

VE-3+ Owner's Manual

Thompson Vocal Eliminator™



Proper results on this recording verifies that your equipment is not introducing any problems which could limit the results. Results will still vary depending on the recording used as depicted in the demo tape.

Congratulations, you have just purchased what will prove to be the most enjoyable part of your stereo system! Whether you intend to use your Vocal Eliminator™ in a professional context or simply for your own personal enjoyment, we are sure you will find it's use habit forming and that it will give you years of trouble free performance.



Upgradeable Design

Your VE-3+ incorporates the latest developments in digital signal processing. What's even more important, is that at LT Sound, we are constantly working to insure that we provide the very best Vocal Elimination™, vocal enhancement and key change performance possible. Your unit is the state of the art today and it is user upgradeable at nominal cost (\$25.00) to incorporate any improvements which will be made to its software in the future to insure that it remains state of the art. Upgrades are released roughly every 6-9 months and your first upgrade is free and will automatically be sent to you. You will be notified by mail of future upgrades as they are released.

Your VE-3+ has full CD quality 16 bit dynamic range and frequency response. It's advanced Auto Vocal Trac™ circuits make it capable of automatically adjusting for the best vocal elimination available on all of your stereo sources from

tape, record, compact disc, FM broadcast, and videotape to name a few. Because it is a digital unit with a computer program which runs its functions, you will be able to upgrade the performance of your unit as improvements are made in our vocal elimination algorithms. Your unit is also capable of receiving additional programs for other functions which may be developed in the future to supplement your Vocal Eliminator™.

True Studio Quality Voice Enhancement

Unlike consumer or even "professional" karaoke equipment, your VE-3+ is equipped with a recording studio quality digital delay and reverb unit which has full 20 KHz bandwidth on the effects. Your delay/reverb processor can be used separately in conjunction with a recording console or porta-studio. Inputs and output connections for a recording deck are provided on the unit for additional convenience.

Does Everything Karaoke Does Better.

Your VE-3+ is also equipped to work with pre-recorded background music and has a mode selector to mix the background music as stereo, multiplex, and of course the Vocal Eliminator™ output. You can also use the STEREO Mode to mix pre-recorded stereo backgrounds from Karaoke sources or tapes you make with the Vocal Eliminator.™

Studio Quality Key Transposer With More Range and Fine Tune Capability.

Your VE-3+ has a total range of a full octave - one half octave up and one half octave down which allows you to place the song in any key. This is over twice the range of most karaoke key transposers.

Our step increments are full half tone steps and not quarter tone steps so 4 “steps” on a karaoke unit are equivalent to 2 steps on our unit. You can also “fine tune” the key change to match the exact key of a piano or other instrument.

The Vocal Eliminator™ goes into most systems without a single problem occurring along the way. Following this manual in the order it is presented, will prevent most problems and confusion. If you are still unable to correct the problem, be sure to call our HELP LINE at (770) 482-4836. We

are able to provide technical assistance Monday through Thursday as late as 6 pm EST and are available most Saturdays from 1 pm until 5 pm EST as well. If you don't reach a technician directly, leave a message and someone will return your call. You will find the instructions quite complete, but if a problem develops, we don't want you to get needlessly frustrated. We are capable of solving most complications over the phone in a short amount of time.

Choosing the Proper Connection Diagram.

The first thing to do is to choose the proper connection diagram for your particular system. There are two basic ways to connect the Vocal Eliminator™ to your system. All systems can use Diagram 1 and it is the preferred diagram unless you are sure your system has a tape monitor switch. Since 2002 most systems do not have a tape monitor switch. If you have a **True Component system** where the amplifier is separate from the tape deck, you may also have a “tape monitor” switch it may not say “Tape Monitor”, it may only be labeled TAPE or VCR. If you can select a source such as FM and press TAPE or VCR and the FM stays selected, you are indeed monitoring. For this type of system, you use **Connection Diagram 2**. If your **turntable or tape deck is built into your amplifier** and you do not have a “tape monitor” switch, which may also be labeled Tape-Source, then you should use **Connection Diagram 1**.

