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P-801 User's Manual



P-801 User's Manual

Voice Terminal Radio

tyco

Electronics

MAACOM



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Notices to the user

Warning

- Government law prohibits the operation of unlicensed transmitters within the territories under government control.
- Illegal operation is punishable by fine or imprisonment or both.
- Refer service to qualified technicians only.
- Do not operate your transceiver in explosive atmospheres (gases, dust, fumes, etc.)

FCC Warning

This equipment generates or uses radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

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Information to the digital device user required by the FCC

FCC limits

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

RF Interference

This equipment generates and uses radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, the user is encouraged to try to correct the interference by one or more of the following measures.

- Re-orient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the a service center for technical assistance.

Accessory Installation

Overview

The P-801 can be used with a variety of optional accessories including; batteries, antennas, and microphones. This section tells you how to install the accessories before your first use of the radio. refer to each accessory manual for specifics on installation and operation.

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Installing the Battery Pack

Preparation

Your battery is not charged at the factory. Refer to the battery instructions and charge the battery before you install it.

Procedure

Follow the steps in the facing table to install your battery.

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Installing the Battery Pack (continued)

Step	Action
1	Match the four grooves on the battery pack with the corresponding catches on the back of the radio.
2	Slide the battery back along the grooves until that battery drops onto the catches.
3	Push the battery until the release latch on the base of the radio locks.

Installing the Antenna

Procedure Follow the steps below to install the radio antenna.

Step	Action
1	Mate the antenna screw post with the connector on the top of the radio.
2	Turn the antenna clockwise until the antenna base is flush with the top of the radio.

insert figure

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Installing the Belt Hook

Procedure Follow the steps below to install your radio's belt hook.

Step	Action
1	Align the holes on the belt hook with the mounting holes on the radio as shown.
2	Screw the belt hook in place using the two 3x6 mm screws.

Installing Universal Connector Accessories

Overview The universal connector is used to connect several types of accessories.

Procedure Follow the steps in the table below to install accessories that use a universal connector

Step	Action
1	Insert the tab on the end of accessory's connector into the slot on radio's connector.
2	Tighten the connector screw to secure the microphone in place. The connector should be flush with the housing to keep the radio water resistant.

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Covering the Universal Connector

When to cover the connector

If no accessory is used with the radio, cover the universal connector with the cap to keep the radio water resistant

Procedure

Follow the steps in the table below to cover the universal connector.

Step	Action
1	Insert the tab on the end of the cover connector into the slot on radio's connector
2	Insert and tighten the 4x6 mm screw. The cover should be flush with the housing to keep the radio water resistant.

OpenSky Explained

Overview

Overview

The P-801 Voice Terminal Radio is a key component of the OpenSky network. This section gives an overview of the OpenSky system and OpenSky features and benefits.

OpenSky network

The P-801 Voice Terminal Radio is a part of the OpenSky network. The OpenSky network is an integrated voice and data communications system. The network provides a communication backbone that enables voice to be converted to digital information and then transmitted over a wireless network. Data applications can be used simultaneously with voice over the same network.

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OpenSky Explained (continued)

**OpenSky
features and
benefits**

OpenSky connects seamlessly with existing applications and provides significant user benefits.

OpenSky:

- Provides one communication system to many users and agencies maximizing inter operability. One communication system eliminates the need for a user to carry more than one radio to communicate mission critical information.
- Allows radios to automatically roam between base stations, relieving radio users of the task of switching channels when moving to a new coverage area.
- Offers greater system availability by providing improved peak traffic for all voice and data information.
- Allows voice communication while data is being sent or received without having to switch radio modes.
- Locates users quickly and accurately in an emergency using radios equipped with the Global Positioning System (GPS) option.
- Prioritizes communications, eliminating non-essential information and preventing information overload.

OpenSky Terms and Concepts

Voice Features Explained

**Voice features
overview**

Each time you power up and access the OpenSky Network, voice features are loaded into your radio. These features combined are known as your radio personality which establishes features such as:

- Who you will communicate with over the network
 - What calls have priority over others
-

**Radio
Personality**

A radio personality is made up of up to 16 voice profiles. Voice profiles organize your radio personality into categories defined by your network administrators.

Voice profile

A collection of up to 16 voice groups. Of the 16 possible voice groups, only one is active at any given time.

