

697A Microphone/Amplifier for Handsets

NOISE-CANCELLING DYNAMIC

697A



Features:

Dynamic Microphone for
G1-Type Handset

Superior Intelligibility

Improved Articulation Index

High Ambient
Noise Discrimination

Selectable Sensitivity Range

Rapid, Simple
Installation

Excellent Frequency Response

Increased Loop Length

Exclusive 'Sintered Bronze'
Filter

Non-crushable Mylar®
Diaphragm

FOR USE IN TELEPHONE (G1-TYPE) HANDSETS:
OUTSTANDING IN PROGRAM CIRCUITS — LONG LOOP CIRCUITS
EXECUTIVE TELEPHONE CIRCUITS—ABOARD AIRCRAFT—IN FACTORIES
ROCKET PADS

IDEAL FOR TELECASTING, BROADCASTING AND RECORDING
PROGRAMMING VIA TELEPHONE CIRCUITS

The Altec 697A Microphone Assembly consists of a noise-cancelling dynamic microphone element with an unusually rugged transistor amplifier specifically designed to provide a replacement for the carbon transmitter for High-Grade telephone circuits. The entire assembly is housed in a single unit (shown above) and can be quickly and easily interchanged for the carbon transmitter in the G1-type handset—no solder connections or screw terminals—just secure in place with the transmitter retainer ring supplied with the unit.

The Altec 697A Microphone Assembly affords as much as 12 db discrimination against ambient noise producing excellent results when used in conditions that ordinarily make speech transmission difficult. It is ideally suited for applications where dialing into a paging system is required, providing clarity of speech and improved articulation that is a "must" in jet-age communication. The 697A offers the advantage of reproducing the complete voice frequency range, with low distortion, for telephone "program circuit" lines—so necessary for Telecasting, Broadcasting and Recording usage—both for remote and studio locations.

The Altec 697A Microphone Assembly operates from the current normally supplied to the carbon transmitter and since it requires less current for a given output, an increase in loop-length between the unit and the supply voltage source is possible. In addition, a bridge circuit in the output allows it to operate without regard to polarity of the supply voltage. A high and low sensitivity adjustment is provided on the rear of the unit by means of a "U" link. With the "U" link in place, the unit operates in the high range recommended for standard telephone systems; with the "U" link removed, the 697A provides maximum bandwidth with minimum distortion for vocoder, paging or other critical applications.

To comply with standard telephone practices, the circuitry of the 697A Microphone Assembly operates free of earth grounds and is encased in non-conductive material. The lack of shielding provided by this construction, combined with the gain of the transistor amplifier, makes the unit susceptible to induction from high-energy RF fields. If use of the 697A is contemplated in the vicinity of high-powered transmitting antennas, RF susceptibility should be checked in the intended location and steps taken to control any interfering field intensity within the area where the microphone will be located.



A Division of *LSV* Ling Altec, Inc.

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SPECIFICATIONS

Type:	Noise-cancelling dynamic microphone with built-in transistor amplifier.
Frequency Response:	100 to 5000 cps (mounted in G1-type handset)
Discrimination:	12 db average
Sensitivity:	-37 db Re: 1 volt. Re: 1 dyne/CM ² (High gain, 100 Ω load, 24 ma) -44 db Re: 1 volt. Re: 1 dyne/CM ² (Low gain, 100 Ω load, 24 ma)
Maximum Output:	1.3 volts RMS with 100 Ω load at 24 ma
Maximum SPL for Linear Output:	108 db, high gain setting, 117 db, low gain setting
Load Impedance:	100 Ω to infinity
Current Drain:	40 ma maximum (Typical current for 100 Ω resistive load in series with 16 volt supply.)
Polarity:	Either (Not polarity sensitive)
Max. Operating Temp:	55 °C at 30 ma, 40 °C at 40 ma
Connections:	Contact discs on rear, fits contact cup of standard G1-type handset
Dimensions:	1-13/16" diameter x 1" high
Weight:	1.5 ounces
Special Feature:	Sensitivity adjustment

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The microphone/amplifier assembly shall be comprised of a solid-state amplifier and a noise-cancelling dynamic microphone element and shall be housed in an assembly capable of being installed in a G1-type handset, or equivalent. The microphone/amplifier assembly shall provide a greatly increased level of intelligibility and an improved articulation index together with notably lower distortion and high reliability.

The microphone element shall be of the dynamic type and shall utilize a diaphragm of Mylar® polyester, providing protection against the harmful effects of humidity, shock, blast and corrosive fumes; the acoustic elements of the microphone shall be protected from magnetic debris and dust by a sintered bronze filter.

The microphone/amplifier assembly shall have a frequency response essentially flat from 100 to 5000 cps, when properly installed in a G1-type handset, or equivalent, and shall provide a maximum output of 1.3 volts rms with a 100 ohm load at 24 ma. The microphone/amplifier assembly shall have two sensitivity ranges provided by strapping on the rear of the unit which shall be accomplished by leaving the strap inserted for the high range or removing the strap for the low range. The high range shall provide a sensitivity of -37 db Re: 1 volt Re: 1 dyne/CM² with a maximum SPL for linear output of 108 db and the low range shall provide a sensitivity of -44 db Re: 1 volt Re: 1 dyne/CM² with a maximum SPL for linear output of 117 db. The entire circuitry of the microphone/amplifier shall operate free of earth ground and shall provide an average of 12 db discrimination. Current drain shall be no more than 40 ma and the load impedance shall be 100 ohms to infinity.

The microphone/amplifier assembly shall operate directly from the telephone supply voltage and shall be unaffected by the polarity of the supply voltage. The rear of the microphone/amplifier assembly shall have contact discs which shall fit the contact cup in a standard G1-type handset and shall be capable of installation without the aid of tools or soldering equipment.

The entire microphone/amplifier assembly shall weigh no more than 1.5 ounces and shall measure no more than 1-13/16" in diameter and 1" in height.

Any microphone/amplifier assembly not meeting the above requirements shall be deemed unacceptable under this specification.

The microphone/amplifier assembly shall be the Altec Lansing Model 697A.

NOTICE
We recommend that you obtain your Altec products from factory trained authorized Altec Sound Contractors and Distributors. This will assure you of proper installation, a continuing source of knowledgeable advice, service, and quick warranty protection.