



**Manufacturers Code: Z8X88**

**NSN: 5831-66-151-4569**

## **USER GUIDE**

**RAAF F-111 GROUND MAINTENANCE  
COMMUNICATIONS KIT**

**Manufactured in Australia by Mobile One Australia Pty. Ltd.  
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**Part No: 6111-7434-0001**

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This Kit was designed in consultation with RAAF Maintenance personnel, to allow crews to communicate with each other in the extreme noise environment caused by high power engine testing.

## 1.0 SAFETY WARNINGS

### WARNING

- 1. Damage to the eardrum may result from the high pitched noise generated from plugging the comms leads into a “live” circuit. Always ensure that the aircraft CCS system is switched off prior to inserting or removing the comms leads from the aircraft connectors.**
- 2. Do not turn the CEPS up beyond the minimum volume necessary for intelligible speech or communications as safe sound pressure levels could be exceeded and hearing damage, either temporary or permanent may result.**
- 3. It is essential that the Volume Control governing the individual user’s CEPS be turned down to minimum and then gradually increased until the sound is heard at a comfortable level. The original setting may need to be increased as ambient noise increases.**
- 4. Ensure new ear canal tips are fitted to the CEPS each time they are used by a different person.**
- 5. DO NOT quickly pull the CEPS out of the ears, using the cable or otherwise, as the resultant negative pressure created may cause damage to the delicate membrane of the ear (eardrum).**
- 6. In Black noise environments, an approved passive hearing protector (Ear Muff) must be worn in conjunction with the CEPS to achieve the required protection.**
- 7. DO NOT force the foam tip into the ear canal, otherwise the foam will be pulled away from the hard plastic insert. If the foam tip should separate from the plastic housing in your ear, gently pull the tip out with tweezers or screw the housing back into the foam tip and slowly remove from ear and discard the tip.**

## 2.0 CONTENTS OF KIT AND RE-ORDER CODES

### 2.1 Contents of each Kit

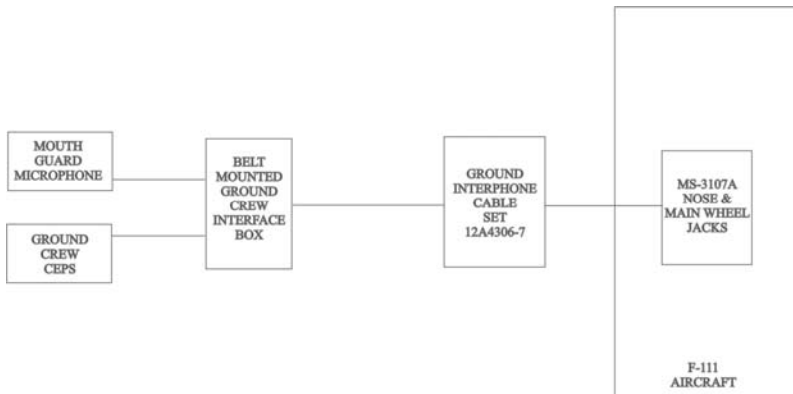
Kit Part No. 2659-6111-7434

NSN: 5831-66-151-4569

1	CEPS Sets	6111-7434-3571
1	Mouth Guard Microphone	6111-7434-4740
1	Mouth Guard Strap	6111-7434-4710
1	Ground Interface Box	6111-7434-7730
1	User Handbook	6111-7434-0001
1	Pack of 12 CEP Canal Tips	10-15010

## 3.0 SYSTEM SETUP

### F-111 Ground System



## 4.0 PARTS IDENTIFICATION - PHOTOGRAPHIC



Ground Interface Box



CEPS



Mouth Guard  
Microphone  
with Strap

## 5.0 GUIDE TO FITTING

### 5.1 CEPS

#### 5.1.1 Description

The CEPS (Communications Ear Plugs) are a device used to improve hearing protection and speech communications in situations of extreme ambient noise, when used in conjunction with a good quality hearing protector. They include a miniature transducer that reproduces speech signals from aircraft's Comms system.

The foam tips act as a hearing protector, similar to a foam earplug, but they also have a pathway for the sound signal to travel from the transducer to the ear.

The wire from the CEP connects to the Interface Box, which in turn connects to the aircraft.

