



PERSENTECH

OttoLog™ Wildlife Location Application

USER GUIDE

Miistakis Institute Version



Note: The information in this publication is proprietary and confidential. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission from PerSen Technologies Inc., Winnipeg, Manitoba, Canada.

Contact Information about this document

Frank Franczyk, President

Suite 900A - 167 Lombard Ave.

Winnipeg, Manitoba

Canada R3B 0V3

Telephone +1.204.480.8809

Fax +1.204.480.8369

e-mail frank@PERSENTECH.com

Date of this release: March 18, 2008

Table of Contents

Executive Summary viii

1. INTRODUCTION 1

 1.1. Model PM2626 – With external keypad (Miistakis Keypad Layout) Overview 1

 1.2. Device Specifications and Operational Overview 3

 1.3. Miistakis Otto Kit 5

1 Installation..... 6

2. Log File Formats..... 12

List of Tables

Table 1: Miistakis Export Data Format (Excel Format) 2

Table 2: Miistakis Export Data Format (Raw Data Format)..... 2

List of Figures

Figure 1: Otto Device with PS/2 Cable extension and External 17-Key Keypad..... 3

1. INTRODUCTION

The OttoLog™ Wildlife Location version of the Otto-Driving Companion® provides a user with the ability to mark points of interest at locations where wildlife is spotted. The points of interest are stored on the Otto device and the “OttoLog Wildlife Export Utility” is used to export the data to a file. The “OttoLog Wildlife Export Utility” application runs on Windows™-based Operating Systems that support the USB interface.

1.1. Model PM2626 – With external keypad (Miistakis Keypad Layout) Overview

The modified PM2626 Otto-Driving Companion® device involves a physical modification to the device itself, a firmware modification, and the connection to an external keypad. The external keypad delivered to the Miistakis Institute includes 17 operational keys. The keys are programmed to correspond to a specific animal according to the requirements provided by Miistakis.

When operational, the model PM2626 Otto-Driving Companion with external keypad and configured for the wildlife location application records the following data when a button on the external keypad is depressed:



- Date
- Time (Based on local PC’s Time Zone setting)
- Location Latitude
- Location Longitude
- Mule Deer (1 = sighting, 0 = no sighting)
- White Tail Deer (1 = sighting, 0 = no sighting)
- Deer (1 = sighting, 0 = no sighting)
- Sheep (1 = sighting, 0 = no sighting)
- Elk (1 = sighting, 0 = no sighting)
- Moose (1 = sighting, 0 = no sighting)
- Coyote (1 = sighting, 0 = no sighting)
- Black Bear (1 = sighting, 0 = no sighting)
- Grizzly Bear (1 = sighting, 0 = no sighting)
- Wolf (1 = sighting, 0 = no sighting)
- Other (1 = sighting, 0 = no sighting)
- Badger (1 = sighting, 0 = no sighting)
- Delete (when pressed within 60 sec, removes previous button push from data)- *
- Start Time (1 = Start time indicator, 0 = no Start Time indicator by default)
- End Time (1 = End time indicator, 0 = no End time indicator by default)
- Crossing (1 = Crossing indicator, 0 = Adjacent indicator by default) - **
- Dead (1 = DEAD, 0 = ALIVE)- **

*- The delete function is not considered a “sighting”. It is only used for correction purposes and does not have any data associated with it, hence it will not be included in the output data CSV file.

**- An option is provided to the user to merge the “crossing” and the “dead” observations with the previous animal sighting data.

The data is exported to an ASCII file in a CSV (Comma Separated Values) format with 16 columns as shown by the example below:

Date	Time (wrt Local PC's Time Zone Setting)	Latitude (deg)	Longitude (deg)	Mule Deer	White Tailed Deer	Deer	Crossing	Sheep	Other	Badger	Black Bear	Grizzly Bear	Wolf	Elk	Moose	Coyote	End Time	Dead	Start Time
8/28/2007	16:13:35	49.896683	-97.136559	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:35	49.896683	-97.136559	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:38	49.896683	-97.136559	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:40	49.896683	-97.136559	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:40	49.896683	-97.136559	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:40	49.896683	-97.136559	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:41	49.896683	-97.136559	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:41	49.896683	-97.136559	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8/28/2007	16:13:41	49.896683	-97.136559	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
8/28/2007	16:13:44	49.896683	-97.136559	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8/28/2007	16:13:44	49.896683	-97.136559	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8/28/2007	16:13:44	49.896683	-97.136559	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8/28/2007	16:13:44	49.896683	-97.136559	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
8/28/2007	16:13:48	49.896683	-97.136551	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8/28/2007	16:13:48	49.896683	-97.136551	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8/28/2007	16:13:53	49.896683	-97.136551	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Table 1: Miistakis Export Data Format (Excel Format)

```

2007/08/28 16:13:35 49.896683 -97.136559 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2007/08/28 16:13:35 49.896683 -97.136559 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2007/08/28 16:13:38 49.896683 -97.136559 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2007/08/28 16:13:40 49.896683 -97.136559 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2007/08/28 16:13:40 49.896683 -97.136559 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2007/08/28 16:13:40 49.896683 -97.136559 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2007/08/28 16:13:41 49.896683 -97.136559 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
2007/08/28 16:13:41 49.896683 -97.136559 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
2007/08/28 16:13:41 49.896683 -97.136559 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
2007/08/28 16:13:44 49.896683 -97.136559 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
2007/08/28 16:13:44 49.896683 -97.136559 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
2007/08/28 16:13:44 49.896683 -97.136559 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
2007/08/28 16:13:44 49.896683 -97.136559 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0
2007/08/28 16:13:48 49.896683 -97.136551 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
2007/08/28 16:13:48 49.896683 -97.136551 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0
2007/08/28 16:13:53 49.896683 -97.136551 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
    
```

