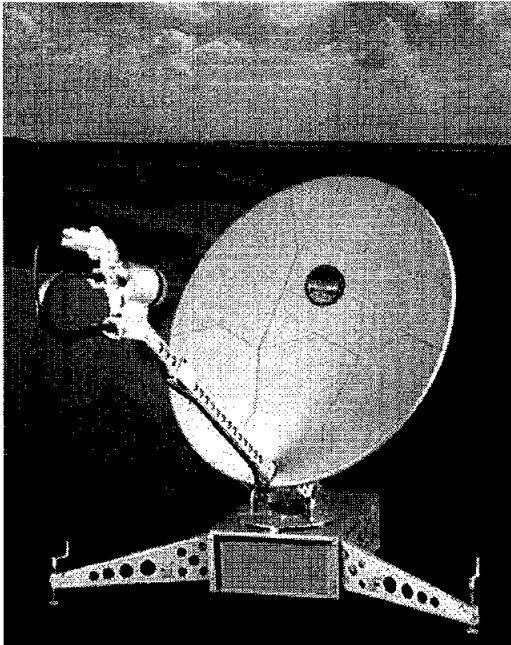




Warrior™ Model 100 WIP-T Satcom Terminal



Key Features

- Ultra portable in two ergonomically-designed backpacks that meet airline check-in requirements
- 4, 8, 15W BUC/SSPA
- Up to 4.0Mbps transmit and receive operation*
- Auto-acquisition controller with intuitive Graphical User Interface
- SIPRNET and NIPRNET access
- Supports standard IP applications (Internet, VoIP, email, streaming video, etc.)
- iDirect INFINITI or Paradise modem
- Designed for harsh and hostile environments
- Built-in spectrum analyzer and beacon/carrier detector

*Satellite, Modem & BUC/SSPA dependent

Applications

- Command and Control Reachback and Range Extension at unit level or higher
- Disaster Recovery
- Special Forces
- First Responders
- Search and Rescue
- Mobile Border Checkpoints

Description

General Dynamics' Model 100 *Warrior I.P.-Terminal* (WIP-T), 1.0M flyaway SATCOM terminal is equipped to handle any Internet Protocol (IP) application and provide secure or non-secure communications over C, X or Ku-bands. A member of the Warrior™ family of tactical SATCOM terminals, the Model 100, 1.0M flyaway terminal can deliver Broadband, IP-based, two-way connectivity in the most rugged tactical environment.

Complete in its backpack cases, the Warrior Model 100, 1.0M terminal is easily transportable and ready for immediate use. With the aid of the VertexRSI Auto-acquire feature, the terminal can be assembled and made operational (satellite acquired) by unit-level troops in less than 30 minutes. Modular in design, the General Dynamics Model 100 terminal can accommodate any number of Block Up Converters, Amplifiers, and Modem configurations. Control is accomplished with the aid of the VertexRSI Monitor and Control (M&C) system.

Designed to support Network Centric Operations, the Model 100, 1.0M Terminal can access any IP-Network for which it is authorized. Fast and reliable, the WIP-T Model 100 can transmit at IP data rates of 4.0Mbps and receive data at 18.0Mbps. From real time video to large data files, the Model 100, 1.0M is an ideal flyaway SATCOM terminal for the most demanding Command and Control requirements.

GENERAL DYNAMICS
C4 Systems



The iDirect Series 7000 Satellite Router

The iDirect Series 7000 Satellite Router is the highest performance remote networking solution available today. Developed to meet the most demanding user requirements, the series 7000 is a 19 inch 1U Rack Mounted router ideal for military, network carriers, or high end enterprise customers.



The series 7000 was built from the ground up to provide the greatest flexibility, security, and network capacity available today. Providing the highest TCP/IP throughput in the industry - 18 Mbps downstream, and 4.2 Mbps upstream - with iDirect's Quality of Service (QoS), the Series 7000 delivers all the benefits of broadband IP networking beyond the constraints of the wired world.

Built in flexibility

- ✦ PCI expansion slot
- ✦ Mesh ready
- ✦ SCPC
- ✦ Wi-Fi (optional)
- ✦ 8 Port switch
- ✦ 48VDC Output on Tx port to support up to 8W Ku or 10W C-Band BUC

Secure communications

- ✦ Embedded 3DES/AES encryption (optional)

Bandwidth optimization

- ✦ Reservation MF-TDMA return channel that is 4 times more bandwidth efficient than Slotted Aloha
- ✦ Turbo Codes on the forward and return channel for a 1.5 dB power advantage over RSV codes
- ✦ 1.2 Spacing – delivers 14% savings in bandwidth
- ✦ Proprietary IP encapsulation that is 15% more efficient than MPE (multi-protocol encapsulation)
- ✦ TCP and HTTP Acceleration
- ✦ Networks configured in 1kbps increments to get exactly the bandwidth required

The iDirect line of remote satellite routers (series 3000, 5000 and 7000) is part of a family of solutions designed to meet the communications challenges of customers anywhere in the world. By providing different levels of functionality within the product lines, while insuring their interoperability, iDirect is uniquely capable of delivering the ideal networking solution for each customer network, or individual site based on their specific situation or challenges. iDirect's combination of flexibility and scalability allow us to deliver all the functionality of traditional broadband networks, beyond the constraints of the wired world.



