

GENERAL DESCRIPTION

The 598T is a handheld, amplified, noise-canceling communications microphone that is FAA Certified for aircraft application (TSO-C58a). In addition to its extremely clear transmission, even in noisy environments, the 598T has very low sensitivity to hum pickup and low susceptibility to radio frequency interference.

The 598T is ergonomically designed and fits naturally in the hand. Its high-impact ARMO-DUR® case is strong, lightweight, and comfortable to the touch in hot or cold environments.

A five-conductor MODULINK® cable (sold separately) connects the microphone to the PJ-068 plug on most aircraft radios. This cable can be instantly changed or replaced without soldering. A miniature screwdriver is supplied for unlocking and removing the cable.

The microphone is powered directly from the microphone input of the transmitter, allowing the 598T to be installed and operated with most modern aircraft radios without equipment modification. Output levels are factory preset to meet TSO-C58a requirements. Only an FAA Approved Service Facility or Shure Incorporated should make adjustments.

FEATURES

- FAA CERTIFIED FOR AIRCRAFT USE
- USES DETACHABLE MODULINK® MODULAR-PLUG COIL CORD (AVAILABLE WITH PJ-068, ALM-88, ALM-89 AIRCRAFT-RADIO PLUG, A4M CONNECTOR)
- NOISE-CANCELING WITH FREQUENCY RESPONSE TAILORED FOR OPTIMUM INTELLIGIBILITY
- BUILT-IN TRANSISTOR AMPLIFIER POWERED BY CARBONMICROPHONE-TYPE CIRCUIT
- LOW SENSITIVITY TO HUM AND RF INTERFERENCE
- RUGGED MILLION-CYCLE PLUS™ LEAF-TYPE SWITCH
- STANDS UP UNDER SEVERE ENVIRONMENTS AND CONSTANT USE. NICKEL-SILVER BLADES WITH PALLADIUM-ALLOY CONTACTS FOR RELIABLE OXIDATION-FREE OPERATION
- IMMUNE TO OIL, GREASE, MOST FUMES AND SOLVENTS, SALT SPRAY, SUN, RUST AND CORROSION
- OUTSTANDING IN ITS ABILITY TO WITHSTAND MECHANICAL SHOCKS AND VIBRATION.
- RUGGED AND DEPENDABLE UNDER ALL OPERATING CONDITIONS

APPLICATIONS

Voice communication, including aerospace.

PART OF A COMPLETE LINE

The 598T is part of a full line of mobile microphones, circuitry products and related accessories.

For a complete listing, contact your Shure Representative or visit www.shure.com.

SET-UP

Mounting

A hang-up loop comes affixed to the microphone. Heavy-duty mounting brackets for attachment to radio equipment or other surfaces are available as an accessory (Shure RK6MB).

Cable

To attach the cable to the 598T, insert the modular telephone-type plug in the microphone jack until it locks. To remove the cable, insert the supplied miniature screwdriver in case hole just above the cable jack (see Figure 1) to unlock the plug and withdraw the plug from the jack.

The MODULINK® cables are wired at the microphone connector as shown in Figure 4. See the microphone connector wiring table (Table 1).

Table 1-1. Microphone Connector Wiring

Pin	Color	Function	Pin	Color	Function
1	—	N.C.	5	Black	PTT Switch Ground
2	White	Dc Bias (+), Audio Out	6	Red	Audio Out (AC coupled)
3	Yellow	PTT Switch	7	Drain	Ground
4	Blue	NC	8	—	N.C.

OPERATION

1. Hold the microphone comfortably in the hand with the front of the microphone facing the mouth. The clearest sound is often obtained with the microphone at the corner of the mouth, with the cable away from the face.
2. Depress the push-to-talk button to activate the microphone. Make sure the equipment is in transmit mode when speaking.

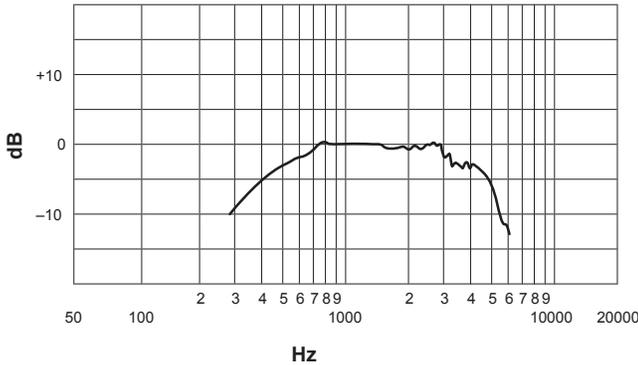
SPECIFICATIONS

Type

Electret condenser, noise canceling

Frequency Response

350 to 6,000 Hz (see Figure 3)



