Tampa Microwave Family of ManPack Satellite Terminals

Extreme Portability. High bandwidth. Interchangeable components.

Tampa Microwave's family of ManPack terminals was specifically designed for the needs of a dismounted soldier or first responder. They are designed to be jumped or carried and then operate in inhospitable territory. The ManPack terminal offers several operational and logistical advantages over its competition. The compact design and intelligent packaging concept facilitate one-man setup and operation. The terminal packs up in a backpack which can be placed in the airline overhead compartment. The terminals also include a hard transit case for the backpack so the system can be checked as baggage(<68lbs / 31kg IATA) or shipped.

The key electronic modules for this terminal are used across the entire Tampa Microwave product line. The transceivers, modem assembly and power supply modules can be interchanged (without any tools) among our entire family of terminals with aperture sizes from the 45cm ManPack to the 1.3 meter FlyAway. This architecture simplifies sparing and maintenance at all organizational levels. It further facilitates multi-band operation with only a small incremental increase in terminal size and weight. These features significantly reduce system life cycle costs and logistics footprints.

Operating without fans, the ManPack Satellite Terminal is both rugged and quiet. The easy to use auto-assist pointing enables fast satellite acquisition by minimally trained personnel. The absence of automated mechanical / electrical pointing and tracking mechanisms increases reliability and ensures that there are no single point failures that would compromise the mission.

Key Terminal Features:

- RF, Modem and Power Supply Modules are common to the complete Tampa Microwave LLC ManPack line of terminals
- Supports X- (WGS-certified), Ku-, and Ka-bands (military and commercial)
- No Fans – high reliability design that eliminates cooling fans
- Auto Assist Pointing – simple front panel display instructions assist satellite acquisition
- High Performance – low loss
- One-man setup in under 10 minutes, without tools
- Center-fed antenna enables simple frequency/feed swap as well as robust satellite connectivity due to superior wind stability
- Interchangeable reflector panels
- Choose between integrated iDirect Evolution® or Hughes HX280 modems, or use any external L-band modem; optional Acquisition Wizard includes an internal spectrum analyzer for use with external modems
- Internal GPS
- Multi-enclave networking devices with embedded Cisco© routing

Key Discriminators:

Lightweight

Monolithic RF design requires no cooling fans resulting in the smallest, lightest, most reliable terminal available

Simple to Operate

Auto-assist display provides "BGAN like" setup (that an unskilled operator can use to point at the satellite)

Battery Saving Mode

Optional BB 2590 battery available

Transmitter Keyline control more than doubles battery operation time

Multi-Band

Quick change between X, Ku (co-pol and cross-pol) and Ka bands (both Global Express and WGS frequencies supported)

MIL-SPEC Reliability

Purpose-built for tactical environment (MIL-STD-810F)

System Parameters

Parameter	45cm antenna	65cm antenna	95cm antenna
EIRP X-band P1dB	41.3 dBW @ 8150 MHz	43.6 dBW @ 8150 MHz	47.2 dBW @ 8150 MHz
EIRP Ku-band P1dB	N/A	49.5 dBW @14.125GHz	52.3 dBW @ 14.125GHz
EIRP Ka-band P1dB	N/A	51.4 dBW	N/A
G/T X-band (30˚ elevation)	8.9dB/K @7500 MHz	11.4dB/K @ 7500 MHz	14.7 dB/K @ 7500 MHz
G/T Ku-band	N/A	14.9 dB/K @ 11.35 GHz	18 dB/K @ 11.35 GHz
G/T Ka-band	N/A	16.4 dB/K	N/A
System weight	25 lbs (11.3kg)	27lbs (12.2kg)	30 lbs (13.6 kg)

Environmental

Environment	Value	Environment	Value
Humidity	95%, Condensing	Vibration	Method 514.4
Salt Fog	Method 509.4	Sand and Dust	Method 510.4
Blowing Rain	Method 506.4		

Power input	85 – 265 VAC, 47-440Hz	10 – 36 VDC	External battery option

Receive/Transmit Parameters

Receive/Transmit Parameter	X-band	Ku-band (co-pol and cross-pol)	Ka-band
Frequency Band RX 1 / LO	7.25 - 7.75 GHz / 6.3GHz	10.95 -11.75 GHz / 10.0 GHz	20.2 - 21.2 GHz
Frequency Band RX 2 / LO	N/A	11.75 -12.75 GHz / 10.8 GHz	19.2 - 20.2 GHz
Rx 1 IF-frequency	950 -1450 MHz	950 -1750 MHz	1 - 2 GHz
Rx 2 IF-frequency	N/A	950 -1950 MHz	1 - 2 GHz
Frequency Band TX 1 / LO	7.9 to 8.4 GHz 6.95 GHz	13.75 - 14.5 GHz / 12.8 GHz	30 - 31 GHz
Frequency Band TX 2 / LO	N/A	N/A	29 - 30 GHz
Tx IF-frequency	950 - 1450 MHz	950 - 1700 MHz	1 - 2 GHz
Polarization	RCP/LCP reversible	Linear V/H adjustment	RCP/LCP
Certifications	WGS 12-221	FCC, Intelsat, Eutelsat	Pending

Modem

Parameter	Value	Parameter	Value
System	E850MP or HX280	External Input	L-band
Data Connections	2 RJ45 Ethernet ports	Console	RJ45 Ethernet port
RF/IF Interface	L-band monitor port	Mobile Remote	

Packaging

STANDARD

Tampa Microwave LLC ManPack comes with the two cases shown to the right: a soft backpack or rucksack, FAA overhead compliant, in black or desert tan. Also includes an airline checkable and shippable hard case for the backpack or rucksack in black or desert tan.

ManPack modules can be either gray or desert tan.

Backpack for 45/65 cm

Rucksack for 95 cm

Hard case

OPTIONAL

Soft Case for 45/65 cm

Hard Case for 45/65 cm

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