part you want to keep, that would be a trim function.

Michael: They have both those tools.

Rich: Exactly. Here's another great reason why we were going to use delete if we were taking out an "um" or an "uh." If you look at the timeline, and then in your speech you isolate the portion that you want to take out, by hitting delete it does what's called a "snap" at the same time. It's doing two functions, it's going to actually delete that portion of the audio, and it's going to marry the two split

sections back together again so there will be no blank in between and you can move on. That's one of the quickest ways to go through and delete those portions.

Michael: That's exactly what I've been doing. Here's one of the challenges, is controlling the view. If I want to get up close to an "um" or an "uh," what I've been doing is zooming 1 to 1,000. Then even when I want to zoom in more, let's say I zoom 1 to 1,000 and then I zoom 1 to 10, that brings it up pretty close too.

Rich: Right, I like the 100 myself. It depends on the length of your file.

Michael: Let's say it's an hour file.

Rich: I would say on an hour file perhaps 1 to 10 or 1 to 100 would be what I would look at.

Michael: If it's an hour file and I click on 1 to 1,000, is it zooming up 1,000 times?

Rich: It's based on the entire file is what it should be doing. It's relative to where, so for instance if I'm at 1 to 1,000 and I do 1 to 1,000 again, it's my understanding that it should move it in again, but I'm not seeing that happening. The quickest way would be to keep doing a zoom in or a zoom out and then you can go through each one, and the shortcut key for that is shift up or shift down.

Michael: Shift page up?

Rich: Shift the up arrow. You can get the gradient set however you want. I like to use my right hand, I use my pointer finger on the shift and then my middle or fourth finger on the up and down arrow, and I can go in or out and it's a little better gradient.

Michael: Actually, what it's doing for me is moving it left or right.

Rich: You should notice the scale moving.

Michael: You're right, that is what it's doing.

Rich: And of course you know that the panel at the very bottom, the gray area with the stripes, is basically giving you a snapshot of where you are in the entire production.

- Michael: The gray area is what I'm looking at below the timeline. What would the black area represent?
- Rich: The black area is what you're viewing. The gray area is the entire production. For instance, I am zoomed in about as far as you can go before it starts to turn into a sign wave. I can start dragging it about and I know exactly where I am in the production. Of course, the timeline helps with that too.
- Michael: As I get closer and closer, that's when I see a line going across.
- Rich: Exactly, I'm in a spot where I've got just about a second's worth up on the screen, so if I then start to highlight those, I can start doing my deletes.
- Michael: Okay, let's look at these tools, copy, copy to, cut I know what cut is, I know what copy is; what's copy to?
- Rich: Copy to is where you can take whatever is selected and you can save that to an individual file.
- Michael: Okay, so let's say I cut a portion, a minute, of the file and I press copy to it's going to save just that individual portion.
- Rich: Exactly, and that's going to bring up a save as dialog. For instance, by default, it goes to Wave and what type of attributes you want with it and that will save just that piece. That can be helpful if you're looking to lift out sound clips from a larger production.
- Michael: Actually what I just did is cut a portion and the copy to box disappears, it doesn't allow me to do anything.
- Rich: Right, because the selection is gone now. You don't actually need to do the cut. Do you want to take that piece out or save it as a separate file or both?
- Michael: I was just trying to see what this copy to function is.
- Rich: Just highlight a piece, a couple of seconds' worth. When you hit copy to the blue portion is now going to be extracted as a separate audio file, but it's still going to be there. Let's say you want to make it a separate file and then get rid of it, that would be a two-step operation. You'd want to do a copy to and save it and then you'd do the cut.

- Michael: What are some ways to use that?
- Rich: Let's say if I have a voice talent come in and they record for me five different phrases that need to be used in a production, they might give me three versions of each one. I open up my big file that I got from the voice talent and I see 15 blurbs across the screen. What I do is listen to them all and find the ones I like, highlight them, and then do a copy to and save them as the individuals that I actually want.
- Michael: You can choose what is the best one.
- Rich: Exactly. And then I have my individual elements that I can bring into something like Vegas or other multi-track programs and I can drag and drop them on the screen.
- Michael: What about paste and paste new?
- Rich: Paste puts it back where the cursor is and paste new actually creates a new wave of just whatever was in the selection.
- Michael: Same thing as copy to but paste new.
- Rich: Exactly, and mix is really interesting. I highlight it and then I do mix and it's going to bring that piece back in the section where it's highlighted, so it's going to take the new section and put it back in. Let's say I want to delete it somewhere and then I want to put it back in some place else. That's what I can do with mix.
- Michael: Give me an example.
- Rich: Let's say somebody was reading the numbers one through ten and you have ten blurbs on the screen. Let's say I wanted to put three between seven and eight. I would go in and highlight three, then I would do a cut, then I would drop my cursor between seven and eight and do a paste to pop it in there. If we are dealing with music and we want it to be a little more subtle than just cutting with a razorblade, by using mix it drops it in but it fades into it and then back out of it into the original. There is no overlap.
- Michael: Okay, so it gives it softness on the beginning and on the end.
- Rich: Exactly, because sometimes just doing, and I liken it to a razorblade cut because that's what we used to do in the studio, sometimes the razorblade is too abrupt.

