REV.	Δ	DESCRIPTION	E.C.N.	DATE	DRAWN	CHECKED
A			086	22/01/05		
B		According to FCC remarks				
C		FCC remarks 5/02/2005				

Telematics Wireless

NAME:

TDMA SEAL-FP200 INT
User Manual

DESIGNED	G.F.K.	22-Jan-2005	SHEET/OF
CHECKED	M.N.	23-Dec-2004	1
APPROVED	A.S.	23-Dec-2004	
Q.A.	A.S.	23-Dec-2004	10

PROD/PROJ: TSEAL

| 2 | 1 | 4 | 0 | 7 | 2 | 0 | 1 | 7 | 0 | 0 | 0 | SIZE **A** |

Note:

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

1) This device may not cause harmful interference, and

2) This device must accept any interference received, including interference that may cause undesired operation.

WARNING! Changes or modifications to this unit not expressly approved by Telematics Wireless Ltd. could void the user's authority to operate the equipment.

The digital portion of the transceiver has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by the following measure:

-Increase the separation between the equipment and receiver.

The antenna is soldered on the circuit board and is an integral part of the unit.

The equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

Table Of Contents

1. General Information

1.1 Introduction

The T-SEAL int is a TDMA seal, based on AVI transponder with enhanced functions. The T-Seal int is compatible to currently installed TDMA reader in variety of projects, such as WIM and border crossing. Additionally, Telematics-Wireless provides handheld reader for T-Seal int information access and setting.

Note: Everywhere 2.4 GHz is mentioned, the actual real frequency is 2.44 GHz.

1.2 Purpose

The purpose of this document is to provide detail instruction for installing, activating and monitoring an T-Seal int.

The installation procedure is performed with the FP-200HH handheld reader at the working frequency of 2.4 GHz.

Note that the T-Seal int is a slave device that communicates with the requester, handheld reader (2.4 GHz) or way-side reader (915 MHz), according to the requester frequency.

1.3 Preparation

Before installing an T-Seal int in a container, make sure you have the following:

1. 1 x TDMA Seal: T-Seal int with 3M Dual Lock™ strip.
2. 1 x Sensor magnet with 3M Dual Lock™ strip.
3. 2 x 3M Dual Lock™ strips for container doors.
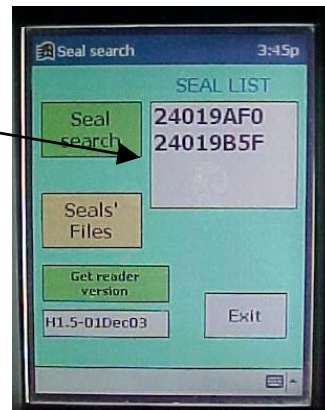4. 1 x Bag with surface cleaner for 3M Dual Lock™ strip.

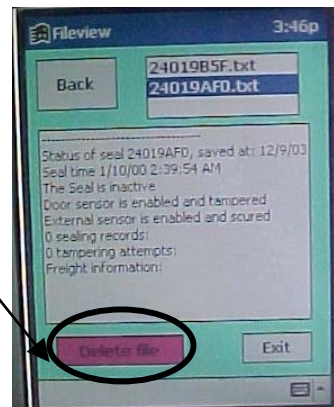# 2. INSTALLATION PROCEDURE

2.1 Prepare the T-Seal int

The 1st phase is to verify that the T-Seal int is ready without any history saved in it.

Step 1: Turn on the HH reader

Step 2: "Search" for the T-Seal int and verify correct T-Seal int ID

Step 3: Go to file and delete old status file for that T-Seal int

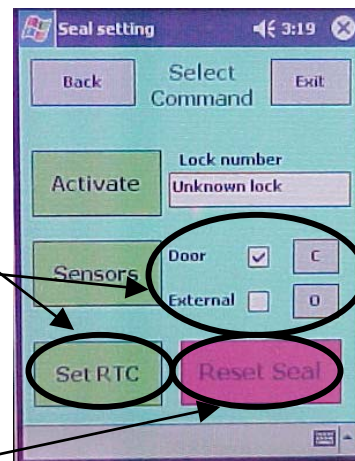Step 4: Select the T-Seal int and go to Setting

Step 5: Set the T-Seal int time (make sure the HH reader time is set to GMT)

Step 6: Set the sensor:

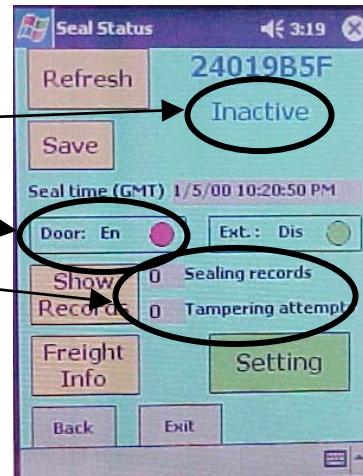- Door enabled (√) and C
- External disabled and O

And click Sensors

Step 7: Reset the T-Seal int

Step 8: Verify T-Seal int is ready:

- Inactive
- Door sensor enabled and tampered (RED)
- No sealing and tampering records

Step 7: If applicable, Set the Freight Information

The T-Seal int in now ready for installation

2.2 Attached the T-Seal int and Magnet on Container Doors

The 2nd phase is installing the T-Seal int and the sensor's magnet in the container.

