American Bright Optoelectronics

Evaluation Kit Demo Setup Guide

AB-PDEMOKIT-1-ND

System Requirements:

- Microsoft Access and Excel Software installed for database management
- Windows PC connected to a network router via cable or Wi-Fi
- Network cable to connect American Bright Coordinator to the router
- NxESL software downloaded and installed on the PC

Hardware and Database Setup:

Figure 1 shows the coordinator connected to a router via network cable. A PC is wirelessly or cable connected to the same router to ensure both devices are in the same IP domain.

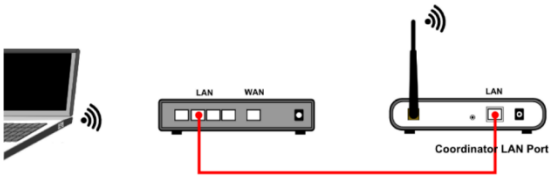
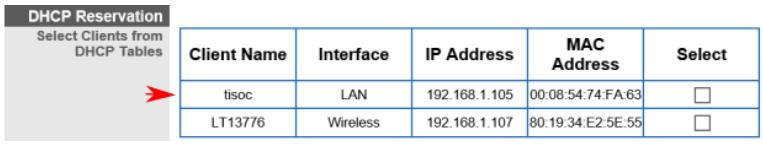


Fig. 1

1. To locate the coordinator IP address, use an internet browser with all browsing history deleted, type the IP address of the router (typically 192.168.1.1) into the address field and press enter. The router's login page will appear in the browser window. Type the password if necessary (typically "admin") and press enter. The IP addresses of connected devices are available in the DHCP client table. The coordinator is listed as "tisoc" in the table followed by the IP address. See Figure 2.



DHCP Reservation

Select Clients from DHCP Tables

Client Name	Interface	IP Address	MAC Address	Select
tisoc	LAN	192.168.1.105	00:08:54:74:FA:63	☐
LT13776	Wireless	192.168.1.107	80:19:34:E2:5E:55	☐

Fig. 2

2. Download the e-paper demo.zip file; then extract the NxESL application file. Save the extracted files in the demo folder. See Figure 3.

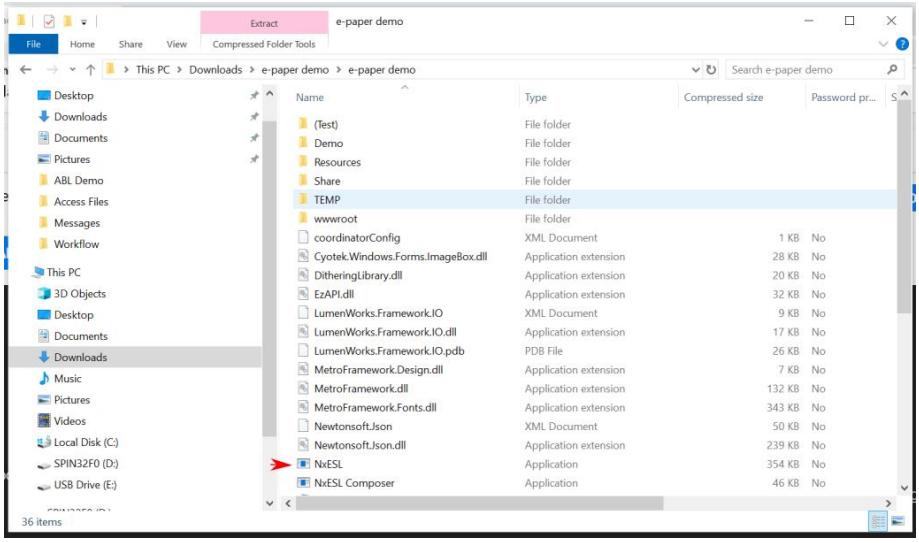


Fig. 3

3. In the unzipped e-paper demo folder, locate the NxESL application file and copy or pin a shortcut to the PC desktop or taskbar; then Launch the application. See Figure 4.