Michael: What I've been doing on the audio clip files is I have a little clip that I put in the middle of the file, like an hour-long file, that says, "I want to thank you for listening...", and I've just been pasting it in. Maybe I should try mixing it in.

Rich: Right, and then try varying degrees of mix and it will be formatted content-dependent.

Michael: I see a little box that popped up on the mix, and it's green. What does that represent?

Rich: That's the amount of mix or the volume level for the overlap. If you had two songs, it would be easier to demonstrate. If you take a piece of a song and then copy it to a clipboard, and then I could take it and pop it in.

Michael: What is the automatic volume of that?

Rich: It's relative to what the volume is of everything else. The nice thing about doing it non-destructively is if you don't like it, you can undo it.

Michael: That's a nice little tool. Thanks for that.

Rich: Channel toggle is for only if you are dealing with a stereo file. It will swap channels.

Michael: Okay, what about view?

Rich: Select view, what I use it for is it brings me back out to the entire thing. What I do for view all is Control A. I'm a big believer in the keyboard shortcuts, and I know they are a pain in the butt to learn.

Michael: Control A will give me a view all.

Rich: Yes. I find that to be the most helpful. Actually it's a Shift A on a PC. That will open it.

Michael: How about these little magnifying glasses, the one to one; do you have that?

Rich: Those are the presets for view, for instance zoom one to one is the furthest in that you can go. Chances are when you hit that, you are actually looking at thousandths of a second along the bottom line.



- Michael: Okay, so when I go one to one, it brings me up very close, right?
- Rich: Exactly.
- Michael: Why would anyone do that?
- Rich: If you need to get so far in that you need to look at the actual frame level of something; let's say you had recorded an old 45 or an album into the computer and you needed to go in and pull out ticks and pops, there are tools to do that now. If you wanted to do it by hand you would need to get down to almost in video what we call the frame level, in audio, it's the sample level to actually go in and extract the smallest unit possible of sound. For instance if we had a record that had a tick or a pop, by going down to that lowest level you could actually see the spike and pull it out. Because we've only taken out what is necessary, it is virtually undetectable.
- Michael: How about user with the little smiley face?
- Rich: User is something that you can set, so if you have a certain magnification that you like, you can go in and set that.
- Michael: Maybe it's an automatic set, that one to one.
- Rich: I know there's a way. Let me refer to help.
- Michael: Okay, this is just great, getting it all spoon-fed to me!
- Rich: Not a problem, and it's such a valuable tool that it's wise to have it.
- Michael: This is such great stuff, if you want a plug for your business and you don't mind if this comes out as a good audio, I can edit some of this stuff out and we can put it up on the site for the people to listen to.
- Rich: That would be fantastic.
- Michael: I think people could benefit from it a lot.
- Rich: I'm trying to see where we can find that; it's going to refer us to the help file.
- Michael: That's okay, we can move on. Now that I know what it is, we'll figure it out.

Rich: Okay. The bottom row is the fun row. You can provide any kind of effects here, probably more than would go beyond the scope of broken words. Sometimes, they are nice to know so you can have them. The Doppler provides a, well a lot of these effects are better to listen to rather than to try to explain. It's a combination of pitch and delay changes. I'm going to bring my volume up here.

Michael: It does it on the entire file, right?

Rich: It does it on the selection. If you notice when you play it back it selected one channel over the other, and I've basically shifted the time so the old thing of "hello, hello," it provides you with that type of effect. By the way, under device control if you want to go back to the default on any one of those areas, simply double-click on the icon. For instance, if the speed has been changed, double-click on that icon and it will bring you right back to the default.

Michael: Great, that's what I was going to ask you.

Rich: The mix one is dynamics; dynamics and compression are two things that are used extensively in audio production. When you modify the dynamics of something, for instance if pre-box is set of a musical work versus a compact disk of a classical work, it will have very different dynamics. The telephone has extremely different dynamics than that of a CD or that of a person standing in the woods having a conversation. The dynamics involve how low the lowest low is and how high the highest high is volume wise, amplitude. For instance, when music is played on the radio, they all but remove all of the dynamic range of it, so it has a very different sound to it than if you are listening to the CD. What happens is that alga rhythms are applied to it to take the lowest volume and raise it to what's called a lower threshold and then anything that exceeds a certain level is then what is called a limit, or compressed is applied to it. For instance, as you look at your green wave and your gold wave, you see where the spikes go from fairly narrow in low passages to pretty high as they branch out. If you apply a compression, which is basically what this is, to it, it will take out some of the dynamics and it will cause the wave to appear to be much smoother or narrower. There will be no deviation of the volume.

