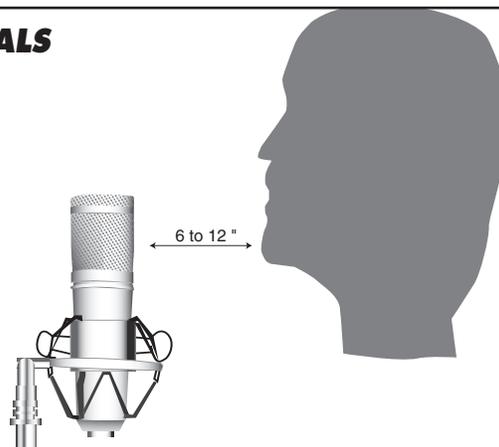


RECORDING TIPS

Lead Vocals

For miking vocals, the element should be close to the height of the singer's mouth. Some vocalists prefer the microphone slightly elevated. While proper mic positioning is important for good sound, a relaxed, comfortable singer is more important, so position the mic to the singer's liking (within reason!). Typically 6 to 12 inches away from the mic is ideal for lead vocals but feel free to experiment. Every mic has a "sweet spot" where the voice reproduction sounds best. That spot is unique for each voice! Experiment with distances to arrive at the "sweet spot". When getting in close to the mic, remember to use a pop screen to prevent "popping" your "P's" and getting excessive moisture into the mic element.

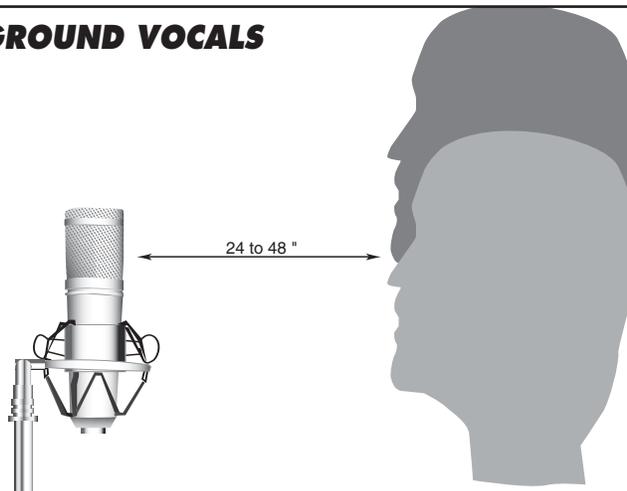
LEAD VOCALS



Background Vocals

If you want the feeling of distance or space, move the mic further away. Just be aware that as you get further away, you may need more gain to achieve the desired recording levels. And with more gain comes the possibility of picking up unwanted background noise. When recording multiple vocalists on one mic, test each person's levels individually before recording them together. If one vocalist is louder than the other, have that person take one step back. Repeat this process until all vocalists can be recorded at even levels with a single mic.

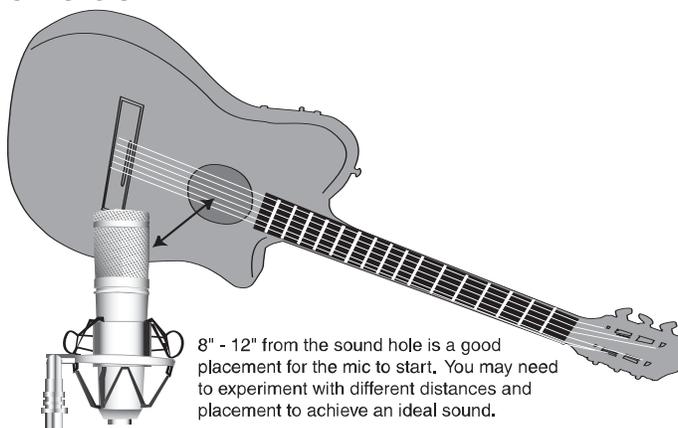
BACKGROUND VOCALS



Recording Instruments

For instrument or percussion miking, there really is no right or wrong placement except when you are recording multiple instruments. Never be afraid to try various positions or angles. Feel free to change the acoustic properties of the recording environment by using sound absorbent panels and materials. Additionally, try using multiple CTM100's at different placements and distances. Example: When miking an electric guitar cabinet, try using one CTM100 up close (within several inches of the speaker) and another CTM100 at a further distance as an "ambience" mic. You will achieve a totally different sound than with one mic alone. Miking an acoustic guitar can be a whole art in itself. Start out by placing the mic near the sound hole. Try moving the mic closer to the bridge of the guitar for a brighter sound and closer to the neck and sound hole to add low end frequencies. Using a second mic at a distance can again give you a totally sound. The possibilities are limited only by your creativity and imagination!