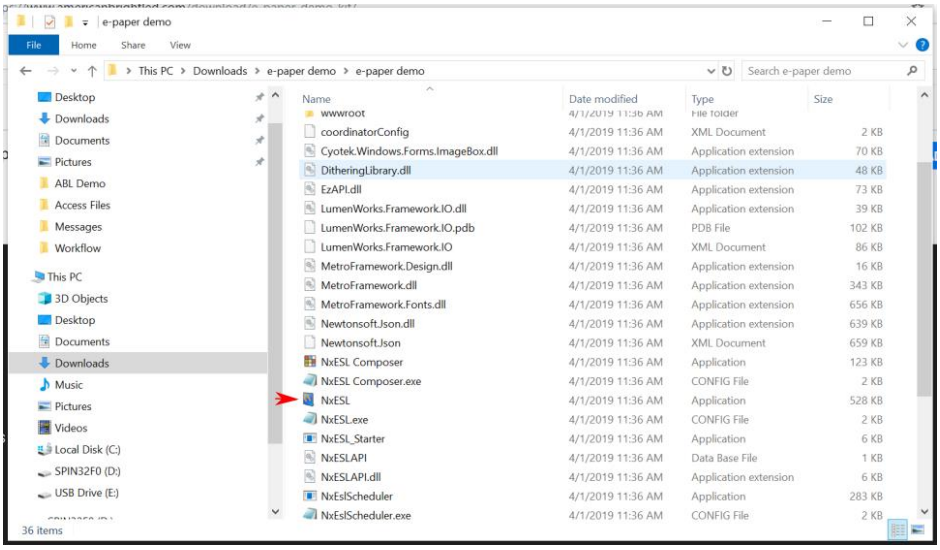


Fig. 4

4. The first time the application launches, a database has not yet been assigned. Select **OK** in the **Database Not Found** dialog box. The ***Database Settings*** dialog box will appear. See Figure 5. Select the **(+) disk stack** icon; the **Save to File** dialog box will appear. NxESL will assign a numeric file name for the demo. Select **Save** to continue. Select **Create**, **OK** and finally **Select** as the buttons become available to finish creating the demo database file.

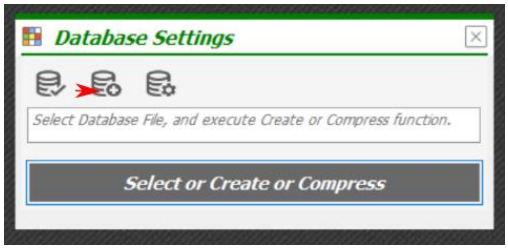


Fig. 5

5. The account login prompt dialog box requires “admin” as the account and “admin” as the password to proceed.

6. Locate the recessed reset button hole on the bezel of an e-Tag. Using an opened paperclip or other small, blunt tool, press the reset button on each e-Tag to power them up. The U2 mode is the default and is indicated by the “(U2)” characters in the second row of text on the display.

NxESL Utility Setup:

There are four components used to configure the e-Tag system: coordinator, label, article and template.

- **Coordinator:** The coordinator is the wireless link between the NxESL Utility program and the displays. Multiple coordinators may be used with each managing their own set of assigned displays.

- **Label:** Excel spreadsheet file containing information about each display module including its long address (L_ADDR), panel type (PANEL_ID), orientation (ROTATE) and status (UPDATE).
- **Article:** Excel spreadsheet containing the information that will be displayed on a given panel. A pairing process binds a label to the article and the display template.
- **Template:** Contains the graphical layout of the article information to be displayed. Templates are formatted to fit each panel type. Any number of displays may use the same template. For this demo, two templates have been provided that match the displays in the demo kit.

Add a Coordinator

Select the **Import** tab; then select **Coordinator** to open the ***Coordinator*** dialog box. Select ***Add New Coordinator***; then select the **ALIAS** data field and enter a custom name for the coordinator (i.e. CRD1). Next enter the **MAC** address found on the label on the underside of the coordinator housing. Enter the **IP** address discovered in step 1 and enter a **PAN** number between 0001 and 65535. See Figure 6. Close the Coordinator Dialog box.