Michael: I want to back up for just a second, I apologize. I screwed something up on the Doppler. When I clicked on it, I had clicked bass and then no matter what file I pull up it had it all slowed down,

even when I had a new one. It had preset shape, but I don't remember what it was on originally.

Rich: Okay, on the Doppler when I bring mine up, pitch bent down is the first one that comes up.

Michael: I remember when I saw it, it was just straight across.

Rich: If you do bass voice, is that one available?

Michael: I have bass, but that's the one I changed it to. It lowered it.

Rich: With bass voice, there are three buttons next to it, a plus and a minus. Press the yellow one.

Michael: Okay, that's what it was. What does the yellow one mean?

Rich: Basically, it brings it back to the default.

Michael: What it did was not only change that original file, when I pulled up any of them, it played at that pitch.

Rich: It was still being applied to it. I'm not one hundred percent familiar with it in Gold Wave, but I am in Vegas and in Sound Forge, when you add effects, you are adding a chain of effects. For instance, I want to add Doppler and then I want to add a time pitch. Everything is being run through the chain of effects in that order, and so you need to remove those effects from a chain. Otherwise, they will affect everything running forward. I am not familiar with how that is done in Gold Wave, but I'm taking a look right now. It actually is done visually in Sound Forge for you to see what order the effects are in because depending on what order you apply the effects, you can have a different outgoing sound.

Michael: I think I just figured that out. Okay, sorry about that; hopefully, I'll figure it out.

Rich: By the way, I got mine away just by doing an undo. Of course, that needs to be done right away for it to be helpful.

Michael: Okay, we were talking about the dynamics.

Rich: Right, when you apply the dynamics, you can end up with more compression or actually adding dynamics to something. For instance, if you have something that has a very flat sound to it,

that's the best word I can use, by adding the dynamics in the positive direction, it will cause the loudest passages to be slightly louder, and it will cause the lowest passages to be slightly lower. By applying things in the negative direction, you're actually applying compression, and you're closing that upper and lower window where the volume can peak or not peak.

Michael: That makes sense.

Rich: That can be applied in various manners.

Michael: There are two points at which you can move these little lines.

Rich: Right, notice that you are dealing with two axes.

Michael: Tell me about that.

Rich: On one coordinate, it is the amplitude, and on the other, I forget the word they use for it, but you are changing the amount, one is how much it is applied over time and the other is the attack time of it.

Michael: Do you move them both at the same time?

Rich: When I'm using this tool, I pretend there is an imaginary line that goes from plus one in the upper left to the plus one in the lower right, and I tend to move simply along that axis when applying them.

Michael: Okay, but I can play around with them.

Rich: Absolutely.

Michael: Okay, let's move on. What's echo?

Rich: It's basically the echo effect. There are two things involved; there is the volume, and in this case what they are referring to is when you click on volume, there is a delay that is the amount of time before it plays it the second time. There are two terms that are used in volume effects. There is dry and wet. They are not used in this particular program, at least not in this effect. Dry refers to the original untouched signal, and wet refers to just the effect. By adjusting the volume, you are deciding in effect how much wet and how much dry you want to apply. If you were to put a reverb effect on something and you would listen to one hundred percent wet, you would hear only the reverb with none of the resource material. By

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adjusting the volume, you are basically telling it how much wet to mix in.

Michael: How much in addition to what's already there.

Rich: Exactly. That's a fairly common effect when you go back and listen to it.

Michael: Okay, how about exchange?

Rich: Exchange takes a selection and it will move just the selection and change the left and right channels.

Michael: Am I going to need that for my mono stuff?

Rich: Probably not.

Michael: Okay, let's move to flange.

Rich: Flange gives the type of effect as if you are in some sort of a wind tunnel or time tunnel. Flange is a phasing effect that sometimes gives the effect of talking through a paper towel roll.

Michael: Why do people use that?

Rich: It's usually used in music to change the sound of certain instruments. It's nothing that you want to apply to a voice unless you're looking to make someone sound like a space person.

Michael: I think I know exactly what you're talking about. What about this mechanize?

Rich: Mechanize applies to metallic electronic sound in music. A lot of these have to do with what you'd want to have for music. It gives it a kind of a stilted sound.

Michael: (Michael sings a piece from Mr. Roboto by Queen to clarify the stilted sound.)

Rich: Exactly!

Michael: Okay, what is offset?