Step 1: Attach the T-Seal int's on the container right door (looking from inside) 5 inches from the door top and as close as possible to the door edge.

Step 2: Attach the magnet on the other door 7 inches from the door top and as close as possible to the door edge.

Note: All surfaces must be clean and dry prior to 3M Dual Lock™ tape application.
The T-Seal int antenna ("finger") shall be aligned with the rubber seal of the container door.
The magnet shall be below the T-Seal int antenna.

Step 3: Close the doors and "Search" for the T-Seal int using the HH reader, select it and verify that the door sensor is enabled and secure (GREEN)
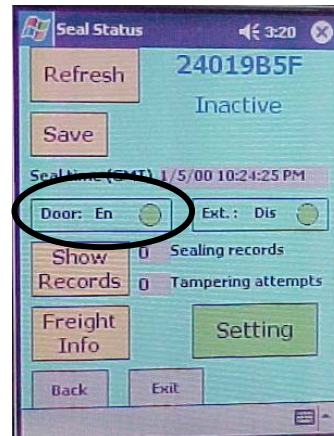
If the door sensor is still tampered (RED) then open the container doors and verify the T-Seal int and magnet are in the right position.
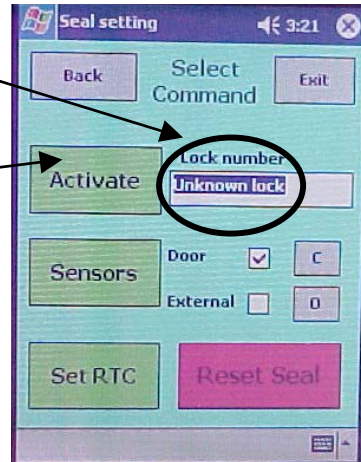
2.3 Activate T-Seal int

The 3rd phase is activating the T-Seal int.

Step 1: "Search" for the T-Seal int using the HH reader, select it and verify that the door sensor is enabled and secure.

Step 2: Go to Setting and enter the lock number

Step 3: Click Activate. The HH reader will
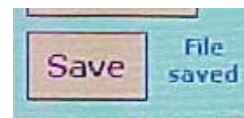return to the status screen

Step 4: Verify that the T-Seal int is:

- Active

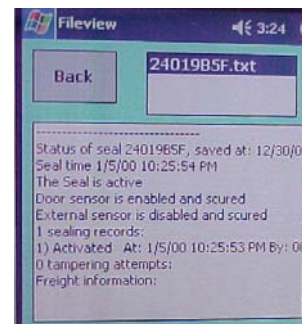- Door sensor secured

- Number of sealing records = 1

Step 5: If T-Seal int status didn't changed then repeat step 3 and 4

Step 6: Click Save to save the T-Seal int status
into file

Step 7: Go to File View screen and verify
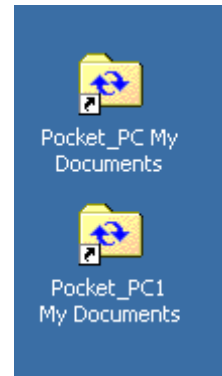T-Seal int status is updated

The T-Seal int is now active

2.4　E-Mail the T-Seal int Status

The 4th phase is getting the T-Seal int status file from the HH Reader

Step 1: Delete/Move old T-Seal int status files
from your PC

Step 2: Connect the HH reader to PC

Step 3: Activate the Microsoft ActiveSync

Step 4: The T-Seal int status will be updated in
the ActiveSync directory on your PC

3. MONITOR T-SEAL INT STATUS
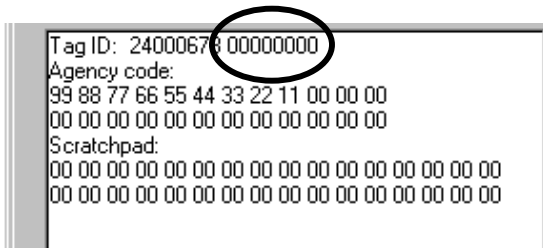
3.1 Monitor T-Seal int Status Using Handheld Reader
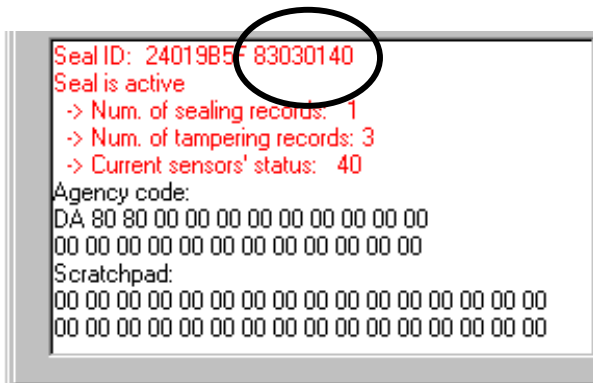
See HH reader user manual.pdf

3.2 Monitor T-Seal int Status Using TDMA Reader

A standard TDMA reader can get the T-Seal int status by performing read internal memory command.

In standard AVI transponder the 4 bytes followed the transponder ID are 0.

In the T-Seal int this field is used to report the T-Seal int status

Where:

Byte 0: D7 - T-Seal int flag, D1 – Tampered, D0 – Activated

Byte 1: Number of tampering records

Byte 2: Number of sealing records

Byte 3: Sensors' current status (bit-wise, 1 = tampered)