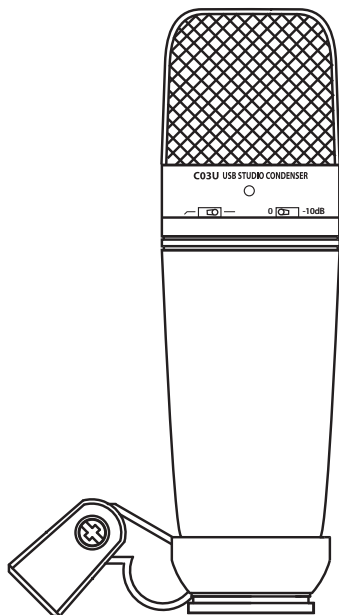


C03U



MULTI-PATTERN USB CONDENSER MICROPHONE

Owner's Manual

SAMSON

Getting Started with Windows XP

The following example is for setting up the C03U in Windows XP with Service Pack 2. Other versions may vary slightly.

1. Plug in microphone. The LED will light to indicate it is receiving USB power. Windows will recognize the USB audio device and automatically install the universal drivers (figure 1). (These balloons will not appear next time you plug it in, as the microphone drivers are already installed.)

The C03U is now recognized as a Windows audio device under the name Samson C03U. Each additional C03U will have a number added, such as Samson C03U (2), and so on. To set it as the default device and change computer-controlled gain, access control panel.

2. Access Sounds and Audio Devices through Control Panel (figure 2).

3. Select Samson C03U as Sound recording Default device under the Audio tab. The default device is used in simple programs like those for teleconferencing or Sound Recorder. In most pro audio programs you can select which device (or multiple devices) to use within the program itself. To set computer-controlled gain, click the Volume button (figure 3).

4. The Wave In window sets the computer-controlled gain or mutes the microphone. The gain is from -62 dB to $+48$ dB (figure 4).



Figure 1



Figure 2



Figure 3

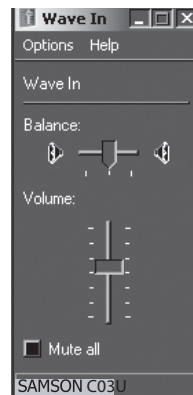
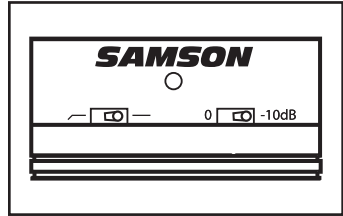


Figure 4

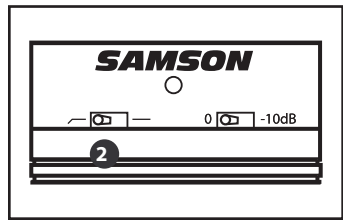
Using the PAD Switch

The C03U includes a PAD switch, which you can use to lower the input sensitivity of the microphone. When the PAD switch is set at the 0dB position the PAD is bypassed and there is no effect on the signal. When the PAD switch is set to the -10dB position, the microphone's input sensitivity will be lowered by 10dB. You can use the PAD when you are miking loud sound sources with a high SPL (Sound Pressure Level).



2 Using the Hi-Pass Filter

The C03U offers a user selectable hi-pass, or low-cut filter, which you can use to eliminate any unwanted low frequency reproduction. When the Hi-pass Filter is set to the "flat" (indicated by the straight line) position, there is no effect on the signal. When the Hi-pass switch is set to the "roll-off" position (indicated with the angled line), a 12dB per octave low-cut at 100Hz is applied to the signal. This can be extremely useful for removing low frequency stage rumble, wind noise during outdoor use, and filtering out lows from drums when used as overhead cymbal microphone on a drum kit.



Polar Patterns

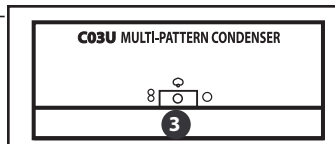
The most important characteristic of any microphone is its directionality or "pickup pattern". The C03U's versatile dual capsule design is capable of producing three useful pick up patterns; Cardioid, Omni, and Figure 8. It is easy for you to select the pickup pattern using the C03U's pattern selection switch located on the rear of the microphone. When choosing a pattern, you should be aware of the phenomenon known as the "proximity effect".

Simply put, proximity effect is the change in frequency response as the microphone position is changed relative to the sound source. Any microphone exhibits its best frequency response when pointed directly at the sound source (on-axis). Depending on the pickup pattern, the low frequency response will increase, sometimes greatly, when positioned less than 12 inches away from the sound source (off-axis). Understanding and knowing how to use the proximity effect can be a tremendous help in getting just sound you looking for. The following sections details the three available pickup patterns.

Operating the C03U

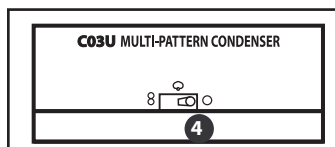
3 Super Cardioid

While Omni and Bi-directional microphones are very useful for a variety of specialty applications, the majority of miking situations in recording and live sound require uni-directional or Cardioid microphones. The C03U condenser's pickup pattern is Super-cardioid, which offers even more side-to-side rejection. The uni-directional nature allows for better separation of instruments in the studio and more control over feedback in live sound reinforcement. To select the Super Cardioid pickup pattern, set the pattern selection switch to the center, Super Cardioid position indicated by the "heart shaped" icon. When positioned correctly, the Super-cardioid pickup pattern allows you to pick up more of the sound you want and less of the sound you don't want.