- Rich: Offset is a similar version of changing the tracking time of one channel versus the other, so you can have an offset between the two tracks with a slight delay.
- Michael: Okay, the next one is pitch.
- Rich: Pitch is exactly what it says; it changes the pitch of the time. Now, let's talk about the concept of time stretch and compression in companding of time. There are two factors that you change; the first is when you change the pitch of something, you are changing the speed at which it plays back, but you are also changing the note that it plays. For instance, if I'm talking in my voice and all of a sudden I change the pitch of it, what I'm really doing is talking higher, but I'm still talking at the same rate, or I'm talking lower but still talking at the same rate.
- Michael: When you're talking higher, are you compressing it?
- Rich: Basically, it's taking it like it's playing on a keyboard and playing it higher. Compressing it time wise is what happens when you just change the speed. For instance, on the Chipmunk songs, they're singing at the same speed, but they're higher pitched. The pitch has been changed, but the speed has been preserved.
- Michael: I'm looking at scale, semi-tone and fine tune.
- Rich: These are basically three fine tunes. Scale is the roughest, coarsest way to make a change. If you go into semi-tone and fine tune, then you're making really small pitch changes. Again, that would be more applied to music or trying to change somebody's singing voice to match a piano, or something along those lines. Preserve length is the option where you, even though you are changing the pitch, you want it to still take the same amount of time to play. Gold Wave is not very good at doing this and making it not noticeable. There are better programs for doing that type of thing. For instance, a radio commercial, a thirty, or a sixty as we know them, they really need to be 29-1/2 or 59-1/2. Let's say somebody produces a fantastic commercial, but it comes out a minute and two seconds. Before, they would have to go and try to trim two seconds, or they would have to play it faster, in which case you would notice it, and now everyone's voice and the music has gone up by two percent. Now we have tools that allow you to change the length of something but to preserve the pitch.
- Michael: So you would click preserve length.

Rich: Right, and there are settings there for the size. I'm not familiar with what they're looking to do here with the FFT. If you click on help, you will see under preserve length, it has a pretty good explanation. The FFT size should be set from nine to eleven with the overlap at eighty-eight. This is specific terminology that is being used by this manufacturer. It doesn't necessarily apply to its musical counterpart. Those are computer terms as opposed to somebody saying, "Do you want to preserve the length of time in seconds?"

Michael: The point is it will shorten something without changing the sound.

Rich: Correct, and the biggest example I can give of that is for producers of commercials that need to have things timed out to a certain length. Let's say I have a narration that times out to exactly twenty-four seconds, and I want the music to end cold underneath it, and my musical is twenty-eight seconds. I can apply a time shift or a time stretch or a companding to that musical piece so it matches the length. I can either expand the voice or I can contract, or un-stretch the music so they match. These are all new, modern techniques that sometimes are abused. The example that's running now is that Howard Stern has a sponsor called Giant Glass that plays here in the New England area, and the commercial has what's called a donut in the middle. There are twenty seconds for you to talk over the instrumental where there is nobody singing, and he probably spoke for about thirty seconds and didn't want to do it again so somebody had to go back, and there's no way he's talking that fast. What it does is take out all the pauses and breaths in between. If I speak and there are several samples that look the same next to each other, it randomly pulls a few out, so I'm saying the same thing but in a quicker amount of time. It can cause listener fatigue if it's done too much.

Michael: Okay, reverse will reverse the sound.

Rich: It will take the same selection and play it in reverse. It's the same thing as running a tape backwards or spinning a record backwards.

Michael: Can they use that in music?

Rich: It can be used in music or if you wanted to come up with some crazy effect to get people's attention. I'm trying to apply everything here to what you're doing with the spoken word.



- Michael: Okay, then next to it is the silence which whatever you have highlighted will silence it.
- Rich: Right, it takes a selection and replaces it with silence.
- Michael: You could do that at the beginnings and ends.
- Rich: What some people do is if you didn't want to interrupt the natural flow of the conversation if someone coughs, you can cover it over with silence rather than have to go in and do surgery on it, which might sound unnatural.
- Michael: Okay, time warp, what is that?
- Rich: Time warp is simply the tool that we have been speaking about when we talked about pitch, except without doing the pitch. For instance, if I have time warp, I can set the new speed or length of something based on the speed, which is a relative thing, so if I want to increase something by fifty percent of the speed, I would tell it to make it 1.5 of its original for playback speed. If it's time, I would say what I want the time to be of that. For instance, I've highlighted a segment that's a minute and fourteen seconds long. It's giving me a choice to go and make that anywhere from forty seconds to twenty by doubling it or halving it. I did an experiment with that. Less is better with that type of thing. I would use it to nudge a little bit, a few seconds here and there but it can create listener fatigue if you use it too much.
- Michael: Okay, and what is change?
- Rich: Change is related to the volume, so change is applying a broad-based change to the volume across the whole selection. This is a percentage, so it is obviously at one hundred percent by default. You can slide the volume up and down individually, or you can use the pull-down presets, so you can begin at zero or you can set the volume at five times what it is now. Fade in and fade out are two tools that are pretty similar and are used for the same purpose. Let's say I wanted to impose a fade on something. If I had a music bit that was two minutes long and at one minute, I wanted it to go from full volume down to zero. I would use fade in and fade out by selecting where I want the fade in or fade out to begin through where I want it to terminate, and it will automatically do that through the length of that selection.
- Michael: Let's say initial volume percentage is at zero.

