B&B ELECTRONICS

Quick Start Guide

AirborneDirect™ Industrial Serial Device Server ABDG-SE-IN5410/IN5420

Revision v2.1

February 2011
Document Number: 100-8106-210

Kit Contents:

Upon receiving the kit please check that you received the following:

- ABDG-SE-IN5410 or ABDG-SE-IN5420 Unit
- 2dBi, 2.4Ghz 50 ohm, omni-directional antenna
- Quick Start Guide
- 5 VDC power supply (optional, included only if ordered as an accessory)
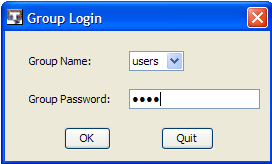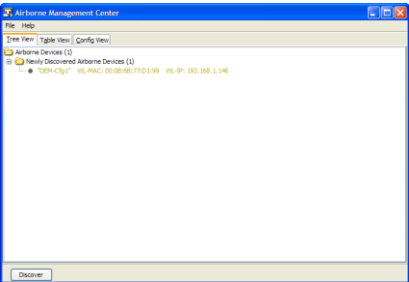- Airborne Direct software and documentation CD

If any of the above contents are missing or appear damaged please contact Quatech Sales support directly at **(800) 553-1170** or **support@quatech.com**.

What you will need:

To evaluate the unit you will need the following components and facilities:

- ABDG-ET-IN50X0 unit with included antenna attached.
- Laptop or desktop system with an Ethernet port.
- 5-36 VDC power for terminal block attachment, or an AC power outlet for optional ABDG-SE-IN5410/IN5420 power supply.
- 802.11b/g network for testing the unit, either AdHoc or Infrastructure (Access Points) mode. The test network configuration must be known. Required information will include:
  - SSID (Wireless network name).
  - Security settings (WEP, WPA, WPA2, etc.).
  - Security credentials (passphrase, key or certificates).
  - Static IP address, Subnet Mask and Gateway address if static IP addresses are used on the test network.
- A web browser on the laptop top or desktop (MS Explorer, Firefox, Opera and Chrome v4.0 are supported).
- CAT5 Ethernet cable for connecting the Airborne™ device to the laptop or desktop.
- Serial cable to connect Airborne™ device to host system.

Getting Started:

1	Open the AirborneDirect™ packaging and locate the Install CD.
2	Place the CD in the CD/DVD drive of the laptop or desktop you will be using to configure the AirborneDirect™ device. Follow the on screen directions for installation of the appropriate device software and documentation.
3	Connect the Ethernet cable on ABDG to an Ethernet port on the laptop or desktop system.
4	Apply power to the ABDG-SE-IN5XXX.
5	The unit will boot and display one of the following LED patterns: **ABDG-SE-IN5XXX** COMM: ⚫ Off LINK : ⚫ Off POST: 🟠 Orange POWER: 🔵 Blue
6	Run the Airborne Management System application. This was installed during the CD installation and a menu item will be found in the Airborne folder located in the programs directory of your system. When the application opens the following dialog will be displayed: Select Group Name: **manuf** and enter Group Password: **dpac**
7	The AMC will load and discover the attached device.

8

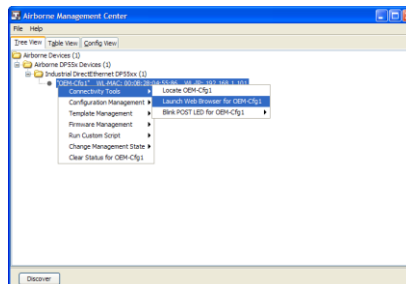Right Click the Unmanaged Device then:

1. Select **Change Management State**

2. Select **Manage OEM-Cfg1**

3. Select **Device OEM-Cfg1 is Factory Default**
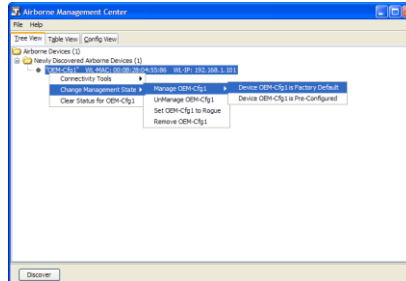
9

The devices status will move to managed and the device will be displayed under the device type/group it belongs too. Right click the device and then:

1. Select **Connectivity Tools**

2. Select **Launch Web Browser for OEM-Cfg1**

10

Opening web page shows adapter status.