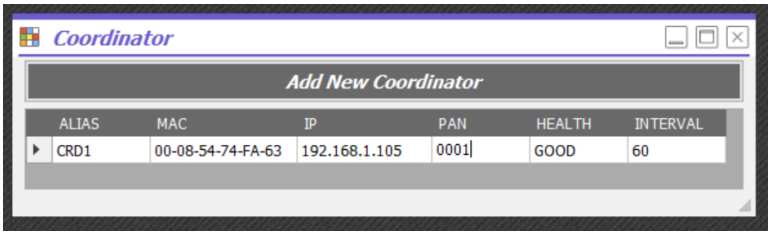
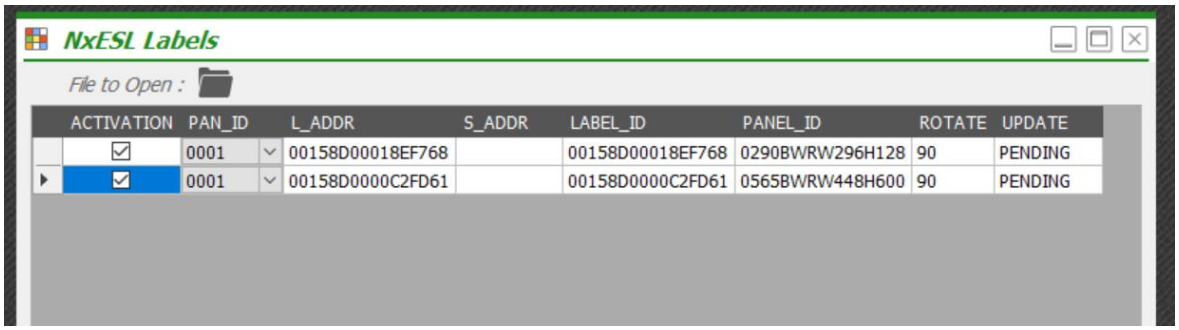


Fig. 6

Import a Label File

1. Open the Excel workbook file "Label_DK" in the e-paper demo folder downloaded during setup. Locate a row with the value "0290BWRW296H128" in the **PANEL_ID** column. Replace the values in the **Label_ID** and **L_ADDR** fields of this row with the 16-digit MAC address numbers found on the label on the back side of the 2.9" e-Tag housing. Repeat this step for one "0565BWRW448H600" **PANEL_ID** and the 5.65" e-Tag. Save the changes and close the file.

2. Select the **Import** tab; then select **Labels** to open the ***NxESL Labels*** dialog box. Select the folder icon and select the Excel file **Label** in the demo folder; then select the Open button. Update the data by adding the **PAN_ID** from the coordinator and marking the **ACTIVATION** checkbox for the two entries from step 1. Select ***Import Data***; then close the dialog box. See Figure 7.



3. Select the **Edit** tab; then select **Label** to open the ***Label*** edit dialog box. Update the data by selecting the **TEMPLATE ID** that corresponds with the **SIZE** and **COLOR** for the two entries from step 1. See Figure 8. Close the ***Label*** dialog box.

Fig. 7

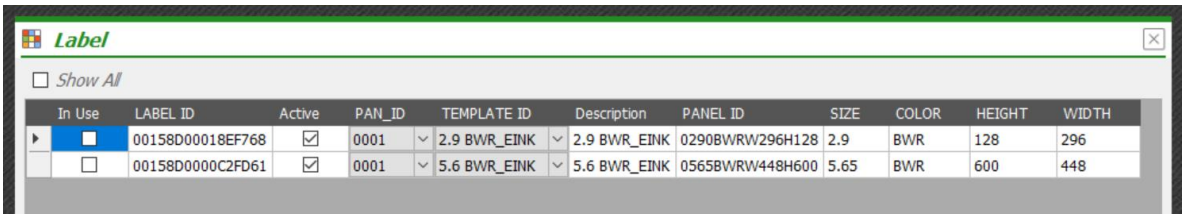


Fig. 8

4. Select the **Edit** tab; then select **Template** to open the ***Default Template for Barcode Pairing*** dialog box. This is a list of all display types available from American Bright Optoelectronics. Select the **TEMPLATE ID** that matches the **SIZE** and **COLOR** parameters of the two e-tags. See Figure 9. Close the ***Default Template for Barcode Pairing*** dialog box.

