

Program Instructions

UHF Long-Range Reader Settings

These instructions are for AWID's Long-Range Reader Settings program ("LRReaderSettings", V17.0630.3.3 as of this writing). The program is compatible with Microsoft Windows versions XP and newer. It works with all AWID UHF long-range readers (LR-2000 series, LR-3000 and LR-911). The program can be run with a new reader at your shop, or at the site after you install the reader.

The program has three functions. The effect of changes is visible as soon as you click on the "Apply" or "Set" button. (There is no limit to the number of times that these changes can be made.)

1. Select the reader's **Read Repeat Rate**. There are 7 rates, from 3 reads per second to 1 read per 20 seconds.
2. Adjust the reader's **RF Power** output level. Power drops in steps from maximum to about 10% of maximum.
3. **Display the data** from the reader's RS-232 interface. Each tag's code has a row of 18 hexadecimal characters.

A. Material Required

- PC with Microsoft operating system Windows XP or newer.
- "LRReaderSettings" program (download at no cost from AWID's Web site).
- AWID's UHF long-range reader, Model LR-____.
- AWID's LR-TEK or LR-2000KIT: DC power supply, LR-Sounder test unit, cable adapters, tags and cards.

B. Downloading the "LRReaderSettings" Program

1. Go on AWID's Web site, www.awid.com <<http://www.awid.com>>.
2. On the home page, click on Support > Downloads > Access Control > Software Tool > LRReaderSettings.
3. Download this ZIP file (program installer + instructions) on the PC that will connect with your long-range reader.

C. Installing the Program

1. UnZIP the "LRReaderSettings" file. This shows the Windows program installer.
2. Click on Open "Setup" to install the program. "Shortcut to AWIDLRRReaderSettings" then appears on the desktop.

D. Wiring to Run the Program

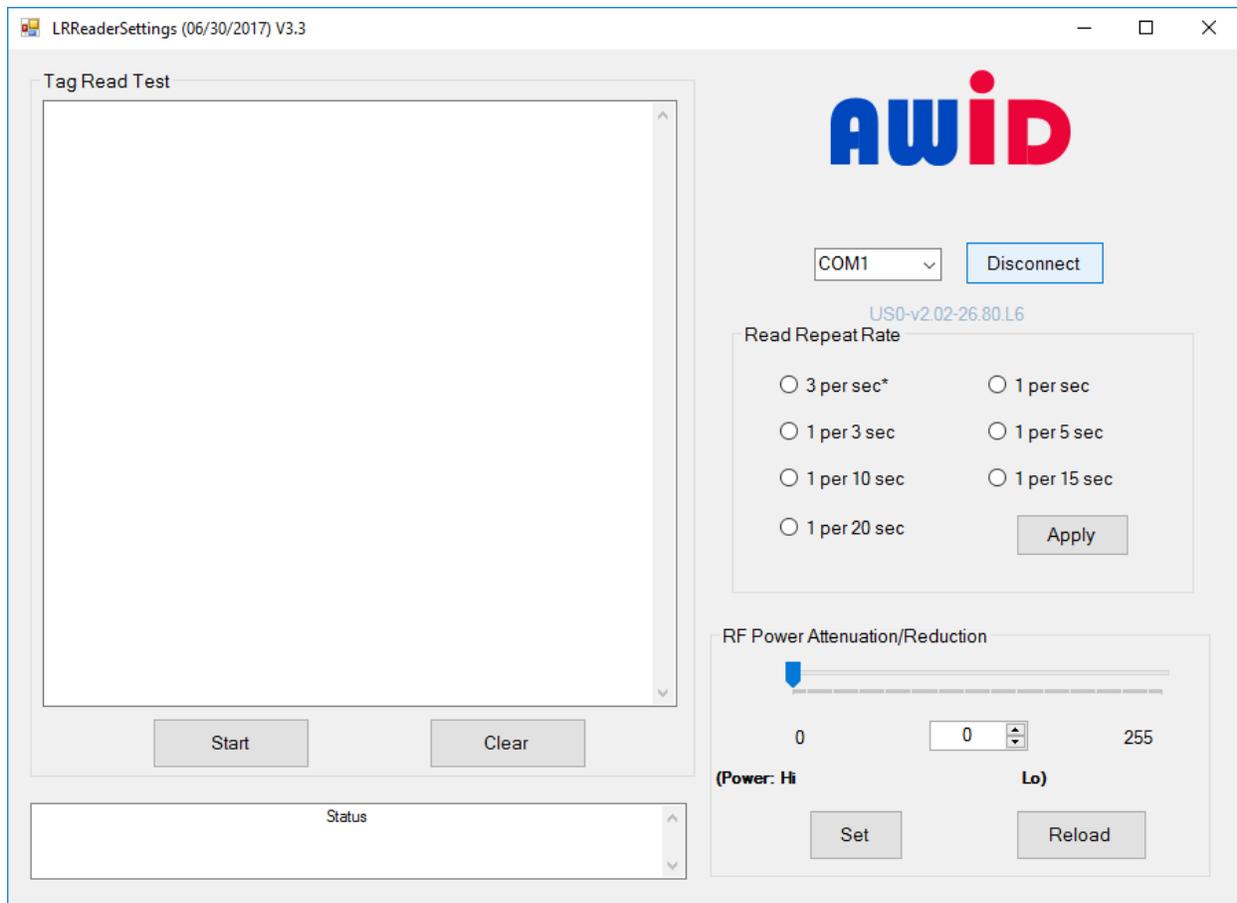
1. Use the Kit's cable adapter with gray jacket. Clip the adapter's **blue** wire to the LR reader's **blue** wire, **orange** to **orange**, and **violet** to **violet**.
2. Connect the gray cable adapter to your PC's serial data port.
 - If the PC has a 9-pin "D" serial input port, plug the gray adapter's 9-pin connector into the PC's serial port.
 - If the PC has USB ports only, connect the Kit's cable adapter with black jacket to the gray adapter's 9-pin "D" connector. Then plug the black adapter's USB connector into any USB port on the PC.
3. Power the reader using the reader's regular DC supply, or AWID's plug-in module from the Kit, or a 12 volt battery.
4. If the reader's **green** and **white** Wiegand data lines, the **yellow** arming wire, and the **gray** or bare **drain** wire are connected, they may be left connected.

