Welcome to Z.O.A.D.



Z.O.A.D. is a desktop application which can be used to perform over-the-air firmware upgrades to ZigBee devices that are running the Texas Instruments Z-StackTM ZigBee stack.

List of features:

- Performs firmware upgrade over-the-air eliminating the need for cables
- Works with any Texas Instruments Z-Stack dongle (ZStack-1.3.0, or greater)
- Allows user to choose network based on network channel / ID
- Allows user to automatically scan for and upgrade ZigBee network devices

Setup

• Program a Texas Instruments Z-Stack board with ZPortApp firmware

Z.O.A.D. requires a Texas Instruments Z-Stack board connected to a host PC. The ZPortApp application must be running on the board and be connected to the host PC running **Z.O.A.D.** The ZPortApp application is available as part of the Texas Instruments Z-Stack installation. It is available in the "<Install folder>/Z.O.A.D./Images" folder. See the Z-Stack developer note titled "**Developer Notes - Over Air Download**" for details on how to program a board with this firmware. Once the firmware is installed, the PC running **Z.O.A.D.** can be used to upgrade OAD enabled devices.

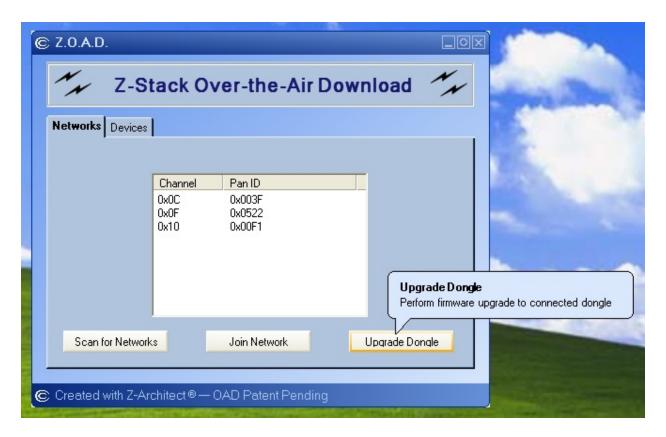
• OAD enable your network devices.

This can be done by modifying an existing application or you can use the pre-built firmware images included with the **Z.O.A.D.** installation. These are available in the <Install folder>/Z.O.A.D./Images" folder.

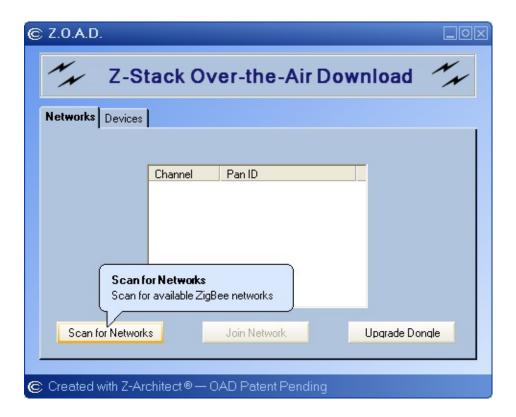
- Connect the ZPortApp board to the host PC using a serial cable (USB <> serial) will work also.
- Start **Z.O.A.D.** and follow the next section of this help file; "Basic Steps".

Basic Steps

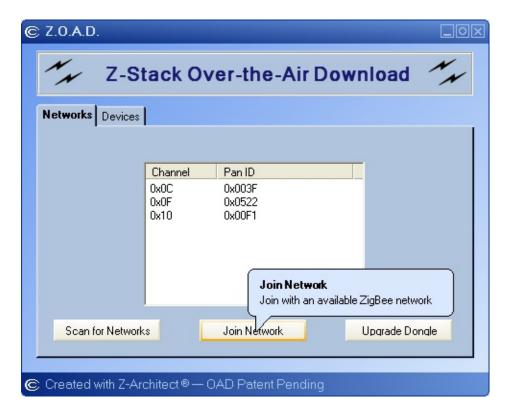
- Upgrading the dongle
- 1. Click on Upgrade Dongle



- Downloading an image to a network device
- 1. Scan for available ZigBee networks by pressing the "Scan for Networks" button.