Table 2: Miistakis Export Data Format (Raw Data Format)

1.2. Device Specifications and Operational Overview

This section provides an overview of the device specifications and overall operation.

- The Miistakis version of the Otto-Driving Companion wildlife data logging device includes a modified Model PM2626 device, with PS/2 connector on the side of the device, for connection to an external keypad. The 17-key keypad includes a 1.5' cable and PS/2 mating connector. A 6' PS/2 extension cable has also been included with the kit.

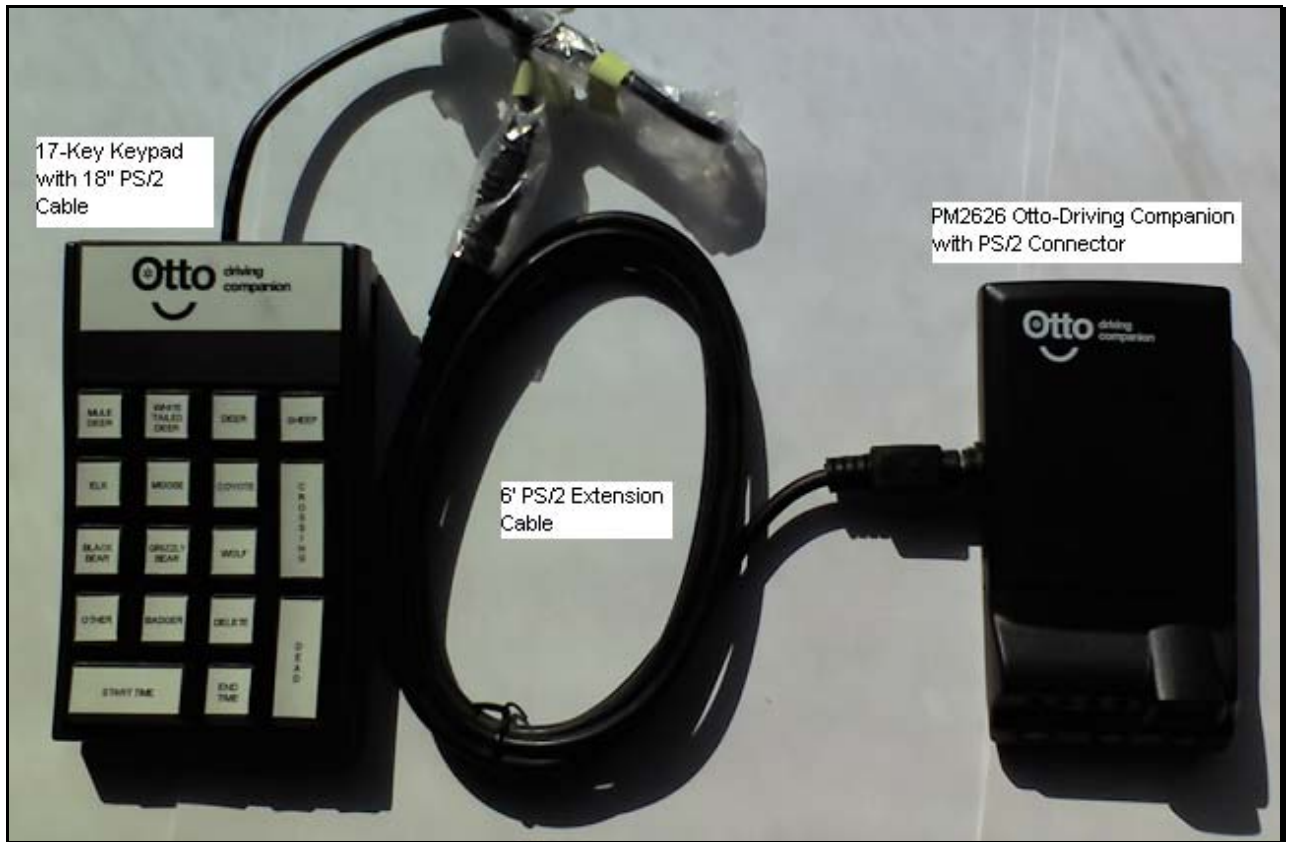


Figure 1: Otto Device with PS/2 Cable extension and External 17-Key Keypad

- The Otto device plugs into a power adapter to the cigarette lighter/accessory socket via the mini-B connector on the side of the unit. The power adapter connects to a vehicle's accessory or cigarette lighter adapter socket.
- Note: this device can only be powered by using the supplied 12VDC to 5VDC accessory power adapter with cable. The device will not function with two “AA” batteries due to the power requirement of the external keypad.