- Rich: That's a fade in. Fade in doesn't necessarily have to start from zero but most of the time it would.
- Michael: How do we know what my standard volume is already?
- Rich: It's all relative to whatever it is.
- Michael: Okay, I see. Fade out is the same, and then we have maximize.
- Rich: Maximize is something you can visually see. This is what sometimes, when people are ripping CD's, is called normalize or leveler. What maximize does is take a passage of volume and increase it as far as it can without clipping it. It's like a no-brainer compressor, it's a one-button compressor. If you want to highlight a portion then do maximizer, you'll see you can set a new threshold, one being where it is now, so you can maximize it two times, or by one-half, and RMS is the average level, so you can change just the average level of the presentation. There are two different ways to do that so I'm going to say my new maximum is 1.5, and if I watch what happens to the waveform, you'll see that it expands it out. That's an overall volume increase. If I say, "Change the volume by two hundred percent," it's not going to be conscious of the subtleties of my program. It's just blatantly going to turn the volume up. If certain parts of it go over and start clipping, it's not going to care. Maximize will bring it as high as it can without clipping. That will be very helpful to spoken word material.
- Michael: Okay, what is shape volume?
- Rich: This is best explained if we do it. I've just chosen a selection and I'm going to do express fade in. See how it draws a visual? I'm able to adjust the shape of the volume across the timeline.
- Michael: Across the entire section.
- Rich: Right, across the selection, so if I want to do the whole thing, I would do Shift A, and then I would go in and do my change, and I'll see the entire production. By design, it's at one hundred percent, and I can start putting as many points as I want on this line and dip it. These are sometimes called rubber bands in the digital editing business because as you start to make points and move them up and down, they have a rubber band effect to them. The thing about the rubber bands is that in this program, you have to apply them on

this screen and rely solely on time code in order to apply them. In Sound Forge and in Sonic Foundry products, this rubber band is actually applied across the waveform so on the same screen you can be looking at your waveform and be making the volume adjustments, and you can do them in real time. The problem with some of Gold Wave's features is that you cannot preview them in real time. You have to render them first and then play them back. That's another distinction. If I'm doing an eight-hour editing session, taking out different things and changing volumes and applying effects, I want something that I can do in real time so I can hear it as I make adjustments to it as opposed to having to wait for it to render it and then play it back.

Michael: Okay, how is that different, if you do a fade in effect or a fade out from the fade in?

Rich: Those are pre-defined curves.

Michael: You can customize them.

Rich: If I wanted to shape the volume over the course of the whole thing, I can make my own type curve. They give us some preset shapes. You have a slow fade in, the fade out, and if you take a look at them some of them happen in a different way. The Doppler one is going to shape like a wave until the volume comes up, around, and out. That would be like a siren from a police car coming by. You can see the different ones, and of course, by using the blank one, you can make your own. The yellow line represents the volume over time.

Michael: Let's move on to noise gate.

Rich: The next six have to do with equalization and filtering. When you apply a noise gate to something, you are going to set the threshold that things will go on. If you see, there is a tack release threshold in anticipation of something that sometimes works and sometimes doesn't. Let's start with threshold. The threshold will say that anything below the volume that you set there, this program is going to turn the volume down to zero, in effect shutting the noise gate. If you and I are having a conversation and in between our words you can hear an air conditioner in the background, what the noise gate will do is in between our words it will quickly turn the volume down to zero and then turn it back up again just before we're about to speak.

Michael: If I highlighted my entire file, how would I do that? Would I highlight just the air conditioning part?

Rich: No, you would highlight the whole thing and then you're going to manipulate the threshold. Threshold is the level at which the noise gate should click on. Picture a noise gate to be similar to a flapper on a water pipe. The flapper stays closed until water comes through with enough velocity to open it. When it's open, that's when you can hear the sound on the original track. When it closes, nothing but silence is getting through.

Michael: That's interesting.

Rich: Like the way water flows through a pipe, you can adjust the attack and release time because this gate doesn't necessarily just have to be opened or closed. This gate can be in various states of open and close, and how quickly it opens or closes depends on the attack and release time. Noise gate can be a very noticeable effect if it's over applied. It would give a clipping effect, like on an old-fashioned cell call where only one person can be heard at once, or picture an old-fashioned speakerphone where only one party can be heard. Noise gate can have a similar effect and it can be more distracting rather than helpful. It should be applied liberally.