**HYGIENE NOTE: FIT NEW EAR CANAL TIPS TO THE CEPS EACH TIME THEY ARE USED BY A DIFFERENT PERSON.**

#### 5.1.2 Fitting

The objective is to place the compressed Ear tip into the Ear canal and allow it to expand, blocking the ear canal.

1. The right side CEP is fitted into the ear canal by slowly rolling the foam tip between the thumb and first two fingers of the right hand. Increase pressure on the foam while continuing to roll the ear tip into a smaller cylinder.
2. Quickly place the foam tip into the ear canal with the right hand while using the left hand to pull the external ear up and away from the head. This helps to straighten the ear canal, allowing a clear path for the compressed ear tip. Hold in place for about 5 seconds.
3. Use the same process to fit the left CEP into the left ear.





### 5.1.3 Removal

#### **WARNING**

**Do not quickly pull the CEPS out of the ears, as the resultant negative pressure created may cause damage to the delicate membrane of the ear (eardrum).**

1. Remove the CEP from the ear by grasping the black housing, not the wire, and slowly, wobbling CEP from side-to-side, easing it out of the ear canal.
2. Replace the CEP into the carrying case.

#### **CAUTION**

3. The CEPS are delicate devices. They are for insertion into the Auditory Canal and are therefore designed for comfort over ruggedness. Pulling hard on the cables or rough handling or knocking of the transducers may render them unserviceable. Ensure that the CEPS are always handled with care.

4. It is important to ensure the CEPS cable is free to move with your head movement. Some “slack” in the cable above the clothing clip is recommended. Ensure the mouth guard strap or other objects around the user does not catch or clamp the CEP wires

5. Always disconnect from the interface equipment by utilising the back shell of the plug ONLY. Yanking the plug out by the CEPS cord, may break the wires in the cord.
6. CEPS are electrically very sensitive. Ensure aircraft comms volume is minimised prior to connecting the CEPS, then adjust volume to suit.
7. Do not immerse the CEP Transducer in any fluid. It may render it unserviceable.
8. To wash Canal Tips after use, unscrew the tip from the transducer moulding and wash in warm soapy water, rinse and dry before next use. DO NOT use a hair dryer or similar device on Canal Tips. This means wash the “pink” bit, not the “black” bit.

#### 5.1.4 Care and Maintenance

1. We estimate one pair of foam tips will last one month. When foam tips become soiled, detach from CEP and wash with mild soapy water. Wash foam tips sparingly.
2. Discard tips if the foam degrades in any way or becomes separated from the plastic insert inside the foam.
3. Remove tips and inspect for any blockage through the centre channel of the foam.
4. Re-attach tip ensuring that it is flush with the plastic housing.
5. Check wire for any break in insulation. If a break is discovered, replace the CEP



## **5.2 MOUTH GUARD MICROPHONE**

### 5.2.1 Description

The Mouth Guard Microphone is supplied with an M101 Military Dynamic Microphone fitted into a sound absorbing urethane moulding. A PTS (Push to Speak) switch is provided to reduce the extreme ambient noise problems when the engine is running at or near full power. The microphone is connected to the Ground Crew Interface Box via a Nexus TP-120B (U-93A/U) plug.

### 5.2.2 Fitting

1. Firstly, fit the Mouth Guard Microphone retaining strap over the head, so that the strap rests on the shoulder and the microphone housing rests on the chest. This minimises the risk of the strap catching on the CEP leads.
2. Adjust the height of the Microphone by pulling the strap through the ladder lock, until a suitable height has been reached for use.
3. To adjust strap easily, lift the tab on the ladder lock to the horizontal position and pull the strap up or down as required.

### 5.2.3 Care and Maintenance

1. Check Mouth Pad for wear and damage. If cover is peeling, starting to crack or is going hard, replace.
2. Check Mouth Guard Foam and replace as necessary. Frequency will change subject to usage and conditions.

## **6.0 USER REPLACEMENT PARTS LIST**

Clothing Clip for CEP Cable	7432400086
Mouth Guard Pad	7432400125
Mouth Guard Foam	7432400126
Mouth Guard Strap Assembly	6111-7434-4710
Pack of 12 Canal Tips (for CEPS)	10-15010

For complete assembly replacement list and part numbers, refer "Contents of Kit", page 4.

## NOTES



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