4 Omni

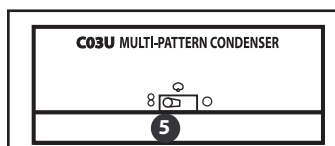
Omni, or omni-directional, microphones pick up sound from all directions. To select the Omni pickup pattern, set the C03U's pattern selection switch to the right, "O" position. You can use the omni pickup pattern if you want to capture the ambient sound and natural reverb in a room where an instrument or voice is being recorded. The Omni mode is also great for recording ensemble performances from groups of vocals, brass, woodwind and other instruments with the artists facing each other in a circle around the microphone. As an added benefit, the omni pattern is the least susceptible to the proximity effect. This can be extremely useful when recording artists who have a tendency to move their instrument, including their voice, around the microphone while performing. In these situations, using a cardioid pattern can result in the frequency response changing tremendously with just a few inches of movement resulting in a recorded track with the lows moving up and down in volume. Using the omni pick up pattern can help control these tricky miking situations allowing you to capture the best performance without inhibiting the talent by forcing them to try to stay in a fixed position.



5 Figure 8

Figure 8, or bi-directional, mics pick up the sound directly in front and back of the microphone while rejecting the sound on the left and right sides. To select the Figure-8 pickup pattern set the C03U's pattern selection switch to the left, "8" position.

In this mode it's almost like having two identical microphones facing back-to-back to each other. This can be an ideal setting for capturing two artists singing a duet or laying down a background vocal track. Having the two artists face each other while performing can help capture the emotions that may otherwise be missed if two microphones are used. You can also create some interesting slap back echo effects by positioning the C03U in Figure-8 pattern between a recorded instrument and a particular wall in the studio. The rear capsule will pick up the reflection of the sound off the wall, and by changing the distance of the microphone from the wall you can actually change the delay time of the echo.



Microphone Placement

In order to maximize the sound quality, you must pay careful attention to the placement of your C03U and how it is positioned for the instrument or vocalist that you are miking. All microphones, especially uni-directional or cardioid microphones, exhibit a phenomenon known as “proximity effect.” Very simply put, proximity effect is a resulting change in the frequency response of a microphone based on the position of the mic capsule relative to the sound source. Specifically, when you point a cardioid mic directly at the sound source (on axis) you will get the best frequency response, however when you start pointing the microphone slightly away (off axis) you will notice the low frequency response dropping off and the microphone will start to sound thinner.

For most vocal applications you’ll want to position the microphone directly in front of the artist. The same may be true for miking instruments, however, you can make some pretty amazing equalization adjustments by slightly changing the angle of the capsule to the sound source. This can be a very useful technique in capturing the optimum sound of drum set, acoustic guitar, piano or other instruments in a live room or sound stage. Experimentation and experience are the best teachers in getting good sounds, so plug in!

Setting Up the Signal Level

You can adjust the C03U’s internal digitally controlled analog Input Gain stage by using the Softpre applet, or you can control the input gain by using the software control in your computer’s operating system and/or digital audio workstation. Either way, the purpose of the mic trim control is to optimize the amount of good signal to any associated noise. A good mic pre, like the C03U software control panel, will also have LEVEL or CLIP indicators. To set a good level on the mic, set the C03U up in front of the desired sound source and slowly raise the input trim control until you see the CLIP or Peak indicator light up. Then, turn the input trim control down until the indicator does not light any more. *For more information on setting the Input Gain with the Softpre applet, see the section “INPUT GAIN - Fader” on page 7 in this manual.*

P-Popping

P-Popping is that annoying pop that you can get when the microphone diaphragm gets a blast of air from a vocalist pronouncing words with the letter “P” included. There are a few ways to deal with the problem including using an external pop filter. Some famous engineers have relied on an old nylon stocking over a bent clothes hanger, which actually works very well. You can also try placing the microphone slightly off axis (on a slight angle) from the vocalist. This can often solve the problem without using an external pop filter. However, for a more reliable solution, try an external pop filter like the Samson PS-01.

Stand Mounting the C03U

The C03U can be mounted to a standard microphone stand using the included swivel mount adapter. If you are using a U.S. 5/8” mic stand, you will need to remove, by unscrewing, the Euro stand adapter. Simply screw the swivel adapter on to your mic stand or boom arm. Now, loosen the thumbscrew and adjust the microphone to the desired angle. Once set, tighten the thumbscrew to secure the microphone in place.

Using the Optional SP01 Shock-Mount

Using the Optional SP01 “Spider” Shock-Mount

For additional isolation the C03U can be fitted on the optional SP01 “Spider” shock mount. Follow the steps below to install the SP01.

- First, screw the SP01 shock mount onto your mic stand or boom arm. If you’re using a US 5/8” mic stand or boom, remove the Euro adapter.
- Remove the C03U swivel mount by rotating the threaded collar counter-clockwise as shown in figure 1.
- Install the C03U into the SP01 by fitting the microphone into the center of the web, positioning the C03U onto the bottom mounting plate.
- Secure the SP01 by reinstalling the threaded collar, rotating clockwise until tight. (Figure 2)
- Now, loosen the thumb screw to adjust the angle of the microphone and position the C03U to the desired location. Once set, tighten the thumbscrew to secure the microphone in place.

Note: Be careful not to cross thread or over tighten the threaded collar or thumb screw.