- The keypad has 17 keys, and the key allocation has been fixed as per the list and keypad layout shown in the previous section. These were derived from the Miistakis requirements document (Mitaskis-Requirements-v0.2-Feb-2008.pdf) and follow-up email correspondences with Mr. Ken Sanderson.
- A voice annunciation is associated with each of the animal types and provides the driver with the feedback that the button was pushed for the animal or function selected.
- The keys include a sticker with the animal name or function.
- An “OttoLog™ Wildlife Export Utility- Miistakis Release” application program has been developed for the Miistakis implementation and is not backward compatible with any previous version of the OttoLog™ Wildlife Export Utility previously released to other institutions.
- The file format has been tailored to the Miistakis wildlife requirements and functional requirements incorporating the “Delete” function.
 - The software application runs on a Windows-based operating system supporting USB connectivity.
 - The software application includes a volume selection to set volume to “Mute, Low or High”.
 - The default sound level setting on the unit is “High”.
 - When the “Delete” key is pressed, the previous button push will be erased from the data log. This applies to animal sightings as well as the “Dead” or “Crossing” selections.
 - The software application recognizes the device and allows the user to upload the data stored on the device to a local directory on the PC’s hard drive with a user-selectable filename
 - The software provides for two “merge” data selections: (1) Dead and (2) Crossing. If “merge” is selected, the Dead and/or Crossing sightings data will be merged with the previous animal sighting on the same output row. If “merge” is not selected, the Dead and/or Crossing sightings recorded will be output on a separate row.
 - A CSV (Comma Separated Values) file is saved on the local PC’s hard drive
- The middle button on the Otto-device is a power button to turn the unit ON and OFF.
- The left button (view from the front of the unit) with the “speaker” symbol works like the volume button on a normal device with three settings:
 - Mute
 - Low volume
 - High volume
- The right button, when pushed, will annunciate “Logging Enabled” when the Otto-device is locked onto the GPS satellites. If unlocked, there is no feedback to the user when the right button is pushed.
- The keypad needs to be connected to Otto in order to log any animals.
- When the device is locked to the GPS satellites, the green LED will remain solid.
- With GPS lock, when an operator pushes any of the animal or function buttons, the following will occur:
 - The user will hear an announcement with the type of animal sighting
 - At the same time, the blue LED will momentarily illuminate
 - This process, sound plus light, indicates that a data point was successfully recorded
 - **NOTE:** Not more than 5 buttons can be pushed at one time. The operator should wait for the annunciation of the last animal name before continuing to push buttons.

The unit may lose GPS lock temporarily if more than 5 buttons are pushed at one time.

- With no GPS lock, depressing an animal sighting or function button will result in:
 - The user will hear a two-tone sound
 - At the same time, the yellow LED will momentarily illuminate
 - This process, sound plus light, indicates that no data point was recorded
- When the device's data log is full, the red light will illuminate and the device will announce "Log Full"
 - The data log file should be extracted from the device and the memory cleared in order to continue with the data logging functionality
- The device is formatted with a number of log files with a total capacity of 481800 bytes
 - This is enough memory for 21,900 animal sightings, which works out to six (6) years at 365 days a year and 10 sightings per day.
- The device will turn on automatically when the device is plugged into a power source. A cigarette-lighter power adapter power source and USB cable are included with the device.
 - **NOTE:** Do not use the Otto device's power button (middle button on the device) when downloading and clearing log files
 - **NOTE:** The external keypad will not operate with batteries and must be connected to the external DC power source (cigarette lighter adapter).
- The units are not compatible with the Otto- Driving companion website or with the OttoLog website and will only function with the OttoLog™ Wildlife Export Utility-Miistakis Release.