FREQUENCY RESPONSE
FIGURE THREE

Polar Pattern

Bidirectional, noise canceling

Electrical Characteristics

	Operating Voltage		
	8 V	16 V	28 V
Audio Output Level* (1 Pascal acoustic test signal at 1 kHz, 6 mm)**	-25.5 dBV (53.1 mV)	-25.0 dBV (56.2 mV)	-24.8 dBV (57.5 mV)
Dc Supply Current	2.3 mA	11 mA	27 mA

* Standard electrical test circuit per RTCA DO-214

**1 Pascal = 94 dB SPL

Environmental Conditions

Operating Temperature: -30 to 60° C (-22 to 140° F)

Storage Temperature: -40 to 74° C (-40 to 165° F)

Relative Humidity: 0 to 95% (non-condensing)

Microphone Connector

6-conductor modular telephone type

PTT Switch assembly

Mechanical: Double-pole, single-throw, leaf-type, normally open

Cable

ALM-88, detachable MODULINK®, 1.8 m (6 ft) extended cord with modular plug on microphone end and PJ-068 aircraft connector on equipment end; and ALM-89 with A4M type connector.

Construction

Case: Black textured high-impact ARMO-DUR®

Switch Button: Black ARMO-DUR® Hang-up Loop: Matte finish stainless steel

Dimensions

See Figure 2

Net Weight (including cable and connector)

283 g (10 oz)

FAA Certification

The Model 598T is FAA Certified for aircraft use under FAA TSO-C58a requirements. To maintain this FAA Certification, any service required for the Model 598T must be performed by Shure Incorporated or by an FAA Approved Service Facility.

Limited Warranty

Shure Incorporated ("Shure") hereby warrants that this product will be free in normal use of any defects in materials and workmanship for a period of one year from the date of purchase for all cartridge and housing assembly parts and for a period of one year from the date of purchase for all transmitter parts. At its option Shure will repair or replace the defective product and promptly return it to you, or refund the purchase price. You should retain proof of purchase to validate the purchase date and return it with any warranty claim. If you believe this product is defective within the warranty period, carefully repack the unit, insure it and return it postage prepaid to:

Shure Incorporated
Attention: Service Department
5800 W. Touhy Avenue
Niles, IL 60714-4608 U.S.A.

Outside of the United States, return the product to your dealer or Authorized Service Center.

This warranty does not apply in cases of abuse or misuse of the product, use contrary to Shure's instruction, ordinary wear and tear, an act of God or unauthorized repair. All implied WARRANTIES OF MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE are hereby disclaimed and Shure hereby disclaims liability for incidental, special, or consequential damages resulting from the use or unavailability of this product. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

THIS WARRANTY SUPERSEDES ALL OTHER WARRANTIES THAT ARE ASSOCIATED OR INCLUDED WITH THIS PRODUCT.

