Cell-PAK™

Portable 3G HotSpot

Rugged Self-Powered
Mobile Case
for the LAN-Cell 2

User's Guide

proxicast®

I. Introducing the Cell-PAK™

The Cell-PAK is a rugged, self-powered case for that transforms Proxicast's LAN-Cell 2 into a portable 3G Wi-Fi HotSpot.

Cell-PAK Model CP1-LC2
**(shown with LAN-Cell 2 installed)**

The Cell-PAK was designed specifically for the LAN-Cell 2 and includes:

- A water and shock-resistant polypropylene case
- A 12V / 7AH sealed lead acid battery
- An integrated battery charge circuit
- A unique battery charge level LED bar graph display
- Connectors for both Wi-Fi and 3G external antennas

The Cell-PAK allows users to immediately deploy the LAN-Cell 2's unmatched communications and security features including multiple WAN fail-over (Ethernet, cellular, satellite, telephone), integrated VPN client & server, and SPI firewall capabilities for a wide variety of mobile applications.

As a "grab & go" self-contained solution, the Cell-PAK provides instant Wi-Fi hotspot and cellular Internet access for emergency response teams, temporary work locations, rapid deployment applications and other situations where Internet connectivity and power availability are not assured.

II. Panel Components & Connectors
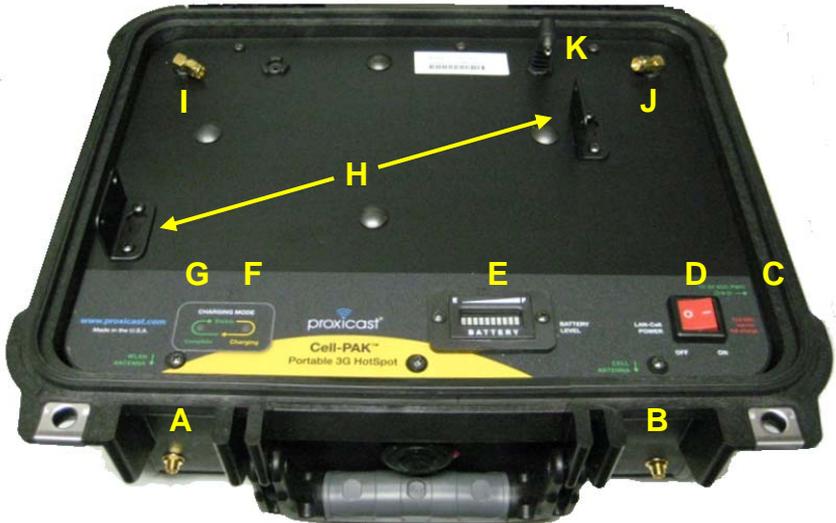
		DESCRIPTION	FUNCTION
A		Wi-Fi Antenna Jack	Connect external Wi-Fi antennas to this RP-SMA jack
B		Cellular Antenna Jack	Connect external cellular antennas to this SMA jack
C		12-24 VDC Power Jack	External power supply connection for operation & battery charging
D		Power Switch	On/Off switch for the LAN-Cell & battery meter
E		Battery Level Meter	10 segment LED bar graph depicting the amount of power remaining in the battery
F		Charging LED	Yellow LED illuminated when the battery is being charged by an external power source
G		Charged LED	Green LED illuminated when the battery has reach a fully charged state
H		LAN-Cell 2 Mounting Brackets	Mount the LAN-Cell 2 to the Cell-PAK using these brackets
I		Wi-Fi Antenna Lead	Attach this connector to the LAN-Cell's Wi-Fi antenna jack
J		Cellular Antenna Lead	Attach this connector to the LAN-Cell's Card-Guard antenna jack
K		LAN-Cell Power Connector	Attach this connector to the LAN-Cell's 12 VDC power jack

III. Installing the LAN-Cell 2

Step 1: If attached, remove the Card-Guard and 3G modem pigtail from your LAN-Cell 2.

