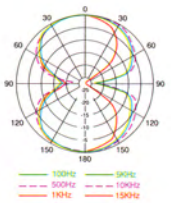
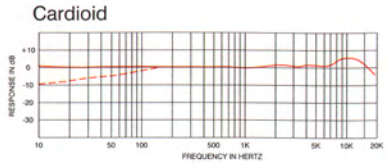
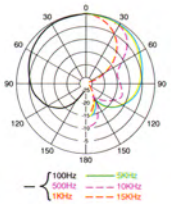
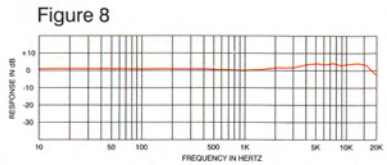
Specifications*

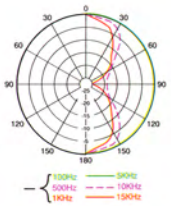
Generating Element:
Externally polarized condenser
Polar Pattern:
Cardioid, Omnidirectional, Figure 8
Frequency Response:
10Hz - 20KHz
Sensitivity:
-34dBV (20 mV) @ 1 Pa
Impedance:
200 ohms
Self Noise:
12 dB-A
Maximum SPL:
145 dB
Switches:
Hi-pass, pad, on/off with auto shut-off option
Hi-pass:
135 Hz, 6 dB/octave
Pad:
20dB
Powering Requirements:
48V phantom, 8 mA
Connector:
Three pin male XLR type
Finish:
Durable black urethane. Brass plated front screen
Net Weight:
2.3 lbs. (1.0 Kg) with shockmount

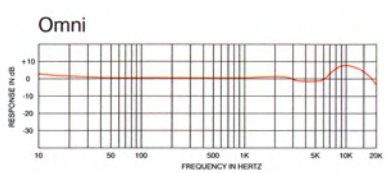


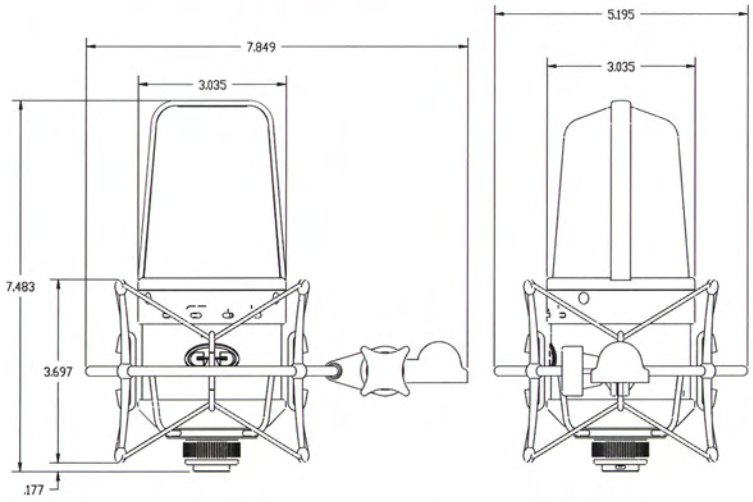












** Due to our continuous efforts to improve our products and promote the development of standards, specifications are subject to change without notice.*

A Division of Omnitronics, LLC • 341 Harbor St. • Conneaut, OH 44030
Customer Service: (440) 593-1111 ext. 212 • www.cadmics.com

p/n 46873-03-00, rev2, 3/23/2005, S.L.W.