Michael: Okay, then we have noise gate reduction.

Rich: What they try to picture there with the little rainbow is they are showing the waveform and they are showing noises in the back and it can remove it. If you click on noise reduction, it will show you the waveform, and the presets have hiss removal and reducing a hum. It can take out certain frequencies that are in there. If I select reduce hum, notice that it starts pulling things out below 100 hertz. As it gets closer up to 20,000 hertz it doesn't take out anything. This is the amount of reduction. For instance, minus 40 is how much noise reduction it is applying at those frequencies. As a helpful guide, it shows in the red and green where the frequencies in your file are represented. If you somehow recorded a file and it had a hum in the background, like an electrical hum, you would see that present on the screen and then you could make a yellow shape around that hum or that hiss. In my particular file after about 12,000 or 15,000, there is nothing there because it's an MP-3. If you have a nasty hissing sound in the background, you could cap that. To relate this to the file that we're cleaning up for you, where sometimes we have that clipping sound, one way to calm that clipping sound is to use a tool like noise reduction. You would go in

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and say, "Okay, anything over 5,000 kHz is not usable." So we will roll off all frequencies above 5,000. In doing that we will get rid of some of that unnatural artifact. Another way to do that is what's called a high or low pass filter. A high-pass filter and a low-pass filter pick a set frequency and anything below that or above that, they either roll off or let pass through.

Michael: Is that an option on the noise reduction?

Rich: I'm sorry, it's actually the next one. It also has a cut off frequency. That's the frequency that we're going to work with, and you can only pick one at a time. Let's say I set it for 5,000. If I make this as a low-pass filter, it will let everything that is below that frequency pass through. If I set this as a high-pass filter, everything above that frequency will pass through. That can be used in a similar fashion that we were just talking about where you would roll off certain frequencies. When you're doing a band pass or stop filter, it's similar except it allows you to have a frequency range. For instance, if you look at the initial frequency range on your band pass stop, it shows you a frequency range from and to that you can set. For instance, this is set right now to allow only frequencies from 1,000 to 2,000 kHz to pass through. As a band pass, the terminology again, it allows those frequencies to pass. If we set it for band stop, it would notch those out, and that's another term that is used, it's a notch filter. Picture the frequencies as they go along notching it out as you would a piece of wood. Equalizer is probably the easiest one to understand because it resembles what everyone has on their home stereos. My best advice is use only what you need. There are two schools of thought when it comes to how to equalize something. I'll reduce it down to basic bass and treble. The way to increase the treble, there are two ways you can do it. Either you can turn the treble up or you can turn the bass down. The school of thought is that less is more. Always try the wave that requires less manipulation of the sound first as opposed to applying more effect.

Michael: That's good advice.

Rich: That's the best advice I can give you on manipulating sound. Parametric is another form of equalization. It's fun to use. You can go in and pull those one's through ten's down and do them in different ways. The best way is to look at the presets. It will change the shape of those. It actually even has up to a thirty band, and each of those individual bands you can change the gain, where they are centered, and the width.

Michael: This whole thing is probably another whole course.

Rich: You could spend all day on it.

Michael: Okay, let's move on the q points.

Rich: Let's say we were doing a production and we needed to have multiple points where we needed to go back and forth along a line. By doing a q point, we can have it remember where a certain phrase is. For instance, let's say you had an hour-long conversation that you recorded with somebody and you had parts you wanted to separate later into different chapters. If we were taking this conversation and you wanted to later go back and cut in real life examples of what these things sound like, then you would place a q point, or a marker, or what is sometimes called a flag in certain points in the conversation and then you could label that flag anything you like.

Michael: I did that just for fun. Where am I going to see it?

Rich: This is something that I use extensively in the Sonic Foundry stuff; I don't use it here but let me catch up with you. It's a little blue flag. As you're moving that line with the two arrows, when it gets to that point the flag will be added to it.

Michael: Will it be added in the green portion?

Rich: Your cursor will actually turn into a flag. You can see the flag at the bottom, just above the tie marks. You might not be able to see it if it's all the way over at zero. Those are little flags set there and you can move between flags. This is what is sometimes referred to as an edit list. The reason for something like this is in major editing tools, if someone is editing a TV show or an audio program, a lot of times because of the cost of what used to be called on-line editing, you would do your edits off line in a suite where you would make a list of all the edits that needed to happen. You would then give that list electronically to the editor, and while the clock was ticking, the machine would go and do the edits on line. That's no longer necessary because everybody has the same capability to do those types of edits on their home PC's. The idea of flags and markers is left over from those days. It can be helpful if you are doing a big project, or the biggest thing that I like to use it for is if multiple people are editing the same project, I can go in and put notes as to where a certain section is and then reference them with people.

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Michael: The last one here is calculator.