Step 2: Insert a 3G modem into the LAN-Cell. We strongly recommend using the LAN-Cell's Card-Lock feature to secure the 3G modem card when used in the Cell-PAK. See the *LAN-Cell 2 User's Guide* for instructions on how to use the Card-Lock system.

Step 3: Using the 4 screws provided, attach the LAN-Cell 2 to the Cell-PAK mounting plate using the pre-installed brackets (H).

Step 4: Position the Card-Guard over the 3G modem and attach the Card-Guard pigtail to the 3G modem.
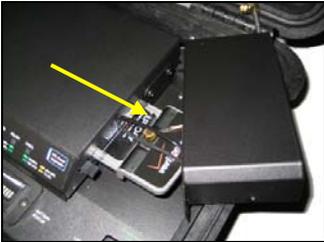
Step 5: Use the provided thumbscrews to secure the Card-Guard to the LAN-Cell (one thumbscrew in the front and one in the rear).

Step 6: Attach the Wi-Fi (I) and Cellular (J) antenna leads to the LAN-Cell.

Step 7: Attach the Cell-PAK power lead (K) to the LAN-Cell.

Step 8: Attach the external Wi-Fi and cellular antennas to the jacks near the Cell-PAK's handle. Take care to observe the connector polarity.

IV. Operating the Cell-PAK

Power Supply
The Cell-PAK can be operated from any 12 to 24 VDC source capable of providing at least 1A or it can operate from its internal battery. To operate the unit, connect the Cell-PAK to a 12-24 VDC source such as the LAN-Cell 2's 120/240 VAC to 15 VDC wall adapter, a vehicle power (cigarette) adapter or a solar panel using a 2.1 mm DC plug (center pin positive). To fully recharge the battery, the external power supply must be at least 13.8 VDC.

The Cell-PAK's integrated battery charging circuitry will maintain the proper charge (rapid recharge or trickle charge) on the battery whenever an external power source is applied, regardless of whether the LAN-Cell is on or off.

Power Switch
The red switch on the Cell-PAK mounting plate controls power to the LAN-Cell's power connector and battery status meter.

Charge Status LED Indicators
The charge indicator LEDs provide information on the status of the battery recharging process. When a charge is being applied to the battery, the yellow Charging LED will illuminate. Once the battery reaches its full capacity, the green Charged LED will illuminate.

It is normal for the Charged LED to periodically go on and off during *trickle charge* operation as the Cell-PAK's circuitry continuously monitors the battery status and activates the charging process as necessary.

Battery Level Meter
The 10 segment LED battery level meter indicates the relative amount of capacity remaining in the Cell-PAK's internal battery whenever the LAN-Cell is being powered from the internal battery. As the battery's capacity drops during operation, the meter will illuminate the LED corresponding to the percentage of capacity remaining. From 40% to 100% a green LED segment is displayed. At 20%-30% a yellow segment is displayed and at 10% flashing red and yellow segments are displayed.

Operating Conditions

• The Cell-PAK can be operated and recharged with the lid open or closed.

• External antennas and amplifiers may be connected to the Cell-PAK's Wi-Fi reverse polarity SMA (RP-SMA) jack and the cellular antenna's standard SMA jack.

The Cell-PAK was designed for routine mobile use; however it is not indestructible:

• Do not submerge the Cell-PAK for extended periods.
• Avoid violent impacts or drops exceeding 36 inches.
• Operating temperature range: -5°F ~ 122°F (-15°C ~ 50°C)

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V. Battery

BATTERY OPERATION & RECHARGING

- Typical system run-times while on battery are 10-14 hours on a full charge. Run-time will vary due to factors such as age and condition of the battery, ambient temperature, 3G modem, carrier, frequencies in use, and application usage patterns.

- Battery recharge times are longer when the LAN-Cell is powered on.

- The battery level is displayed only when the switch is in the ON position.

- Battery discharge rates are not linear. The battery level will drop more quickly when the battery is below 40% capacity.

