

**ARNAV Systems, Inc.
16923 Meridian East
Puyallup, WA. 98375**

Pilot Operations Handbook

for

ARNAV SYSTEMS, INC. RCOM-100 Satellite Telephone

Cessna 180 Series Aircraft

28 April 2003

Document No. 572-8050C

Introduction

The ARNAV Systems, Inc. RCOM-100 is a Globalstar satellite telephone system. The RCOM-100 interfaces with telephone handsets or aviation equipment with a standard "POTS" (Plain Old Telephone Service) interface. This interface is sometimes called a "Tip/Ring" interface. Any compatible telephone handset can interface with the RCOM-100, but in an airplane it must be used with aviation-approved equipment.

The equipment in the Cessna, Model 180 aircraft includes an NAT PTA-12 POTS Telephone Adapter that is interfaced with a UPSAT SL15 Audio Panel.

The controls on the audio panel can be used to answer an incoming phone call, but the PTA-12 must be used in conjunctions with the audio panel to make a phone call.

The RCOM-100 handles the communication with the ground based telecommunications network in a fully automatic method. The RCOM-100 simply acts like a normal telephone from the users perspective.

Systems Description

Audio Panel

The audio panel is used to interface cockpit or cabin headsets and microphones to the telephone system. The SL15 audio panel has a “TEL” position on its selection switch that connects the audio channels to the “Tip/Ring” telephone interface that is tied to the RCOM-100. The audio panel controls can be used by themselves to answer an incoming call, but must be used in conjunction with the PTA-12 Dialer device to make a phone call or to keep a phone call active while changing audio panel selections.

PTA-12 POTS Telephone Adaptor

(Dial Device)

The PTA-12 also connects to the “Tip/Ring” interface of the RCOM-100. The PTA-12 could optionally be wired directly to the headset/microphone system, but its primary function in the Cessna 180 equipped with the SL15 audio panel is to provide dialing capability to initiate a phone call.

The PTA-12 Keypad includes the numbers 0 – 9 and the * and # keys for dialing telephone numbers. There are also control buttons – Volume Up/Down, Redial, Flash, Hold, and Hook.

In this application the Volume, Hold and Flash buttons are not used.

“Hook” is used to start and stop a call that is being initiated from the airplane. It is not used when answering an incoming call unless the user wants to keep the phone line connected while changing audio panel selections.

The “Hook” button can be pressed after answering a call on the audio panel in order to keep the line connected to the calling party while audio panel selections are changed (for example: if a call is in progress, but the pilot needs to change the audio panel switch to “COM” or “NAV” and does not want to hang up on the caller).

“Redial” is used to dial the last dialed number again.

In installations where the PTA-12 audio system is used with headsets and microphones or as an AUX input to an audio panel without “Phone” capabilities, the Volume and Hold functions would be available for their normal functions.

Indicator

There is a “Hook Status / Ringer Active” annunciator located above the “Hook” button. The LED is off when the unit is inactive (“On-hook”) and is illuminated continuously when the unit is active (“Off-hook”). If the unit is inactive and waiting for a call the LED will FLASH to indicate an incoming call.

Operations

Placing a Call

The RCOM-100 is part of the Globalstar network. In order to make a call on the network you **MUST** dial a **1** plus a full **TEN**-digit number. The number includes the standard area code and the seven digit local number. To dial international numbers dial the country code and full number.

The RCOM-100 is taken off hook by selecting “TEL” on the audio panel select switch. After selecting “TEL” there will be a dial tone on the audio system. Press the “Hook” button on the PTA-12 and then dial **1** plus the **10**-digit number.

After the call is complete, press, “Hook” on the PTA-12 and move the audio panel select switch to any position other than “TEL”. Both the audio panel selector and the “Hook” switch on the dialer must be off or the phone is still off hook (has not hung up).

Receiving a Call

When a call comes into the RCOM-100 a ring is heard on the pilot’s headset and the “Hook / Ring Status” LED on the PTA-12 will flash.

The call is answered by selecting “TEL” on the audio panel. The PTA-12 controls are not needed to answer an incoming call, but the “Hook” switch can be activated in order to keep the line connected while making different selections on the audio panel.

To hang up an incoming call just select something other than “TEL” on the audio panel and pressing “Hook” on the dialer if it has been pressed to hold the line open.

Safety Issues

Radio Frequency Energy

Your RCOM-100 incorporates a radio transmitter, receiver, and antenna that receive and send radio frequency (RF) energy.

The design of the ARNAV RCOM-100 unit complies with the updated (1992) ANSI standard for safe levels of human exposure to RF energy.

The minimum separation distance between the RCOM-100 antenna and the user or bystander is 38.69 cm (15.2 inches). The antenna is designed to mount on top of an aircraft fuselage. It is inherent in the mounting configuration and use of the RCOM-100 antenna that the minimum separation distance will be maintained or exceeded under all operational conditions.

Compliance with Regulations

The RCOM-100 components comply with the following standards:

- ANSI C95.1 (1992) American National Standards Institute.
- NCRP Report 86 (9186) National Council on Radiation Protection and Measurements.
- ICNIRP (1996) International Commission on Non-Ionizing Radiation Protection.