



Sprayer Station Console/ Console Sync Software

PRODUCT MANUAL

Item # 3349CN



Spectrum[®] **Technologies, Inc.**

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Thank you for purchasing the WatchDog Sprayer Station Console. The Console is designed to be used with the WatchDog Sprayer Station, and will provide an accurate indication and record of the environmental conditions around a vehicle, whether it is stationary or in motion. It allows for real-time measurement of weather data before, during, and after a field operation.

QUICK START

- 1. Check the box.** Page 5
Ensure that it contains the Console with mounting bracket, two cables, and a CD-ROM.
- 2. Install the WatchDog Sprayer Station.**
Use the instructions provided with the Sprayer Station.
- 3. Install the Console.** Pages 6 - 7
Connect the Console to the Sprayer Station. You can power it on and check the display, but don't log or snapshot data until it is configured to meet your needs.
- 4. Install the ConsoleSync software.** Page 14
Use the CD to install ConsoleSync on your PC.
- 5. Configure your Console** Pages 18 - 27
Use ConsoleSync to set units of measure and data storage parameters.
- 6. Use the Sprayer Station / Console** Pages 8 - 13
Connect the Console to the Sprayer Station, and gather weather data.
- 7. Save the Weather Data on Your PC** Pages 16 - 17
Bring the Console in to your PC, and use ConsoleSync to preserve the data you collected.
- 8. Import the Weather Data to Other Programs** Pages 28 - 29
The Weather Data is stored as a tab-separated text file for ease of importing to Excel, etc.

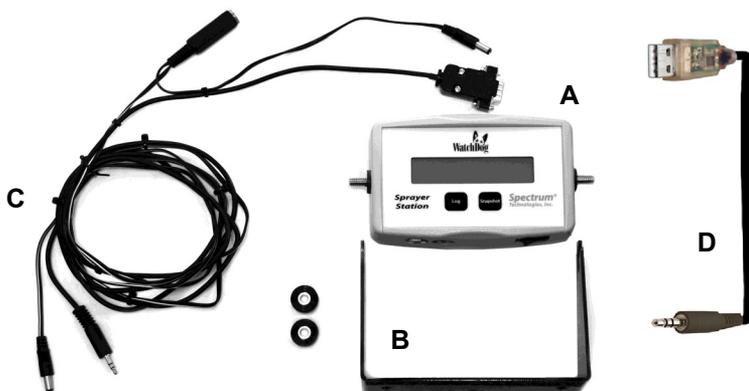
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SpecWare ConsoleSync software © 2008 by Spectrum Technologies, Inc.



COMPONENTS



Your WatchDog Sprayer Station package should contain the following components:

- A. Sprayer station console
- B. Mounting bracket and screws
- C. Station/Console Cable Assembly
- D. PC Interface Cable

SpecWare Mobile / ConsoleSync CD and Product Manual (not pictured).

Please note that the front label on the Console has a high-gloss finish. Most consoles ship with a layer of film protecting the label. If your Console has a matte finish, or the LCD display is somewhat cloudy through the window, the protective film needs to be peeled off.

SPECIFICATIONS

Supply Voltage	10-16VDC (nominal 12VDC)
Supply Current	2 mA
Dimensions	console: 5.3 x 3.1 x 1.6 inches, (13.5 x 8 x 4 cm) bracket: 5.7 x 3.9 x 2 inches, (14.5 x 10 x 5 cm)

INSTALLING THE CONSOLE

Before installing the console, install the WatchDog Sprayer Station according to the instructions found in the WatchDog Sprayer Station Product Manual.