CONNECTION DIAGRAM 1.

Connection Diagram 1 will work for all systems with or without a Tape Monitor Switch. If you have a system where the tape deck is built into the amplifier, you must use connection diagram 1. You will use the recorder built into the amplifier for recording and a separate tape deck for playing the original recording if you want to work from tape.

CONNECTION DIAGRAM 2.

If are sure your system has a tape monitor switch, you may use Connection Diagram 2. Be absolutely sure that you follow the diagram exactly as shown. If you have a tape deck currently connected to the RECORD OUT jacks, then you will have to disconnect it in order to connect the Vocal Eliminator to your system. For now, follow the diagram explicitly and be sure not to reverse the connections going from the Vocal Eliminator™ back to the receiver.

Hookup Diagram 1

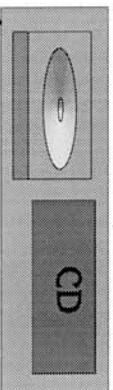
Connection Diagram for System Without Tape Monitor Switch

Turntable



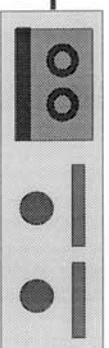
Magnetic Phono Pre-Amp. Radio Shack Part 42-2109 or Equivalent. Call LT Sound if You Have Difficulty Locating a Magnetic Phono Pre-Amp.

CD Player

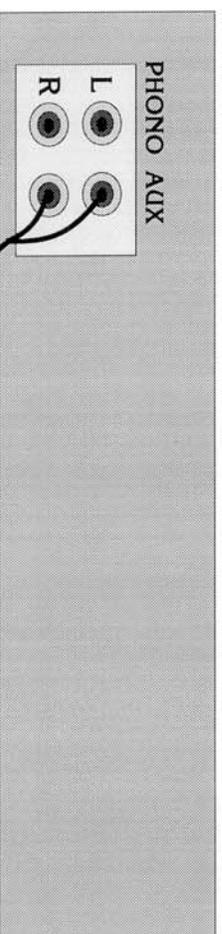


Connect Inputs to Eliminator one at a time.

Source Cassette Deck
Line Out of Source Cassette

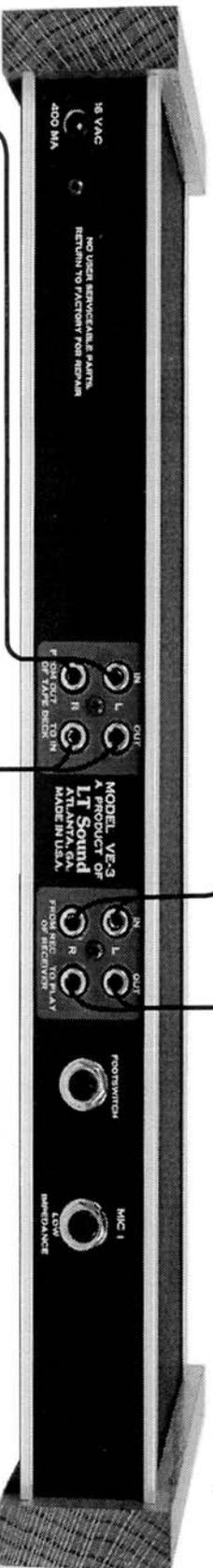


Console or Compact Stereo System
Use Stereo's Built-In Cassette for Recording



Place Selector Switch on Aux and use Tape deck built into stereo system to record the Vocal Eliminator results either with or without your new vocal. Turn selector to Tape to listen to results.

