The TITAN III Wireless Cellular Gateway (TITAN) is a portable wireless data communication modem for the LIFEPAK® 12 or LIFEPAK® 15 monitor/defibrillators. It provides secure patient data transmission to the LIFENET® system using a Cellular or WiFi 802.11 a/b/g/n/ac connection to the Internet. Optionally it can provide recording of scene audio and simultaneous transmission of audio and patient data securely to the LIFENET system. The scene audio recording starts automatically within 5 seconds of the TITAN being turned ON. The TITAN fits conveniently and securely in its dedicated side pouch of the LIFEPAK® carrying case. Its operation is transparent to the user. It also, provides audible tones, to signal the success or failure of data reception by the LIFENET system.

The TITAN WiFi Client can be pre-configured to connect to the LIFENET system via a number of authorized WiFi access points or a cellular connection. The resulting connection is determined by many factors such as the configured connection priority scheme, authorized access points in range and available cellular coverage.

Each patient data transmission request from the attached LIFEPAK triggers establishment of an optimum data connection at the time, following the configured connection priority scheme. An audible indication is provided whenever audio data is being transferred to the LIFENET system. The TITAN can store up to 1080 minutes (12 incidents of 90 minutes each) of audio data for recorded incidents. Further recordings are made possible by overwriting the oldest incident in memory.

In EMS applications, the TITAN can connect wirelessly to a WiFi hotspot enabled Cellular Gateway installed in the ambulance to send data securely to the LIFENET system. This allows for enhanced connectivity to transfer data to the LIFENET system from inside the ambulance. When the TITAN is located away from the ambulance or any of its pre-configured access points, it can communicate with the LIFENET system by taking advantage of its cellular radio.

The TITAN uses advanced cellular technology which enables it to be configured in the field for operation on LTE cellular networks with fallback to UMTS/GSM where applicable. This simplifies logistics and inventory requirements as a single model of the TITAN is compatible with different cellular networks deployed. The TITAN offers unparalleled flexibility, feature set and connectivity to the attached LIFEPAK user.

The TITAN’s small size and light weight makes it an ideal companion for the LIFEPAK in EMS/pre-hospital applications. TITAN’s design and use of low power technology makes it perfectly suited for battery operated mobile host devices like the LIFEPAK monitor/defibrillator.
Compatibility
LIFEPAK® 12, LIFEPAK® 15, LIFENET® System

External Interfaces
Serial RS232, USB Device

3G Cellular
Technology: HSPA+, GSM, CDMA
3G: HSPA+ or 1xEVDO
2G (Fallback): GPRS/EDGE, 1xRTT
Frequency Bands: 800/850/900/1800/1900/2100 MHz
Maximum Data Rate:
  3G: EV-DO DL/UL – 3.1/1.8 Mbps
  3G: HSPA: DL/UL – 14.4/5.7 Mbps
  2G: EDGE: DL/UL – 237/237 kbps
  2G: GPRS: DL/UL – 85.6/85.6 kbps
  2G: 1xRTT DL/UL – 307.2/307.2 kbps
Antenna: <= 3dBi, Monopole, Omni directional

Wireless LAN – 802.11
Dual Band Compatibility
  2.4 GHz: 802.11 b/g/n;
  5 GHz: 802.11 a/n/ac
Support for Regulatory Domains
Security: WEP, WPA-PSK, WPA2-PSK,
WPA-ENT or WPA2-ENT (Client mode)
Encryption: TKIP, AES (64/128 bit)
Antenna: <= 3dBi, Monopole, Omni directional

Audio Recording
Mic. Type: Omnidirectional
Mic. Sensitivity: -35 ± -4dB
Mic. S/N ratio: 62dB
Mic. Location: Inside the Enclosure
Freq. Response: 20 – 16,000 Hz
Audio Encoding: 8 bit µLAW PCM
Sample rates: 8, 11.025, 16 ksps
Recording Length: 1080 minutes @ 11.025 ksps
With a 4G LTE cellular connection a 90 minutes audio file
will upload to LIFENET system in less than 30 seconds.
With 3G connection it would take 3 minutes to upload.

LED Indicators
Serial Interface (TD, RD, TR, CD), WiFi (WF)
Power (PWR), System Status (RUN), Cellular (CELL)

Power Source
DC 12V, +/- 10%

Environmental
Operating: 32°F ~ 122°F (0°C~ +50°C)
Storage: -4°F ~ 158°F (-20°C ~ +70°C)
Relative Humidity: Up to 95% non-condensing

Sound Buzzer
Audible tones for operator feedback indicating success,
failure of data transmission to the LIFENET® system

Regulatory Compliance
Countries
Canada, United States, European Union
Other – (Countries who accept FCC, CE)
System
FCC Part 15 Subpart B Class B
IC ICES-003 Class B
EN50011/CISPR 11
EN 301 489-1, -7, -17, -24
EN 60950-1

Wireless LAN
FCC Part 15 Subpart C, E
IC RSS-210, -GEN
EN 300 328, EN 301 893, EN 301 489-1, -17
EN 60950-1, EN 62311

Cellular
FCC Part 15, 22H, 24E
IC RSS-102, -132, -133, -GEN
EN 301 489 -1, -3
EN 301 511, EN 301 908-1, -2, EN 300 440
EN 60950-1, EN 62311

Cellular Industry
PTCRB, GCF

Cellular Operator
AT&T, Verizon, Rogers, Bell

CE Directives
RED – 2014/53/EU
RoHS2 – 2011/65/EU, WEEE – 2012/19/EU

Enclosure
Fits snugly into a standard LIFEPAK® carrying case
Material: ABS Plastic, Black
Size: 5.35” (W) x 7.20” (L) x 1.42” (H)
136mm (W) x 183mm (L) x 36mm (H)
Contents: TITAN III, Antennas, cabling
Connections: Right-angle LIFEPAK® mating
System Connector cable
USB Type B device receptacle

Configuration Software
- On-board web based configuration accessed via Internet Explorer
  (IE 7 or higher) under Windows® platform.
- Configuration data can be exported / imported to allow the user
  to backup / restore the configuration data.
- Exported configuration data can be used for rapid configuration
  of multiple TITAN III Wireless Cellular Gateways.