

T3400 RF Module

VHF AM

Users Guide

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INTRODUCTION

The T3400 RF module is a VHF AM transceiver assembly that operates in 117.975 - 137 MHz range.

The transceiver module is designed to be installed and operated in the Technisonic Multiband Airborne Radio TDFM-9300/9200 platform. All external power and antenna connections are provided by the TDFM 9300 as well as controls are via the front panel and display from the TDFM 9300.

The RF module is capable of operating Amplitude Modulation with maximum transmit power of 5 watts.



FIGURE 1: Overall view of the T3400 RF Module

NOTES

ESD CAUTION



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 antenna is required to be located outside of a vehicle and kept at a separation distance of 70 cm or more between the transmitter antenna of this device and persons during operation.

NOTE: 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. This equipment generates, uses and can radiate 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 interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

TECHNICAL CHARACTERISTICS

Specification

Model Designation:
Physical Dimensions:
Operating Temperature Range:
Power Requirement:
Voltage:
Current:
Audio Output Power:

FCC ID: IMA-T3400

INDUSTRY CANADA: 120A-T3400

RF Output Power:

Frequency Range

No. of channels:
Minimum Channel Stepping

Transmitter section

Audio Distortion: <5%
Frequency Stability in ppm: ± 2.5
Maximum Modulation (max): 95%
Maximum Modulation (min): 75%
Spurious Attenuation: -60 dB below carrier level
Harmonic Attenuation: -60 dB below carrier level
Audio Input 50 mV at 2.5 kHz into
200 ohm input circuit for
30% modulation (adjustable)

Receiver section

Sensitivity in μV (12dB SINAD): Better than 2.0
Adjacent Channel Selectivity -70 dB (25 kHz)
Spurious Attenuation: -70
Third Order Intermodulation -70
Image Attenuation -60
Hum and Noise >40
Audio Distortion <5%
Antenna Conducted Emission -70dBm

Characteristic

T3400
Approx. (L) 6.75" x (W) 5.0" x (H) 1.25"
-30° C to +60° C

28 VDC $\pm 5\%$
300 mA minimum / 1.2A maximum
500 mW into 600 Ω

5 Watts, 2.5 (Carrier)

117.975 – 137 MHz TX
117.975 – 137 MHz RX

200 Channels
25 KHz

FCC ID LABELS

Before the T3400 is installed in the TDFM-9300, the FCC/INDUSTRY CANADA label must be applied.

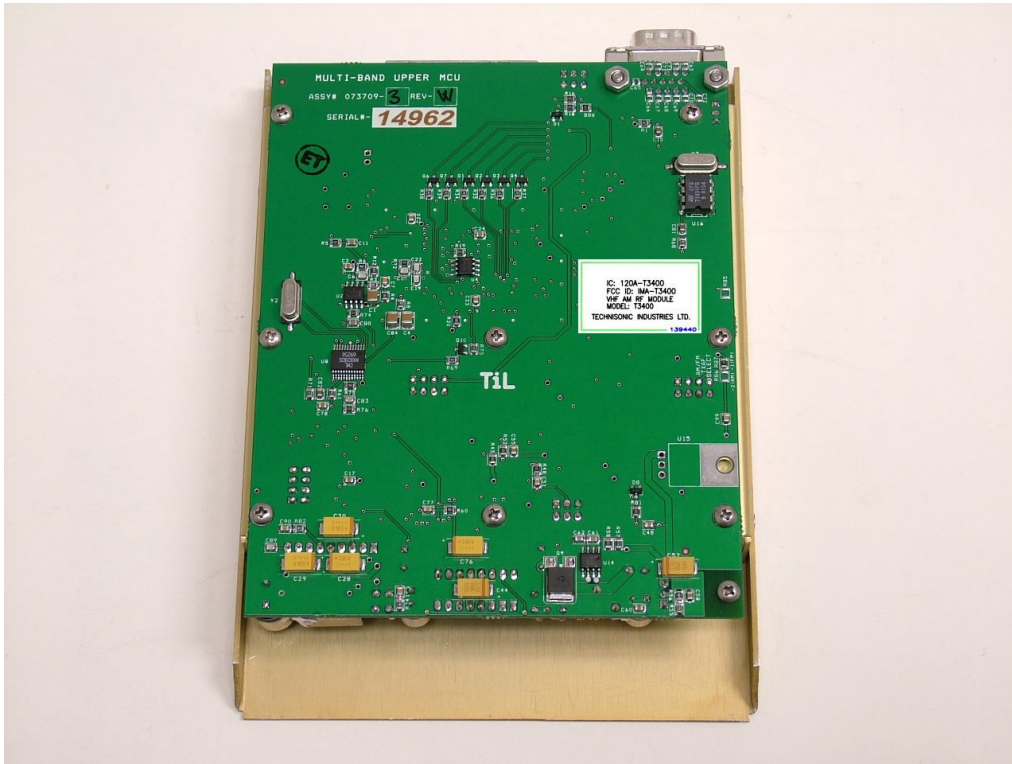


FIGURE 2: T3400 RF Module with FCC/IC Label applied to the bottom

The FCC/Industry Canada label is shown below. Place the label on the bottom of the controller board as shown in Figure 2.

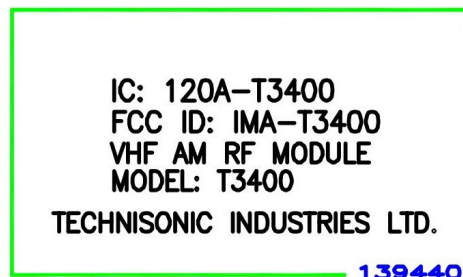


FIGURE 3: T3400 FCC/Industry Canada Label

INSTALLATION

The T3400 module should be installed in the TDFM 9300 in accordance with TIL document 136569 "TDFM-9300 FINAL ASSEMBLY SSP".

The T3400 is intended to be mounted in the TDFM 9300/9200 chassis and is not visible. Therefore, a second label must be applied to the outside of the TDFM 9300 that contains the following text: "TDFM 9300 Multiband Transceiver. Contains Module: FCC ID IMA-T3400".

In addition, external labeling for Industry Canada shall be applied to the TDFM 9300 to include the following text: "Contains IC: 120A-T3400".

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 T3400 RF Module. Every effort has been made to make this manual as complete and accurate as possible.

WARRANTY INFORMATION

The Model T3400 Transceiver is under warranty for one year from date of purchase. Failed units caused by defective parts, or workmanship should be returned to:

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