



CAD Professional Microphones

Battery replacement instructions for the Equitek Series

What you should know about CAD microphone batteries:

Most of the E series microphones use dual 9-volt rechargeable batteries. These batteries provide the reserve power that the mic needs to operate correctly. Phantom power supplies have a limited current output, not enough power for the advanced circuitry in the E series microphones but enough to charge the batteries. In this case phantom power is similar to the alternator in your car, it doesn't provide the power to start your car but keeps the battery charged so that when you need the current it's there.

Is there any special care of the batteries?

Just like your car battery, they need to be charged. You should use a phantom power supply or a mixer with a built in supply to operate the mic. Some mixers only have a global phantom power source; phantom power for all channels is either off or on, this should not affect a dynamic mic as long as the mic/mixer is properly designed. If you use the mic once a week or so the batteries should hold their charge. If you rarely use the mic be prepared to charge it before you use it. You can charge it faster if you leave the mic off while it's charging; allow approximately 12 to 24 hrs to fully charge the batteries. You may be able to use the mic while it is charging, it depends on how drained the batteries are. Nickel Cadmium batteries can develop a memory effect if the batteries are repeatedly charged but not completely drained before being re-charged. If this happens the batteries can be reconditioned by letting the batteries drain completely before you charge the batteries, this cycle may have to be repeated several times to restore the capacity to the batteries. Nickel Metal Hydride batteries do not suffer the memory effect as badly as Nickel Cadmium batteries; these are a better choice if you are replacing batteries.

Rechargeable 9-volt batteries are not really 9 volts. The carbon zinc/alkaline battery chemistry produces 1.5 volts per cell, six cells add up to 9 volts. The chemistry in the nickel cadmium and nickel metal hydride battery produces only 1.2 volts per cell, consequently it take seven 1.2 volt cells to produce 8.4 volts, but this is close enough to the desired 9 volts that most equipment needs to operate.

A fully charged battery may measure more than 10 volts without a load, this is known as a surface charge and is normal. When the battery has a load on it (the mic is turned on) this surface charge will dissipate and settle down to the true state of charge of the battery. Because of this surface charge condition it is always a good idea to measure the battery voltage with a load on it.

Can I test my batteries?

If you have a meter, measure the DC voltage across each battery with the mic unplugged and turned on, a charged battery should measure 8 to 10 volts.

Where can I get batteries?

Nickel Metal Hydride batteries and Nickel Cadmium batteries are available at most retail stores (Radio Shack, Rite Aid etc.)

Most batteries will be rated 8.4 volts 160 ma, a higher ma rating is OK, a battery rated at 200 ma will last longer than one rated at 160 ma before needing to be recharged.

What's the configuration jumper?

Some mics use a configuration jumper (a shorting plug) to enable the Auto Shut-Off feature.

Auto Shut-Off works like this:

Moving the jumper to position "A" enables the Auto Shut-Off feature, this will preserve the battery life in case the mic is unplugged but left on.

The circuitry in the mic senses when the phantom power is gone and the mic shuts off.

Moving the jumper to position "M" puts the mic in manual mode; this bypasses the auto shut-off feature.

In manual mode the mic can be operated with the internal batteries alone, giving you the opportunity to use the mic away from a power source.

If you record outdoor sounds, this is an ideal way to capture them.

Either setting of the configuration jumper will still allow the mic to charge when connected to a 24 or 48-volt phantom power supply.

If the mic doesn't work, check to see what position the jumper is in, trying to use the mic with the Auto Shut-Off jumper set to "A" and phantom power off will keep the mic from turning on.