Vocal Eliminator Back Panel



From Tape Deck Outputs

To Tape Deck Inputs



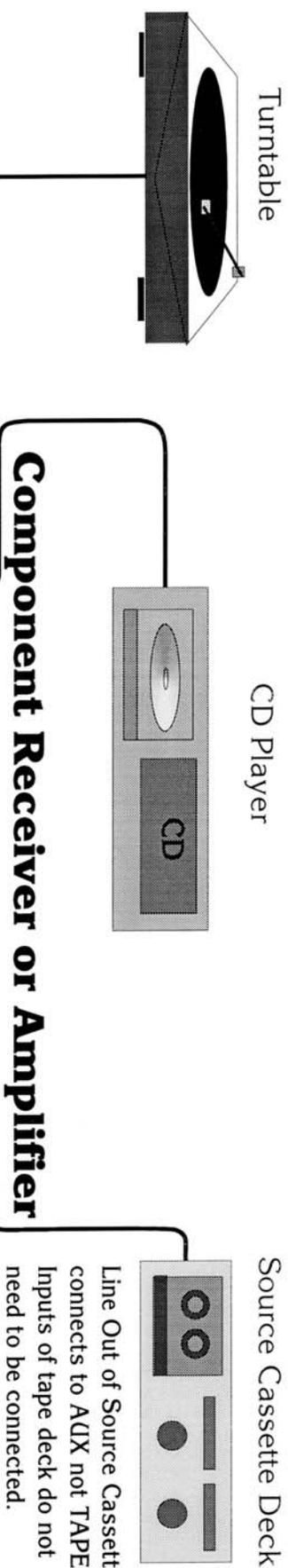
Recording Cassette Deck

- Note: Be Sure of the Following Items
1. There must be a Cassette in the recording deck.
 2. The Recorder must have the REC or REC/Play/Pause buttons engaged.
 3. You must have the Recording Input Levels turned up & 4. You must have the input selector to Line not Mic on the recorder.

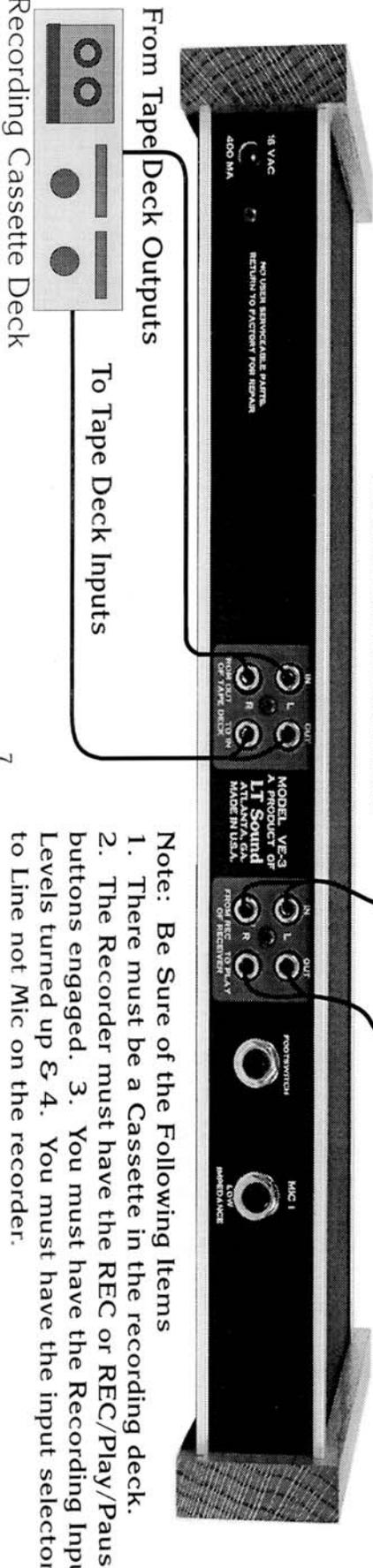
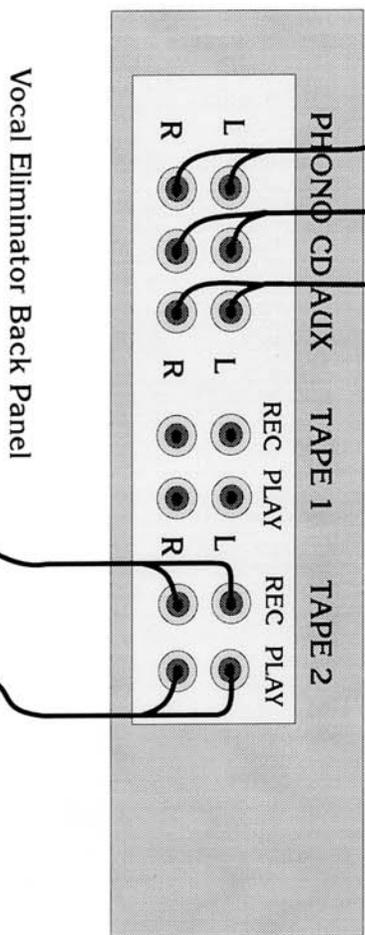
Hookup Diagram 2