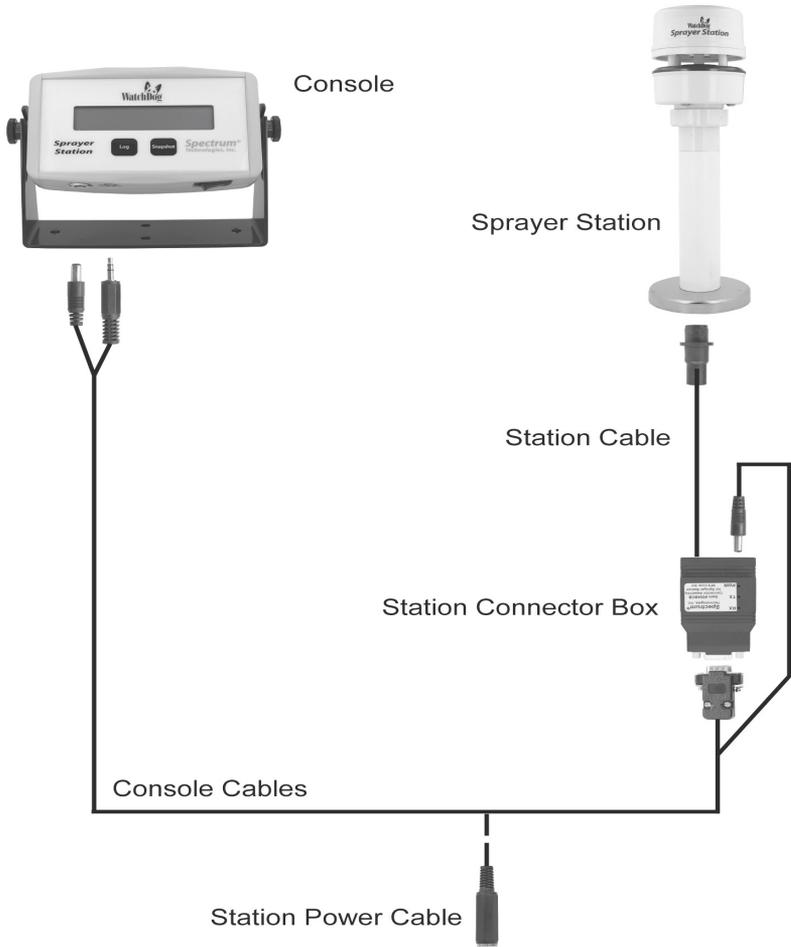
Mounting the Console



Determine where in your cab you want to mount the WatchDog Sprayer Station Console. The location should be easily seen by the operator, preferably when they look forward (as compared to looking to the side) so that the drift arrow indicator is intuitive.

Connect the Console and Sprayer Station as shown in the Wiring Diagram on page 5. There is only one way to insert the two plugs into the jacks on the Console. The jacks are located on the underside of the Console. The jacks on the Station Connector Box and the plugs on that end of the Console Cable are similarly unique.

Loosen the knobs on the sides of the Console and lift it out of the



bracket. Mount the Console bracket securely with bolts, screws, foam mounting tape, or Velcro strips. Put the Console back in the bracket and tighten the side knobs. You may wish to secure the cables that plug into the console. Because the Console will periodically be removed from the cab to transfer weather data to your PC, avoid having the cables fall to the floor.

OPERATING THE CONSOLE



On/Off Switch

The On/Off Switch is on the bottom of the Console (see image above). The Console only needs to be on when it is in use. Your data is stored on flash memory in the Console, and will not be lost when the power is turned off.

When the Console is switched on, it waits for communications from either the Sprayer Station or the PC. Once it establishes a connection, it will not recognize the other unless it is switched off and then on again. This step is implicit in the normal operating procedure of turning the Console off, removing it from the sprayer, carrying it in to a PC, connecting it, and turning it back on.

IMPORTANT: The console contains a 9V rechargeable battery which is designed to be used when the Console is removed from the vehicle cab and connected to the PC. This battery will run the Console for only 30 to 60 minutes. If the console is not shut off when the vehicle is turned off, the battery will be fully drained within an hour. Repeated draining of the battery will impact its longevity.

When the Console is switched on, the LCD displays the current battery level (see “Display”, p. 11 for details). If the initial battery level is below 6V, the Console has only about five minutes of internal battery life left. It should be recharged (on the vehicle) before attempting to download any data from the Console.

Replacing the Battery

If the stand-alone battery life becomes too short, the battery can be replaced. Detach the Console from the bracket, remove the four screws on the back, and lift off the cover. The battery will be visible on the left. Remove it from its connector and replace it with a standard 9 volt NiCad rechargeable battery. Re-attach the back cover (it only fits one way) and tighten screws to hold it securely.

WARNING: If a non-rechargeable battery, especially an alkaline or heavy duty battery, is used as a replacement, the Console will be severely damaged when the battery is recharged from the vehicle’s power supply.

Log Button



When the Console is connected to the Sprayer Station, pressing the **Log** button starts the logging of weather data. The recording interval is specified in the ConsoleSync program. The interval ranges from four seconds to one minute, and can also be disabled. Data will be recorded at the specified interval until the **Log** button is pressed again. The Console will beep to indicate logging has been initiated or discontinued. “Log” is displayed on the fourth line of the LCD while the Console is logging data.

Diagnostic Mode

If the **Log** button is pressed and held while the Console is switched on, the Console will enter a diagnostic mode. The Console will beep twice before displaying the diagnostic screens.

For more information on the Console’s diagnostic mode, see “Troubleshooting” (p. 29).

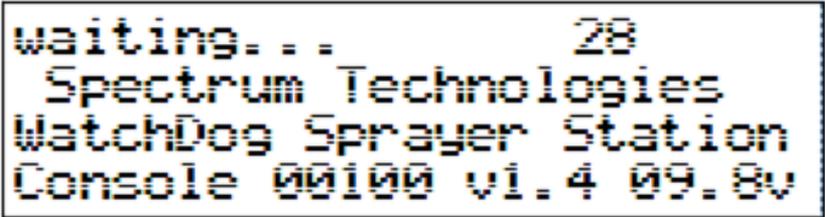
Snapshot Button

When the Console is connected to the Sprayer Station, pressing the **Snapshot** button records the geo-referenced weather data currently displayed on the LCD. The Console will beep to indicate a record has been captured. Snapshot data is maintained in files separate from logged records.

