

**Users Manual  
For the  
SKYBITZ-2004-MTX  
L Band  
Mobile Terminal**

27 May 2004

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**Document No: SKYBITZ-MAN-MTX-A**



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## 1.0 Introduction

The SkyBitz Mobile Terminal (MT) can transmit and receive messages through the SkyBitz network. Its integrated design includes a software-based radio, antennas, and lithium battery pack in one single rugged, environmentally tested package. The SkyBitz Mobile Terminal is the only satellite-based device on the market that enables information and tracking services without using an embedded GPS chipset. That means you get all the benefits of GPS navigation without the high battery consumption and imposing up-front hardware costs.

SkyBitz designed the MT based on its proprietary and patented Global Locating System (GLS). GLS offers uncompromising precision without an embedded GPS receiver (average accuracy is 12 meters). Due to the simple radio design, the low maintenance MT extends battery life for years beyond GPS-based tracking products. The flexible MT design also accommodates a suite of sensors and transmits and receives coded and alphanumeric messages.

Powered by an internal "AA" lithium battery pack, the self-contained Mobile Terminal is attached to the outside of the trailer using the Mounting Bracket, which eliminates the need to cut a hole in the trailer roof. For total asset visibility and control, the Mobile Terminal can be controlled and monitored through the SkyBitz Customer InSight web application giving you the tools necessary to drive operational efficiency.

## 2.0 Item Description

The MT consists of the following:

- Circuit card assembly or CCA with integral antennas
- Circular I/O connector
- Cast, hard-anodized aluminum housing
- Injection molded plastic radome (with o-ring type seal)
- Replaceable battery pack
- Cast battery access door
- Various fasteners
- I/O connector dust cover

Figure 1 shows the assembled unit.



Figure 1 SkyBitz L Band Mobile Terminal

### **3.0 Additional Manuals**

The following manuals are necessary for proper installation and usage of the SkyBitz Mobile Terminal. Please read them carefully.

#### ***3.1 Installation Manual***

Please consult the installation manual for proper installation of the mobile terminal. Improper installation voids any warranty stated or implied.

*Installation Procedure for the SkyBitz GLS Mobile Terminal on an Aluminum Roof Trailer, Version 2.8*

#### ***3.2 Battery Replacement Manual***

Proper replacement of the battery will insure that the mobile terminal will continue to function properly. Please reference the following manual.

*Mobile Terminal Battery Replacement Procedure*

#### ***3.3 InSight User Manual***

The InSight User Manual introduces the user to the features of the SkyBitz InSight web site. This web site allows customers to access information on their assets that have SkyBitz mobile terminals.

*InSight User Manual Version 3.0.1*

## 4.0 Specifications

### Specifications for the Mobile Terminal

<b>Frequency of Operation:</b>	L Band transmit and receive
<b>Transmit EIRP:</b>	< 2 Watts
<b>Dimensions:</b>	9 5/8" x 7" x 1" 244.48 mm x 177.8 mm x 25.4mm
<b>Power:</b>	Batteries: Internal: 8 "AA" lithium primary batteries External: Regulated 6 volt vehicle power Automatic sensing and switching of external power
<b>Weight (w/batteries):</b>	3 lb
<b>Operating Temperature:</b>	-40 Deg C to 70 Deg C
<b>Storage Temperature:</b>	-55 Deg C to 85 Deg C
<b>Vibration:</b>	2 G rms, MIL-STD-810D, Method 514.4
<b>Shock:</b>	30 G, MIL-STD-810D, Method 516.3, Procedure I
<b>Salt Fog:</b>	General Motors Engineering Standards Corrosion Test GM-9505P for a duration of five weeks
<b>Humidity:</b>	100% Condensing
<b>Water Immersion:</b>	1 Meter, 30 Minutes
<b>Interface:</b>	15 Pin Connector 2 open/closed switch connections 2 open/closed control lines RS-485 Interface
<b>Mounting:</b>	Stainless Steel Mounting Bracket Bonded to Trailer Roof With 3M VHB Tape

**Table 1 Specifications**



## **5.0 Electro-Magnetic Radiation Exposure Statement**

The Skybitz, Inc. mobile terminal is an unattended, automatic, intentional radiator. In normal operation and mounting the general population or user is not exposed to any significant electro-magnetic radiation levels. Referring to 47 CFR 2.1091(c), the SkyBitz mobile terminal is considered a mobile device. The transmitter antenna is fixed to the device and is normally located 20 cm or greater from any person. The maximum ERP (Effective Radiated Power relative to 1 Watt into a half-wave dipole) of the SkyBitz mobile terminal is less than 3 Watts peak, and is therefore categorically excluded from routine environmental evaluation for RF exposure in accordance with the terms of 47 CFR 2.1091(c).