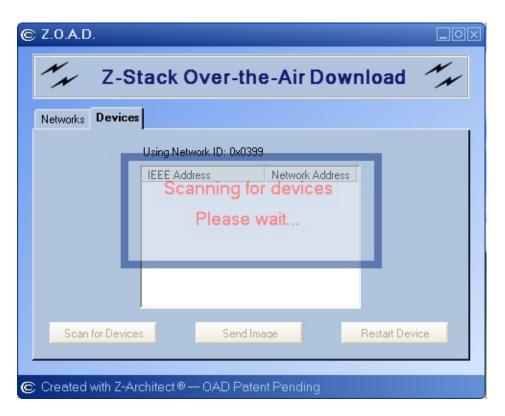
2. Choose a network to join with from the listbox. The networks are listed by logical RF channel and PAN ID.



3. A dialog box will appear when the joining is complete.

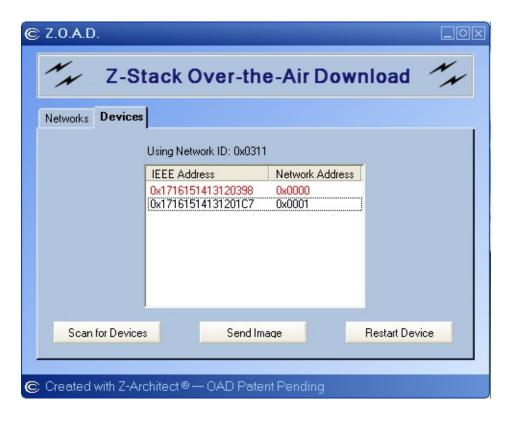


4. Now scan the network for available ZigBee devices. Non OAD enabled devices and OAD enabled devices appear in the list.

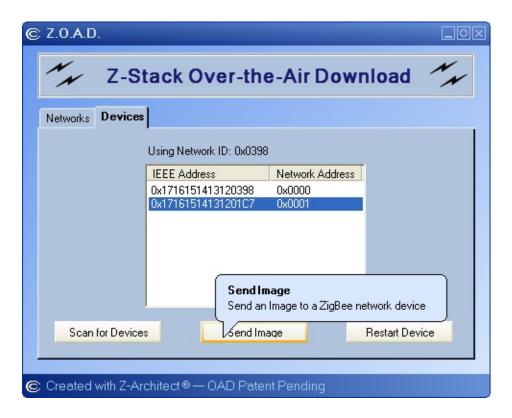


Devices that are not OAD enabled will appear in RED.

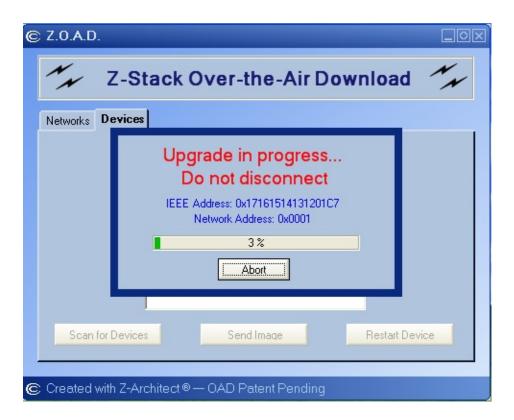
Z.O.A.D. will not be able to operate on devices that are not OAD enabled.