DISPLAY

Startup

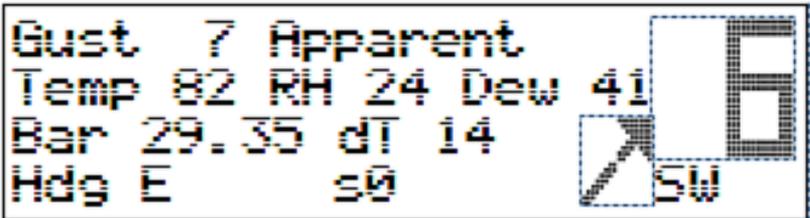
When the Console is switched on, it will very quickly display the following screen.



The bottom line of the startup display contains (from left to right) the Console Serial Number, the firmware version number, and the initial voltage level of the internal battery, or the external power supply (if connected).

Weather Conditions

Once the Console receives data from the Sprayer Station, it displays the following screen, which is updated every 4 seconds.



The above screen shows weather data without GPS information. In this case, the word "Apparent" appears in the top line. This will be displayed until the GPS obtains a position fix. The GPS time to first fix is approximately one minute. Note that a GPS fix will not be possible when there is not a clear view of the sky. This would be the case indoors or in a heavily forested location.

Customization:

The screen images on these pages represent the defaults for the Console. ConsoleSync can be used to hide any of the parameters (see **Display Fields**, p. 16) or to change the prompt words from English to another language. The units for Speed, Temperature, and Barometric Pressure can also be changed within ConsoleSync. The standard display view consists of the following information:

Wind Speed and Direction

Two types of wind speed and direction can be displayed. Apparent wind is the wind a person riding on the vehicle would feel. True wind is the wind that would be measured if the vehicle were stationary. It is computed from the apparent wind and the GPS-provided course and speed.

If GPS data is available, the true wind values will be computed and displayed on the right side of the display. The apparent wind speed and direction (preceded by "ApWind") will be displayed at the end of the first data line. If GPS is not available, the apparent wind data will be displayed on the right side of the display and the indicator "Apparent" displayed in the first data line.

See the WatchDog Sprayer Station product manual for a more detailed explanation of Apparent vs. True wind speeds.

Temperature ("Temp")

The current temperature is displayed on the second line in whole degrees

Relative Humidity ("RH")

The relative humidity is displayed as a percent.

Dew Point ("Dew")

Dew Point is computed from the current temperature and relative humidity, and is displayed in whole degrees.

Barometric Pressure ("Bar")

Barometric pressure is displayed on the third line.

Delta T ("dT")

Delta T is the difference between dry bulb and wet bulb temperatures (in Celsius). Delta T can be used to define limits for spraying.

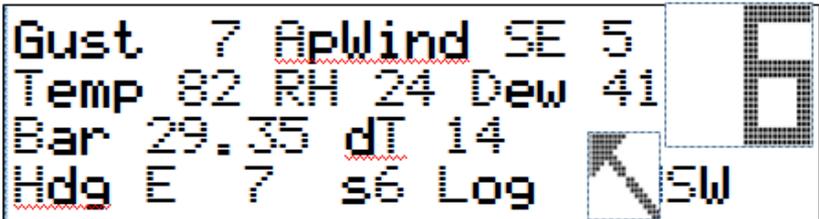
Heading/Course ("Hdg")

Heading or Course are displayed on the bottom line. Heading is the

direction the vehicle is pointed, and is displayed when the vehicle is not moving (or GPS data is not available). Course is the direction the vehicle is moving, and it and speed are displayed when the vehicle is in motion.

Satellites ("s")

The number of GPS satellites currently being received is displayed. A GPS position fix is not obtained until at least three satellites are being received. When more satellites are located, the position fix is more accurate as is the computation of the vehicle and true wind speeds.



Log

The "Log" indicator is displayed whenever weather data is being periodically logged to flash memory. Logging is started and stopped using the "Log" button (see p. 10). Logging is enabled and the recording interval set within ConsoleSync.

Wind Drift Indicator

The Wind Drift Indicator is an arrow showing the direction any spray drift would travel. Although this could be computed by the operator using the travel and wind directions, the Indicator provides an intuitive visual aid for the operator, that shows potential drift relative to the vehicle itself, regardless of the direction it is headed. For example, if the vehicle is traveling East, and the wind is from the North, the arrow will point to the right, indicating that any drift would be heading to the right. On a return pass, traveling West, the arrow would point left.

INSTALLING CONSOLESYNC SOFTWARE

Insert the SpecWare Mobile / ConsoleSync installation CD in your computer's disk drive. On most machines, the software installation will begin automatically. If the installation program does not automatically run, click on the "My Computer" (or "Computer") desktop icon. Locate the drive with the ConsoleSync CD. Double click the *setup.exe* file.

Follow the screen instructions to complete the installation. You will be asked which products you want to install. At a minimum, install ConsoleSync. If you are using a laptop, you may also want to install SpecWare Mobile for the PC, as this program will allow you connect the Sprayer Station directly to your laptop and view the weather conditions on your laptop screen. Desktop icons and Start menu entries will be created to run the products you select.