Connection Diagram for Recording

For Component System Having Tape Monitor Switch



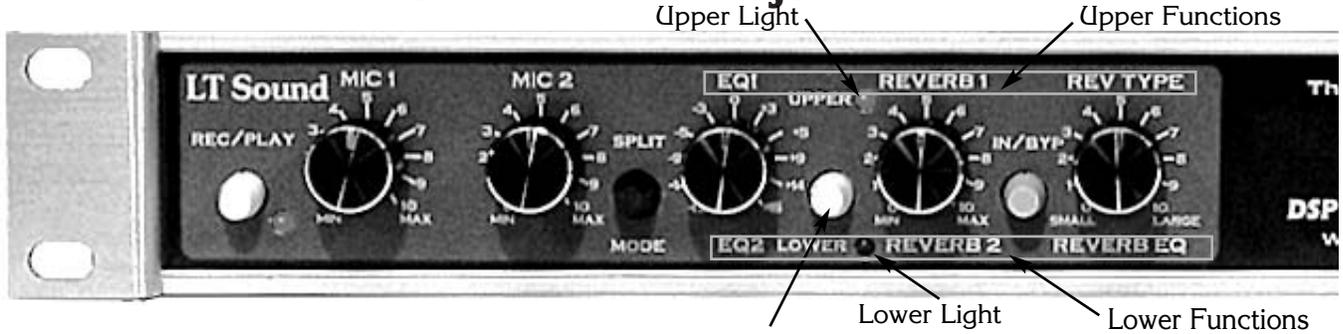
Note: Select Either Phono, CD, or Aux for the source you wish to remove the vocals from. Be sure to Press the TAPE 2 button as well to monitor the Eliminated Signal.



Note: Be Sure of the Following Items

1. There must be a Cassette in the recording deck.
2. The Recorder must have the REC or REC/Play/Pause buttons engaged.
3. You must have the Recording Input Levels turned up & 4. You must have the input selector to Line not Mic on the recorder.

Front Panel Controls and Adjustment Procedures



Because we are sure that you're anxious to get on with enjoying your Vocal Eliminator™, we'll go right on with the hookup procedures and operation of the unit.

Operating your VE-3+ is easy once you understand the functions of the front panel controls. Now we will familiarize you briefly with what the front panel controls are and what they do.

Upper/Lower Switch

Understanding this switch is *critical* to your understanding the other controls. This switch will show you whether you have selected the upper or lower control functions of the unit. There are names of the knobs above and below some of the knobs like EQ1 and EQ2. If the Upper light is on, you are controlling the features named above the knob. If the Lower light is selected, you are controlling the features below each knob which has another name below it. When you switch from upper to lower, all the controls are not active till you cross the control's former location. So if you are on Upper and want to adjust EQ2 to boost the highs, you would select lower and then adjust the EQ2 knob to the left and then turn it to the right of center for a high frequency boost, when you cross the place EQ2 was formerly at, the lower light will blink and it will become active and now wherever you place the control is where it will adjust the sound of EQ2. All the other controls work in the same fashion. Play around with it and you will get the hang of what we are talking about if this explanation sounds confusing. If in doubt, leave the UPPER light on.

