Quick Start Guide

AirborneDirect™ Ethernet Client Adapter ABDG-BR-DP501/IN5010

Revision v1.0

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Kit Contents:

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

- ABDG-BR-DP501 or ABDG-BR-DP5010 Unit
- 5VDC Power Supply (2.1mm barrel jack)
    - o   included with ABDG-BR-DP501
    - o   optional for ABDG-BR-IN5010, included only if ordered as an accessory
- 2dBi, 2.4Ghz 50 ohm, omni-directional antenna
- Quick Start Guide
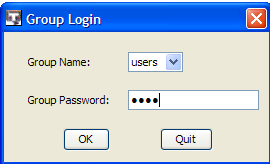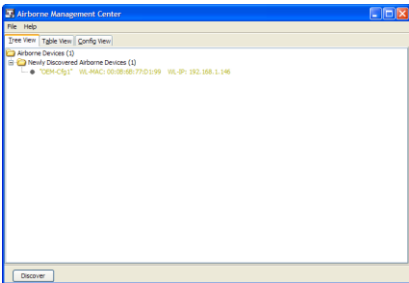- AirborneDirect™ software and documentation CD

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-BR-DP501 or ABDG-BR-IN5010 unit with included antenna attached.
- Laptop or desktop system with an Ethernet port.
- Power outlet for ABDG-BR-DP501/IN5010 power supply. Optionally 5-36 VDC power for the terminal block attachment (IN5010).
- 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:
    - o   SSID (Wireless network name).
    - o   Security settings (WEP, WPA, WPA2, etc.).
    - o   Security credentials (passphrase, key or certificates).
    - o   Static IP address, Subnet Mask and Gateway address if static IP addresses are used on the test network.
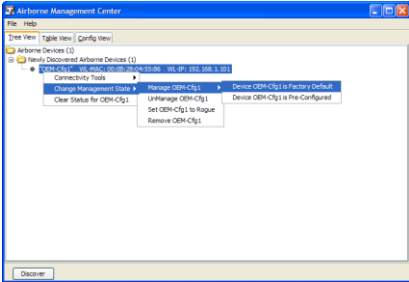- A web browser on the laptop top or desktop (Internet Explorer, Firefox, Opera and Chrome v4.0 are supported).

Getting Started when no open Network available:

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-BR-DP5XX/IN5XXX.

<table>
<tr><td rowspan="1">5</td><td>The unit will boot and display one of the following LED patterns:

ABDG-BR-DP5XX   <i>Not Associated</i>
POWER: ● Green
LINK :   ● Red (Periodic Blinking)
COMM: ● Red

ABDG-BR-IN5XXX
COMM: ● Off
LINK :   ● Off
POST: ● Orange
POWER: ● Blue</td></tr>
</table>

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.

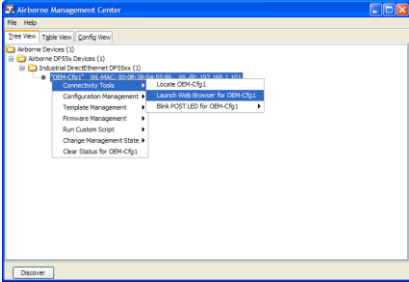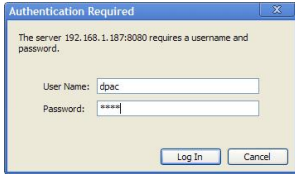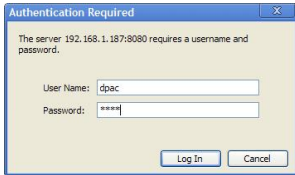|	
8	Right Click the Unmanaged Device then: 1. Select **Change Management State** 2. Select **Manage OEM-Cfg1** 3. Select **Device OEM-Cfg1 is Factory Default**
9	The device's status will move to managed and the device will be displayed under the device type/group it belongs to. Right click the device 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 up to 10 seconds. Please refresh the web interface after the boot cycle has completed.
13	When configured correctly the LED pattern should match the following: **ABDG-BR-DP5XX** POWER: ● Green LINK : ● Green COMM: ● Red **ABDG-BR-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-BR- DP5XX/IN5XXX. This address is listed in the home page of the web interface.

Getting started with an open Network available:

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. The Etehrnet port must have DHCP enabled and fallback to an AutoIP address (IP: 169.254.X.X/Subnet: 255.255.0.0)
4	Apply power to the ABDG-BR-DP5XX/IN5XXX.
5	The unit will boot and display one of the following LED patterns: **ABDG-BR-DP5XX** *Associated (Open Network)* POWER: 🟢 Green LINK : 🟢 Green COMM: 🔴 Red **ABDG-BR-IN5XXX** COMM: ⚫ Off LINK : 🟢 Green POST: 🟢 Green POWER: 🔵 Blue
6	Open a browser and enter **www.quatech.com** into the URL field.
7	You will be asked to login to the Airborne unit: Enter the default settings and press **Log In** (Username:**dpac**/Password:**dpac**).
8	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.
9	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. If the Ethernet Client will be accessing any resources on port 80 (HTTP) the HTTP port must be changed on the Airborne device e.g. to Port 8080, this is covered in Table 1. Please refer to the User's Manual for complete details on ABDG device configuration.
10	When the **Reboot** button is pressed the unit will restart and install new settings. This may take up to 10 seconds. Please refresh the web interface after the boot cycle has completed.

