CONFIDENTIAL & PROPRIETARY

C004-Multi v.0r1
Base Station Radio

USER MANUAL

- Reinforced
- Completely water tight
- Long service life
- Highly robust communication protocol
- Easy to install

The C004 base station radio is an autonomous transceiver that is used primarily for the identification, control and management of assets using RF (radio frequencies). The base station may be used in conjunction with active transponders which may be affixed to assets with which it can communicate in order to collect data.

System description.

The base station system has been developped with the goal of providing the following services.

- Data transfer, logging and Telemetrie
- Temperature monitoring
- Humidity monitoring
- Automated inventory management
- Automated fleet management
- Stolen vehicle tracking
- Alarm signal communication (CID)

The use of the base station enables automated and remote data collection. It also offers the ability to control and monitor the property on which our porprietary transceivers are affixed. This monitoring and control is done according to schedules and specific conditions that have been previously established.

The base station operates using a communication protocol that is both highly secure and robust. It contains a proprietary information recovery and paterning encoding.

The base station was developed in order to minimize the use of space while also minimizing its visibility. This equipment was also developed so that it can operate with great efficiency, thus providing greater autonomy in emergency situations (backup battery operation). One of the main criteria for the development was reduced operating cost. This is achieved by virtue of the fact that energy consumption is kept to a minimum by maximizing overall system efficiency.

Please note: This device is not to be sold, marketed or distributed to the general public. The APPLICATION and USE of this device is for commerical and industrial purposes ONLY.This product is STRICTLY for professional use and must be installed and operated by TRAINED and or LICENSED personnel ONLY.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:
(1)l'appareil ne doit pas produire de brouillage, et
(2)l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Avertissement RF conformité de l'exposition. L'antenne (s) utilisée pour cet émetteur doit être installée pour fournir une distance de séparation d'au moins 1 mètre de toutes personnes et ne doit pas être situé à proximité ou fonctionner en conjonction avec une autre antenne ou émetteur.

Tout changement ou modification non expressément approuvé par la partie responsable de la conformité risque d'invalider l'autorisation accordée à l'utilisateur d'utiliser cet appareil. Les utilisateurs et les installateurs doivent recevoir des instructions d'installation de l'antenne et des conditions de fonctionnement du transmetteur satisfaisant le respect de l'exposition aux RF.

INSTALLATION GUIDELINES:

1) Installation must be performed only by trained and authorized technicians and installers.
2) Antenna gain information for calculation purposes is 8.0dBi. Please see model information in specification section of this document.
3) This equipment is certified for use with a minimum length of coaxial cable in order to satisfy maximum output guidelines as per the folowing guideline. The coaxial cable and antenna installation must provide a maximum gain of 6dBi therefore cable length must provide a minimum loss of 2.1dBi as per the following information:

    a. FXL780 @ 1.14db loss /100ft (minimum installation length = 185ft) Main feed line use only.
    b. AVA-5-50XF @ 1.14db loss /100ft (minimum installation length = 185ft) Main feed line use only.
    c. FXL540 @ 2.09db loss /100ft (minimum installation length = 105ft) Main feed line and or jumper use.
    d. LDF4-50A @ 2.13db loss /100ft (minimum installation length = 100ft) Main feed line and or jumper use.

Caracteristics	Advantages	Benefits
Rugged reinforced fibre glass enclosure	▪ The base station enclosure is made of moulded high density and reinforced fiberglass material.	▪ The enclosure is extremely solid and resistant thus garanteeing durable protection. The enclosure is also built to whithstand elevated temperatures.
Autonomous and automated operation	▪ Our system is the only electronic system for automated identification and management that can operate autonomously.	▪ Remote and autonomous operation helps to reduce overall operating and maintenance costs.
Active LR (RFID)	▪ This systeme offers the possibility of remotely identifiying data in an automated and secure fashion.	▪ Remote and secure data identification and collection provides and independent and covert data flow.
Secure and robust communication protocol	▪ The RF environment is more and more saturated, hense the need for robust communication means.	▪ Data is transmitted using an encoding system that maintains a very high degree of data integrity. It is therefore possible to recover data even in extreme circumstances.

Technical specifications

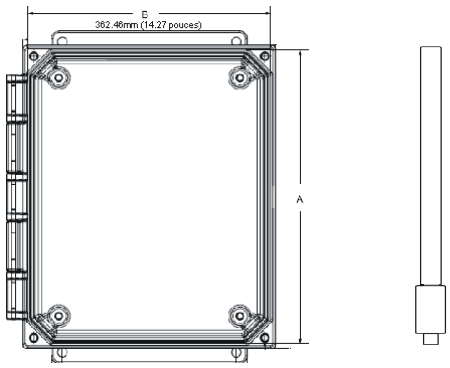
General information

Outside dimensions (Enclosure)

Height :	520.70 mm (20.50 inches)
Width :	413.25 mm (16.27 inches)
Lenght :	257.30 mm (10.13 inches)
Material :	Moulded reinforced fiberglass
Color :	Light-grey / Black
Antenna :	Andrew DB586-Y (40.0")

Back-up battery

Type :	Sealed (no maintenance)
Chemistry :	Lead-acid
Charge time :	As per conditions
Capacity-Voltage :	100Ah ~ 12Vdc



Operational & Environmental

Operating temp. :	-40 +85°C
Environmental protection :	IP6x (non-immersed)

Specifications (TX / RX)

Receiver

Span (freq.) :	902.000MHz ~ 928.000MHz
Modulation :	SSFH / 2FSK

Transmitter

Span (freq.) :	902.000MHz ~ 928.000MHz
Modulation :	FH / 2FSK
Encoding :	Variable encoding
Output power :	MAX (1 watt- conducted)

Electrical

Supply voltage (lead in) :	110~120Vac – 50~60Hz
Internal voltage:	12Vdc
Electrical consumption:	25 Watt / Peak 0.5%:65 Watt

Certifications

Industry Canada	RSS-247 Rev.1
FCC (United-States)	Part 15 (C)