1.3. Miistakis Otto Kit

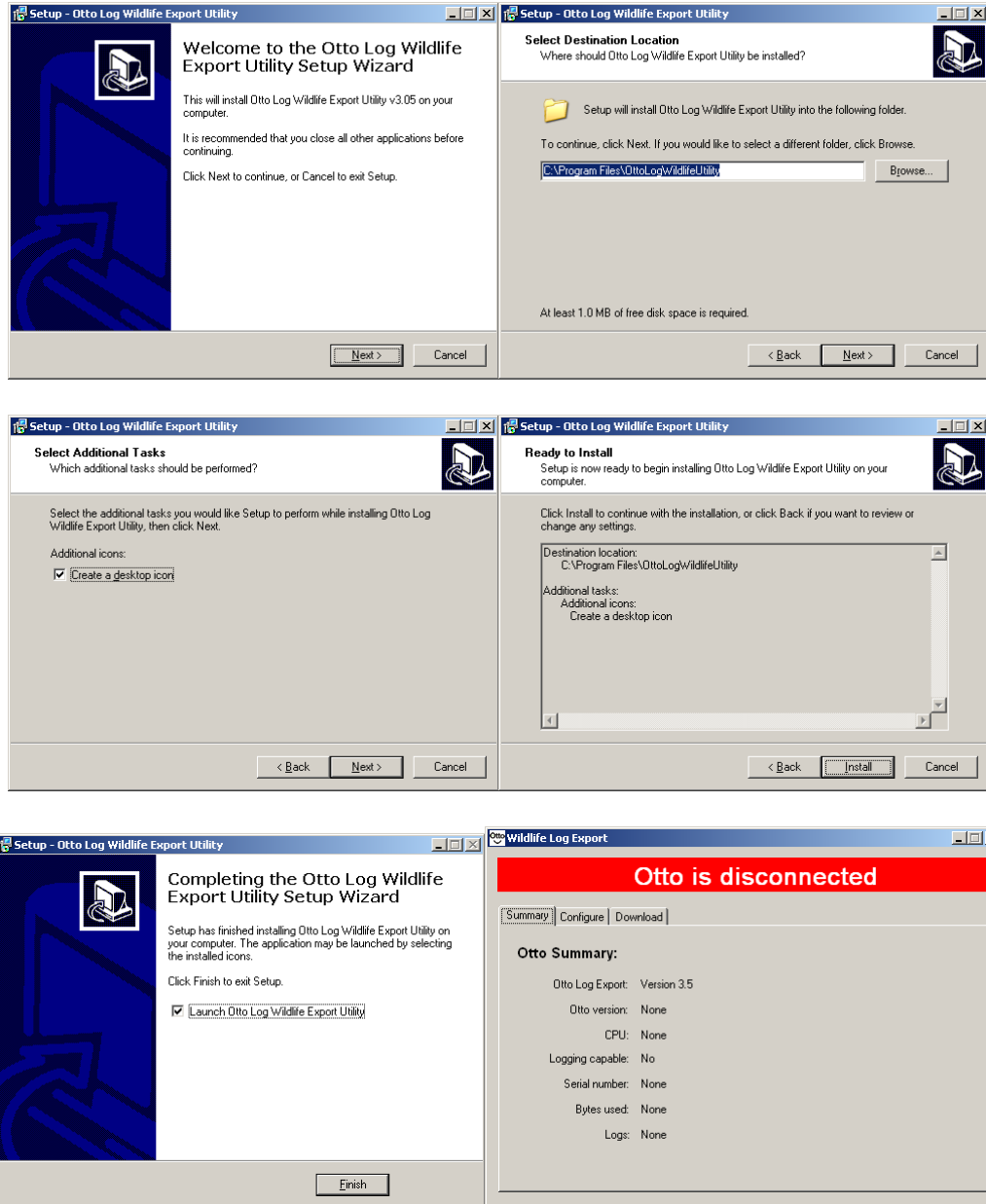
The Miistakis wildlife data logging kit includes the following pieces:

- Quantity 1 PM2626 Otto-Driving Companion® device, modified with the PS/2 connector for connection to an external 17-key keypad, and modified with Miistakis-specific firmware for the desired animal species and "Delete" function
- Quantity 1 17-key keypad with 1.5' PS/w cable and with animal sighting stickers installed
- Quantity 1 windshield metal mounting bracket (magnets pre-installed in the Otto device)
- Quantity 1 strip of automotive Velcro®
- Quantity 1 PS/2 cable extension (6')
- Quantity 1 USB Type A to Mini-B cable (6')
- Quantity 1 12 VDC to 5VDC vehicle power adapter with coiled cable (extension to 5')
- OttoLog™ WildLife Export Utility- Miistakis Release application software v305
- User instructions (this document)