Professional Microphones

equitek

e300

Multi-Pattern Externally Biased Servo-Condenser Microphone

User Manual / Specification Sheet

Professional Microphones

e300

The equitek e300 combines a 1.1" 24K gold sputtered externally biased triple pattern (cardioid, omni, figure 8) dual diaphragm capsule with advanced electronics. Typical FET (field effect transistor) condenser microphones use discrete designs. This means they use individual transistors that must be carefully matched for proper characteristics. Even with careful matching, discrete designs are inherently nonlinear. equitek microphones use a different approach. We do not use any discrete FETs. Instead, we use advanced high speed OpAmps (Operational Amplifiers). These OpAmps are individually laser trimmed for optimum performance and have very high gain. This allows a large amount of negative feedback to be used to significantly reduce any non-linearity. During transients, these OpAmps may require more current than typical phantom power supplies can deliver. The extra current demands are accommodated by our unique power supply design. Instead of using phantom power to operate the microphone, we use it to charge a pair of rechargeable batteries. This system creates a huge current reserve for the microphone's electronics, yet there is no maintenance involved because the microphone automatically keeps the batteries charged during use. The use of OpAmps is not the only unique feature of equitek microphones. For example, we also employ servo circuitry to minimize DC offset and eliminate interstage coupling capacitors. The bottom line is we believe you will find the equitek e300 to have a remarkably open and rich sound that will enhance any studio project.

Description

The equitek **e300** from **CAD** is a multi-pattern externally biased servo-condenser microphone. The **e300** offers unparalleled performance from critical studio tracking to live sound reinforcement. A regulated bypass voltage generator for precise output sensitivity, sophisticated laser trimmed op-amp circuitry for increased management of fast transients and open capsule architecture design make the **e300** a classic vocal studio microphone.

The equitek **e300** incorporates a number of unique features including:

- Servo head amplifiers.
- High SPL capability (145 dB SPL with pad).
- Transformerless balanced output circuits.
- Internal power reservoir system that can supply ten times the current available from phantom powering alone.
- The equitek e300 combines a 1.1" gold sputtered externally biased triple pattern (cardioid, omni, figure 8) dual diaphragm capsule with advanced electronics.
- Remote operation without phantom power using internal batteries.
- 20 dB non-capacitive pad.
- Internal pop/EMI filter.
- Automatic power shut down circuit.

Getting Started

The **e300** requires 48 volt phantom power and the internal batteries must be charged for proper operation. Although the internal batteries were charged at the factory, the batteries will gradually self-discharge if the microphone has been in storage for a long time. It may be necessary to charge the batteries before initial use. Please see the section below on powering the equitek **e300**.

Caution!

The high gain and wide bandwidth of the **e300** microphone will easily overload the inputs of many professional mixing consoles if adequate precautions are not taken. This is especially true if the mic is going to be used on percussion or amplified electronic instruments. If you have never used this microphone before, we strongly recommend that you initially reduce the system gain by doing one or more of the following:

- Enable the pad switch on the input of your mixing console.
- Start with the input trim control on your mixing console turned down to a low level.
- Enable the -20 dB pad switch on the **e300** microphone.

Powering the equitek e-300

The equitek **e300** is powered by a combination of 48 volt phantom power and a pair of rechargeable 9 volt batteries. This powering arrangement overcomes the inherent current limiting associated with most phantom power supplies. The batteries are trickle charged by the phantom supply. When needed, the batteries provide the extra current necessary during high SPL transients. The microphone will not function properly without the batteries present. The microphone can be used without phantom power for periods of up to 6 hours provided the batteries are fully charged. Standard 9 volt alkaline batteries can also be used if extended operation is needed when no phantom power is available.* (Auto power shut off circuit must be disabled for battery operation without phantom power.) The minimum requirement for the phantom supply is a regulated 48 volts with the capability of supplying at least 8 mA of current. Supplies that do not meet this requirement will not allow continuous operation of the microphone. Before initial use, the batteries may need to be fully charged. Once the batteries have received this initial charge, they should not need to be charged in this manner again, unless the microphone is unused for a long time. The batteries can be charged by two different means:

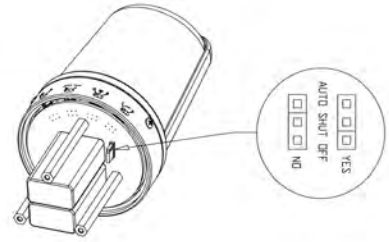
- Connect the microphone to a phantom supply and allow the batteries to charge 12 - 14 hours with the mic turned off.
- Remove the batteries from the microphone and charge using a standard battery charger.

* See the section on Auto Power Shut Off.

IF USING ALKALINE 9 VOLT BATTERIES, DO NOT APPLY PHANTOM POWER TO THE MICROPHONE! DOING SO COULD CAUSE PERMANENT DAMAGE TO THE MICROPHONE AND VOID YOUR WARRANTY!

