

WatchDog™ Shuttle

OPERATION MANUAL

Catalog No. 3679



Spectrum
Technologies, Inc.

Contents

General Overview	3
Shuttle Operation	4
Battery Replacement	8
Specifications	9
Trouble Shooting	10
Warranty	11

This manual will familiarize you with the features and operation of your new WatchDog Data Shuttle. Please read this manual thoroughly before using your instrument. For customer support, or to place an order, call Spectrum Technologies, Inc. at (800)248-8873 or (815) 436-4440 between 7:30 am and 5:30

p.m. CST

FAX at (815)436-4460,

E-Mail at info@specmeters.com.

www.specmeters.com

Spectrum Technologies, Inc
12360 S. Industrial Dr. East
Plainfield, IL 60544

General Overview

Thank you for purchasing the WatchDog Data Shuttle.

This manual describes how to use your shuttle, in conjunction with SpecWare software, to easily and conveniently retrieve data from your remotely located WatchDog dataloggers.

The WatchDog shuttle performs the following 3 functions:

1. Offloads data from loggers in the field
2. Checks battery status and alerts user if the logger battery needs to be replaced
3. Relaunches the logger and resets the logger's time to that of the shuttle



Shuttle Operation

Retrieving data from your remote WatchDog data loggers is a 3-step process.

Step 1: Launch WatchDog Shuttle

Before the shuttle can offload data from the remote dataloggers, it must be launched. Before launching the shuttle, confirm that the LCD reads “OFF” (see **Troubleshooting**, p. 10). When the shuttle is launched, all previously saved data is cleared from memory and the current date and time are transferred to it from the computer. The launch sequence is initiated by selecting the **Launch WatchDog** option from the **Logger** menu or by clicking the **Launch WatchDog Logger** button on the SpecWare toolbar. From the **Launch Options** screen, click on the Start button. From the **Launch Options** screen, you can also check the battery status of the shuttle. It is recommended that the battery be changed when the battery level reaches 25%. After the shuttle is launched, the LCD screen will read “ON”.

Caution: To work properly, the shuttle must offload the data logger(s) and/or weather station(s) within 45 days of being launched.

Step 2: Offloading data and relaunching remote loggers with the WatchDog Data Shuttle.

First, confirm that the data logger is running before attempting to download (This will aid in troubleshooting if there is a problem offloading the logger). This can be done by checking the flashing red LED light for WatchDog 100 series loggers or by observing an active LCD screen on WatchDog 200 and 400 series loggers.

For WatchDog weather stations, the LCD can be activated by hitting the DISPLAY button.

To offload a data logger, connect the interface cable to the shuttle and to the computer port of the data logger. Press the green button on the shuttle to initiate data transfer. The data logger will automatically be relaunched after the data is offloaded (confirm this by observing the LED or LCD on the logger). When a logger has been completely offloaded and relaunched, the shuttle's LCD screen will read "no. X", where X indicates how many loggers have been offloaded up to that point. It also identifies where that logger's data is located in the shuttle's memory.

If, after offloading a logger, the shuttle no longer has room for another logger, the LCD screen will read "FULL". No further data can be transferred to the shuttle until it is downloaded and relaunched.

CAUTION: If a logger battery is $\leq 25\%$, the LCD screen will read "Lo b". At this point, the logger battery must be replaced to continue data transfer and relaunch. The logger will not resume operation until the battery is replaced.

It is recommended that spare logger batteries be available when using the shuttle to avoid gaps in your data files. Whenever replacing a battery in a logger in the field (even one that does not register a low battery reading from the shuttle) you should replace the battery **BEFORE** offloading the logger. If the battery is replaced after offloading the data logger, the logger will be shut off and not recording data. In this case, offload the logger again with the shuttle. The saved data file will not be important because it will only contain one

data point. But, the shuttle will still re-launch the logger.

Step 3: Transferring data to your computer

To download data from the shuttle to the computer, connect the shuttle to the PC interface cable and open Specware software. The download sequence is initiated by selecting the **Get WatchDog Data** option from the **Logger** menu or by clicking the **Get WatchDog Data** button on the SpecWare toolbar. When the data transfer is complete, check **OK** on the **Translate Logger Data** box. The **Save Logger Data** box will then appear. Choose the **Logger Location** where you want to save the file. All new dataloggers require that you create a new **Logger Location** the first time the logger is read out.

The sequence of downloading data from the shuttle to the computer is the reverse of how it was offloaded from the data loggers. In other words, data from the last data logger offloaded to the shuttle will be the first data transferred to the computer. After downloading data from a shuttle position to the PC, the shuttle's LCD will automatically increment to the next available position. If data from more than one data logger is saved to the shuttle, you will be prompted to select or create a **Logger Location** after each successive logger's data has been downloaded. When the last shuttle position has been downloaded to the PC, the LCD will read "OFF" (see **Troubleshooting**, p. 10)



The stored logger data is not erased from the shuttle until it is relaunched. Until then, it is possible to use the arrow button to re-download the data from any of the shuttle positions. With the shuttle in the “OFF” position, press the green button to scroll to the shuttle position of interest. Initiate the download with from the SpecWare **Logger** menu or with the **Read WatchDog Logger** button. After downloading, the shuttle will return to the “OFF” position. Other shuttle positions can be downloaded in a similar fashion.