Rec/Play Switch

This switch is normally placed "in" for recording and "out" for playing back the recording you just made. The light will be on when you are in the REC mode and off when you are in the Play mode. This assumes you are connecting your recorder to the VE-3+ input/output jacks as shown on Diagram 1.

Mic 1

This controls the volume of the line level microphone signals which are present at the Mic 1 input of the VE3+.

Mic 2

This controls the volume of the line level microphone signals which are present at the Mic 2 input of the VE3+.

Split Mode / Auto-Mix Switch

As you press and hold this momentary switch in, you will see the lights cycle between all off- which is no split mode (normal) and no auto-mix and Auto-Mix or Split Mode.

Split Mode kills the microphone in the outputs but allows the Auto-Edit functions to operate. Use this mode for making a background tape without your voice. With the MODE control in Auto-Edit you will get the most vocal elimination with the least impact on the background instruments.

Auto-Mix can help you fine tune your mixes and makes it easier to set the background and the vocal levels properly. Basically Auto-Mix acts like a limiter on both your mic volume and the music volume once you have adjusted the mix in the ballpark. You still may want to touch up the VOLUME control for the back-



ground music, but most people will find it easier to produce good mixes using the Auto-Mix function. If you are a seasoned pro at mixing, you may prefer the manual mix mode, so try both and let your ear be the judge.

EQ 1 / EQ 2

When the Upper switch is "IN" EQ 1 or the Equalization of mic one is affected. When the Lower Switch is active and the lower light is lit, EQ 2 or the EQ on mic 2 is affected. Turning to the right increases the high frequencies, turning to the left decreases the highs.

Reverb 1 / Reverb 2

When the Upper Switch is "IN", Reverb 1 or the reverb level of mic one is affected. When the Lower switch is active and the lower light is lit, the reverb on mic 2 is affected. Turning to the right increases the reverb, turning to the left decreases the reverbs.

IN/BYP - Auto-Effects Switch

As you press and hold in this momentary action switch, you will see the lights cycle between the following modes.

IN- Reverb Always On which is useful when you want to hear how the various reverb type, level and EQ settings sound without the music playing and make adjustments to any of the mic EQ or reverb controls.

Auto-Effects- Reverb only on when the music is playing. This LT Sound original innovation allows you to speak to your audience between songs and not have the reverb active. You do not need a foot switch to kill the reverb when you are using this function.

Off - (Both lights out) No Reverb or Echo.

Reverb Type / Reverb EQ

When the upper light is lit, Reverb Type or the type of echo and reverb is affected. You have 11 different programs which range from primarily echo on the far left to primarily reverb on the right. The most frequently used and best overall effects are found in the center positions. When the Lower light is lit, the

equalization of the reverb is affected. Turning to the right increases the high frequencies, turning to the left decreases the highs.



MODE

This is probably the most important knob on the whole unit. It sets how the unit will be operating. The most commonly used position is the Vocal Eliminate position at 1 o'clock. The Edit position gives you the original signal in a special format for editing. You can manually switch back and forth between the Edit and Vocal Eliminate positions so that the only time you are in Vocal Eliminate position is when the vocal is present.

Vocal Eliminate- The Vocal Eliminated Signal

Stereo- The original Stereo signal which is useful if you want to sing along with pre-recorded background tracks. The Volume, Key Change, and Auto-Mix all function in this mode.

Multiplex - For playing background karaoke tapes which are recorded with the voice on one side and the music on the other.