Once the SpecWare ConsoleSync software is installed, you are ready to configure your Console to use with your Sprayer Station.

The current version of SpecWare Mobile and ConsoleSync software is available on the Spectrum Technologies web site at www.specmeters.com. This may contain corrections or new features for ConsoleSync.

CONSOLESYNC SOFTWARE

Start ConsoleSync by clicking on the desktop icon.

ConsoleSync uses tabs to separate its functions. The **Sync** tab is displayed first, because that will be used on a day-to-day basis.



The tabs are arranged so that initial configuration is done from right to left, ending with the **Sync** tab to transmit the configuration to the Console.

Buttons

There are three buttons common to the other 3 configuration tabs:

Apply: Saves any configuration changes made.

Cancel: Returns the screen to the last saved values.

Exit: Exits ConsoleSync.

The Data Storage tab allows you to specify what data to collect on your Console and where to preserve it on your PC. It contains the following configuration options:

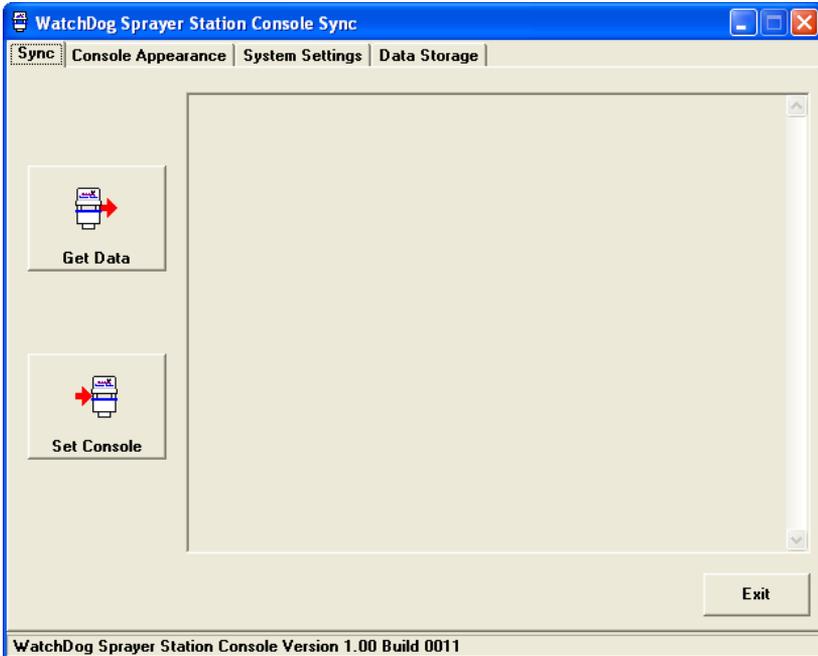
Apply

Cancel

Exit

SYNC

The **Sync** tab is the most-used tab within ConsoleSync. It is used to offload logged weather data and store it on your PC. It is also to copy any custom settings to your Console.



Before using either button on the Sync tab, you must connect your Console to the PC using the black PC Interface cable. See **System Settings** (p. 21) for more details.

The Console must also be switched on to communicate with ConsoleSync software. Note that when the Console is disconnected from the vehicle power, it is running on an internal 9V rechargeable battery. This battery can power the Console for 30-60 minutes. Therefore, the Console should not be switched on until needed.

Get Data

Click the **Get Data** button to download weather data from the Console to the PC. A text report of progress will be displayed in the box to the right of the buttons. During the download itself, a progress bar will be displayed at the lower right corner of the ConsoleSync screen.

When the download is initiated, ConsoleSync requests the serial number from the Console. If this is the first time the Console has been read, a prompt will be displayed asking for the name to be used for this Console. You can choose to let it default to the serial number, or give it another name. Since this name is used to form data file names, the suggested name is edited to remove characters that are illegal for file names, such as slashes or quotes.

After the download is complete, the weather data is edited and saved to files on the PC. If you have specified that you wish to explicitly name each Log file, you will be prompted for the names.

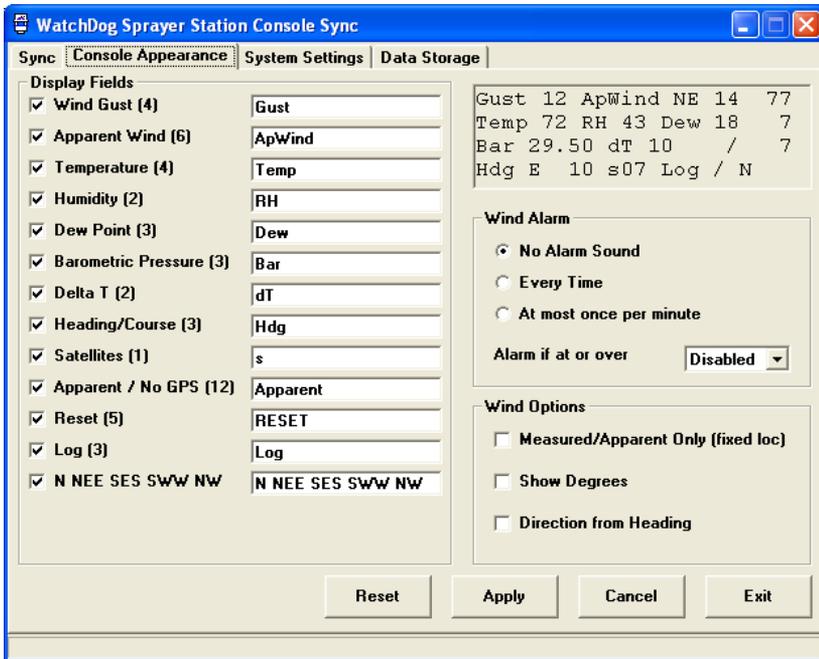
Once all data is successfully saved, ConsoleSync will issue a command to erase the data on the Console, so it can be reused.