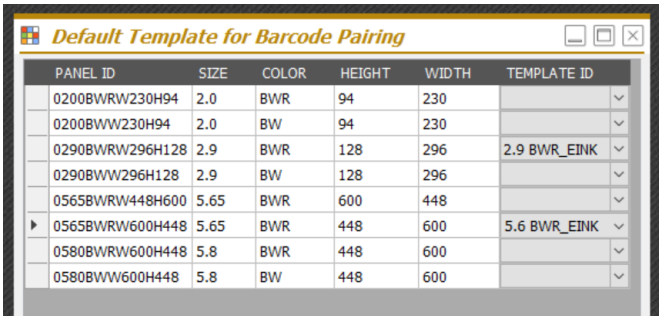


Fig. 9

Import an Article File

1. Select the **Import** tab; then select **Article** to open the ***Import Article Data*** dialog box. Select the folder icon and select the Excel file "Article_DK" in the demo folder; then select the **OK**

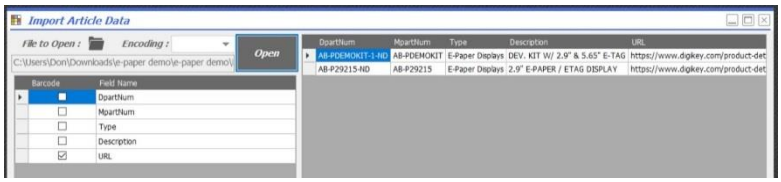


Fig. 10

button. Select the ***Open*** button; then place a checkmark by the **URL** field name. This is the field that will be used to generate a QR barcode for the display. Select ***Import Data*** and **OK**. See Figure 10. Close the dialog box.

2. Select the **Edit** tab; then select **Article** to open the ***Article*** dialog box. Select the small black arrow to the left of the article for the 2.9: e-Tag. The entry will turn blue. Right click on the arrow again and select **Bind Labels(1)**. The Label dialog box will appear. Select the small black arrow to the left of the label with the 2.9 e-Tag template ID to pair it with the article. Right click on the arrow and select **Auto Pair (1)**. The label will turn red; then close the Label dialog box. See Figure 11. Repeat this step for the 5.6 e-Tag; then close the dialog boxes.

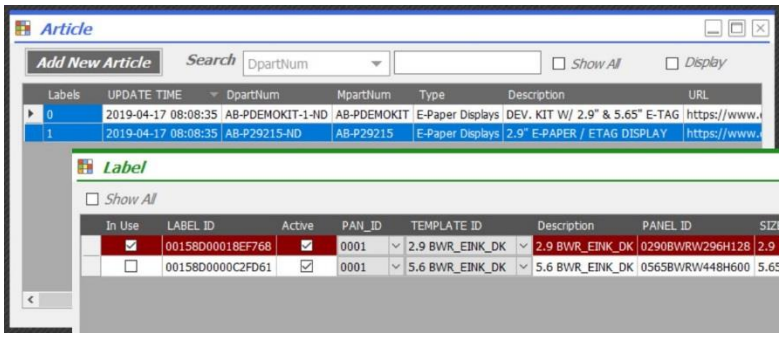


Fig. 11

Transfer the Templates to the Displays

1. Select the **Tools** tab; then select **Composer Tasker** to open the ***NxESL Composer*** dialog box. Select **Rebuild** from the task dropdown; then press start. Composer will place the article data into the template(s) and display the information in succession. See Figure 12. When complete, close dialog box.