NOTE: If you normally operate the microphone from phantom power, it is best to leave the microphone power switch in the "on" position at all times. (The microphone automatically shuts off to conserve battery power when phantom power is removed.)

Auto Power Shut Off Configuration



The following instructions are only important if you plan on using the **e300** without a phantom power supply, such as for remote DAT recording. The equitek **e300** incorporates a circuit which shuts the microphone off if phantom power is removed. This is done so that battery power will be conserved if the user forgets to turn the microphone off. If it is desired to operate the microphone using only the batteries, this feature must be disabled or the microphone will not function. This is easily done by means of a small movable configuration jumper located inside the battery cover of the microphone. To access batteries and Auto Shut Off jumper: Remove the three screws on the bottom of the microphone with a #2 Phillips screwdriver. Carefully remove the bottom plate as not to break the three internal signal wires. Reverse process for assembly. If you do not plan to use the microphone without phantom power, it is recommended that the configuration jumper remain in its default ON position.

A Special Note About Batteries

The high quality rechargeable batteries used in the equitek **e300** are Nickel Metal Hydride, or Nickle Cadmium type. They were selected to provide long life with virtually no maintenance and have a number of properties that make them superior to most commonly available rechargeable "9 volt" batteries:

1) Higher output voltage
2) Lower self discharge rate
3) High immunity to overcharging

If the **e300** is operated with a 48 volt phantom power supply it is unlikely they will ever need to be recharged, even if the microphone is unused for months. If it should ever become necessary to replace the batteries or if you simply want a spare set, use only high quality Nickel Metal Hydride, or Nickle Cadmium type batteries.

Switch Functions

Power "1" = Microphone Power On
"0" = Microphone Power Off (Use this position switch position for fastest charging of batteries.)

Multi Pattern Switch O = Omnidirectional
= Cardioid
8 = Figure 8

Hi-Pass Left position = Low end roll off below 135 Hz.
Right Position = Flat low end response

Pad 0dB = Full gain (highest sensitivity)
-20dB = 20dB gain reduction (highest clipping level)

User Techniques and Applications

The equitek **e300** includes a suspension shock mount which greatly reduces handling noise. The mounting adaptors allow for easy microphone positioning and mates to any microphone stand that has standard 5/8" X 27 threads. A thread adaptor is included for the smaller threaded mic stands. The **e300** can be used in a broad number of applications ranging from live reinforcement to the most critical studio situations. The **e300** is ideal for vocals and voice overs. Its uncolored sonic characteristics allow you to decide how an instrument or vocal will sound in the mix. The switchable polar pattern is very useful in a variety of the most demanding vocal applications.

Optional Accessories:

EPF-15 ..... P-pop filter mounted on 15" gooseneck with standard bracket
40-350 ..... 50 ft. broadcast quality extension cable terminated with professional 3 pin male/female connectors.
40-351 ..... 100 ft. broadcast quality extension cable.
40-352 ..... 25 ft. broadcast quality extension cable.

TWO-YEAR LIMITED WARRANTY

CAD Professional Microphones are warrantied for two years to the origianl purchaser from the date of purchase by Omnitronics, LLC to be free from defects in material and workmanship. In event of such defect, product will be repaired or replaced at Omnitronics, LLC discretion with a new unit of equal or superior value. This will be at no charge if delivered pre-paid to Omnitronics, LLC, together with the proof of purchase and a **Return Authorization Number**. The unit will be returned promptly pre-paid. Warranty excludes exterior finish, appearance items, or malfunction due to abuse or operation under other than specified conditions. Consequential or incidental damages are excluded.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consiquential damages or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

Note: No other warranty, written or oral is authorized by Omnitronics, LLC.

SHIPPING INSTRUCTIONS

Please call our customer service department at 440-593-1111 for a pre-approved return authorization number and carefully repack the unit and return it to: Omnitronics, LLC, 341 Harbor St., Conneaut, OH 44030
ALL RETURNS MUST HAVE A PRE-APPROVED RETURN AUTHORIZATION NUMBER OR IT WILL BE REFUSED.
If outside the United states, contact your local dealer or distributor for warranty details.