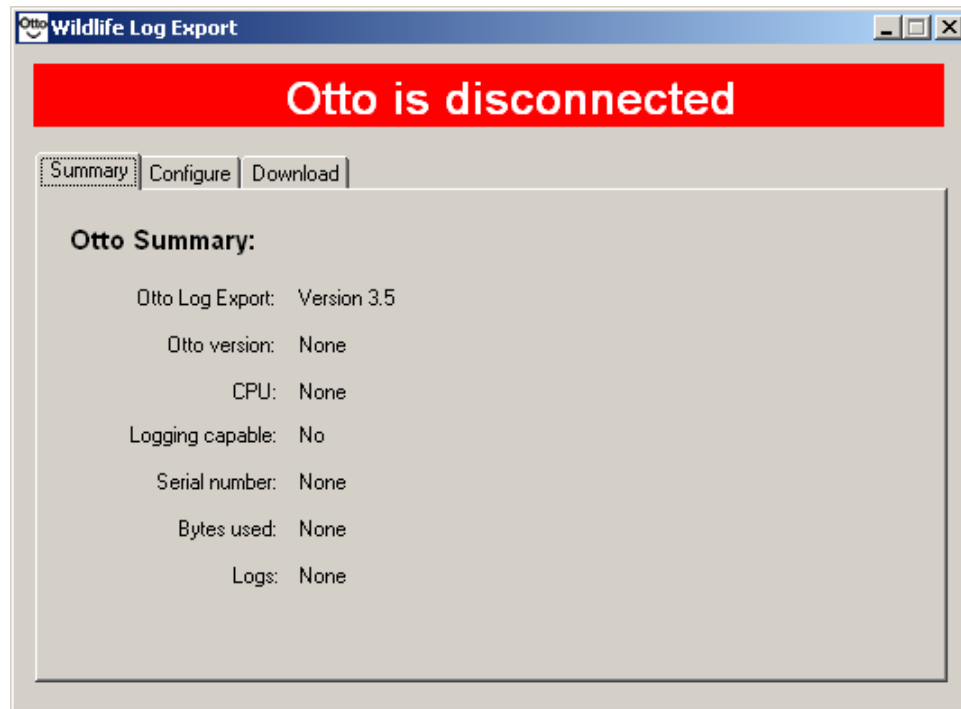
1 INSTALLATION

Open the file, ottologsetup-v305.exe, to install the OttoLogWildlifeUtility application.

You will be taken through an installation sequence that is capture in the following screen shots.

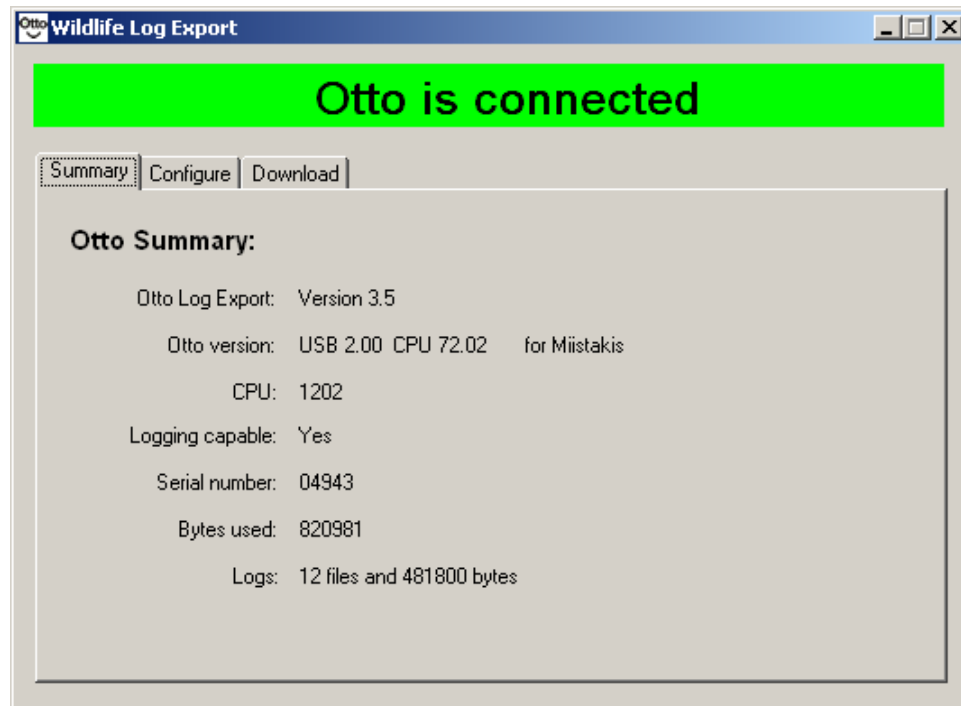


The following Screen will appear after you launch the program.