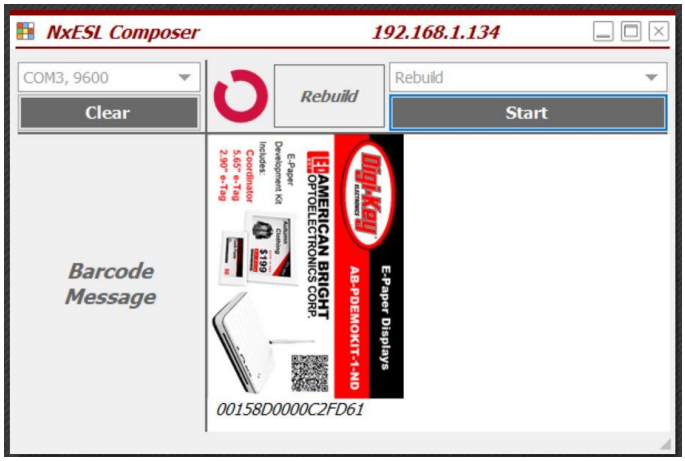


Fig. 12

2. Select the **Tools** tab; then select **Scheduler Coor.** to open the ***NxESL Scheduler*** dialog box. The scheduler will immediately begin communication with the coordinator and the **Todo** list will populate with e-Tag update information and current e-Tag status. See Figure 13.

