

**Electro-Voice®**  
a gulton company

## Model PE15/SE15 Preamplifier

### SPECIFICATIONS

#### PE15,

**Frequency Response:**  
20 Hz – 20 kHz  $\pm$  .25 dB

**Gain:**  
–1.5 dB

**Impedance:**  
150 ohm nominal

**Distortion:**  
Less than 1% THD  
@1.5 V RMS output

**Self Noise:**  
Terminated w/25 pf  
1.4  $\mu$ V "A" weighted

**Operating Voltage:**  
8 to 50 VDC (standard 48 V  
remote power accepted)

**Current Required:**  
3 to 12 mA (depending upon  
supply voltage)

**Dimensions:**  
153.9 mm (6.06") long,  
26.8 mm (1.06") dia.,  
19 mm (.75") shank dia.

**Weight:**  
172 g (6 oz)

**Finish:**  
Fawn beige micomatte

**Case Material:**  
Steel

**Accessories Furnished:**  
312 stand clamp  
Metal storage case  
4.6 m (15 ft) cable

#### SE15,

**Frequency Response:**  
–6 dB @ 40 Hz,  
90 Hz – 20 kHz  
 $\pm$  .25 dB

**Gain:**  
–1.5 dB

**Impedance:**  
250 ohm nominal

**Distortion:**  
Less than 1% THD  
@.8V RMS AB mode  
@1.5 V RMS Phantom mode

**Self Noise:**  
Terminated w/25 pf  
1.4  $\mu$ V "A" weighted

**Operating Voltage:**  
7.5 to 16 VDC AB mode  
7.5 to 50 VDC Phantom mode

**Current Required:**  
4 mA

**Dimensions:**  
80.7 mm (3.18") long,  
25.4 mm (1") dia.

**Weight:**  
119 grams (4.2 oz)

**Finish:**  
Fawn beige micomatte

**Case Material:**  
Steel and aluminum

**Accessories Furnished:**  
Metal storage case  
Integral coiled cable  
Cable banding clamp and  
Flex relief insert

### DESCRIPTION & APPLICATIONS

#### MODEL PE15

The Electro-Voice Model PE15 is a remotely powerable electronic preamplifier designed to work with the following E-V professional condenser heads: CO15E, CS15E, CH15E, and CL42E. The conventional styling of the PE15 is equally at home in the recording studio, on camera or in hand-held professional entertainer applications. The 3/4-inch diameter allows the PE15 to be used with standard accessories such as shock mounts, stand clamps and security stud mounts. The electronics are designed for low noise and maximum stability over a wide range of temperature extremes. Unlike the delicate construction of many imported condenser microphones, the PE15 uses a machined steel case to assure the professional that it will endure even the most strenuous field conditions.

The PE15 is designed to be remotely powered, using the phantom method. The PE15 will operate with any voltage between 8 and 50 volts dc. The PE15 may be remotely powered from either an in-line power supply such as the E-V Model BS9 or directly from any console that has this method of remote powering incorporated into its microphone inputs.

## OPERATING INSTRUCTION FOR THE PE15

To assemble the PE15 and the condenser head of your choice, (1) place the probe extending from the back of the condenser head into the receptacle in the center of the PE15, (2) push the head on the PE15 just enough to seat it, (3) thread the two units together until they are snug. The microphone head and electronics are now properly connected.

The microphone should now be properly assembled and is ready for connection to your microphone input.

## POWERING THE PE15

The PE15 will work with remote power supplies utilizing the phantom mode of powering and capable of providing 8 to 50 volts dc at the connector insert in the PE15. This method of powering may be achieved by several methods. For detailed information on remote powering techniques for both the PE15 and SE15 request Technical Bulletin No. 22.

## DESCRIPTION & APPLICATIONS MODEL SE15

The Electro-Voice Model SE15 is an electronic preamplifier designed to work with the following Electro-Voice profes-

sional condenser heads: CO15E, CS15E, CH15E, and CL42E. The SE15 is capable of being remotely powered by either the phantom method or the A-B method (modulation lead powering or Sennheiser powering). The SE15 may be programmed to work with either of the two above remote power methods. A miniature seven pole, dual position switch provides the means by which the SE15 may be programmed. This dual powering option allows the use of existing power supplies already in common use. The SE15 may also be powered by the E-V Model BS9 Battery Power Supply.

The small size of the SE15 is ideal for boom, fishpole, or ENG applications. The SE15 has a shock mount specifically designed for use with it, this is the Model 304.

The SE15, 304 Shock Mount, and CH15E Head weigh less than 119 g (4.2 oz) and its overall length (with CH15E head) is only 80.7 mm (3.18"). The weight has been kept to a minimum by using aluminum wherever possible, but using steel in all critical areas. The Model 309 Shock Mount may be used with the SE15 when a head of larger mass than normal such as the CL42E is to be used.