The Auto-Edit gives you the original background music except when you are singing. Then it gives you the Vocal Eliminated signal. This allows you to do a duet with the original artist or to keep the background music as unaffected as possible since the only time you will be hearing the eliminated version is when there is no singing going on. You can use this same Auto-Edit feature and make a background



tape without your vocal by placing the SPLIT MODE switch in the split position. When you sing through Mic 1, you will see the Vocal Eliminate™ light come on and go off in the places where you are not singing. As long as you are singing in the right places, you will produce a perfectly edited background.

Most backgrounds don't need editing. Use this feature if you notice that the Vocal Eliminated background loses a noticeable amount of the original instruments.

Edit gives you the original recording so you can gauge the amount of vocal elimination that is occurring. For actual editing, see the section on editing which follows to get the very best editing results.

Vocal Eliminate™ engages the Vocal Elimination™ processing. It uses a mix of the first and second vocal elimination algorithms. It starts out with the least elimination which attempts minimize any loss of instruments.

Option 1 is a place holder for future improvements.

Option 2 is the Auto-Edit mode using the microphone signal to engage the Vocal Elimination, but without the microphone signal being mixed into the final output. This allows you to used the Auto-Edit mode to make a background recording where you do not want your voice in the mix.

In the presence of your new vocal, you cannot tell any difference between those that eliminated 80% and those that eliminated almost completely.

Remember if you want to get the very best possible vocal elimination with the least effect on the background instruments, use the AUTO-ED function on the MODE control. It will trigger the very deep elimination only when you are singing. If you want to make a background tape without your voice for later performance, then simply put the SPLIT mode switch in the SPLIT position, and this will kill the microphone, yet allow it to trigger the editing function as you sing while you are making the background tape.

Volume

This knob controls the Volume of the background music.

Treble / Bass

This control affects the equalization of the background music. If the Upper light is lit, turning the control to the right will increase the highs. Turning the control counter-clockwise will decrease the treble. If the Lower light is lit turning the control to the right will increase the bass. Turning the control counter-clockwise will decrease the bass.

Key / Key Fine

This control adjusts the Key of the music. When the Upper light is lit the main KEY control is active and you can raise the key by turning the control to the right and lower the key by turning the control to the left. The speed is not affected. When the Lower light is lit, the control is in the fine mode which allows precise fine tuning of the key if you want to tune the background music to a piano or other instrument.



In the Upper mode the numbers give an approximate readout in half steps. The unit has a range of plus or minus a half octave. You generally don't need to go nearly that far. Usually, you are only adjusting one or two half steps. The further you go, the less natural the backgrounds will sound. Most key changers only have one third the range of our unit. In comparison with other units shifting identical amounts, our unit typically produces half the "flutter" and other side effects of our best competitors.

Even better news is that we are constantly working on improving our programs and your unit will be easily upgradeable as we make improvements to make our performance even closer to the ideal.

AUTO-EDITING FOR A BETTER BACKGROUND.

You can edit on your VE-3+ manually or automatically. In the manual mode, you simply place the Vocal Eliminator in the AUTO-EDIT mode with the MODE control. Then simply push in the IN/BYP switch only in the



Pressing in and Holding the Reverb IN/BYP switch allows you to Manually Edit in the Auto-Edit Mode if you do not wish to Sing when you use the Editing Function.

places where the vocalist is singing. You can fine tune the elimination with the Elimination Depth control which is the VOLUME's Lower Function.

The Vocal Eliminator usually removes any solo part with little affect on the accompaniment. During instrumental solos between the vocal parts the solo instrument will usually be removed just as the vocal is. This is not desirable if we are to get the best results from the Vocal Eliminator™. To preserve the original instrumental solo in its normal state, we simply perform an "EDIT" back to the original

The Eliminator's AUTO-EDITING MODE is totally "clickless" and we should hear no ticks on the background if we are preparing a tape. When the vocal part is about to come back in, we simply switch back to the background.