Rich: It's a special calculator because it allows you to look at things and express them in different names. For instance, let's say you wanted to have a certain note generated or you wanted to change the value of something, you could make an expression here. The biggest thing we use it for is that you can generate dial tones with it, so if you need something to sound like it's dialing a phone number, one of the things you do is go into group name, and then go under dial tone. Whatever numbers you type in, it will then insert them into your wave file and it will be as if it is playing those touch-tones. That's more of a novelty than anything else!

Michael: This has been a great lesson, especially when I listen back to all of this. What do you think is the biggest mistake people make when it comes to audio on their web pages?

Rich: When placing audio on a web page, the biggest mistake that can be made is not offering a variety of quality, not being sensitive to different connection speeds. That is a two-way street. For instance, if I have a dial-up connection and someone only offers things in Broadband, it's going to be very discouraging because I am probably going to leave the site before the download completes. I already know I am being chastised for having a slow connection, but maybe that's beyond my control, and it's very frustrating when that is not catered to. The other end of that is not being sensitive to the fact that people have Broadband connections and you are only offering things in low quality. An example that I'll give you is that ninety-five percent of the Flash presentations that are rendered out today, a lot of the designers have absolutely no regard for the audio portion of it. They will choose what Flash does, and that's to put all of the resources toward the visual and gives you the lowest, crummiest sounding audio. Everybody has gone to a website where you have this little drumbeat loop over and over again on a Splash page, and it's sampled at such low quality that it's almost distracting. I'm a firm believer that the audio should complement the web page, and we have those tools within our grasp these days. We can measure someone's bandwidth to know how they are connecting and decide which files to suit them, we can take the extra time to render out to their conversions so they have the option to choose a higher bandwidth. That's the first thing. Secondly is making sure that there is a clear explanation on how to get the audio to play. A lot of us are so good at what we do because we know all the different players. We have Quick Time and all of these

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programs and we have our machines rigged so when we click on something it automatically uses the appropriate application. Something that is very eye opening is to go to someone that is not as perceptive as you are with the multi-media on a web page and ask them to go to your page and watch over their shoulder without your assistance and ask them to try to play back that clip. You'd be amazed at what obstacles come up that you just assume that they know how to get rid of. For instance, Real Player wants to take control of everything when it's installed. Real Player pops up and the free version will try to sell them the paid version, and it takes them in twenty different directions. That person might never get to your audio.

Michael: That's what I have on my site, the free downloads. I may want to get rid of those because I now actually have the Real Player thing where they can listen to the clips. I should probably get rid of the links to the free one.

Rich: The nice thing about using an embedded player on the site is that most of them will go and get the plug-in without a lot of that salesmanship. The biggest advantage to doing embedded is the fact that you can control how much gets put in there. If you have a link that blindly lets any application take control of it, whoever was the last one to take control of a person's machine is going to play it.

Michael: You saw my website. They can download it in MP-3 or they can listen to it on the Real Player. Don't you think that's going to cover most of the people?

Rich: Yes.

Michael: I should probably get rid of those links because it may be losing people.

Rich: Right, and at this point you can guarantee that if someone has already started to download something, it will be a much easier experience than if they go out, get the player, and then have to come back. What I mean by that is if they attempt to play it and they don't have it, it's going to be an easier process for Windows to now say, "You don't have this; here's where to go to get it". It will take control of it a lot better than having them leave your site, go to get it, and then take the chance that they come back.

Michael: That's good advice.

- Rich: If you pop a new window, they might get buried in all the salesmanship going on from Real Player.
- Michael: I'm deleting it because most computers have a Real Player or a WinAmp to play these files. I offer a choice. If they don't want to mess with it, they can order a CD-ROM with everything on it.
- Rich: Even better, I think you have the bases covered.
- Michael: Okay, that's good advice. I'm open to any ideas for my web page. As you see, this is the beginning of a project that's going to get bigger and bigger. I have about 55 clips on there but I want to definitely, as I continue to do this, have the best quality sound making it accessible to the most amount of people in the best variety of ways, and that's why I'm talking to you. Maybe I can get started as I do this over the years, we're starting on the right foot, looking down the road into the future.
- Rich: Exactly, for instance any new conversations you require, maybe we have another set of procedures that you go through so we don't have to worry about clipping in the future. There might be something subtly different that you can do that will help tremendously in making it easier to edit.
- Michael: What do you recommend when I save this file off my Modem Spy? How should I save it before I go in and edit it in Gold Wave?
- Rich: I would recommend that you take advantage of the setting, because you don't have to send it around anywhere, I would save it in the best quality MP-3 that you can.
- Michael: I would go into my save as.
- Rich: Go into save as and chances are it offers everything from 8k up to about 64k or 128k. I would do the best one that you can.
- Michael: You mean my computer can handle that one?
- Rich: A 128k is fine.
- Michael: We're at an hour and twenty-seven minutes. Is that going to be a tremendous file?
- Rich: Yes, but if you're not moving it around, if you don't need to transfer it anywhere, it should be able to handle it.