Series 7000 Remote Satellite Router

Network Configuration

Network Topology	Star (TDM/TDMA with MF-TDMA), Star/Mesh, SPCP
Symbol Rates	Downstream: 64 ksps up to 11.5 Msps Upstream: 64 ksps up to 2.875 Msps (5.75* Msps)
Modulation	Downstream: QPSK (BPSK*, 8PSK*) Upstream: QPSK (BPSK*)
IP Data Rates	Downstream: 128 kbps – 18 Mbps Upstream: 64 kbps – 4.2 Mbps (8.4* Mbps)
FEC	Downstream: TPC Rate 0.879, 0.793, 0.533, 0.431* Upstream: TPC Rate 0.793, 0.66, 0.533, 0.431* (Other FEC Rates will be available in the future)
E_b/N_o	3.9 E_b/N_o for 10^{-9} Quasi Error Free @ 0.533 FEC 4.6 E_b/N_o for 10^{-9} Quasi Error Free @ 0.793 FEC 4.8 E_b/N_o for 10^{-9} Quasi Error Free @ 0.879 FEC 5.4 E_b/N_o for 10^{-9} Quasi Error Free @ 0.66 FEC

Interfaces

SatCom Interfaces	TxIF: Type-F, 950 - 1700 MHz, Composite Power +7dBm / -35dBm RxIF: Type-F, 950 - 1700 MHz, Composite Power -5dBm / -65dBm TVRO: Type-F, 950 - 1700 MHz
Available BUC Power (IFL)	+24V or +48V (Supports 8W Ku or 10W C BUC)
Available LNB Power (IFL)	+19.5V (Nominal)
10 Mhz Reference	Available
Data Interfaces	LAN: Single 10/100 and 8-Port 10/100 Switch, 802.1q VLAN RS-232: RJ45 (for GPS or Console connection or Antenna Pointing)
Protocols Supported	TCP, UDP, ICMP, IGMP, RIP Ver2, Static Routes, NAT, DHCP, DHCP Helper, Local DNS Caching, cRTP
Security	AES or 3DES* Link Encryption (Optional)
Traffic Engineering	QoS (CBWFQ), Minimum CIR, CIR (Static and Dynamic), Rate Limiting, Bandwidth on Demand
Other Features	Built-in Automatic Uplink Power, Frequency and Timing Control Adaptive Inbound Channel*

Mechanical/Environmental

Size	W 17.5 in x D 15.5 in x H 1.72 in (W 44.45 cm x D 39.37 cm x H 4.37 cm)
Weight	11 lbs (Including Power Supply) [3.63 Kg]
Operating Temperature	0° to 60°C (+32° to +140°F) at Sea Level
Input Voltage	100-240 VAC Universal Input, 50-60 Hz, 4A Max @ 100VAC

- Planned for future release. Specifications subject to change without notice



Warrior™ Model 100 WIP-T Satcom Terminal

General Specifications

System Performance	Receive	Transmit
Frequency (GHz)	10.95-12.75	14.00-14.5
EIRP: w/ 4W BUC w/ 8W BUC w/ 15W BUC	46.2 dBW @ 1 dBc 49.2 dBW @ 1 dBc 52.0 dBW @ 1 dBc	
G/T (NT sky 50K)	19.4 dB/K	
TX Radiation Pattern Compliance	FCC §25.209, ITU-R S.528.5	
Shock/Vibration	Designed to meet MIL-STD-810F	
Operating Temperature	-30°C to +50°C	
Wind: Operational Survival	60 km/h 100 km/h	
Backpack Cases Cases 1 and 2	Weight ~45 lbs. each	Dimensions 495 x 685 x 335 mm each
Antenna Controller	Fully-automatic satellite acquisition, peaking and cross-pol adjustment using GPS, compass, and level sensors inputs	
Operator Interface	10/100Base-T Ethernet	
Operating System	Windows XP Embedded	
Power	24 VDC (optional AC)	
Consumption	290W to 480W (varies with power source and SSPA size)	

RF Terminal	
Reflector	1.0 meter carbon fiber segmented (6)
Az/EI/ Pol Drive System	Motorized elevation over azimuth mounted on baseband unit
Polarization Configuration	Linear Cross-pol, motorized resolution <0.25°
Azimuth Travel Elevation Travel	±90° motorized, resolution <0.1° 10° to 90°, motorized, resolution <0.1°

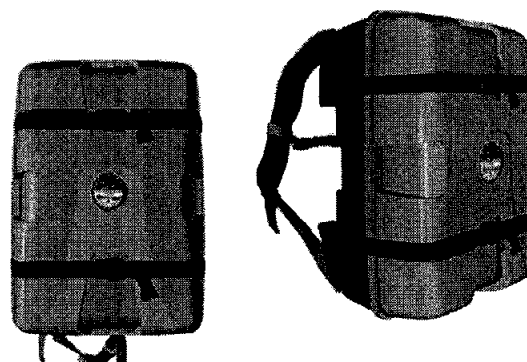
Modem	
Data Interface	10/100BaseT Ethernet x 2
Digital Data Rate	Up to 4 Mbps – modem dependent
Modulation	BPSK or QPSK
Forward Error Correction	Viterbi, Sequential, Reed-Solomon and Turbo
L-Band Frequency Range Modes	950 to 1700 MHz TDMA (star or mesh) or SCPC

Optional Features	
- Laptop or wired touchscreen display for user interface - Extended Ku-band (13.75-14.50 transmit) - X-band or Ka-band conversion kits	



GENERAL DYNAMICS
C4 Systems

Backpack Cases



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