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Voice Features Explained (continued)

Voice Groups	Voice groups are used to further break down the voice profile. Voice groups are a subset of the users in a profile and are made up of a number of users who regularly need to communicate. There can be any amount of users in a voice group. Your OpenSky network administration personnel establish and organize voice groups. Voice groups are categorized as either talk groups or listen groups.
Talk Group	The primary voice group in a profile. This is the group of users you will talk with and listen to the most. The first voice group in each profile is designated as your talk group.
Listen group	You normally hear the voice calls from the users in this group, but your voice does not transmit to them.

Continued on next page

Voice Features Explained (continued)

Diagram

The figure below summarizes OpenSky Voice features.

Before You Start

Controls and Indicators

Side Views of radio

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Getting Started

Turning On the Radio

Procedure Follow the step below to turn your radio on.

Step	Action
1	Turn the Power/Volume switch clockwise until it clicks. <i>The startup sequence lasts approximately 10 seconds.</i> <i>The radio is ready to use after this sequence.</i>

Ready state Use the figure below to know how the radio will appear as it is ready for use.

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Shutting Off the Radio

Procedure Follow the step below to turn your radio off.

Step	Action
1	Turn the Power/Volume switch counter clockwise until it clicks.

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Adjusting the Volume

Procedure: Follow the steps below to adjust the radio's volume.

Step	Action						
1	Turn the Power/Volume knob to adjust the volume						
2	Use the table below to determine your next step. <table><tr><th>To...</th><th>Turn...</th></tr><tr><td>Increase the volume</td><td>Clockwise</td></tr><tr><td>Decrease the volume</td><td>Counter-clockwise</td></tr></table>	To...	Turn...	Increase the volume	Clockwise	Decrease the volume	Counter-clockwise
To...	Turn...						
Increase the volume	Clockwise						
Decrease the volume	Counter-clockwise						

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Listening to Voice Calls

Background Once the radio is turned on and active on your OpenSky network, you may begin to hear voice calls.

Process The table below describes what happens when you receive a voice call.

Stage	Description
1	Your radio display changes briefly to show the name of the voice group that the call is coming from.
2	The LED indicator will turn green and blink while the call is being received.
3	At the end of the call, you will hear a single end tone. This lets you know that the person speaking is done with that portion of their transmission.

Making a Voice Call

Background

The steps for making a voice call are similar to those of a conventional radio.

Voice call procedure

Follow the steps below to make a voice call.

Step	Action
1	If needed, turn the POWER knob to turn on the radio. <i>The radio will be ready to use following the startup sequence.</i> <i>When you see the primary voice profile displayed, you are ready to talk.</i>

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Making a Voice Call (continued)

Step	Action						
2	Choose your next step from the table below. <table><tr><th>If...</th><th>Then...</th></tr><tr><td>No one is talking</td><td>Continue to step 3</td></tr><tr><td>Someone is talking</td><td>Wait to hear a single end tone indicating they are done talking and continue to step 3.</td></tr></table>	If...	Then...	No one is talking	Continue to step 3	Someone is talking	Wait to hear a single end tone indicating they are done talking and continue to step 3.
If...	Then...						
No one is talking	Continue to step 3						
Someone is talking	Wait to hear a single end tone indicating they are done talking and continue to step 3.						
3	Press the push-to- talk button and speak normally. <i>A blinking red LED tells you that you are transmitting.</i> <i>If you hear three low tones, the network is busy. Wait a few seconds and try you call again.</i>						
4	Release the push-to-talk button when you are tone talking.						

Changing the Side Tone Setting

Background Side tones provide audio feedback when the MENU, or SEL buttons are pressed. The default setting is for side tones to be on.

Procedure Follow the steps below to change the side tone setting.

Step	Action
1	Press the MENU button until the side tone menu shows.

Continued on next page

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Changing the Side Tone Setting (continued)

Step	Action						
2	Use the table below to determine your next step. <table><tr><th>If you want to...</th><th>Press the SEL until the display shows...</th></tr><tr><td>Hear side tones</td><td>SIDE:ON</td></tr><tr><td>Disable side tones</td><td>SIDE: OFF</td></tr></table> Result: You will have changed the side tone setting.	If you want to...	Press the SEL until the display shows...	Hear side tones	SIDE:ON	Disable side tones	SIDE: OFF
If you want to...	Press the SEL until the display shows...						
Hear side tones	SIDE:ON						
Disable side tones	SIDE: OFF						
3	To return to the menu display, choose from the following table <table><tr><th>To return...</th><th>Then</th></tr><tr><td>Immediately</td><td>Push MENU</td></tr><tr><td>After a brief wait</td><td>Wait approximately 10 seconds</td></tr></table> Result: The radio returns to the menu display.	To return...	Then	Immediately	Push MENU	After a brief wait	Wait approximately 10 seconds
To return...	Then						
Immediately	Push MENU						
After a brief wait	Wait approximately 10 seconds						

Adjusting the Display Brightness

Background

You can adjust the brightness of the display to suit your needs.