Set Console

Clicking **Set Console** will copy all configuration information from ConsoleSync to the Console. This only needs to be done when you change a configuration option, but it must be done to each of the Consoles you manage.

CONSOLE APPEARANCE

The **Console Appearance** tab allows you to customize what data is displayed on the Console, the text prompts next to the data, alarms, and specialty configurations.



Reset button

The **Reset** button is unique to the **Console Appearance** tab. Clicking **Reset** returns all fields listed in the **Display Fields** section back to their original (factory) settings. This differs from the **Cancel** button, which returns settings to the previously saved (customized) value.

Display Fields

All fields on the Console screen are listed and can be customized. Changes to these fields are reflected in the rectangle in the upper right corner of the screen, which displays the (approximate) appearance of the actual Console screen, as currently configured.

The format of each line is the same:

- The check box on the left determines whether the data field and prompt are displayed (checked = display).
- The parameter type is followed by a number in parenthesis. This is the maximum number of characters allowed on the Console screen.
- The text box on the right allows you to change the actual prompt which will display on the Console screen.

The bottom four items have special characteristics.

“Apparent / No GPS” text is displayed over the “Apparent Wind” (second item) when GPS is not available. In that case, because there is no way to compute True Wind, the apparent wind values are displayed using the large digits.

“Reset” text is displayed on the Diagnostic Screen (see p. 28 for details).

“Log” is only displayed if data logging is active.

“N_NEE_SES_SWW_NW” are the 8 two-character direction abbreviations that make up the wind rose. These are listed beginning with North (N_), and proceeding clockwise, ending with Northwest (NW). The Console displays (and logs) wind and vehicle direction by looking up the abbreviation from this list. The text for these 8 abbreviations can be edited to reflect the local language.

Wind Alarm

This section is used to set visual and audible alarms on the Console.

The alarm is activated by selecting a number (instead of Disabled) from the **Alarm if over** pulldown list. The wind speed alarm level is in the same units chosen for speed on the **System Settings** tab (see p. 19). If the true wind velocity reaches or exceeds the alarm level, two asterisks (**) will appear under the large wind digits in the lower right corner of the Console screen.

The Console can also beep to indicate that the alarm condition exists. There are three sound settings.

No Alarm Sound: Silences the audible alarm.

Every Time: Allows the alarm to sound at four-second intervals. This is the same interval at which the Console screen is updated.

At most once per minute: Limits the alarm sound to one minute intervals.

Wind Options

The **Wind Options** section allows three lesser-used options to be configured.

Measured/Apparent Only (fixed loc)

If the station is used in a fixed location, instead of on a moving vehicle, the measured, or “apparent” wind is also the true wind. Checking this option ignores any true wind calculations and displays only the apparent wind.

Show Degrees

If this option is checked, then the wind direction is displayed in degrees (0 to 359) instead of the two-character compass rose abbreviation.

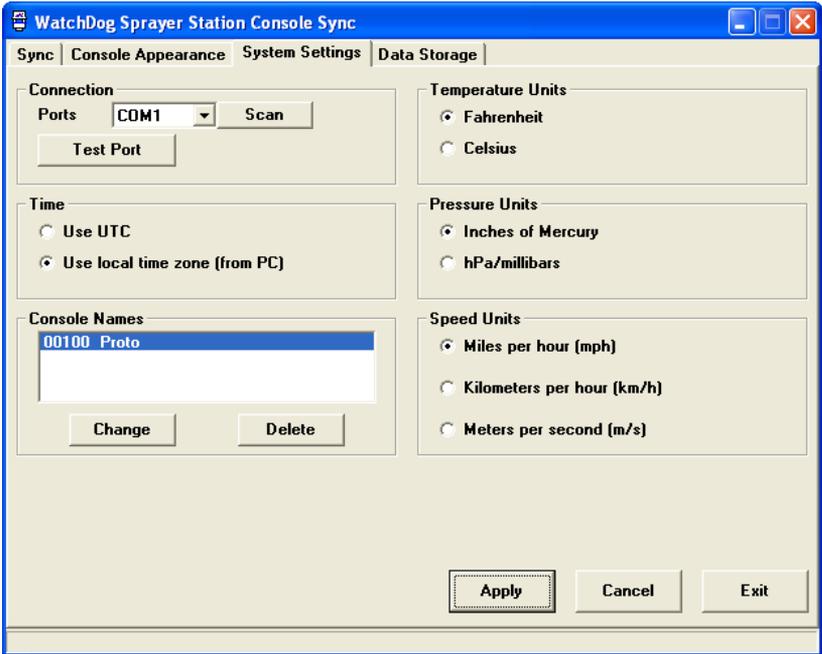
Direction from Heading

If this option is checked, the wind direction is computed from the station’s heading instead of from North. When combined with **Show Degrees**, this option is designed for ground support of aerial applicators.