Links to the available configuration options are identified in the left hand menu. The top menu bar provides access to different operations that can be performed by the AirborneDirect™ device. Please refer to the User's Manual for a full description of how to use the web interface.

11

Using Express Setup:

If this is the first time you have configured the device the Express Setup page will be displayed. This page provides access to the critical configuration items needed to get the ABDG up and running quickly. See **Express Setup Configuration Page** section for details on how to configure the device.

Please refer to the User's Manual for complete details on ABDG device configuration.

12

When the **Reboot** button is pressed the unit will restart and install new settings. This may take 15-20 seconds. Please refresh the web interface after the boot cycle has completed.

13

When configured correctly the LED pattern should match the following:

ABDG-SE-IN5XXX	No TCP Connection	TCP Connection
COMM:	● Off	● Green
LINK :	● Green	● Green
POST:	● Green	● Green
POWER:	● Blue	● Blue

14

To use the adapter on the wireless network, address all traffic to the IP address of the wireless interface of the ABDG-SE- IN5XXX. This address is listed in the home page of the web interface.

Express Setup Configuration Page

When the devices web interface is accessed for the first time an Express Setup page will be shown. This page is designed to allow a quick device set-up by presenting the most popular device configuration options in a single location. For more advanced configurations the full set of options are available in the feature links (left-hand column).

The Express Setup web page will display the necessary fields based upon the selections made during configuration. The Express Setup page looks like (Figure 1):

Figure 1 - Express Setup Page

To configure the device for operation each field must be configured correctly. The following steps should be taken to configure the device (Note: not all fields will be visible):

Table 1 - Express Page Setup

Step	Description
Navigation Bar Select **Configuration**	You will see a group of fields under the banner of WLAN Parameters.
Feature Link Select **Express Setup**	This step is optional. If this is the first time the device has been configured this page will automatically be displayed.
Select **Discovery OEM Device Name**	This parameter allows you to name the device uniquely or group into a functional set. When device discovery is used this name identifies the found device. If you wanted to uniquely identify the device you could mark it with a label e.g. Dev1, and then enter Dev1 in this field. When the device is found it will identify itself as Dev1. Alternately you could indicate the type of equipment the device is attached to e.g. Haas TL-2 (CNC Turning Center), by giving the unit a name like Haas_TL_2. When discovered you can then identify the device you are accessing. Enter the text string is you wish to change the default value. This field is optional.
Select **Radio Startup Mode**	Select **On** from the drop down menu for the radio to operate.

