



ASU-9000

ANTENNA SWITCHING UNIT



Operating Instructions

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Revision B

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NOTES

CAUTION STATIC SENSITIVE !



This unit contains static sensitive devices. Wear a grounded wrist strap and/or conductive gloves when handling printed circuit boards.

FCC COMPLIANCE INFORMATION

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.



WARNING: For compliance with FCC RF Exposure Requirements the mobile transmitter antenna installation shall comply with the following two conditions:

1. The transmitter antenna gain shall not exceed 3 dBi.
2. The transmitter antennas shall be located outside of a vehicle and must not be co-located (kept at a separation distance of more than 20 cm from each other when installed). Also, they must be installed in such a way that they always maintain a separation distance of more than 113 cm from any person during operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

WARNING AND DISCLAIMER

Changes or modifications not expressly approved by Technisonic Industries could void the user's authority to operate the equipment.

This manual is designed to provide information about the T6 Multiband transceiver module. Every effort has been made to make this manual as complete and accurate as possible.

WARRANTY INFORMATION

The Model ASU-9000 is under warranty for one year from the date of purchase. Failed units caused by defective parts or workmanship should be returned to:

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SECTION 1: GENERAL DESCRIPTION

1.1 INTRODUCTION

This publication provides operating information for the ASU-9000 Antenna Switching Unit. It is assumed the user is familiar with the operation of the TDFM-9000 series of transceivers.

1.2 DESCRIPTION

The ASU-9000 was developed as a means for the TDFM-9000 to provide the same function as three forestry type radios such as the Technisonic TDFM-136B while using less panel space. The TDFM-9000 would normally require 6 antennas but since the forestry radios have only one transmitter, it can't transmit on main and guard at the same time. The switches in the ASU-9000 connect the antenna to both main and guard receivers in receive and only the main or guard during transmit allowing one antenna to be used instead of 2. Mic audio is routed to the main or guard as required and receive audio is combined.

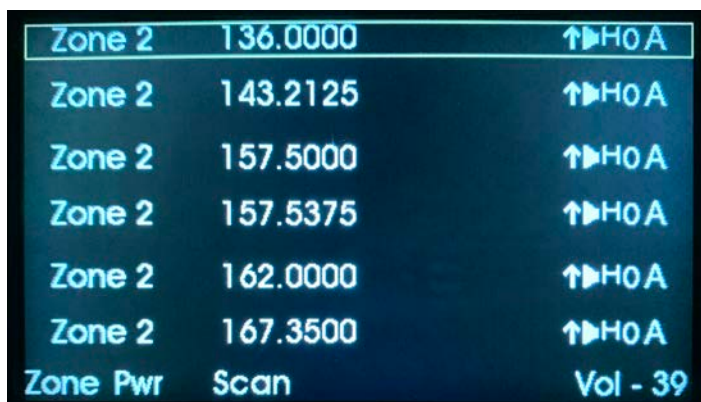
SECTION 2: OPERATING INSTRUCTIONS

2.1 GENERAL

The TDFM-9000 and TDFM-9300 have been updated with an optional forestry mode which allows it to communicate / interface with the ASU-9000 and provide forestry operation. The instructions below describe the setup and operation of the system.

2.2 FORESTRY MODE SETUP

Turn the unit on by pressing the knob. The unit will boot up in about 25 seconds and then end up in normal operating mode showing the status of all installed RF modules:



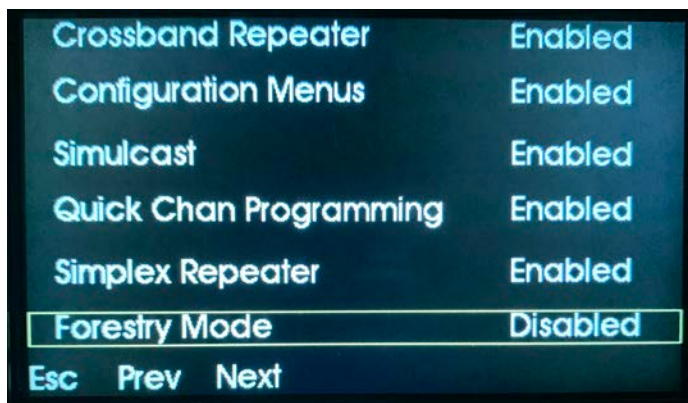
Press the FUNC key. The function menu will appear. The soft key menu reads:



Select Supv (Supervisor Mode) from the soft menu.



The unit will ask for a password. Type 1 5 9 3 5 7 to enter Supervisor Mode.



Select Forestry Mode by pressing the side menu key. Turn the knob until it says Enabled.

Press the Esc soft menu key to finish. The Forestry operating mode display will appear.

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Note: Forestry Mode must be enabled or the ASU-9000 system will not operate, resulting in no ability to transmit on any band.

2.3 FORESTRY MODE DISPLAY

Zone 2	136.0000	↑▶H0A	Radio 1 Main
Zone 2	143.2125	↑▶H0A	Radio 1 Guard
Zone 2	157.5000	↑▶H0A	Radio 2 Main
Zone 2	157.5375	↑▶H0A	Radio 2 Guard
Zone 2	162.0000	↑▶H0A	Radio 3 Main
Zone 2	167.3500	↑▶H0A	Radio 3 Guard
Zone Pwr	Scan	Vol - 39	

The display now has 3 boxes instead of 1. It is formatted to show 3 (2 for a TDFM-9300) virtual forestry radios containing a main and a guard line. A box surrounds the active band for each radio pair. A yellow box surrounds the selected band for which the menu line and knob control are associated with (and the combined PTT / Mic input if being used). The other active boxes are blue.

The system can be wired / installed in 2 possible configurations – separate or combined. It can also be wired in multiple audio panel installations, such that one audio panel can be in separate and another audio panel in combined. Therefore it is important for the user to be familiar with the installation details.

2.4 SEPARATE OPERATION

In a separate type installation, each virtual radio will appear on a separate position on the audio panel. The audio from both main and guard receivers will be mixed together by the ASU-9000 and be heard on the headset. The PTT and microphone signals will be routed to the main or guard transmitter selected by the box (colour doesn't matter) on the display. The main advantage in separate operation is that it is possible in an installation with more than one audio panel to operate more than one radio simultaneously without interfering with each other. If it is desired to hear the activity on all radios, the audio panel monitor switches or knobs can be set accordingly.

2.5 COMBINED OPERATION

In a combined type installation, all bands are connected to one position on the audio panel. All receive audios are present on the headset. Transmit PTT and Microphone audio go to the band selected with the yellow box. The blue boxes mean nothing in combined operation.

SECTION 3: SPECIFICATIONS

3.1 SPECIFICATIONS

<u>Specification</u>	<u>Characteristic</u>
Power Handling:	15 Watts
Frequency Range:	138 - 174 MHz (FM)
Maximum Loss:	0.8 dB
Power Requirement:	28 Volts DC \pm 15% 300 mA max.
Communication:	RS232 – 115,200, N, 8, 1
Dimensions:	5.7" x 7.4" x 1.6" (14.48 x 18.8 x 4.1 cm)
Weight:	1.31 lbs. (595 g)