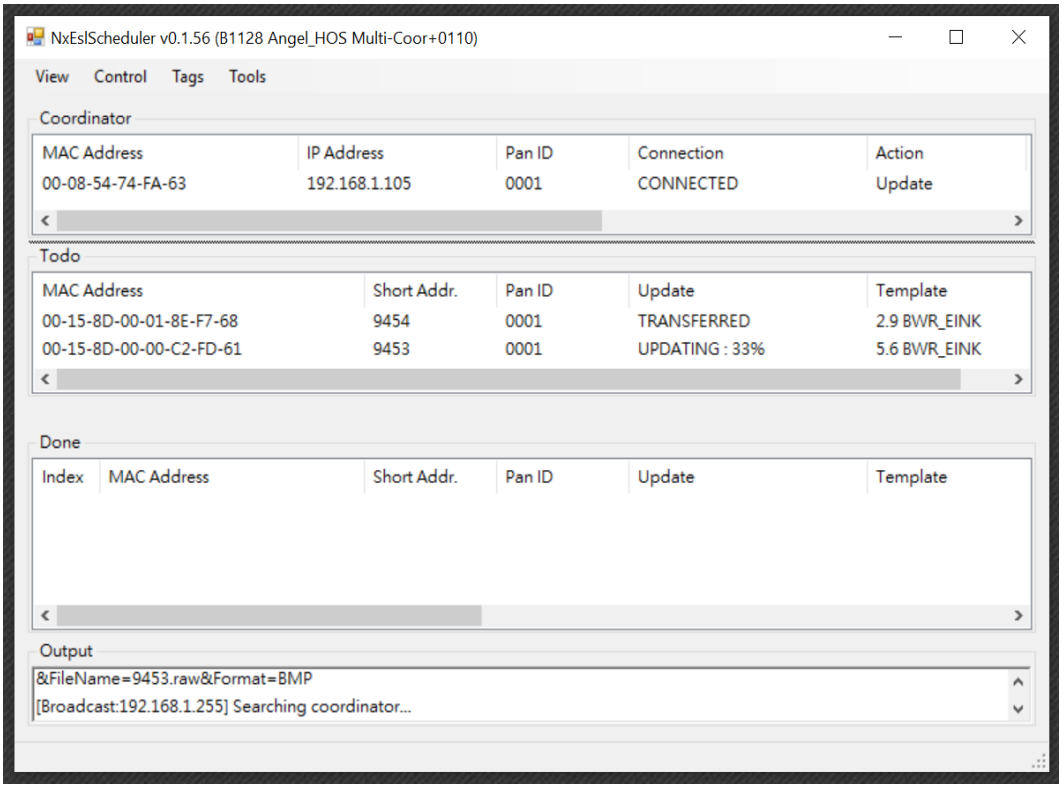

NxEslScheduler v0.1.56 (B1128 Angel_HOS Multi-Coor+0110)
View
Control
Tags
Tools
Coordinator
MAC Address
IP Address
Pan ID
Connection
Action
00-08-54-74-FA-63
192.168.1.105
0001
CONNECTED
Update
Todo
MAC Address
Short Addr.
Pan ID
Update
Template
00-15-8D-00-01-8E-F7-68
9454
0001
TRANSFERRED
2.9 BWR_EINK
00-15-8D-00-00-C2-FD-61
9453
0001
UPDATING : 33%
5.6 BWR_EINK
Done
Index
MAC Address
Short Addr.
Pan ID
Update
Template
Output
&FileName=9453.raw&Format=BMP
[Broadcast:192.168.1.255] Searching coordinator...

Fig. 13

3. When the Join, Update and Transfer functions are complete, the **Done** list shows the e-Tag update results**.** See Figure 14.

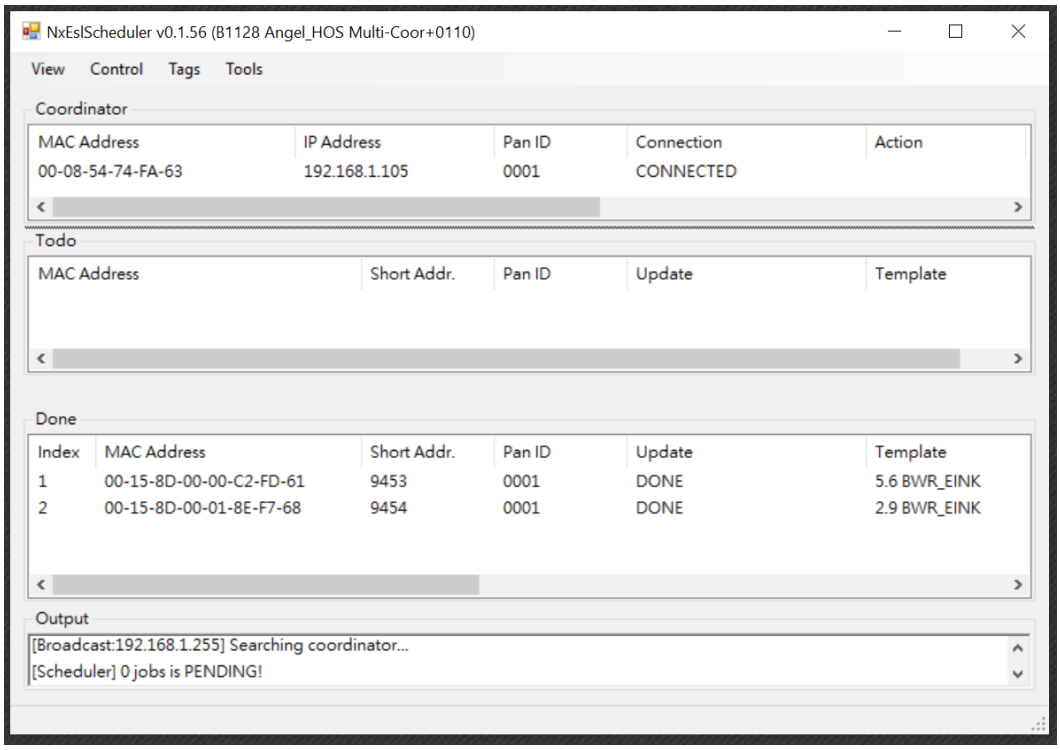


Fig. 14

Note: If the scheduler stalls or reports error messages in the Output window, select the **Tools** tab; then select **Settings**. In the Settings dialog box, ensure the **Local IP Address** and **Coordinator IP** match the addresses determined during setup (i.e. 192.168.1.107 and 192.168.1.105 respectively).

4. The effected e-Tags flash from black to white for several cycles to clear the pixels and then display the new template complete with article data.

5. Using a smartphone or other device capable of scanning QR codes, scan the codes on the displays to verify Digi-Key Electronics product page navigation functionality.