- Michael: Okay, and then that's how I should bring in into Gold Wave?
- Rich: The fact that we're doing a conversation on the phone, 64k would even be better, and you're going to get half the file size. I would go for 64k.
- Michael: Okay, after I do my editing in Gold Wave, I save it as a .wav file and then I bring it through this software called Razor Lame that is a decoder and that transfers it and cuts it down and turns it into an MP-3.
- Rich: If it's already an MP-3...
- Michael: For some reason, my Modem Spy is only saving it as a .wav.
- Rich: Okay, so take the .wav, and edit the .wav.
- Michael: I could save it as an MP-3 from Gold Wave.
- Rich: Exactly, so all you need to do is bring the .wav into Gold Wave and then when you are done editing, you can make all the MP-3 files you want.
- Michael: Do I need this Razor Lame to cut down the size of the file?
- Rich: No, because Gold Wave will already do that when you save it in the appropriate MP-3 format. What I would recommend is, one of the downfalls of Gold Wave versus other editing programs, if you make a series of changes you can only change the last one. If you do something in a destructive fashion to the file that you somehow saved by mistake, what I would recommend is always make a copy of your files. With Vegas Video, I have unlimited undo so even if I do something and ten edits later I decide to change my mind, I can look at the history. In order to make Gold Wave inexpensive, that's obviously one of the features they excluded.
- Michael: We have an hour and a half conversation and I want to get this up on the website, how should I save it on Gold Wave?
- Rich: MP-3 is a 64k or a 32k if you're putting it online.
- Michael: That's for a downloadable one?
- Rich: Yes.

- Michael: What if I want to turn that file into an RM file for Real Audio, should I still save it at the 64k?
- Rich: Yes, you always want to put the highest one you make, whether you make a 64k or a 32k, put that into the RM. Let RM work with the best quality file it can. I would put that in, I think they have an 8 or a 16 string, this should be fine for that.
- Michael: Even though that's a pretty huge file compared to what I've been doing, if they're playing it on my site with the Real Player, it's not going to matter.
- Rich: Right, because Real Player is going to export it in either 8 or 16. This way we're giving the best thing possible to Real to work with. If you want to then go back, once you've exported in Real, you can make the 64k or the 32k file you could pass that through Lame, and if you want to make the 64 down to an 8 or a 16 MP-3 then you could put that up. A lot of it is going to be based on your ear and now you're being cognizant of the fact that you know what you're listening for.
- Michael: What's important about, compared to what I've been doing saving it as an 8 or a 16, and then having my audio clips as a 64 like we're talking about, how does that affect the end listener?
- Rich: It's going to provide them with a better Real Media file because Real Media is going to be able to start with a better quality file. There will be fewer artifacts that will be introduced in the first state so when Real Media introduces its own set of artifacts it won't get worse. As far as playing it online, we do still want to bring it down as low as possible. That's what I would recommend.
- Michael: Okay, is the 64 four times a large as an eight?
- Rich: Yes.
- Michael: So we're talking about taking up a lot more space as this is being built up.
- Rich: Right, so you would definitely want to put up the smallest one you can without it growing so large that it's unusable. I hope that's helpful.

Michael: This has been great. What I'm going to do, I'm pretty burned out right now, and I'll go through this file and edit it and save it as we have talked about. I'd love to put this up on my site because this is a great lesson for anyone. I'll have a way for people to get in touch with me if they want to use you to do any sound editing.

Rich: That would be fantastic.

Michael: Let's talk soon. I will give you a ring and I'll send you that file again, and let's see if we can do anything with it. When I'm recording this, I'm on a cordless headset. Would you recommend I plug in a phone, a wired phone for better quality?

Rich: When you're actually doing the recording?

Michael: Right, I'm doing the recording but I'm on a cordless.

Rich: Your portion of it sounds fine at my end.

Michael: It sounds good at my end too. Do the volume controls on my headset of my cordless have anything to do with anything?

Rich: Only the ones that would affect your transmission volume. If there is anything that affects how you're hearing it, they should not have any effect on my end or on the recording end. The only thing would be if it was turned up so much that it started to feed back or leak back into it, and you just need to be cognizant of that.

Michael: I'm wondering what happened to that recording I sent to you. Why did that happen?

Rich: For some reason, my feeling is that unfortunately it was captured too loud. I hope the loudness has been happening in the translation.

Michael: We'll see by the time I get you that file.

Rich: When we see the actual file, we'll get a better idea.

Michael: I hope that didn't happen to this recording! I will talk to you later. Thank you very, very much for your time.

Rich: No problem. I look forward to talking to you again soon.

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