ACOUSTIC GUITAR



 This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



 This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT! FOR YOUR PROTECTION, PLEASE READ THE FOLLOWING:

WATER AND MOISTURE: Appliance should not be used near water (near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

POWER SOURCES: The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

GROUNDING OR POLARIZATION: Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

POWER CORD PROTECTION: Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

SERVICING: The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

FUSING: If your unit is equipped with a fuse receptacle, replace only with the same type fuse. Refer to replacement text on the unit for correct fuse type.

LIMITED WARRANTY

Your Carvin product is guaranteed against failure for ONE YEAR unless otherwise stated. Carvin will service and supply all parts at no charge to the customer providing the unit is under warranty. Shipping costs are the responsibility of the customer. CARVIN DOES NOT PAY FOR PARTS OR SERVICING OTHER THAN OUR OWN. A COPY OF THE ORIGINAL INVOICE IS REQUIRED TO VERIFY YOUR WARRANTY. This warranty does not cover, and no liability is assumed, for damage due to: dropping, moisture damage, accidents, abuse, natural disasters, loss of parts, lack of reasonable care, incorrect use, or failure to follow instructions. This warranty is in lieu of all other warranties, expressed or implied. No representative or person is authorized to represent or assume for Carvin any liability in connection with the sale or servicing of Carvin products. CARVIN SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

When RETURNING merchandise to the factory, you may call for a return authorization number. Describe the problem in writing.

SAFETY INSTRUCTIONS (EUROPEAN)

The conductors in the AC power cord are colored in accordance with the following code.
GREEN & YELLOW—Earth BLUE—Neutral BROWN—Live

U.K. MAIN PLUG WARNING: A molded main plug that has been cut off from the cord is unsafe. NEVER UNDER ANY CIRCUMSTANCES SHOULD YOU INSERT A DAMAGED OR CUT MAIN PLUG INTO A POWER SOCKET.



CTM100

Congratulations on your purchase of the **CTM100** microphone. This large diaphragm 12AX7 vacuum tube mic is a precision device that will provide accurate recordings of vocals and instruments. A power supply, shockmount and cables are also included along with a padded travel case. Please take the time to verify that all components are included with your **CTM100** microphone.

RECEIVING INSPECTION—read before getting started

INSPECT YOUR MIC FOR ANY DAMAGE which may have occurred during shipping. If any damage is found, please notify the shipping company and CARVIN immediately.

SAVE THE CARTON & ALL PACKING MATERIALS. In the event you have to re-ship your unit, always use the original carton and packing material. This will provide the best possible protection during shipment. CARVIN and the shipping company are not liable for any damage caused by improper packing.

SAVE YOUR INVOICE. It will be required for warranty service if needed in the future.

RECORD THE SERIAL NUMBER on the enclosed warranty card or below on this manual for your records. Keep your portion of the card and return the portion with your name and comments to us.

CHECK LIST OF PARTS

- CTM100 microphone
- 48v phantom power supply
- AC cable for power supply
- 7-pin XLR cable
- Shockmount
- Soft carry pouch for mic
- Travel case



For your records, you may wish to record the following information.

Serial No. _____ Invoice Date _____

GETTING STARTED QUICKLY

If you are like most people, you probably want to get started right away. Great! You can read the rest of the manual later to learn the finer points of recording with a condenser mic. In order to get started, you will need your new **CTM100** mic and **7-pin XLR Mic Cable**, phantom power supply and a 120/240 V AC grounded power outlet. You will also need a microphone stand to attach the **Shockmount** to hold your **CTM100** mic. Other equipment needed may include an XLR cable to connect to a mixer or recording device.

1. Plug the phantom power supply into the proper AC voltage.
2. With the power off, connect the **7-pin XLR** mic cable to the **MIC IN** on the power supply.
3. With the Shockmount connected to a mic stand, place your **CTM100** mic into the shockmount and connect the 7-pin XLR mic cable to the **CTM100** mic.
4. Next, you will need a standard 3-pin XLR cable (not included) to connect the **OUTPUT** of the power supply to your input source (ie. mixer, multi-track recorder etc...).
5. Once connected, you can turn the power supply ON (make sure all volume, gain knobs, or faders on your input source are turned OFF).
6. Bring the input source's volume or fader up to 0 dB. Speak into the mic to test the level.
7. Turn the mixer's gain up and stop just before the signal peaks. Note the mixer's PEAK LED.
8. Check for transients that can cause the signal to peak by speaking or singing at the loudest volume you will perform at and adjust the gain up or down as necessary.
9. With the signal levels set, adjust any EQ that might be needed.
10. You are now ready to record with your **CTM100** mic.