- The Cell-PAK should be kept on trickle charge when not in use. Allow the battery to reach full charge before storing for extended periods.

- Sealed lead acid batteries have a limited operational lifespan. Do not store the Cell-PAK for more than 12 months without recharging. The internal battery should be replaced approximately every 3 years or when it is no longer able to provide adequate run-time performance.

The Cell-PAK's battery may not be fully charged upon arrival. We recommend charging the Cell-PAK in the OFF position for at least 12 hours prior to using it for the first time or if the unit has not been used in more than 3 months.

REPLACING THE BATTERY

Replace the Cell-PAK battery only with a sealed lead acid (gel) battery rated at 12V / 7AH (UB1270 or equivalent) with F1 (0.187 in.) terminals.

To replace the battery:
- Turn off the LAN-Cell power switch and remove any external power supplies from the Cell-PAK case.
- Remove the 6 screws securing the metal plate to the case frame. Do not remove the screws securing the metal frame rails to the case.
- Carefully lift the plate off of the rails.
- Disconnect the DC power input jack connector from the circuit board by gently squeezing the connector and pulling straight up.
- Invert the plate onto a secure surface and remove the 4 lock-nuts and washers holding the battery cage over the battery.
- Carefully remove the positive (+) then negative (-) wiring harness leads (blue) from the battery.
- Connect the **Black** wire to the **Negative (-)** terminal of the new battery.
- Connect the **Red** wire to the **Positive (+)** terminal of the new battery.

- Replace the battery retaining cage over the battery and bolts.
- Attach the washers and lock-nuts to each bolt. <u>DO NOT OVER TIGHTEN</u>. The lock-nuts should sit firmly against the washers; over tightening may damage the battery and/or mounting plate.
- Position the plate assembly over the case frame and reconnect the DC power input connector to the circuit board.
- Insert and tighten the 6 mounting plate screws.
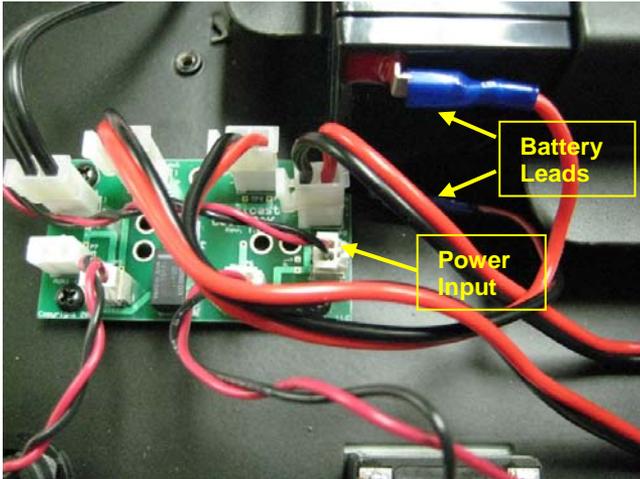
BATTERY SAFETY

The Cell-PAK battery contains toxic liquid - dilute sulfuric acid. If the acid comes into contact with skin or clothes, wash with clean water to prevent scalding or burning from occurring. If the acid should come into contact with the eyes, wash the eyes with lots of clean water and consult a physician immediately to prevent possible loss of sight.

To prevent injury, replace the battery if it is found to have an abnormality such as a crack, bulge or other deformity, or any signs of leakage or corrosion.

To avoid shock or other injury, use caution when handling the battery. Do not short circuit the terminals or connect the battery to any other circuitry.

BATTERY RECYCLING

Used sealed lead acid batteries should be recycled in a responsible manner. See the Rechargeable Battery Recycling Corporation http://www.rbrc.org/ for information on recycling facilities in your area.

VI. Technical Support

See our online Knowledge Base at http://support.proxicast.com for troubleshooting tips, documentation, TechNotes and other information.

Contact Proxicast Technical Support:

E-Mail: support@proxicast.com

Web: support.proxicast.com

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