



FEATURES & BENEFITS:

- **MIL-STD-188-110A Modem:** Up to 2400 bps
- **Hardware Solution:** Performance & Reliability
- **Works with Any Radio:** via Audio Line
- **Activation Keys:** Unlock Upgrades

UPGRADES AVAILABLE:

- **MIL-STD-188-110B Modem:** Up to 9600 bps
- **MIL-STD-188-110C Modem:** Up to 16000 bps 3 kHz*
- **MIL-STD-188-110C Orderwire:** 75/4 bps*

ALSO AVAILABLE:

- **STANAG 5066 ARQ:** RC50 Email Software
- **MIL-STD-188-141B:** 2G ALE

* Future feature

MILITARY AUXILIARY RADIO SYSTEM (MARS)

The basic **TC4** MARS Solution fulfils the MARS requirement for a 2400 bps MIL-STD-188-110A data modem. The data rate can be extended to 9600 bps (MIL-STD-188-110B) by means of an activation key. Possible future MARS requirements can be added and activated as needed.



Package Contents (TC4 MARS Solution):

TC4 Modem Module with 110A Capability
DataPoint 110A/B Interface Software
TC4 Installation Guide for IC-F8101
Type-AB USB Cable

HIGH PERFORMANCE DATA MODEM

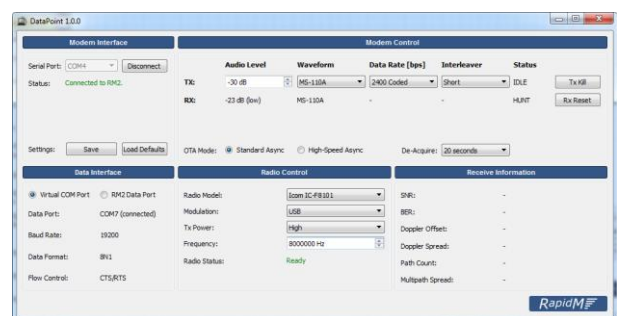
The **TC4** is a HF data modem module with exceptional performance and reliability. The **TC4** plugs into the Icom IC-F8101 Transceiver's internal provisioned connector. The TC4 installed in the IC-F8101 is suitable for Military Auxiliary Radio System (MARS) operators.

SUPERIOR MODEM PERFORMANCE

Long-range communication is especially prone to interference. The **TC4** benefits from *RapidM's* superior technology and experience in HF modem design. The modem features adaptive equalization and is able to deal with in-band distortion. The result is extended range and increased data throughput.

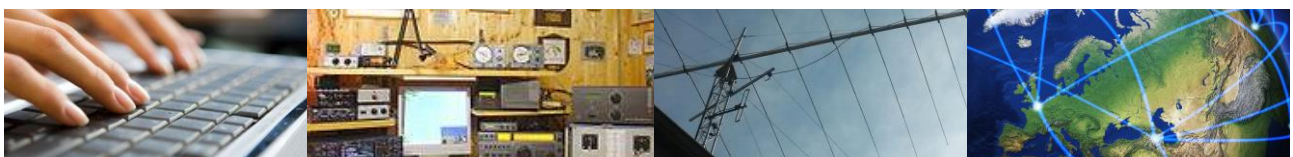
DATAPoint 110A/B INTERFACE SOFTWARE

The **TC4** is accompanied by the free *DataPoint* 110A/B Interface Software. This Windows software allows the user to configure and control the modem for basic MIL-STD-188-110A and MIL-STD-188-110B operation. *DataPoint* also allows data to be tunneled to/from the MARS Communications Messaging Terminal.



Not Included:



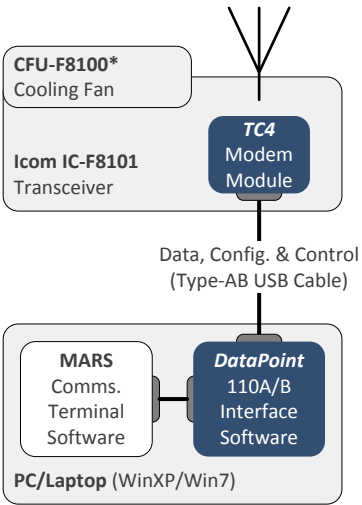
Icom IC-F8101 HF Transceiver
CFU-F8100 Cooling Fan Unit
Windows PC with Serial Port
MARS Communications Messaging Terminal



WAVEFORMS	MODULATION	DATA RATES & CHARACTERISTICS	OPTIONS	
			BASIC	110B
MIL-STD-188-110A	PSK	[75, 150, 300, 600, 1200, 2400 bps] (Coded), 4800 bps	✓	✓
MIL-STD-188-110B	PSK/QAM	[75, 150, 300, 600, 1200, 2400, 3200, 4800, 6400, 8000, 9600 bps] (Coded)	-	✓

MODEM INFORMATION	
CAHRACTERISTICS	Receiver autobaud Sync-on-data capability Carrier capture range ±200 Hz. Frequency tracking of up to 75 Hz changing at 3.5 Hz per second (triangular sweep) Narrowband Interference cancellation of up to 4 signals


TC4 HARDWARE	
SIZE	33 x 55 x 8mm (w x d x h)
WEIGHT	14.1 g
POWER	3.3 V (DC), <= 1 W (typ.)
TEMPERATURE	-40°C to +85°C (operating); -40°C to +90°C (storage)
CONNECTOR	Single 100-way fine pitch connector (Samtec YFT-20-xx-H-05-SB)

INSTALLATION	SETUP
<p>Note: Detailed instructions for installing the TC4 in the IC-F8101 are included with the bundle.</p>  <p>Figure 1: IC-F8101 internal TC4 connector</p>  <p>Figure 2: IC-F8101 with TC4 installed</p>	

*** Note on Cooling:**
It is recommended that the Icom CFU-F8101 Cooling Fan Unit is installed on the IC-F8101 Transceiver for data operation. The CFU-F8101 Cooling Fan Unit can be obtained from your Icom dealer.

ORDERING INFORMATION	STOCK NUMBER	DESCRIPTION
TC4 MARS, 110A MODEM MODULE (2400 bps)	TC4-BU-MARS-000	Bundle: TC4 MARS 110A, 2400bps
UPGRADE: 110B 9600 bps	MAR-SW-110B-UPG	Upgrade: 110B 9600bps
UPGRADE: RC50 EMAIL SOFTWARE ⁽¹⁾ ⁽³⁾	MAR-SW-RC50-UPG	Upgrade: RC50 Email S5066
UPGRADE: 2G ALE ⁽²⁾ ⁽³⁾	MAR-SW-2G00-UPG	Upgrade: 2G ALE 141B

⁽¹⁾ RC50 requires 110B.
⁽²⁾ 2G ALE requires RC50 or other control software. Future versions of DataPoint will also include 2G ALE control.
⁽³⁾ Datasheets available from RapidM.

Distributed by:

NVIS Communications
 Tel: 1-408-782-8002 x105
 Email: john@nviscom.com

Rapid Mobile Pty (Ltd)
 Tel: +27 12 349 0000
 Fax: +27 12 349 0010
 Email: info@rapidm.com
 Web: www.rapidm.com

Apex Corporate Park
 Quintin Brand Street
 Perseuor Park
 Pretoria, South Africa
 0020


 Copyright © 2020 Rapid Mobile (Pty) Ltd
 Revision: TC4_MARS_EN_02B