5. Choose an OAD enabled device to send image then click "Send Image"



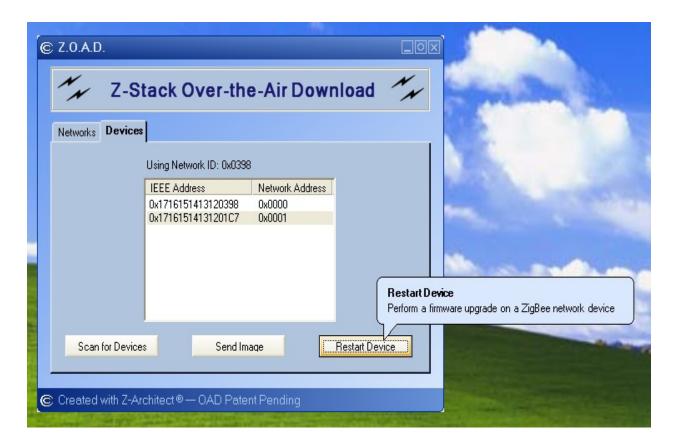
A dialog box will appear indicating that the device is being upgraded.



6. A dialog box will appear once the upgrade is complete.



- Restart a network device
- 1. Choose an OAD enabled device to Restart then click "Restart Device"

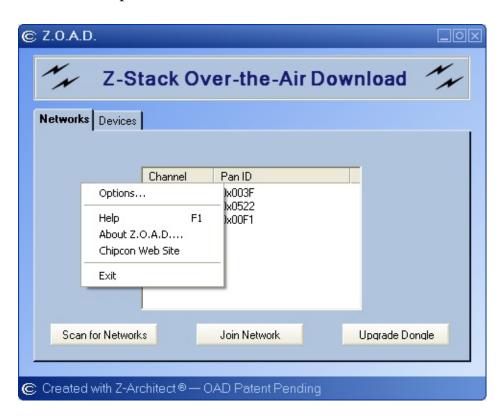


2. A dialog box will appear once the Restart is complete.



Options

Select the "Options" menu item from the context menu.



There is one option available which is Scan Channels.



Support

For technical support please contact: Texas Instruments, Inc. Low Power RF 9276 Scranton Rd, Suite 450 San Diego, CA 92121 USA +1 (858) 638-4294 support@ti.com

What is OAD?

Answer:

OAD stands for **Over-the-Air Download.** It is a general term to describe the updating of firmware using a wireless network (instead of cables) as the transport medium. Texas Instruments has several pending patent applications relating to OAD.

What is Z.O.A.D.?

Answer:

Z.O.A.D. stands for **Z-Stack Over-the-Air Download**. The **Z.O.A.D.** application allows a user to upgrade a ZigBee device's firmware remotely, without cables. The network device must be using the Texas Instruments **Z-Stack 1.3.0** or later firmware.

How do I OAD enable my host device?

Answer:

Z.O.A.D. only works with a Texas Instruments Z-Stack board which is running the ZPortApp application firmware. The ZPortApp.hex file can be found in the ". <Install folder>/Z.O.A.D./Images" folder which is part of the Texas Instruments Z-Stack documentation.

You must use the IAR Embedded Workbench application to load the host device with the ZPortApp.hex image. How to do this is described in the Z-Stack developer note titled "**Developer Notes - Over Air Download**".

How do I OAD enable my network device?

Answer:

Follow the instructions in the developer note titled "**Developer Notes - Over Air Download**" which is available with the Texas Instruments Z-Stack documentation.

What happens once the device has been restarted?

Answer:

Once a network device has been restarted, it will automatically go through a reset and begin executing the new application firmware.

Can I upgrade more than one device at a time?

Answer:

The current version of **Z.O.A.D.** can only upgrade one remote device at a time. The OAD engine has the capability to handle more than one upgrade at a time and a future version of **Z.O.A.D.** will take advantage of that feature.

What is **Z-Architect?**

Answer:

Z-Architect is a ZigBee desktop application development toolkit. It was used to create **Z.O.A.D.** Z-Architect makes it easy create ZigBee network management, commissioning, test, OAD, etc. applications. It leverages Microsoft's Visual Studio .Net 2003 development environment for quick and easy development.