

Operations Manual

Zigbee Radio Utility



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The Zigbee® Radio Utility

Pre-installing the Common USB Port Driver (A-910-2.4ZB)

This driver is required for the A-910-2.4ZB Transceiver and to communicate with targets via the computer's USB port. The driver creates a virtual COM Port that is recognized by the applications as a standard serial port.

Note: You must pre-install this driver prior to connecting the device(s) to the computer through the USB port.

Installing the Driver

1. Insert the A-910-2.4ZB Radio Programmer CD in the CD ROM drive.
2. Select **My Computer**, locate the CD ROM icon and click to open it.
3. Select the USB Drivers folder.
4. Select the correct Operating System installed on your computer (Windows 2000, Windows XP, etc.) and open the folder.
5. Locate the **CP210x_VCP** icon and click to initiate the installation process. The **Install Driver** dialog box displays.
6. Click **Browse** to select an installation folder different from the default folder (optional).
7. Click **Install** to continue. Once the installation is complete, the **Installation Successful** message displays (see Figure 1).

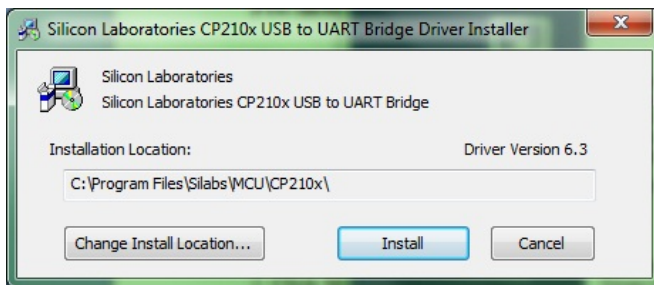


Figure 1 - USB Common Driver Install

Installing the A-910 Utility Software

1. Insert the A-910-2.4ZB Radio Programmer CD in the CD ROM drive.
2. Select **My Computer**, locate the CD ROM icon and click to open it.
3. Locate the **Setup** icon and click to initiate the installation process. Click **NEXT** to continue.
4. Click **Browse** to select an installation folder different from the default folder (optional).
5. Click **Next** to continue. Once the installation is complete, the **Installation Complete** message displays. Select **Close**.

Configuring the Hardware and Utility Settings

1. Insert the A-910-2.4ZB dongle into any unused USB Port (see Figure 2). The computer should automatically assign a COM port number to the dongle.
2. Start the A-910 Utility Software. The software should display the COM port assigned to the A-910-2.4ZB Dongle (see Figure 3). If the utility does not automatically detect the COM port, it must be manually selected (see **Manually Selecting a COM Port** on Page 3).
3. The Target System ID or R-1307 CH (channel) is the number associated with the A-1519/1520 targets or R-1307 Readout. If using both the A-1519/1520 targets and an R-1307 Readout, both need to be set to the same system ID and channel (see Figure 4). Also see **Setting the Target System ID and Network ID** on Page 4 and **Setting the Target System ID and Network ID for the R-1307** on Page 5.