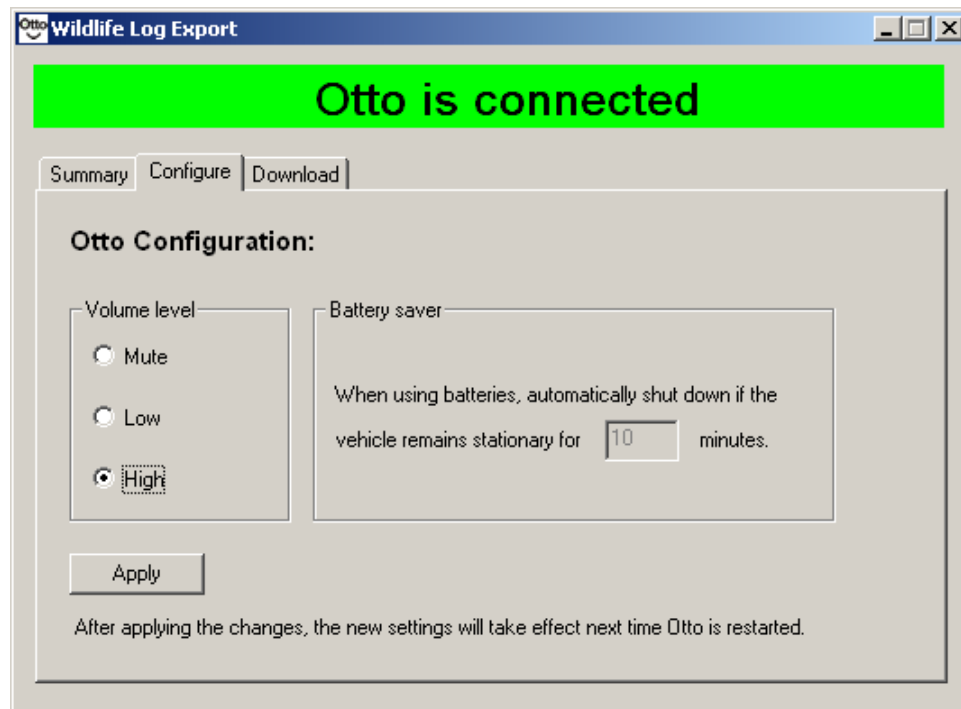
You will see three tabs: SUMMARY, CONFIGURE and DOWNLOAD.

Connect the Otto device to the computer's USB port using the supplied cable. The program will turn on the device and that connection status bar will change from Red to Green.



Click on the CONFIGURE TAB.

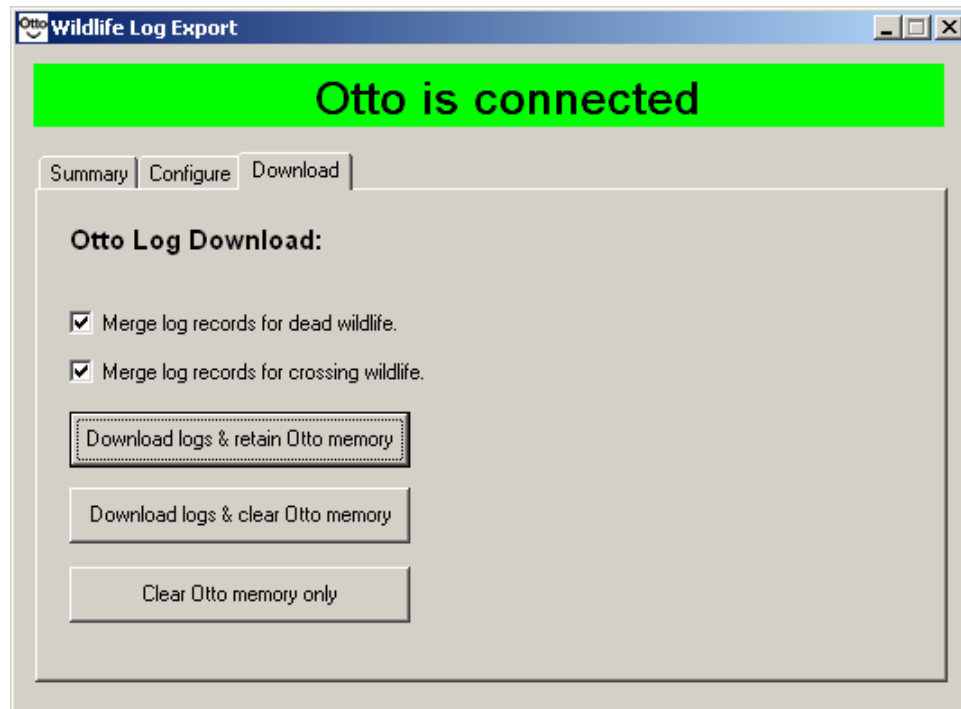
This will summarize the features that are configurable on the unit. In the case of the Miistakis implementation, only the volume level can be configured.