MODEL CTM100 SPECIFICATIONS:

Freq. Range:	20Hz-20k Hz
Dynamic Range:	133 dB
Output Imp:	<200 Ohms
Max SPL:	125dB
Shockmount:	eliminates low freq. vibration & handling noise (-72 dB below 40Hz)
Power Supply:	Phantom Power-dedicated unit
Power Req:	120/240 V AC
Cable:	7-pin XLR 30 ft. Oxygen-free copper cable
Mic Dimensions:	9.75 H x 2.75 W"
Mic Weight:	824 g
Case:	Custom ABS padded Travel Case
Travel Case Dim:	18" W x 5.5"D x 13.75"H



12340 World Trade Drive, San Diego, CA 92128
 (800) 854-2235
 www.carvin.com

CTM100 CONSTRUCTION AND CARE

CTM100 Introduction:

The **CTM100** is a studio quality, multi-purpose Large Diaphragm Tube Condenser microphone. It features a 1" Gold sputtered, 5-micron element, 12AX7 vacuum tube preamp all suspended in a handsome, rock solid, machined casing. This versatile microphone was developed with the project/pro studio in mind; so it is equally adept at reproducing stunning vocal performances as it is at capturing the subtlest nuances of a fine acoustic guitar. And with a maximum SPL of 125dB, the **CTM100** is an excellent instrument and percussion microphone. You no longer have to own a million dollar studio to get a polished studio recording. The Carvin **CTM100** is your affordable ticket to awesome studio sound!

Construction and Shockmount:

The internally braced **CTM100** capsule is precision mounted behind a heavy metal mesh screen with large openings that offers complete protection while maintaining total "acoustic transparency". Nestled below, is the low noise, class A circuitry surrounded by the solid, machined outer shell. When used with the included Shockmount, low frequency vibration is virtually eliminated!

Power Supply:

The **CTM100** comes standard with a heavy duty phantom power supply, ensuring you will never experience noise or distortion during loud dynamic passages due to insufficient current. The power supply connects to the **CTM100** conveniently via the XLR mic cable.

*Note: We recommend using only the included power supply. Carvin is not responsible for damage to your **CTM100** caused by use from a different power supply.

Travel Case:

The **CTM100's** shockmount, power supply and cables all fit snugly and safely in a high-grade, molded ABS travel case so you know your microphone and accessories are well protected between sessions or during travel. Carvin recommends returning your **CTM100** to this case after each use.

Maintenance and Care:

Condenser microphones are not to be banged, dropped, tapped, blown into, shaken or stirred. The gold sputtered element is very thin and fragile and can easily be stretched or knocked out of alignment. This is true of all large diaphragm condensers. Be very careful with your **CTM100**! If you drop it, the resulting damage will not be covered under your warranty.

Additionally, these mics don't like moisture. It is always advisable to use a pop screen (Carvin part #WS87) when miking vocals. A pop screen will avoid overly accentuated "P", "B", and "S" sounds and will also keep unwanted moisture off of the element. Over time, moisture on the element can attract airborne dust and dirt particles and gradually degrade the performance of your mic. Carvin advises that the microphone be kept in its case at all times when not in use. Take a few minutes after every session and put your mic away properly to help ensure years of top notch perfor-

mance. Additionally, always make sure the silicone "moisture absorber" (little white packet with crystals) is packed in the case with your microphone. This will help to eliminate any moisture or humidity in the case during storage. You can re-activate a saturated "moisture absorber" by baking it in an oven at 250 degrees for about 30 minutes. The outer shell of your mic can be cleaned with a soft damp cloth. Do not use harsh detergents, solvents, or abrasive materials.



- a) Shockmount**
The shockmount will fit any standard mic stand. It is designed to hold the CTM100 mic while reducing low frequency vibration and handling noise.
- b) 7-pin XLR cable**
Connect the supplied 7-pin XLR cable to the power supply input and mic.
- c) 3-pin XLR cable**
Connect a balanced 3-pin XLR cable to the power supply XLR output.

STUDIO SET UP

The illustration below shows the standard set up in a recording studio. The shockmount should be set on a round or tripod base mic stand. The **CTM100** should always be set in the shockmount to eliminate any noise or vibrations from the floor or walls. The phantom power supply should be connected to a 120/240 V AC outlet. Be sure the power supply is properly grounded and never defeat the ground on the AC plug. The 7-pin XLR mic cable should be connected to the MIC IN on the power supply and then connected to the **CTM100** mic. The 3-pin XLR OUTPUT jack on the power supply will pass the mic's signal to the MIC input on a mixer. Always disable any phantom power that may be present on the mixer as you will be using the **CTM100's** own dedicated phantom power supply.

Many professionals use a compressor/limiter when recording. They are ideal for eliminating transient signals. Transients are those quick changes in volume that can cause a performance to sound too loud. A compressor/limiter will keep the signal at a constant volume while limiting any peak signals. The result is a constant signal that is ideal for both vocal performances and recording. The illustration below shows a typical set-up for inserting a compressor/limiter.

With today's high quality digital audio hardware, recording at home has never been so widespread and affordable! When recording to a digital or analog format of any kind, be sure to adjust your mixer or input source to produce the strongest signal without clipping or distorting. This will give you the lowest noise performance.