NOTE: When you click **Apply** on the **Console Appearance** tab, your settings are saved, but you must use the **Set Console** button on the **Sync** tab to copy your settings to the Console. See “Sync” (p. 16) for details.

SYSTEM SETTINGS

The **Systems Settings** tab lets you customize key system parameters.



Connection

To download data from the Console, or to set parameters on the Console, it must be attached to the PC using the black cable provided. The cable plugs into one of the PC's USB ports. Most PCs will already have the driver necessary to work with the cable. If not, it can be uploaded from the Support page of the Spectrum website.

You must select the serial (COM) port number that the cable is plugged into from the pulldown list labeled **Ports**. The COM port will only exist while the cable is plugged into the USB port.

One way of identifying the correct COM port is by bringing up the Device Manager for the PC. The interface cable will be labeled as "USB Serial Port" and the COM port shown in parentheses. Additionally, the Connection section in the upper right corner of the screen provides two tools to help identify the correct port.

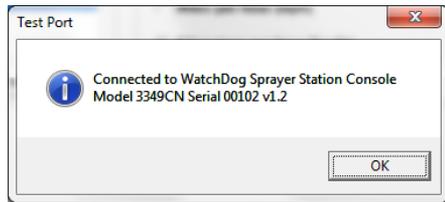
Scan / All button

The button adjacent to the **Ports** field performs two functions. When the button appears as **All**, clicking it will change the pull-down list to all possible serial port numbers. The button will then change to **Scan**. Clicking the **Scan** button causes ConsoleSync to check for valid serial ports on your system, and only list valid serial ports in the pull-down list. One of these should be the COM port for the interface cable. The button will then change back to **All**.

Test Port button

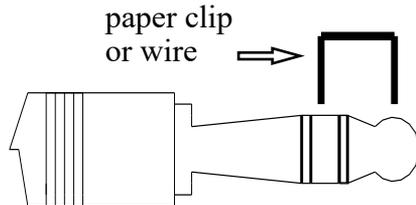
When the Console is powered up and the interface cable is connected, clicking the **Test Port** button will attempt to contact the Console. A message will appear telling if the contact was successful.

The **Test Port** button can also perform a “Paper Clip Test”. This test is performed with the cable connected to the PC but disconnected from the Console.



Select the serial port to be tested and click on the **Test Port** button. If the message “Connection OK” is displayed, another device (such as a modem) is probably connected to that port. If the message “No Connection” is displayed, this port may be the one connected to your serial cable and you can proceed to the next step.

Place a paperclip on the end of the serial pin so that it touches both the tip of the pin and the metal area between the two black rings. Again click on the **Test Port** button. If the message “Connection OK” now appears, this is the COM port connected to your serial cable.



Time

Use UTC

GPS satellites transmit UTC time, which is recorded in the Console. Select this if you want your PC data files to use UTC.

Use local time zone (from PC)

If this option is selected, the UTC times on the Console will be translated to the local time as specified on your PC.

Console Names

The first time a Console is connected to ConsoleSync, you are prompted to give it a name. The names you have previously provided are listed here. If you **Delete** a name, the next time the Console is connected, you will again be asked for a name. If you click **Change**, a question box will ask you for the new name for that Console.

NOTE: Deleting or Changing a name does not affect any existing data files. They will not be deleted or altered in any way. This only changes how new files are named. If you want old files to have the new name, you must rename them yourself.

Temperature, Pressure, and Speed Units

The units selected in these fields will be used for both the Console display and for any recorded data. The available units are:

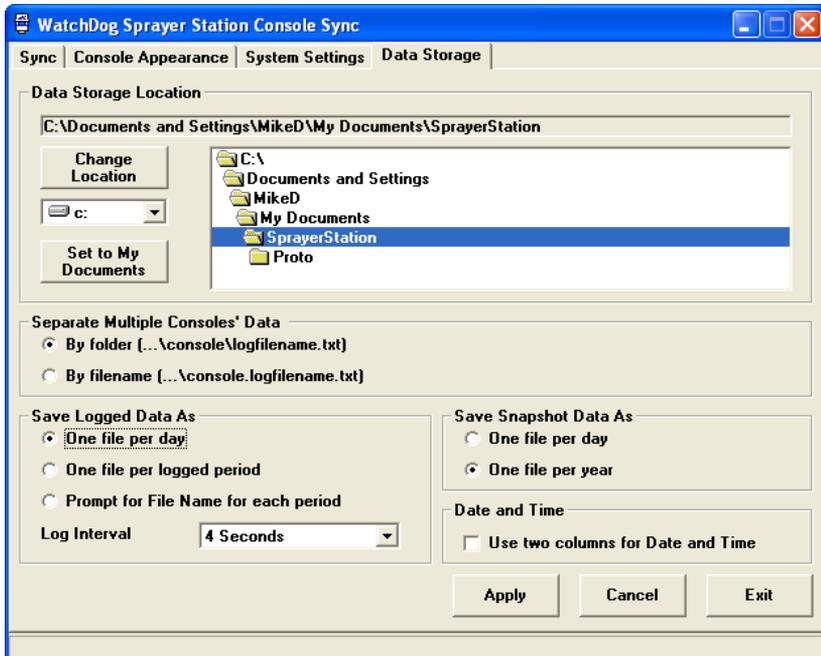
Unit	English	Metric
Temperature	Fahrenheit	Celsius
Pressure	Inches of mercury	hPa (millibars)
Speed	mph	km/hr or m/s