The SE15 is supplied with a coiled (shock isolating) cable terminating in a Switchcraft A3M connector. When used with either the 304 or 309 shock mount, the A3M may be clamped to the shock mount bale, using the supplied clamp with the shock mount.

If a different cable of larger diameter is desired for use with the SE15, the coiled cable assembly may be replaced with a cable of your choosing. A spare insert with a larger inside diameter is provided specifically for this purpose. If a connector interface is desired, then the molded insert may be removed completely and a user supplied miniature connector may be used in its place. The SE15 is specifically designed to accept the miniature Lemo connector of the RAO and FO series. These connectors are available from Electro-Voice (see Parts List).

## OPERATING INSTRUCTIONS FOR THE SE15

To assemble the SE15 and the condenser head of your choice (1) place the probe extending from the back of the condenser head into the receptacle in the center of the SE15, (2) push the head onto the SE15 just enough to seat it, (3) thread the two units together until they are snug. The microphone head and electronics are now properly connected.

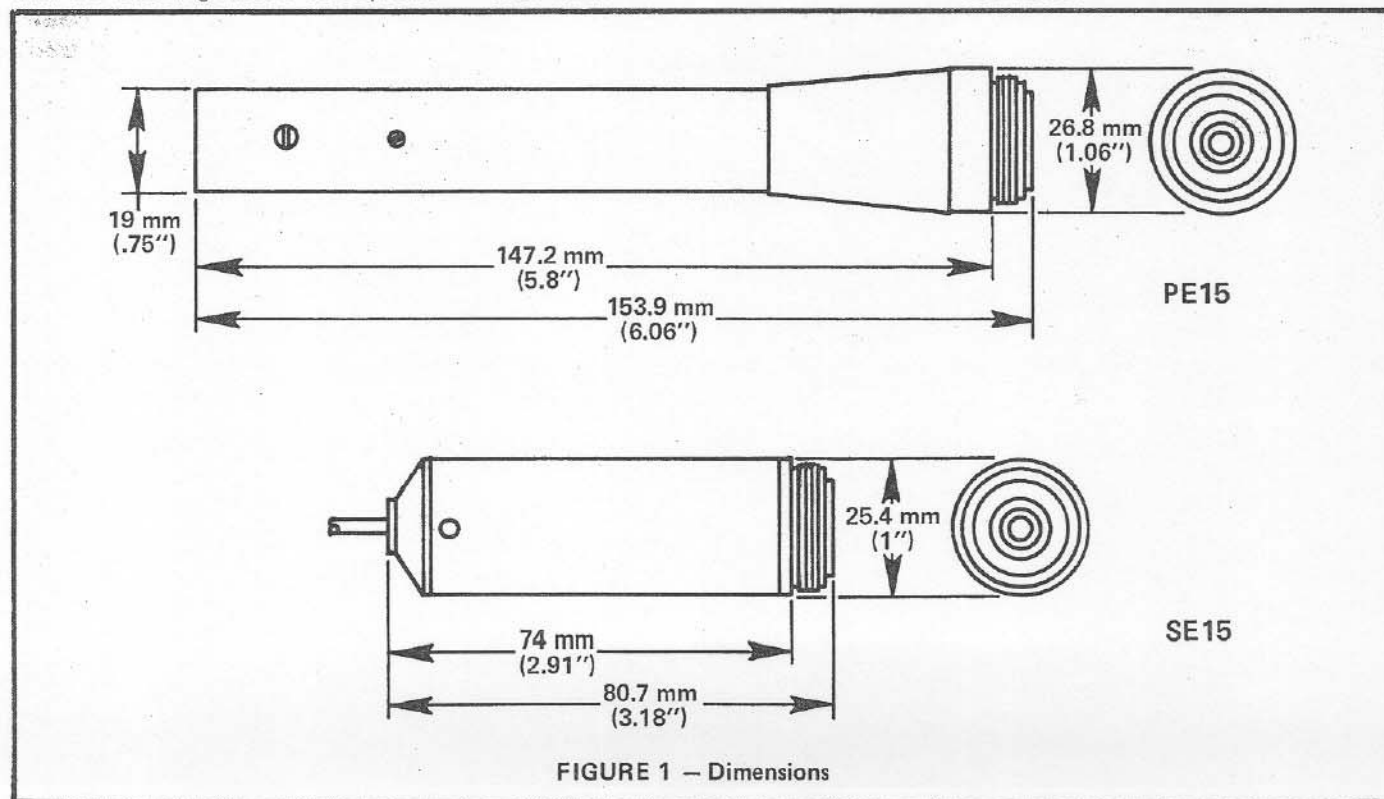
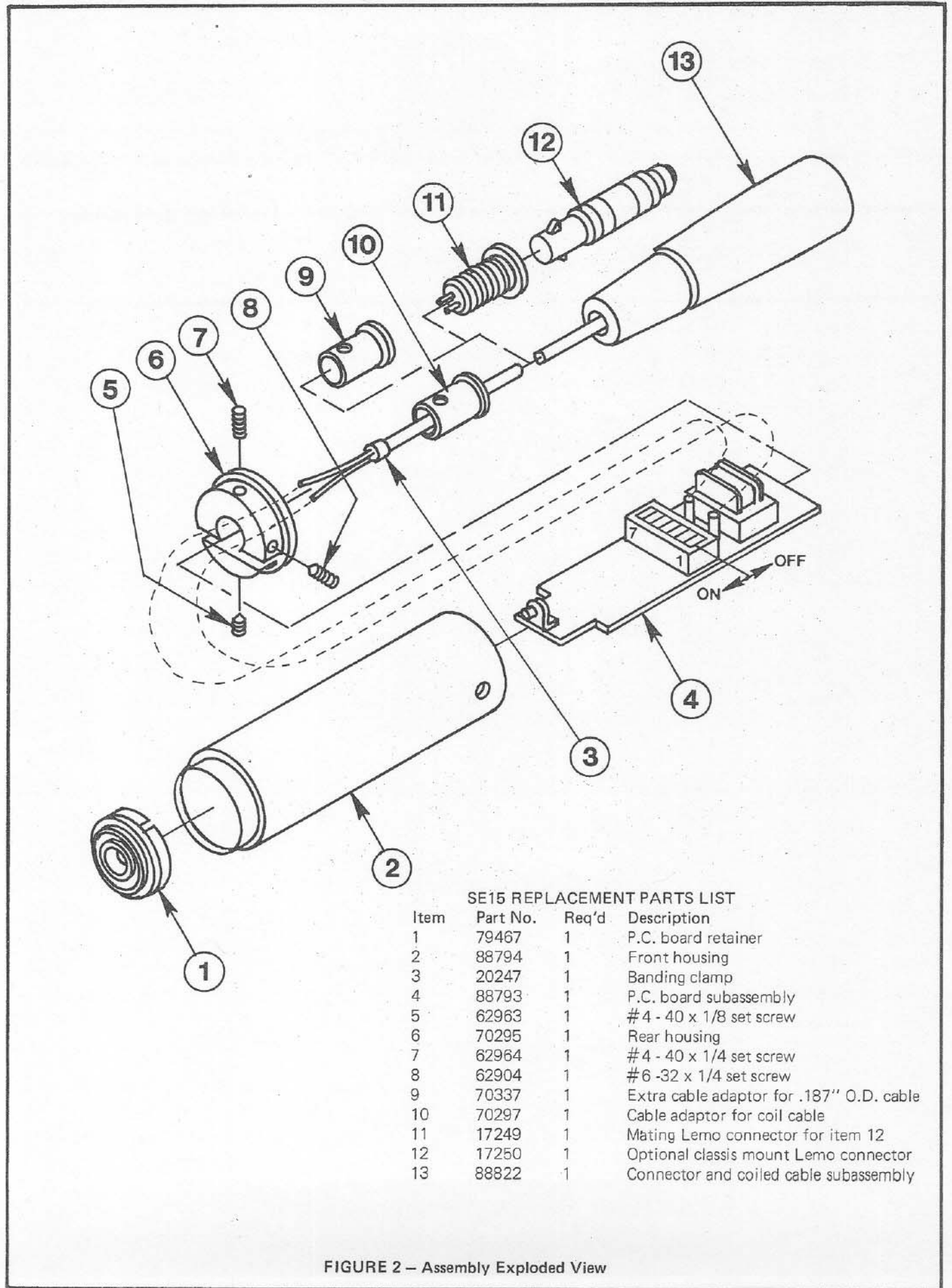


FIGURE 1 - Dimensions



**SE15 REPLACEMENT PARTS LIST**

Item	Part No.	Req'd	Description
1	79467	1	P.C. board retainer
2	88794	1	Front housing
3	20247	1	Banding clamp
4	88793	1	P.C. board subassembly
5	62963	1	#4 - 40 x 1/8 set screw
6	70295	1	Rear housing
7	62964	1	#4 - 40 x 1/4 set screw
8	62904	1	#6 - 32 x 1/4 set screw
9	70337	1	Extra cable adaptor for .187" O.D. cable
10	70297	1	Cable adaptor for coil cable
11	17249	1	Mating Lemo connector for item 12
12	17250	1	Optional classis mount Lemo connector
13	88822	1	Connector and coiled cable subassembly

**FIGURE 2 – Assembly Exploded View**

For proper operation the SE15 must be programmed to operate from your method of remote powering (either phantom or A-B). As the SE15 leaves the factory, it is programmed for the A-B method. If this is the method of powering you plan to use, then no other action on your part is required and the SE15 may be connected to your power supply at this time. If you are going to use the phantom method of remote powering, then you must re-program the SE15 for this powering method.

