

2B Technologies, Inc.

An InDevR Company

Technical Note No. 009

Compact Flash Writer

Date: 18 October 2006

Author: Craig Williford

Overview

The Ozone Monitor™ and Nitric Oxide Monitor™ Flash Option is designed to allow the user to store much more data (8 MegaByte to 1 GigaByte) than is possible in the internal data logger (24 kB). Additionally, it conveniently allows the user to retrieve the data simply by removing the card as described below, without the need to bring a computer to the instrument to download the data.

The compact flash unit is a separate board located on the bottom side of the frame in the Ozone Monitor™ or Nitric Oxide Monitor™. The unit receives a line of data from the through its serial port and continuously writes each line as it is received (the data are simultaneously transmitted to the internal data logger). The data is transferred via the yellow wire. The unit is powered by a 12 V supply from the main circuit board via connector J24. The 12V supply is the blue wire and the ground is the black wire. The flash unit typically consumes approximately 25 mA (0.3 W).

We highly recommend that you first test the flash card option prior to beginning field measurements to familiarize yourself with the procedures and to fully test the functionality of the flash card option.

Software

The data are transferred from the serial port to a .txt file where it can be viewed with a text viewer, such as Word Pad or Notepad. We recommend the usage of Microsoft Wordpad® in order to see formatted left-justified alignment.

When the card is inserted, with the instrument running, the following will occur in the software in the flash writer: specifications will be read from the card (total size, FAT size, cluster size, # of root directory entries, etc.). With these specifications gathered, the software will know where to begin writing the data and how much space is available on the specific card. The file name that is generated is DDMMYY## (DD – day, MM – month, YY – year, ## – the number of the file from 0-99).

Operating Procedure

Format Card (Note: Card supplied with Ozone Monitor™ is already formatted.)

1. Format Compact Flash Card with your PC in FAT format. (Supported Operating Systems: Windows XP®, Windows ME®, Windows 2000®). **Note: when you reformat the Flash Card, this will erase any data previously stored. Make sure that you retrieve data prior to reformatting.**
2. To format the card, go to **My Computer** (or wherever you can list your drives), right mouse click on the flash reader drive, select **Format**, and perform a full format.
3. **IMPORTANT*** ONLY FORMAT USING FAT. FAT32 IS NOT SUPPORTED!!!**
4. This should be done as often as possible to ensure a clean write.

Write Data

1. Insert the formatted compact flash card, label side up, into the slot located on the bottom left hand side of the face plate.
2. The flash card will begin writing as soon as the unit detects a card is present.

Remove Card

1. Eject the Card by pressing the button located on the left side of the card.

Read Card

1. Read the file by inserting the card into the card reader attached to your PC and opening the .txt file in Wordpad.

Preliminary Test

1. With the Ozone Monitor running, perform a preliminary test to make sure the card writer is working properly by inserting the card into the Ozone Monitor™ (the instrument can either be on or off when the card is inserted).
2. Allow the instrument to make at least 3 measurements (30s if 10s averaging is selected).
3. Eject the Card.
4. Retrieve data as described above under **Software**.