Figure 2 – A-910-2.4ZB Dongle

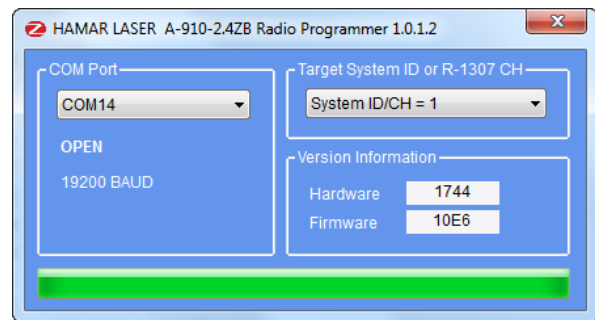


Figure 3 – A-910 Utility showing the COM Port, System ID and Channel settings

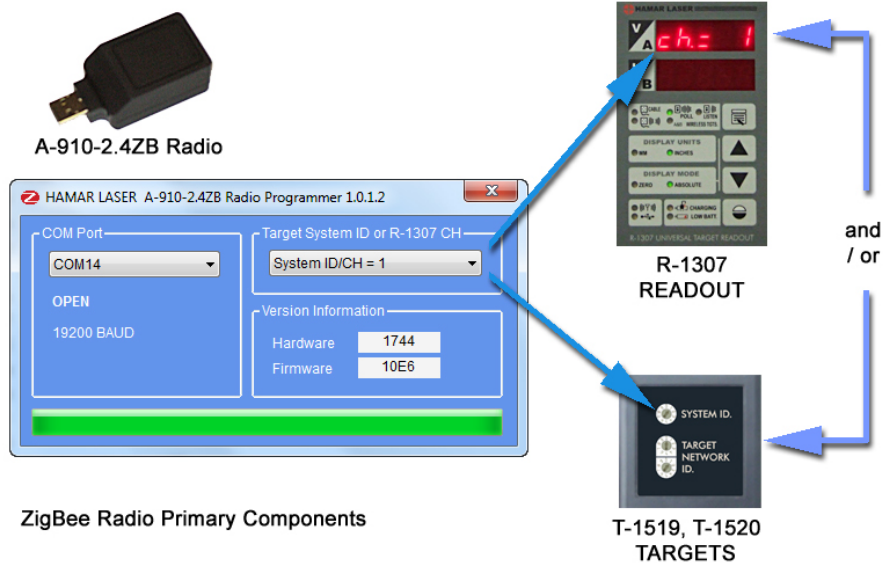


Figure 4 – System ID Setup

Manually Selecting the COM Port

The A-910 Utility should automatically detect the COM Port upon startup. If not, use the following steps to locate the correct COM Port.

Windows XP

1. Right-click My Computer.
2. Click **Properties** and then select the **Hardware** tab.
3. Click **Device Manager**.

Windows 7

1. Click the **Start** button and select **Control Panel**.
2. Click the **System** icon.
3. In the **System** window, click on the Device Manager link located under the **System** heading.
4. In Device Manager, scroll down to **Ports**. Expand the listings under **Ports** to reveal all the ports installed.
5. Locate **SILICON LABS CP210x USB to UART Bridge (COM x)** (see Figure 5).
6. Note the COM Port listed and select that COM Port in the A-910 Zigbee Utility software using the drop-down arrow (see Figure 3).

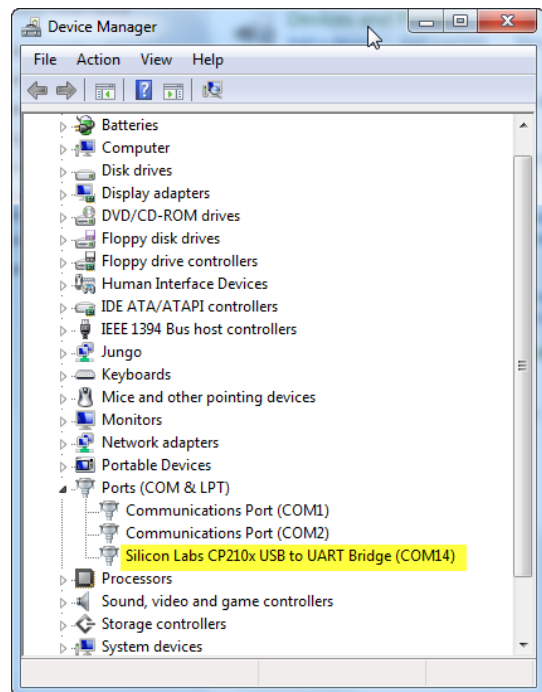


Figure 5 – Device Manager showing COM Port for A-910 Dongle

Setting the Target System ID and Target Network ID

The System ID is a Radio Network Address that is used by the Radio Communications Protocol to filter unwanted data from other radio transceivers and targets using a different address. Only targets and radio transceivers that are set to a matching System ID can communicate with each other.

Because no two targets with the same System ID can transmit simultaneously, it is necessary for each target to be programmed to respond only when it is being addressed. The Target Network ID is the target address on the communications network. Under Host (computer) control, the radio transceiver transmits a message called a *polling request* that contains the Target Network ID of one specific target. All targets receive all polling requests, but only the target with a Network ID matching the ID contained in the polling message will reply (Transmit Data to the Host).