TO PROGRAM THE SE15 you must first gain access to the printed circuit board inside of the SE15. To access the printed circuit board, locate the hex head set screw at the rear of the SE15 case. Then, with a .050 Allen wrench, rotate the set screw clockwise until it is recessed far enough to clear the outer case of the SE15. The board may be removed by pushing gently on the probe receptacle at the front of the SE15 case. This will expose a gap between the case and the rear end cap. By grasping the end cap in one hand and the case in the other and gently pulling the two apart, the PC board will come away from the case and be completely exposed.

To program the seven position miniature switch on the PC board, first reset all of the switches to the "off" position (see Figure 2). To program the SE15 FOR PHANTOM POWER OPERATION, all ODD NUMBER switches should be set to the ON position (the even number switches remain in the "Off" position). FOR A-B POWER OPERATION, all EVEN NUMBER switches should be set to the ON position (the odd number switches remain in the "Off" position). To turn the switches ON, they should be moved toward the front of the printed circuit board. There is a small label on the side of the switch which states PHANTOM—ODD and A-B EVEN. This label is to provide you with a convenient reminder in the field as to the proper switch settings for different powering modes.

#### PE15/SE15 AND DISTORTION

Many times, microphones are unjustly accused of causing distortion. More often than not, the mixer *preamp* is the problem. Mixer or console preamps are designed to operate with a nominal input level of several millivolts. When this nominal input level is exceeded, the preamp quickly goes into clipping, thus causing distortion. Both dynamic and condenser microphones are capable of delivering over one volt to the mixer input at less than .15 percent total harmonic distortion. Preamps, over the years, traditionally have been designed with dynamic microphones in mind. With condenser microphones having output levels 10 to 20 dB greater than dynamics, caution should be exercised so as not to overload the mixer preamp.

After reducing the gain of the input mixer stage by the use of pads or other means it is determined that distortion at high sound pressure levels is occurring in the PE15 or SE15 preamp—then the use of a pad between the mike capsule and PE15/SE15 is indicated. Electro-Voice manufactures the CA10 10 dB attenuator specifically for this purpose. See the CA10 Engineering Data Sheet for more detailed information.

#### ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

**PE15** — The preamplifier shall have a frequency response of 20 Hz to 20 kHz  $\pm .25$  dB. It shall operate from any remote power source capable of delivering 8 to 50 VDC via the phantom method. It shall be housed in a turned steel case and have a shank diameter of 19 mm (.75") and a length of 153.9 mm (6.06"). It shall have an output impedance of 150 ohms and its self noise shall be equal to or less than 1.4  $\mu$ V "A" weighted when terminated in a capacitance of 25 pf. The Electro-Voice Model PE15 preamplifier is specified.

**SE15** — The preamplifier shall have a frequency response of 90 Hz to 20 kHz  $\pm .25$  dB and be 6 dB down at 40 Hz. It shall operate from any remote power

source capable of delivering 7.5 to 50 VDC via the phantom method or 7.5 to 16 VDC via the AB method. The preamplifier shall be housed in a combination aluminum and steel case. It shall be 80.7 mm (3.18") long by 25.4 mm (1") in diameter. It shall have an output impedance of 250 ohms and its self noise shall be equal to or less than 1.4  $\mu$ V "A" weighted when terminated in a capacitance of 25 pf. The Electro-Voice Model SE15 is specified.

#### WARRANTY (Limited) —

Electro-Voice Professional Broadcast, Recording, and Sound Reinforcement Microphones are guaranteed unconditionally against malfunction from any cause for a period of two years from date of original purchase. Also, these microphones are guaranteed without time limit against malfunction in the acoustic system due to defects in workmanship and materials. (Any active electronics incorporated in a microphone is guaranteed for three years from date of original purchase against such malfunction.) If such malfunction occurs, microphone will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finish, appearance items, cables, cable connectors, or switches. Defect guarantee does not cover malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

For repair information and service locations, please write: Service Department, Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (Phone 616/695-6831) or 7473 Avenue 304, Visalia, CA 93277 (209/625-1330,-1).

Electro-Voice also maintains complete facilities for non-warranty service of E-V products.

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