Step	Description
Select **Wireless LAN Connection Type**	If you are using Access Points make sure this is set to **Infrastructure** from the drop down menu. If you want to use **AdHoc** set this accordingly. Additional settings may be required to fully configure for AdHoc mode. Please refer to the User's Manual for details.
Select **SSID**	Enter the name of the wireless network you wish to access. This field is case sensitive.
Select **Wireless LAN Security Type**	Select the security type the wireless network you wish to access is using. Depending upon the option you choose you may have to enter additional information. Once you have selected the security type the required inputs will be made accessible by un-graying the fields that must be completed. If the security type is not in the available selections, more are available in the *WLAN Security Settings* page. If you choose to use this page make sure you commit the changes you have already made before moving to the *WLAN Security Settings* page.
Select **WLAN DHCP**	If your WLAN network uses DHCP to assign IP addresses to the wireless clients, select **Enabled** from the drop down menu. If you are using static IP addresses select **disabled** from the drop down menu. **WLAN Static IP** and **WLAN Subnet Mask** will need to be entered.
Select **Ethernet DHCP**	If the Ethernet network connected to the Ethernet port uses DHCP to assign IP addresses to the wired clients, you should select **Enabled** from the drop down menu. If you are using static IP addresses you should select **Disabled** from the drop down menu. **Ethernet Static IP** and **Ethernet Subnet Mask** will need to be entered. **Important:** This field is only used if the Ethernet interface is set as a client (default for Serial devices). If set as a router the field is ignored. See the User's Manual for a full description of configuring the unit as an Ethernet router.
Select **WLAN Static IP**	This field defines the static IP address for the wireless interface. This address is only used if the **WLAN DHCP** is disabled or DHCP failed. Default: **192.168.10.1**
Select **WLAN Subnet Mask**	This field defines the subnet mask used by the wireless interface. This mask is only used if the **WLAN DHCP** is disabled or DHCP failed. Default: **255.255.255.0**
Select **Ethernet Static IP**	This field defines the static IP address for the Ethernet interface. When configured as a serial device server (Ethernet interface is in **client** mode) this address is only used if the **Ethernet DHCP** is disabled or DHCP failed. Default: **192.168.2.100**
Select **Ethernet Subnet Mask**	This field defines the subnet mask used by the Ethernet interface. When configured as a serial device server (Ethernet interface is in client mode) this mask is only used if the **Ethernet DHCP** is disabled or DHCP failed. Default: **255.255.255.0**
Press **Commit** [Button]	Saves changes to the device.
Optional Press **Reload** [Button]	Reloads the **Express Settings** page. Select this is you have further configuration options to change.

Step	Description
Optional Press **Restart** [Button]	Restarts the device. After the device as rebooted it will attempt to authenticate to the configured network. As long as the network is in range the wireless interface will connect. If the network is using DHCP then an IP address will be assigned to the WLAN interface and IP connectivity is possible over the WLAN network. If the network is using static IP addresses it will be necessary to configure the network interface, see the next step.

The web interface supports advanced configuration of the device through the additional pages available. The following sections provide guidance on how to use these pages for specific configurations.

Table 2 – LED Indicators

LED	Color	Airborne Device State
POWER	○	Adapter is not powered.
	●	Adapter is powered.
POST	○	Adapter is not powered.
	● (red)	Adapter failed Power On Self Test (POST) and is not configured for wireless communication.
	● (orange)	Adapter passed POST but is not configured for wireless network communication.
	● (green)	Adapter passed post and is configured for wireless communication.
LINK	○	Adapter is not powered.
	☀ (blinking red)	(Periodic Blinking) Adapter is searching for a valid network (Access Point) that matches device's configuration.
	● (green)	Adapter has successfully associated with an Access Point.
COMM	○	If Power LED is also Off then Adapter is not powered. If Power LED is On then: • No TCP session from WLAN or Ethernet interface has been established.
	● (green)	A TCP connection to the adapter has been established from the Wireless or Ethernet interfaces but no traffic has been detected.

Serial Port Pin Out
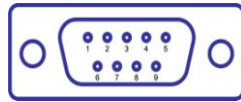
Figure 2 - DE-9 Connector Pin-out

Table 3 – Serial Port Pin Definition

Pin	RS232 (DTE) Port 1 & 2 (Default)	RS422/485
1	No Connect	No Connect
2	RxD	RxD+
3	TxD	TxD+
4	No Connect	No Connect
5	GND	GND
6	No Connect	RxD-
7	RTS	No Connect
8	CTS	No Connect
9	No Connect	TxD-

Serial Port Defaults Settings:

Setting	Port 1 (DTE)	Port 2 (DTE)
BAUD	9600	9600
Parity	None	None
Stop Bits	8	8
Data Bits	1	1
Flow Control	None	None
Serial Default Mode	Listen	Listen
Input Buffer Size (Bytes)	1460	1460
Serial Escape Mode	ON	ON

Second Serial Port

If you have purchased the ABDG-SE-IN5420 device it is possible to configure the second serial port using the web interface. Repeat step 10 in the **Getting Started** section, however select the **Serial Port 2 Settings** link and configure the appropriate parameters.

5675 Hudson Industrial Parkway

Hudson, OH 44236

Tel: 330.655.9000

800.553.1170

support@quatech.com

www.quatech.com

©2010-2011 Quatech, Inc. All rights reserved.