Procedure

Follow the steps below to change the brightness of the display.

Step	Action
1	Press the MENU button until the brightness menu shows.

Continued on next page

P-801 User's Manual
Changing the Display Brightness, continued

Step	Action						
2	Use the table below to determine your next step. <table><tr><th>If you want to...</th><th>Then press...</th></tr><tr><td>Increase brightness</td><td>SEL Up button</td></tr><tr><td>Disable side tones</td><td>SEL Down button</td></tr></table> Result: You will have changed the brightness setting.	If you want to...	Then press...	Increase brightness	SEL Up button	Disable side tones	SEL Down button
If you want to...	Then press...						
Increase brightness	SEL Up button						
Disable side tones	SEL Down button						
3	To return to the menu display, choose from the following table <table><tr><th>To return...</th><th>Then</th></tr><tr><td>Immediately</td><td>Push MENU</td></tr><tr><td>After a brief wait</td><td>Wait approximately 10 seconds</td></tr></table> Result: The radio returns to the menu display.	To return...	Then	Immediately	Push MENU	After a brief wait	Wait approximately 10 seconds
To return...	Then						
Immediately	Push MENU						
After a brief wait	Wait approximately 10 seconds						

Adjusting the Display Contrast

Background You can adjust the contrast of the display to suit your needs.

Procedure Follow the steps below to change the contrast of the display.

Step	Action
1	Press the MENU button until the contrast menu shows.

Continued on next page

P-801 User's Manual
Changing the Display Contrast (continued)

Step	Action						
2	Use the table below to determine your next step. <table><tr><th>If you want to...</th><th>Then press...</th></tr><tr><td>Increase contrast</td><td>SEL Up button</td></tr><tr><td>Decrease contrast</td><td>SEL Down button</td></tr></table> Result: You will have changed the contrast setting.	If you want to...	Then press...	Increase contrast	SEL Up button	Decrease contrast	SEL Down button
If you want to...	Then press...						
Increase contrast	SEL Up button						
Decrease contrast	SEL Down button						
3	To return to the menu display, choose from the following table <table><tr><th>To return...</th><th>Then</th></tr><tr><td>Immediately</td><td>Push MENU</td></tr><tr><td>After a brief wait</td><td>Wait approximately 10 seconds</td></tr></table> Result: The radio returns to the menu display.	To return...	Then	Immediately	Push MENU	After a brief wait	Wait approximately 10 seconds
To return...	Then						
Immediately	Push MENU						
After a brief wait	Wait approximately 10 seconds						

Changing the Active Voice Profile

Background

You can change the active profile of your radio from the default profile to any of the other profiles in your radio personality.

Making this change means that you are switching the list of talk groups and listen groups that you normally communicate with.

Procedure

Follow the steps below to change the active voice profile.

Step	Action
1	Press MENU until the primary menu shows.
2	Turn the Profile Selector to move to the desired profile. Result: <i>The displayed profile is now active. The radio display will change to show the new profile number and the alias name for the talk group in the selected profile.</i>

Advanced Operation

Increasing the Scanning Priority of a Voice Group

Background

You can prioritize hearing transmissions from a specific voice group over others in an active voice profile. When the priority is increased, transmissions from other users in the priority voice group will take precedence over the other voice groups in the profile.

Process

The table below describes the process for increasing a voice group's scanning priority.

Stage	Description
1	The voice profile with the voice group to be prioritized is activated.
2	The priority menu is accessed.
3	The desired voice group is prioritized.

Continued on next page

Increasing the Scanning Priority of a Voice Group, Continued

Procedure

Follow the steps below to increase the scanning priority of a voice group.