DATA STORAGE

The **Data Storage** tab allows you to specify what data to collect on your Console and where to preserve it on your PC. It contains the following configuration options:

Data Storage Location

By default, ConsoleSync saves files in a folder named “SprayerStation” in the “My Documents” (or “Documents”) folder (see below). The destination location can be changed by clicking the **Change Location** button. This will open up a browsing window. The **Set to My Documents** button provides a quick way to get back to “My Documents”.



Note that changing the file location only affects future files; you must manually move any existing files to the new location.

Separate Multiple Consoles' Data

If you own more than one Sprayer Station Console, their data files need to be separated. You are given the opportunity to name each Console (see “Console Names”, p. 23), and that name is used to uniquely identify the files. ConsoleSync offers two naming options:

By Folder

Unique folders are created in the Data Storage Location folder. Each Console's data is saved in the corresponding folder.

By filename

All data files are stored in the Data Storage Location folder. But, the Console name is used as the first part of the data file name to differentiate them.

Save Logged Data As

Logged data files are saved with the name “Sprayer.Log.*identifier*.txt” (prefixed by or saved in the folder named for the Console name). The *identifier* part of the name can take three forms:

One file per day

The logged data date is substituted for *identifier* in the form “yyyymmdd”.

One file per logged period

When there is a break in the logged data of at least five minutes, a new log file is started. The time associated with the first record is substituted for *identifier* in the form “yyyymmdd.hhmm”.

Prompt for File Name for each period

When there is a break in the logged data of at least five minutes, a new log file is started. You are given the time the logging period began, and asked for a name. This name is substituted for *identifier*. This option would be most commonly used to mark files by customer or location name or number.

Log Interval

The logging interval is set as a standard for all the Consoles you manage. Log Interval allows you to disable logging (which deactivates the **Log** button on the Console), or set a recording interval ranging from four seconds to one minute.

Save Snapshot Data As

Snapshot data is a single geo-referenced weather data point, obtained by pressing the **Snapshot** button on the Console. Snapshots could be used to record conditions at the beginning and/or end of spraying a field. Snapshot records are saved in files with the name “Sprayer.Snap.*identifier*.txt” (prefixed by or saved in the folder named for the Console name). The *identifier* part of the name can take two forms:

One file per day

The logged data date is substituted for *identifier* in the form “yyyymmdd”.

One file per year

The logged data year is substituted for *identifier* in the form “yyyy”. In essence, this records all Snapshot records in a single file. The file is split by year to ensure individual files do not get too long, and to ease archiving old files.

Date and Time

Log and Snapshot records begin with the date and time. If **Use two columns for Date and Time** is checked, then they are stored separately, otherwise they are saved in a single column.

LOG FILE FORMAT

The Log and SnapShot files are ASCII text files, containing the following data values, separated by tabs.

Column Header	Description	
Date_Time	Date & Time (1 or 2 columns, as configured)	
Temp	Temperature	
RH	Relative Humidity	
Dew	Dew Point	
Bar	Barometric Pressure	
AWindDir	Apparent Wind Direction (Degrees)	
AWindR	Apparent Wind Direction (Compass Rose)	
AWindSpeed	Apparent Wind Speed	
AWindGust	Apparent Wind Gust	
Sats	Number of GPS Satellites	
TWindDir	True Wind Direction (Degrees)	*
TWindR	True Wind Direction (Compass Rose)	*
TWindSpeed	True Wind Speed	*
TWindGust	True Wind Gust	*
HeadingD	Vehicle Heading (Degrees)	*
HeadingR	Vehicle Heading (Compass Rose)	*
CourseD	Course of Travel (Degrees)	*
CourseR	Course of Travel (Compass Rose)	*
VSpeed	Vehicle Speed	*
HDOP	GPS HDOP	*
Latitude	Latitude, in the form Nddmm.mmmm	*
Longitude	Longitude, in the form Wddmm.mmmm	*

* Only provided if a GPS position fix is available

Many programs will import data contained in tab-separated value files. For example, in Excel:

1. Open Excel
2. Select **Open** from the **File** menu.
3. Change the file type from **All Excel Files** to **All Files** so the ConsoleSync files will appear on the file list.
4. Browse to the data storage location for the file you wish to import. Select and open it.
5. This should bring up the first page of the **Text Import Wizard**. If not, all your data was likely imported into the first column. While it is all still selected, choose menu options **Data** and **Text to Columns**. Then continue as below.
6. Choose the **Delimited** option, and click **Next**.
7. Select **Tab** as the delimiter then click **Finish**.
8. Your data file is now displayed in Excel, with column headers in the first row.
9. Before exiting, save this file as an Excel file to maintain the desired formatting.