There are three rotary DIP switches located on the right side of the target, shown in Figure 6:

- The uppermost switch sets the System ID.
- The two lower switches are used to set the target network ID.

Setting the System ID

Note: Before selecting a System ID, ensure that it is not already in use by another system within the radio coverage area.

Using a small screwdriver, rotate Switch 1 to align the arrowhead with the System ID number (0-9). Figure 6 shows the System ID switch set to 1.



Figure 6 – Unitarget ID Switch set to 1

Setting the Target Network ID and System ID for the R-1307 Readout

To make the unit visible to all other radio-enabled devices, you must set the Target Network ID and the System ID for the readout.

1. Set the Local Readout/Target Network ID

Press the MENU button until the *upper* display shows nnnn (nn is also equal to the R-1307 number) and the matching target number with the current target ID (nn) blinking. Use the UP and DOWN arrow keys to set the Target ID.

Press the MENU button again until the lower display shows nnnn , with the current target ID (nn) blinking. Use the UP and DOWN arrow keys to set the Target ID to the same value as that of the upper display's Target ID.

2. Set the System ID (Radio Channel)

Press the MENU button until the upper display shows $\text{ch} = \text{nn}$, with the current System ID (nn) blinking. Use the UP and DOWN arrow keys to set the System ID.

Note that **nn** must be set to the same number as the channel switch setting of the A-910 radio transceiver (see Figure 7).

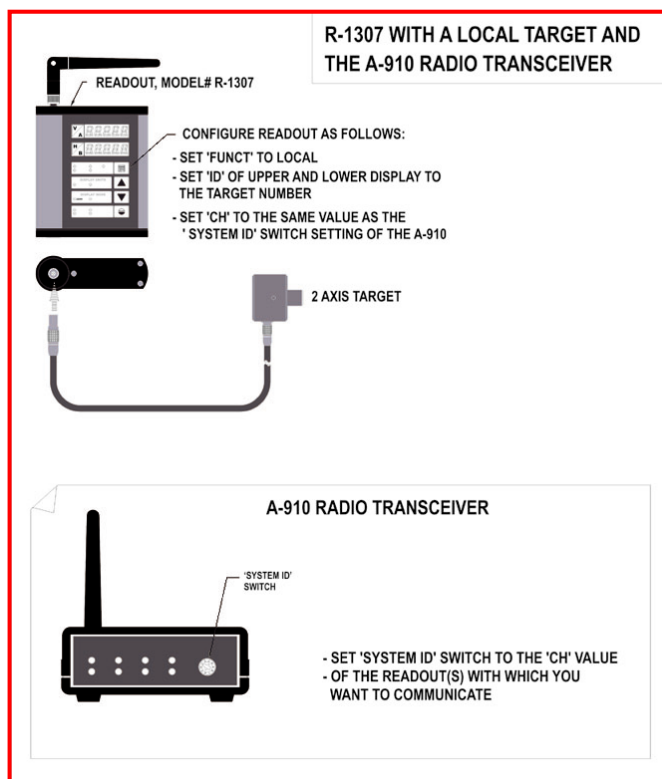


Figure 7– R-1307 with Cabled (Local) Target and A-910 Radio Transceiver

Miscellaneous Display Messages

- H L I -

r 1.00

. . .

- - -

ch = nn

rAd id

FAULT

PSd

tSt_n

UnCAL

Startup Message. Lower Display shows firmware Revision Number.

3 moving dots. Wireless target is not responding to a polling request from Readout. Check ID and Channel settings. Check Target(s).

3 dashes. Target detected but the laser is not on target. Check laser.

Radio channel cannot be selected because no Radio is present or detected.

Standard message for R-1307C. For Models R-1307 or R-1307W, this message indicates a fault in the radio module.

Indicates a problem with the connection to the Cabled (Local) Target's Position Sensing Device (PSD). Check plugs and cable(s).

Target 'n' descriptor does not contain target calibration data.