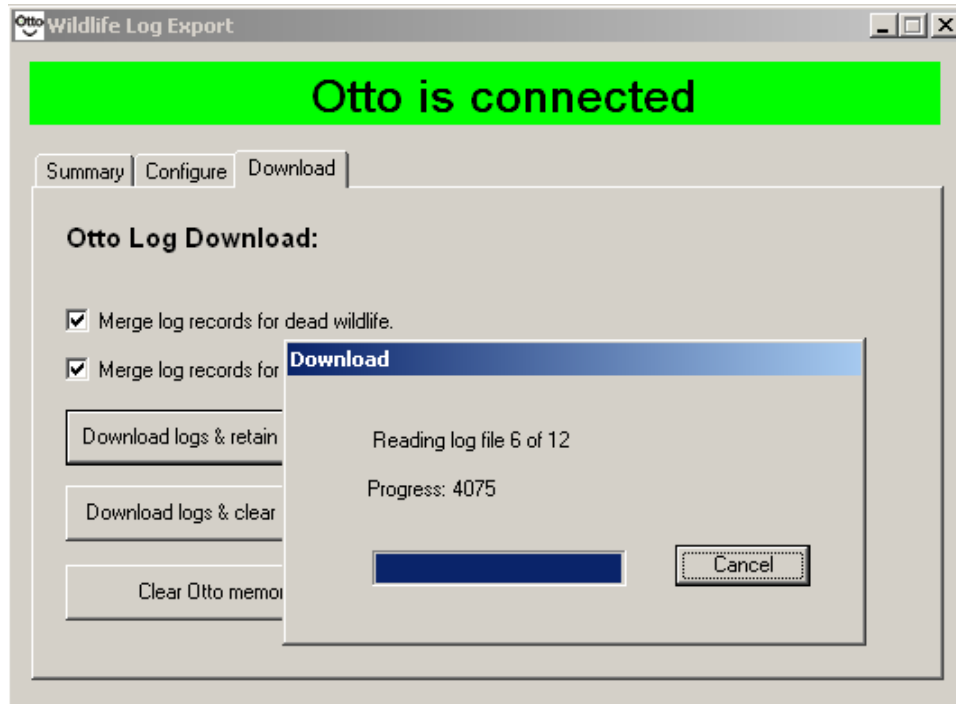
Explanation of configurable fields:

- Volume Level
 - Check Mute, Low or High and Apply settings
- Battery Saver
 - Only valid for three-button Otto device without external keypad (modified OM0405 Otto-devices or PM2626 devices) that can be operated on batteries. The Miistakis units will not operate on batteries and this screen will be “greyed-out”.

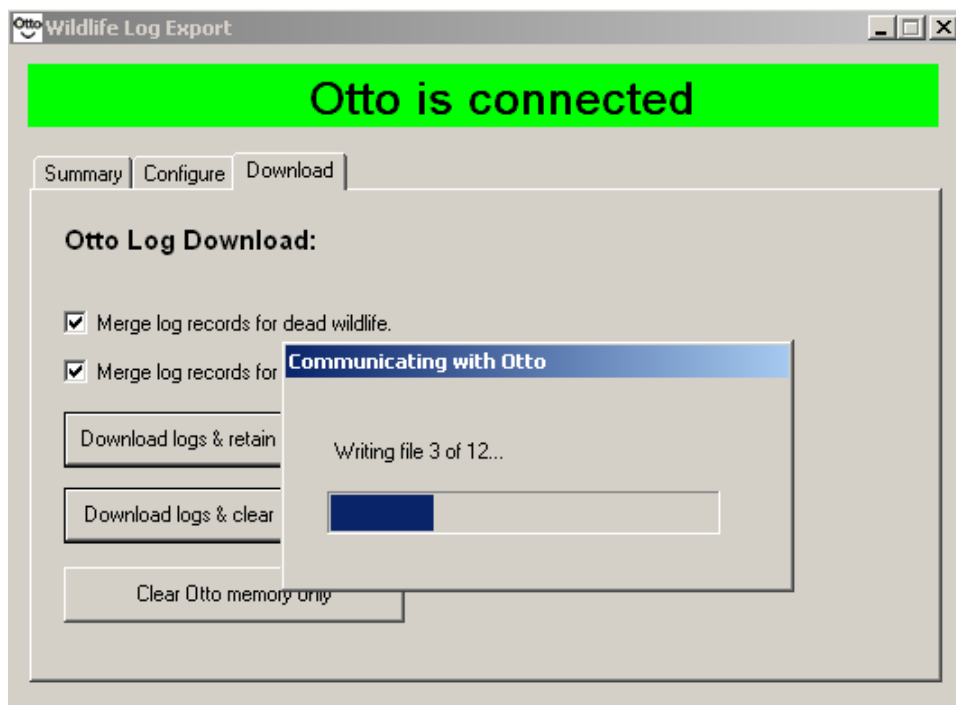
To “Upload” the data from the Otto device to the PC, select the Download Tab.