11	When configured correctly the LED pattern should match the following: **ABDG-BR-DP5XX** POWER: 🟢 Green LINK : 🟢 Green COMM: 🔴 Red **ABDG-BR-IN5XXX** *No TCP Connection* *TCP Connection* COMM: ⚫ Off 🟢 Green LINK : 🟢 Green 🟢 Green POST: 🟢 Green 🟢 Green POWER: 🔵 Blue 🔵 Blue
12	To use the adapter on the wireless network, address all traffic to the IP address of the Ethernet Client's Ethernet port. This will also be shown as the WLAN IP Address of the ABDG-BR- DP5XX/IN5XXX. This address is listed in the home page of the web interface.

Getting started with no open Network available (No AMC):

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. The Etehrnet port must have DHCP enabled and fallback to an AutoIP address (IP: 169.254.X.X/Subnet: 255.255.0.0)
4	Apply power to the ABDG-BR-DP5XX/IN5XXX.
5	The unit will boot and display one of the following LED patterns: **ABDG-BR-DP5XX** *Not Associated* POWER: 🟢 Green LINK : 🔴 Red (Periodic Blinking) COMM: 🔴 Red **ABDG-BR-IN5XXX** COMM: ⚫ Off LINK : ⚫ Off POST: 🟠 Orange POWER: 🔵 Blue
6	Open a browser and enter **169.254.2.100** into the URL field.
7	You will be asked to login to the Airborne unit: **Authentication Required** The server 192.168.1.187:8080 requires a username and password. User Name: dpac Password: **** [Log In] [Cancel] Enter the default settings and press **Log In** (Username:**dpac**/Password:**dpac**).
8	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.
9	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.
10	When the **Reboot** button is pressed the unit will restart and install new settings. This may take up to 10 seconds. Please refresh the web interface after the boot cycle has completed.

11	When configured correctly the LED pattern should match the following: **ABDG-BR-DP5XX** POWER: 🟢 Green LINK : 🟢 Green COMM: 🔴 Red **ABDG-BR-IN5XXX**　　*No TCP Connection*　　　　*TCP Connection* COMM: ⚫ Off　　　　　　🟢 Green LINK : 🟢 Green　　　　　🟢 Green POST: 🟢 Green　　　　　🟢 Green POWER: 🔵 Blue　　　　　🔵 Blue
12	To use the adapter on the wireless network, address all traffic to the IP address of the Ethernet Client's Ethernet port. This will also be shown as the WLAN IP Address of the ABDG-BR- DP5XX/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:

> 1. The web interface is context sensitive. Not all of the fields below will be visible without a context change.
> 2. To access on-line help click the ❓ icon next to the parameter.

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.
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**	Defines the IP address used to access the Client Bridge for configuration is a static IP address.
	Important: Do not change this parameter for correct bridge operation.
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.
	This value should match the static IP address given to the Ethernet client.
	Default: **0.0.0.0**
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.
	This value should match the static IP address given to the Ethernet client.
	Default: **255.255.0.0**
Select **Ethernet Static IP**	This field defines the static IP address used to access the Client Bridge for configuration. The default value reflects an AutoIP fall back address.
	Default: **169.254.2.100**
Select **Ethernet Subnet Mask**	This field defines the subnet mask used to access the Ethernet Client for configuration. The default value reflects the subnet mask used by AutoIP fallback addressing.
	Default: **255.255.0.0**
Select **Gateway IP Address**	This field defines the IP address of the gateway on the WLAN network.
	This value should match the static Gateway IP address given to the Ethernet client.
	Default: **0.0.0.0**
Select **Web Server Port**	This is the port on which the Airborne device's web server is listening.
	Important: If it is expected that the Ethernet Client will be accessing, on the WLAN network, resources on port 80 this be changed to an alternate port number e.g. 8080.
	Default Port: **80**

Step	Description
Select **Telnet Port**	This is the port used to access the Airborne device for configuration, using a TCP/IP connection. If the Ethernet Client uses port 23 this must be changed to an alternate port number e.g. 8028. Default Port: **23**
Select **Internal FTP Server Listen Port**	This is the port on which the Airborne device's FTP server is listening. If the Ethernet Client supports a FTP server (on port 21) it is recommended this be changed to an alternate port number e.g. 8021. Default Port: **21**
Select **Secure Shell Server (SSH) Port**	This is the port on which the Airborne device's SSH server listens. If the Ethernet Client supports direct SSH connections (on port 22) it is recommended this be changed to an alternate port number e.g. 8022. Default Port: **22**
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.
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. Please refer to the User's Manual for details.

Table 2 – IN5010 Indicator LED's

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.
	☀ (red blinking)	(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.

Table 3 – DP500 Indicator LED's

LED	Color	Airborne Device State
POWER	○	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.
	☀ (red blinking)	(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 either: • A physical connection detected on Serial/Ethernet cable. • No TCP session from wireless interface has been established.
	● (red)	No physical Serial/Ethernet connection has been detected.
	☀ (red blinking)	(Blinking – OFF/Red) A physical Serial/Ethernet connection has been detected and there is traffic across the interface. No TCP connection to the adapter has been established on the wireless interface.
	● (orange)	A TCP connection to the adapter from the wireless interface has been established but no physical connection on the Serial/Ethernet interface has been detected.
	☀ (green blinking)	(Blinking – Green/Orange) A physical Serial/Ethernet connection has been detected and there is Serial/Ethernet traffic across the interface. A TCP connection to the adapter has been established (On WLAN or Ethernet interface).
	● (green)	A physical Serial/Ethernet connection has been detected. A TCP connection to the adapter has been established from the WLAN or Ethernet interface but no traffic has been detected.

5675 Hudson Industrial Parkway

Hudson, OH 44236

Tel: 330.655.9000

800.553.1170

support@quatech.com

www.quatech.com