Step	Action
1	Press MENU until the primary menu shows.
2	Press SEL to move to the voice profile that contains the voice group you want to scan with a higher priority.
3	Press MENU to access the priority menu.
4	Press SEL until the voice group you want to prioritize is displayed. <i>Result: The selected voice group's transmission priority is increased</i>

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Increasing the Scanning Priority of a Voice Group,
Continued

Procedure
(continued)

Step	Action						
5	Use the table below to determine your next step. <table><tr><td>To return...</td><td>Then...</td></tr><tr><td>Immediately</td><td>Push the MENU button</td></tr><tr><td>After a brief wait</td><td>Wait approximately 10 seconds</td></tr></table> Result: The radio will return to the menu display.	To return...	Then...	Immediately	Push the MENU button	After a brief wait	Wait approximately 10 seconds
To return...	Then...						
Immediately	Push the MENU button						
After a brief wait	Wait approximately 10 seconds						

Notes:

- Changing the priority of a voice group does not impact which voice group in your profile is the talk group.
 - You can prioritize one voice group in each of the profiles in your radio personality.
 - The priority settings are reset to the default talk group when the radio is shut off.
-

Changing the Scanning Mode

Scanning Modes

Changing the scanning mode can broaden or narrow the span of your communications. There are three available scanning modes:

- Normal scanning
- Talkback Scanning, or
- No scanning

Choosing one of the three changes the way your radio scans all of the voice profiles for your radio personality.

Normal scanning defined

The radio monitors calls and enables audio output when any voice group in its voice profile becomes active. If multiple voice groups in the radio's scan list are active, the radio listens to the one with the highest scan-priority. After a higher scan-priority call ends, the radio joins the next highest scan-priority in progress on a first-come, first-served basis.

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Changing the Scanning Mode, continued

Talkback scanning defined	Each voice group has an associated talkback timer that defines its talkback window. This window is the period of time from the end of a call to when you press your microphone key. ·If the talkback timer has not expired and the radio is configured for talk back scanning, the radio calls the last voice group, instead of its default talkgroup.· If the talkback timer expires, your call is placed on the default talk group
No scanning defined	The radio only listens to the selected talk group.
Procedure	The following table details the procedure for changing the scanning mode of the radio.

Continued on next page

Changing the Scanning Mode, continued

Step	Action								
1	Press MENU until the scanning menu appears.								
2	Choose the scanning mode:<table><tr><th>To...</th><th>Press SEL until...</th></tr><tr><td>Broaden transmissions beyond the active talkgroup</td><td>Talkback SCN is displayed</td></tr><tr><td>Use Normal Scanning</td><td>Normal Scan is displayed</td></tr><tr><td>Narrow your scanning list to the active talkgroup only</td><td>No Scanning is displayed</td></tr></table> Result: The scanning mode you chose is active for all the voice profiles in your radio personality.	To...	Press SEL until...	Broaden transmissions beyond the active talkgroup	Talkback SCN is displayed	Use Normal Scanning	Normal Scan is displayed	Narrow your scanning list to the active talkgroup only	No Scanning is displayed
To...	Press SEL until...								
Broaden transmissions beyond the active talkgroup	Talkback SCN is displayed								
Use Normal Scanning	Normal Scan is displayed								
Narrow your scanning list to the active talkgroup only	No Scanning is displayed								

Changing the Operating Mode

Background

The radio normally operates using OTP to provide the full features of a digital voice and data network. To interoperate with radios using other protocols such as Conventional FM, you can manually change the mode of operation to a different protocol.

Procedure

The table below describes the steps to follow to change the operating mode of the radio.

Step	Action
1	Press MENU until the mode change menu appears.
2	Press SEL to access the Change Mode 2 menu.

Continued on next page

Changing the Operating Mode, continued

Step 3	Action	
	Choose your next step from the table below.	
	To...	Turn...
	Abort the mode change	Menu Result: The radio will display Aborted! and the change will be aborted.
	Continue	SEL until the SEL2Sel Mode menu is displayed.

Continued on next page

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Changing the Operating Mode, Continued

**Procedure
(continued)**

Step	Action						
4	Press SEL until the desired mode is displayed.						
5	Press MENU to change the mode.						
6	Choose your next step from the table below.<table><tr><th>To...</th><th>Turn...</th></tr><tr><td>Abort the mode change</td><td>Menu Result: The radio will return to the primary menu without executing the change.</td></tr><tr><td>Continue</td><td>SEL Result: The radio powers down and reboots in the selected mode.</td></tr></table>	To...	Turn...	Abort the mode change	Menu Result: The radio will return to the primary menu without executing the change.	Continue	SEL Result: The radio powers down and reboots in the selected mode.
To...	Turn...						
Abort the mode change	Menu Result: The radio will return to the primary menu without executing the change.						
Continue	SEL Result: The radio powers down and reboots in the selected mode.						