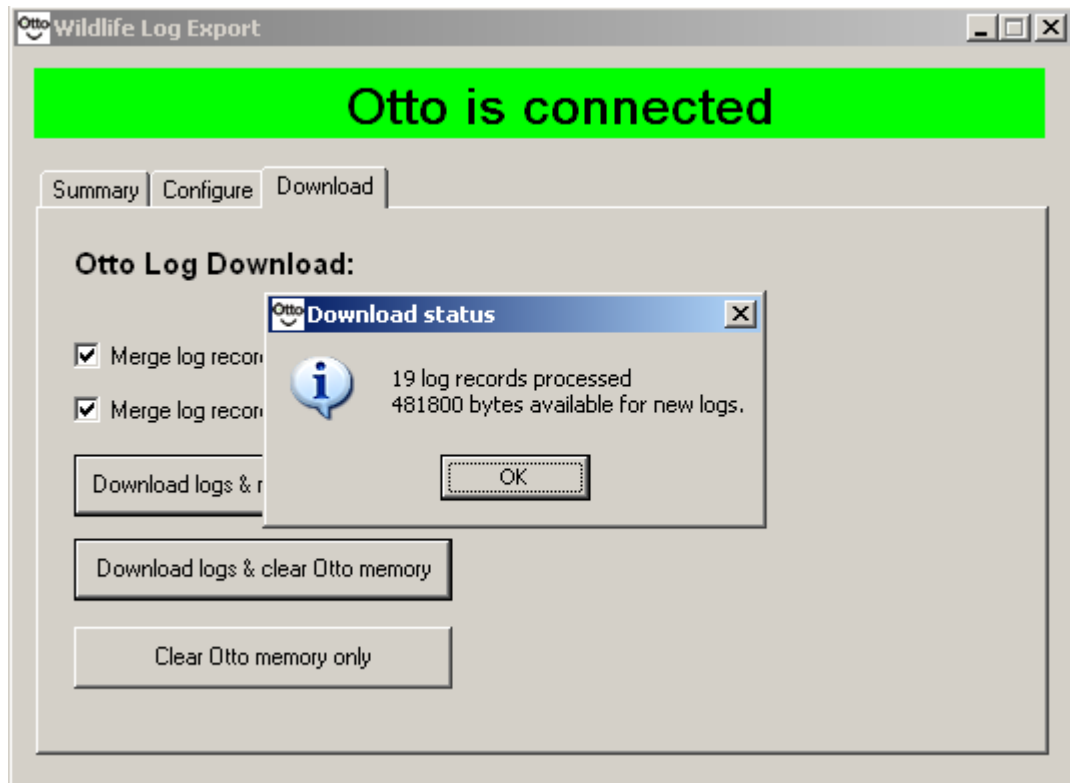
- Click on one of the three selections to proceed with:
 - Downloading the file and retaining the log files on the device
 - Downloading the log files and clearing the memory on board
 - Clearing the log files only
- Select the “Merge log records for “Dead” and “Crossing” wildlife sightings if you wish to select this functionality
 - Feature description:
 - When “Dead” or “Crossing” is pressed less than 60 seconds after an animal button is pushed, selecting the “merge” feature will place the “1” marker on the same line as the animal marker.
- To Download Logs and keep or clear memory, select the appropriate button. The following screen will appear during the data download:



- To Clear the Otto memory, select “Clear Otto memory only” and the following screen will appear.



- When the memory is cleared, the following screen will appear:



2. LOG FILE FORMATS

The data log format is stored in a Comma-Space-Value (CSV) format, and saved as a *.txt file. In the following example, this *.txt file has been exported to the Microsoft Excel® file format and column headers have been added to identify the animal and function. The first file shown corresponds to a file with the “merge” feature not selected.

Date	Time (wrt Local PC's Time Zone Setting)	Latitude (deg)	Longitude (deg)	Mule Deer	White Tailed Deer	Deer	Crossing	Sheep	Other	Badger	Black Bear	Grizzly Bear	Wolf	Elk	Moose	Coyote	End Time	Dead	Start Time
8/28/2007	16:13:35	49.896683	-97.136559	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:35	49.896683	-97.136559	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:38	49.896683	-97.136559	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:40	49.896683	-97.136559	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:40	49.896683	-97.136559	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:40	49.896683	-97.136559	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:41	49.896683	-97.136559	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:41	49.896683	-97.136559	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8/28/2007	16:13:41	49.896683	-97.136559	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
8/28/2007	16:13:44	49.896683	-97.136559	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8/28/2007	16:13:44	49.896683	-97.136559	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8/28/2007	16:13:44	49.896683	-97.136559	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8/28/2007	16:13:44	49.896683	-97.136559	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
8/28/2007	16:13:48	49.896683	-97.136551	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
8/28/2007	16:13:48	49.896683	-97.136551	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8/28/2007	16:13:53	49.896683	-97.136551	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

When the “merge” feature is selected for the “Dead” and “Crossing” sightings, the following file format is provided.

Date	Time (wrt Local PC's Time Zone Setting)	Latitude (deg)	Longitude (deg)	Mule Deer	White Tailed Deer	Deer	Crossing	Sheep	Other	Badger	Black Bear	Grizzly Bear	Wolf	Elk	Moose	Coyote	End Time	Dead	Start Time
8/28/2007	16:13:35	49.896683	-97.136559	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:35	49.896683	-97.136559	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:38	49.896683	-97.136559	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:40	49.896683	-97.136559	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:40	49.896683	-97.136559	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:41	49.896683	-97.136559	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
8/28/2007	16:13:41	49.896683	-97.136559	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
8/28/2007	16:13:41	49.896683	-97.136559	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
8/28/2007	16:13:44	49.896683	-97.136559	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8/28/2007	16:13:44	49.896683	-97.136559	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8/28/2007	16:13:44	49.896683	-97.136559	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8/28/2007	16:13:44	49.896683	-97.136559	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
8/28/2007	16:13:48	49.896683	-97.136551	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
8/28/2007	16:13:53	49.896683	-97.136551	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1