TROUBLESHOOTING

The WatchDog Sprayer Station User Guide contains a detailed section on troubleshooting the Sprayer Station itself. This section concentrates on troubleshooting the Console itself, and on features in the Console that enhance troubleshooting the Sprayer Station.

The Console does not seem to be working

When it is switched on, the Console should beep and display the startup screen (see page 11), as well as turn on a backlight for the LCD display. If this does not occur, there is no power from the 12V power connector and the internal 9V battery has been discharged.

1. Unplug the Power Adapter from the Console Cable Assembly and plug it directly into the Console. The Console should switch on?
2. Check that all connections are tight (and correct—see page 7).
3. Open the back of the Console and replace the 9V NiCad battery with a fresh alkaline battery. If the Console powers up, the NiCad battery has fully discharged and must be recharged by

connecting the Console to the vehicle power and allowing it to recharge. **WARNING:** Do not connect the Console to vehicle power with the 9V alkaline battery still inside. Severe damage can occur, which is not covered under warranty.

The Console is not communicating with the PC

1. Ensure that the Console is displaying the Startup screen. The Console must be switched off and then on to change devices.
2. Ensure the PC Interface cable is securely connected at both ends.
3. Ensure the cable is plugged into the correct PC port, or that the serial port specification in **System Settings** is correct. Note: Most USB cables will assign a different COM port number if they are plugged into a different USB port. Confirm the port settings as per pages 21 - 22.

The Wind values do not seem accurate

See the Sprayer Station manual for where to locate the station.

If the apparent wind seems reasonable, but the computed true wind is not, review some of your Log files. Find a section where you were traveling in a straight line for a while. If there is a difference between the Course and the Heading, the Sprayer Station is not pointing directly forward. Rotate it to correct the difference. We recommend keeping the difference within five degrees for the highest accuracy. If the two are more than a fifteen degrees apart, then the true wind calculation will be noticeably off.

Diagnostic Screen

The WatchDog Sprayer Station Console includes an additional display designed for problem diagnosis and resolution.

To activate the diagnostic display, switch off the Console. Press the **Log** button on the face of the Console, and switch the Console on. Hold the **Log** button in until the Console beeps twice, then release the button.

The diagnostic screen will be displayed. The following image shows a screen where GPS data is being received.

The six three-letter-acronyms are codes and counts for the six key

NMEA sentences sent from the Sprayer Station. “oth” counts other sentences received, and “sat” is the number of satellites found by

```
MDA06 MWV16 MWD19 oth00
RMC16 GSA21 HDG18 sat06
N4139.4339 W08812.0119
080703 Log RESET083025
```

the Station. All counts are reset once per minute. The third line shows the current latitude and longitude (or “No GPS Signal” if it is unavailable).

The date (yymmdd) and time (hhmmss) occupy the left and right ends of the fourth line. “RESET” is a reminder that pressing the **Snapshot** button will force a reset of the settings on the Sprayer Station. Since ConsoleSync performs such a reset whenever it detects that it is necessary, the feature is included only for diagnosing severe problems.

The **Log** button turns on and off the diagnostic log. This log includes all NMEA sentences received from the Sprayer Station (six per second), as well as standard log records every four seconds. Because of the high volume of data being recorded, it is recommended that the diagnostic log be run for less than five minutes at a time (usually 30-60 seconds is sufficient). ConsoleSync saves the diagnostic log as a file named “Sprayer.Raw.txt”. Note that there is only one file; it does not include the Console name.

WARRANTY

This product is warranted to be free from defects in material or workmanship for one 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 does not cover damage due to improper installation or use, lightning, negligence, accident, or unauthorized modifications, or to incidental or consequential damages beyond the Spectrum product. Before returning a failed unit, you must obtain a Returned Materials Authorization (RMA) from Spectrum. Spectrum is not responsible for any package that is returned without a valid RMA number or for the loss of the package by any shipping company.



DECLARATION OF CONFORMITY

Spectrum Technologies, Inc.
12360 S. Industrial Dr. East
Plainfield, IL 60585 USA

Model Numbers: 3349CN
Description: WatchDog Sprayer Station Console
Type: Electrical equipment for measurement, control, and laboratory use
Directive: 2004/108/EC
Standards: EN 61326-1:2006
EN 61000-4-2:1995, including A1:1998 and A2:2001
EN 61000-4-3:2002
EN 55011:2007

.....g, Weather Products Manager

January 16, 2009

Spectrum[®] **Technologies, Inc.**

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