Furnished Accessories

Screwdriver 80B498

Optional Accessories

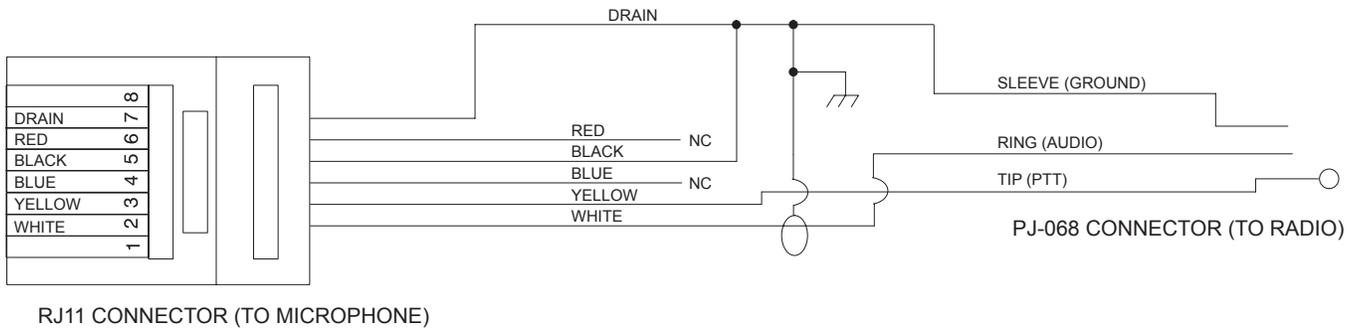
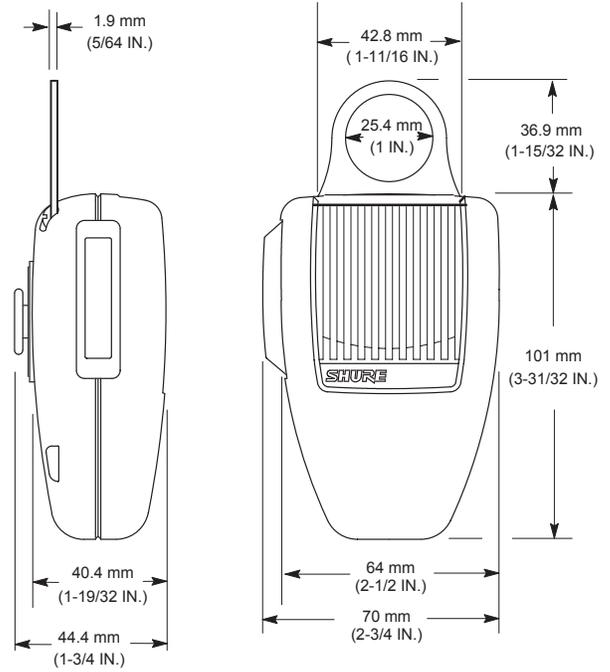
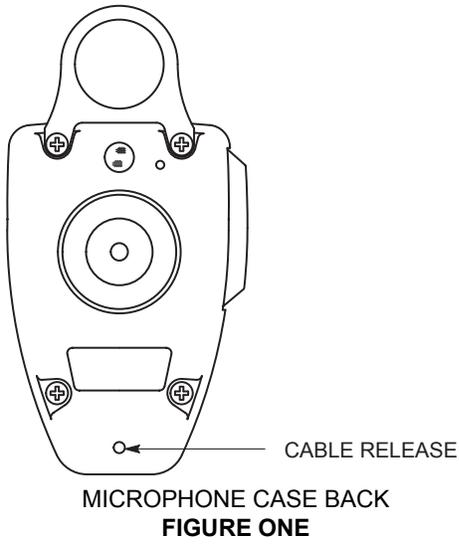
Mounting Bracket (3 in kit) RK6MB

Replacement Parts

Modular plug-cable with PJ-068 plug assembly..ALM-88

A4M type connectorALM-89

FIGURES



MODULINK® CABLE WIRING

FIGURE FOUR

ENVIRONMENTAL QUALIFICATION FORM, TSO-C58a

DO-214 PARA. #	CONDITIONS	DO-160C PARA. #	DESCRIPTION OF TESTS
2.5.1.1	Ground Survival Low Temperature and Operating Low Temperature	4.5.1	Microphone tested to Category D1
2.5.1.2	Ground Survival High Temperature and Short-Time Operating High Temperature	4.5.2	Microphone tested to Category D1
2.5.1.3	Operating High Temperature	4.5.3	Microphone tested to Category D1
2.5.1.4	Altitude	4.6.1	Microphone tested at altitude equivalent to 15,200 m (50,000 ft) = 11.6 kPa (116 mbar, 87 mm [3.42 in.] Hg)
2.5.1.5	Decompression	4.6.2	Microphone tested at altitude equivalent to 15,200 m (50,000 ft)
2.5.1.6	Overpressure	4.6.3	Microphone tested at pressure = 170 kPa; equivalent altitude = -15,000 ft
2.5.2	Temperature Variation – Preamplifier	5.3	Microphone tested to Category B for two cycles.
2.5.3	Humidity	6.3.1	Microphone tested to Category A for 2 cycles.
2.5.5	Vibration	8.5	Microphone tested to Categories N, B, & M (Table 8-1, Not on Vibration Isolators)**
2.5.6	Magnetic Effect	15.3	Microphone tested to Equipment Class Z; no magnetic properties
2.5.8.1	Voltage Spike Conducted	17.3	Microphone tested to Category A
2.5.10	Induced Signal Susceptibility*	19.3	Microphone tested to Category Z
2.5.11	Radiated RF Susceptibility*†	20.5†	Microphone tested to Category A
2.5.12	Emission of RF Energy*	21.4	Microphone tested to Category Z
2.5.14	Final Distortion		After all required environmental tests microphone meets requirements of DO-214, 2.6.2.4
2.5.15	Push-To-Talk Switch Life		After all required environmental tests microphone meets requirements of DO-214, 2.6.2.9
	Fire Retardance		In accordance with FAR 25; 25.869(a)(4) and Appendix F, Part I (a)(3)(b)***

* Tests performed at Radiometrics Midwest Corporation, Lombard, IL

† Tested to DO-160B

**Tests performed at Elite Electronic Engineering, Downers Grove, IL

***Tests performed at Gaynes Test Laboratories, Chicago, IL
All other tests performed at Shure Incorporated, Evanston, IL



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