Note: Data will remain on the shuttle until it is relaunched. The shuttle must be relaunched before further data can be collected.

Battery Replacement

Each WatchDog Data Shuttle is powered by a 3 Volt CR-2032 battery. The battery has a life of 6 months and a 2-year shelf life. It is user replaceable and can be purchased locally. Other battery numbers that may be substituted for a CR2032 are BR2032 or DL2032.

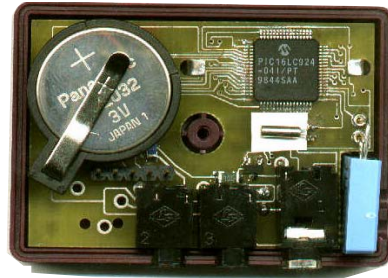
To replace the battery:

1. Remove the screw on the back cover of the shuttle.
2. Remove the back cover.
3. Slide the battery out of the battery holder.
4. Insert a new CR2032 battery positive side up.
5. Replace shuttle cover.
6. Tighten back cover screw.

Confirm that the shuttle is actively working by viewing the fully lit LCD directly after battery installation, or by going through a launch sequence with the SpecWare software.

Insert a flat-edged screwdriver completely underneath old battery. Gently lift edge of battery over the casing lip, slide battery out.

Slide new battery into battery casing.



Specifications

Software: SpecWare 5.0 or greater

Compatibility: Compatible with all WatchDog dataloggers (except the WatchDog model 100 button-type loggers) as well as the Leaf Wetness & Temperature Logger and Datalogging Rain Gauges.

Capacity: Contains 128K non-volatile memory. The first 96K of memory can be allocated to any combination of 8K (WatchDog 100 and 200 series, Leaf Wetness & Temperature Logger and Datalogging Rain Gauges), 16K (WatchDog 400 series) and 32K (WatchDog weather station) dataloggers. The final 32K of memory is reserved for one logger or weather station of any size. Therefore, the shuttle can store the data from a total of four weather stations, seven 16K loggers or thirteen 8K loggers.

Time Accuracy: Approximately \pm 1minute.

Speed: Offloads one full 8K logger in 90 seconds, one full 16K logger in 200 seconds, and one full 32K weather station in 400 seconds..

Battery: 1 user-replaceable CR-2032 battery. Battery life is about 6 months with normal use.

Interface: 1-foot logger/shuttle interconnect cable

Troubleshooting

Commonly asked questions include:

- Q. When I try to launch the shuttle, SpecWare says there is still data to download.
- A. The shuttle's LCD must say "OFF" before it can be launched. If the data from all the shuttle positions has not been downloaded, SpecWare will not be able to launch the shuttle. If all the data has been downloaded, it may be that the shuttle is stuck on the "no 1" shuttle position. Try removing and replacing the battery. If this doesn't help, or if the shuttle is stuck on a shuttle position other than "no 1", a data extraction is necessary. In this case, contact Spectrum Technologies for technical assistance.

- Q. When I try to offload a logger in the field, the shuttle's LCD reads "FAIL".
- A. This indicates that the shuttle is not making a connection with the logger. Possible causes:
 - 1. The small gray cable is not plugged completely into either the shuttle or the data logger.
 - 2. The small gray cable is defective. If it is not possible to connect to any WatchDog data loggers, this may be the cause.
 - 3. The battery on the logger is extremely low or dead. In this case, the logger will not be running. This is different than the "Lo b" message that appears when there is sufficient battery power but not enough to run the logger for more than a few days.

Warranty

This product is warranted to be free from defects in material or workmanship for 1 year from the date of purchase. During the warranty period Spectrum will, at its option, either repair or replace products that prove to be defective. This warranty is void if the Spectrum products have been damaged by customer error or negligence, or if there has been an unauthorized modification.

Returning Products to Spectrum

Before returning a failed unit, you must obtain a Returned Goods Authorization (RGA) number from Spectrum. You must ship the product(s), properly packaged against further damage, back to Spectrum at your expense. Clearly mark the RGA number on the **outside of the package**. Spectrum is not responsible for any package that is returned without a valid RGA number or for the loss of the package by any shipping company.

Spectrum
Technologies, Inc.

Spectrum Technologies, Inc.
12360 S. Industrial Dr. East
Plainfield, IL 60585
(800) 248-8873 or (815) 436-4440
FAX: (815) 436-4460
E-Mail: info@specmeters.com
www.specmeters.com