AWID
APPLIED WIRELESS ID

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Instructions
Long-Range Reader Settings Program

Change History

Version	Date	Author	Comments
1.0	06 November 2009	L. Hickcox	First release.
1.1	11 November 2009	L. Hickcox	Setting COM Port no. Connecting yellow wire. Displaying 18 characters on 2 lines.

These instructions are for AWID's "LRReaderSettings" program. The program works on AWID's LR-2000 and LR-911 readers with RF modules 2.6h3 and 2.6e. The program has 3 functions:

1. *Select the reader's read repeat rate, between* 3 reads per second *and* 1 read per 20 seconds.
2. *Adjust the reader's power level for transmitted RF, from* maximum *to* zero *in 255 steps.*
3. *Display the reader's output code data as a separate row of 18 characters for each tag read.*

A. Material Required

- PC with Microsoft operating system Windows 2000, XP and Vista
- AWID's "LRReaderSettings V1.0" program (downloadable from AWID's Web site)
- LR-2000 reader with RF module 2.6h3, or LR-911 reader with RF module 2.6h3 or 2.6e
- Power supply for reader (typically 12 volts DC, 1.5 ampere rating or more, linear, regulated)
- RS-232-ADC adapter cable (9-pin "D" serial connector to 3 spring-clips – from the reader's Installation Kit)
- Test tag (from the reader's Installation Kit)

B. Wiring for Software Download

1. Plug the 9-pin connector into the serial port on the PC. If the PC has only USB ports, use a serial-to-USB adapter (available from Radio Shack and other sources).

2. Connect the clip-leads to the reader's wires with the same colors (orange, blue and violet).

3. Power the reader using the reader's regular DC supply, or AWID's PS12-3.3A (from the Installation Kit), or similar.

4. If the reader's green and white data lines, the yellow arming wire, and the bare drain wire are connected, they may be left connected.

C. Installing the Program

1. UnZIP the "LRReaderSettings V1.0" program.

2. Save or Run the unzipped program. It will be named "LRReaderSettings". It is only 48 kB.

D. Running the Program

1. Select a COM port: Click on an available COM port. Press the "Connect" key. If all 8 COM ports are not available, run the PC's Windows Device Manager and change the PC's COM port to a lower number.

2. Change the "Read Repeat Rate" (if desired): Click the button for the new repeat rate. Press the "Apply" key.

3. Change the "RF Power Level" (if desired): Full power is at the 0 setting. Minimum power is at the 255 setting. The displayed setting changes are not linear.

4. Status of the repeat rate and power level changes is shown in the lower left window.

5. To save selected changes, press the "Set" key (lower right). To restart this program, press the "Reload" key.

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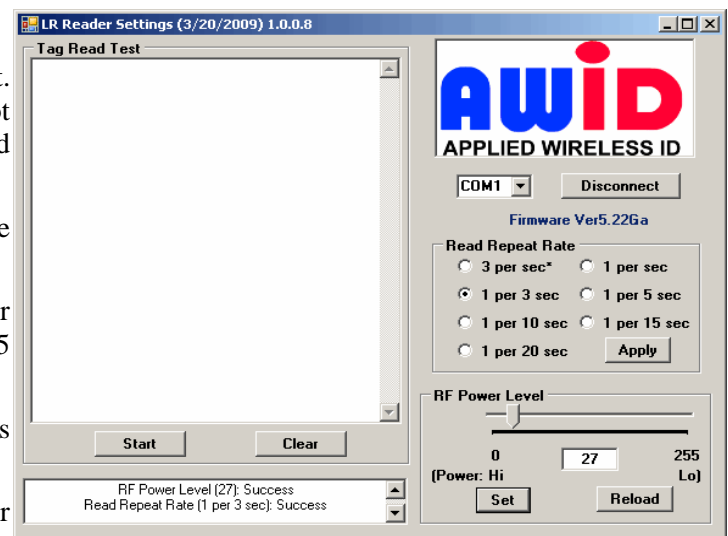
E.   Displaying the Reader's Data

1.   Connect the reader's <mark>yellow</mark> wire to the black wire. This arms the reader for RF generation, to activate the tags.

2.   Hold a test tag in front of the long-range reader. Code data appear as a line of 18 hexadecimal characters for each tag read (folded onto two lines for this display). The data column scrolls downward as each new read is displayed at the top of the column. Each tag will display a different data line, at the repeat rate that is indicated in this program's window. Reading distance for the tag will vary as the RF power level is adjusted.

F.   Ending the Program

1.   Click on the "Disconnect" key (upper right). Then close the program.

Notes – Wiring

(a)   Power and ground:
Always connect the reader's *black* wire to the power supply's negative *first,* before all other connections.
Connect the *red* wire to the power supply's positive terminal *last*, after all other connections.

(b)   Connections for this Program:
Connect the three RS-232 interface wires (orange, blue and violet). Connect ground and power (black and red).
The data and drain wires (green, white and bare) may be either connected or disconnected.
The RF arming circuit (<mark>yellow</mark>) may be either connected or disconnected when changing the "Read Repeat Rate" and the "RF Power Level", but must be ***connected*** to the reader's black wire when reading a tag in the "Tag Read Test".

(c)   Connections using Wiegand interface to an access control panel:
Connect the reader using the wiring list in the "Installation & Operation Manual" for LR-2000 or LR-911 reader (Figure 3).

(d)   Connections using RS-232 interface to a controller or PC:
Connect the reader wires as described in AWID's Technical Reference "RS-232 Interface – Instructions for Programmers".

Notes – Program Operation

(a)   Changes in Read Repeat Rate and RF Power Level can be made as often as desired, in either direction.

(b)   Be sure that the PC's serial port is active. In the Desktop, check in –
My Computer → Control Panel → System → Hardware (if available) → Device Manager.

(c)   If the "LR Reader Settings" program does not operate immediately, try removing power from the reader and then restoring power. Then restart the program on the PC. Or reboot the PC.

(d)   If the program's pop-up message window indicates that a particular COM port is not available, try reversing the orange and violet wires – orange to violet, and violet to orange. This color reversal may be necessary on older LR-911 readers.

Notes – Running HyperTerminal

Microsoft Window's HyperTerminal program may be used to display the tag reads from an LR-2000 or an LR-911 reader.

(a)   Connect the reader's <mark>yellow</mark> wire to the black wire. This arms the reader for RF generation and tag activation.
(b)   (If the PC has been used to sync with a PDA…) Click on the icon for "Last HotSync" in the task bar at the lower right corner of the Desktop screen. When the pop-up menu appears, click on "Exit".
(c)   Start the "HyperTerminal" program in Microsoft Windows. The path is –
Start ➔ Programs ➔ Accessories ➔ Communications ➔ HyperTerminal ➔ HyperTrm.exe (if available)
Configuration: 9,600 bits per second, 1 start bit, 8 data bits, 1 stop bit, no parity, ANSI emulation, flow control = none.
(d)   The PC's serial port may default to "Disconnected". To open the port and start HyperTerminal –
1st - Open the menu for the Call tab at the top of the window.   2nd - Select the option "Start Call".
(e)   Hold a long-range tag in front of the reader.
(f)   The data appear as a column of scrolling lines. There are 18 hexadecimal characters in each line, including fill zeros at the right end of the line. Each long-range tag will present a different data set.