Instrumental solos are the main parts that need to be edited into the final result when you are preparing the best possible background tapes. There may also be occasions during intros or at the end of songs where you wish to edit back to the original. If you have a really fast finger, you may even want to edit some songs between the vocal phrases. In most cases the loss of instruments is so mild that these efforts are not necessary, but if you are trying to make a difficult song work, your editing skills will prove helpful.

Vocal AUTO-EDITING

Your VE-3+ can also perform an "Auto-Edit" where your voice causes the unit to go to the eliminated background. When you stop singing, the unit returns to the original "EDIT" signal. Your mic volume and how loud and close you are to the mic determine the threshold point. You can easily see the unit switch back and forth between the two modes by looking at the VOCAL ELIMINATE light. If you want a background which is auto-edited and without your voice present on the tape, use the SPLIT mode switch. This will cause your mic signal not to be present at the final outputs.

Getting The Best Results.

Be careful to evaluate your results when you are singing over the backgrounds. Though you can tell a big difference between those that eliminate almost completely (95%+) and those that eliminate an average amount (80-85%) *without* someone singing a new vocal part, you usually can tell *no* difference at all once a new vocal is added. You should completely cover the old voice. Here is the amount of elimination you should expect from the sales brochure:

Normally you can use the better half of your material in a professional context. By the same token, you should expect that the other half will come out not to be good enough to use in a professional context, though it may be adequate for practice.

You can improve your results by being sure you are doing the following:

1) Be sure to mix your vocal loud enough. Make a tape and be sure you are placing your vocal as loud as the original.

2) Use enough Reverb on your new vocal. What sounds like too much reverb when you speak into the mic is usually not enough when you sing with background music; 4 or 5 on the dial is a good starting point. You don't want to sound like you are swimming in reverb with the background music present either. Listen to your recordings and compare them with the originals.

3) Use EQ on your mic. Most mics produce an un-natural bass boost due to the directional nature of the microphone. By turning up the mic EQ in the clockwise direction, you can counteract this effect. Don't go so much you sound overly thin or shrill, but use as much as it takes to make you sound your best. Try making a recording letting the original artist do a few lines in the AUTO-EDIT position, then you do a few lines. Back up the tape and see if you need to make adjustments in your MIC volume, EQ or REVERB settings.

4) Don't Lag. People just starting to sing with background accompaniment tend to come in late. Avoid this. You don't have to phrase just like the original singer, but you must be doing *something* whenever he or she is present.

If You Are Getting Absolutely No Vocal Elimination.

If you are getting no vocal elimination at all you need to check out several possible causes. The first thing to do is to be sure you can change the volume of the music with the VOLUME control. If you can't, you are not listening to the Vocal Eliminator™ but to the original signal. Be sure you are

connected to the TAPE jacks on your receiver (TAPE 2 or VCR if you have a TAPE 1 and 2) and that you have the TAPE button IN or are in the "monitor" position. If you do hear the volume change, but are getting no elimination whatsoever on the TEST TAPE, then place the MODE switch to STEREO and listen to your left and right speakers individually to see if you indeed have two inputs going into the eliminator. If one of the speakers is dead, you have a bad cable either at one of the sources or the input to the Vocal Eliminator or one of the wires is connected to the wrong place. Check the diagrams carefully. Switch cables with a new good cable until you get sound out of both speakers in the STEREO mode. You must be in the STEREO mode for this test to work and when you fix the bad or misconnected cable, you should have elimination. If you are still having problems, call the HELP LINE and we will be glad to assist you in locating the problem.

25% Vocal will be virtually inaudible through most of the recording even without a second vocal.

25% Vocal will be barely audible without a second vocal being added, and completely inaudible with the addition of a second vocal.

25% Vocal will be audible but at a substantially reduced volume. Complete masking of the original vocal is possible, but requires high quality second vocal with equalization and echo or reverb.

25% Borderline or non-usable results.

When Calling the Help-line Line.....

1. Be sure you are at a phone which will reach the equipment. We need to be able to hear the results you are getting and ask you questions about your stereo system. This is very difficult if you cannot be directly at the equipment while we are talking.

2. Be sure you have the TEST TAPE on so we can work with material which we know should produce extremely good elimination.

Help Line hours are till 6 p.m. EST, Monday - Wednesday that is 3 p.m. California time. Help line assistance also available 1pm-5pm most non-holiday weekend Saturdays.

Help Line Number (770)482-4836

Maxing Out-Getting The Most From Your Vocal Eliminator™

Problem 1: I Get a Loud Squeal From The Microphone Whenever I Get The Volume Loud Enough For My Voice.

The solution is to hold the microphone to where it *actually touches* the corner of your mouth when you sing.



Holding the mic to the side does three things. 1)It greatly reduces feedback because you do not have to turn the mic volume as high. It should still be placed at 5 in most cases .2) It avoids the “popping” sound on “p’s” and “t’s” and 3)It shows your face to the audience. Holding the mic in front of your face blocks the audience view of yourself. When the mic is held close like this you don’t need to turn the volume on the microphone up to the point it produces “feedback”. Feedback occurs with any microphone when the volume is too high.

Also if you point the mic towards the speakers, it increases the tendency to produce feedback. Be sure the mic does not point towards the speakers when you perform.

Problem2: The Mic cuts off on soft passages of my voice.

The best way to solve this problem is to be sure you are holding the mic as shown in problem 1 and that the mic volume is at least at 5. You can turn the volume all the way up to 10 if need be. A lot depends on your particular microphone and how loudly you sing.

Problem 3: The Amount of Elimination Is Adequate, But It Affects The Background Music Too Much.

The best way to solve this problem is to use the Auto-Edit function of your VE3+. When you stop singing, there is no elimination and when you sing, the elimination kicks back in. *You must have a mic connected to the VE3+’s mic inputs and you must be singing to hear the elimination!* Your microphone **MUST** be plugged into the VE3+ for this to function. If you are making a tape without your vocal you can still use the AutoEdit function and not have your mic appear on the tape. Just engage the SPLIT function (Split lite on) with the SPLIT / AUTOMIX switch.

In addition, as you go from Vocal Eliminate to Option 1 to Option 2 , you go from minimal impact on the background music with less elimination to maximum elimination in Option 2 with more potential impact on the music.

Problem4: I Hear a ‘Wobbling’ or ‘Flutter’ Sound That I Think Is In the Key Changer

All key transposers produce some flutter. Our unit produces about half of what is typically produced. If you are very near ‘0’ key change it may be most noticeable. To be sure you are at *exactly* ‘0’ key change where no flutter is produced do the following;

- 1)With the Upper light lit, put the KEY control at +1.
- 2)Turn the VE3+ off.
- 3)Turn the VE3+ on.

As long as you do not touch the KEY control you will remain at exactly ‘0’ key change. Anything to the right of center is placed at exactly ‘0’ when the VE3+ is first turned on, and will remain there until the knob is turned to the left of center where it will then start tracking your movements of the knob. You should hear no flutter at all as long as you do not adjust the KEY knob.

LT Sound Warranty

One Year Parts and Labor

Your reconditioned LT Sound product is warranted for One Year from the date of purchase. Problems with our products are extremely rare. Many things that appear to be unit malfunctions, are in reality related to a change in hookup or sometimes a customer simply changes some buttons on the receiver and apparently the unit no longer works. Since over 90% of these types of "unit malfunctions" are not really the unit at all, we insist that a Repair Authorization be given by one of our technicians on all products which are accepted back for repair. This solves most problems in the quickest manner over the phone and prevents customers and ourselves from unnecessary shipping expenses and down time. If you feel you have a problem, please call our help line and if the symptoms do indeed point to a problem within the unit, we will promptly give you a Repair Authorization and will rectify the problem as quickly as possible. ***Sorry, But Any Unauthorized Returns Will Be Refused.*** We believe experience has shown this to work in the best interests of both you, our customer, and ourselves.