E. Preparing the Reader to Read a Tag or Card

1. Connect the reader's **yellow** wire to the **black** wire. This arms the reader for RF generation, to activate the tags.
2. Hold an AWID UHF tag or card in front of the UHF reader. It may be convenient to start with the tag directly in front of the reader, then gradually move the tag away from the reader's face to see at what distance steady reading continues.

F. Running the Program

1. **COM Port:** Select a COM port. Then click on the “**Connect**” key.
2. **Tag Read Test:** This window displays the reader’s RS-232 data when a UHF tag or card is presented to the reader.
 - Click on the “**Start**” key. Each reading of the test tag or card appears as a row of 18 hexadecimal characters. (For 26-bit code format, there are 7 significant characters, followed by 11 zeros.) Each new read is inserted as a row at the bottom of the data window. A new reader displays data at 3 reads per second, with full RF power.
 - To erase earlier tag reads from the window, click on the “**Clear**” key.
3. **Read Repeat Rate:** A new reader always reads at 3 reads per second. You can change the read rate to any of the other settings. Click the button for the new repeat rate. Then click on the “**Apply**” key. The change is transferred to the reader immediately.
4. **RF Power Attenuation:** A new reader always operates at full power, with the blue pointer at zero attenuation. You can reduce the reader’s RF Power level by (a) dragging the pointer to the desired level, or (b) entering the desired level in the “textbox” beneath the pointer’s scale. High power is at 0 attenuation; low power (about 10% of high power) is at 255 attenuation.
 - You can save this change by clicking on "Set", or you can see the unchanged setting that is active in the reader by clicking on "Reload".
 - When you click on "Set", the change is transferred to the reader immediately.
5. **Status** of the Read Repeat Rate and Power Level changes is shown in the lower left window, under Tag Read Test.
6. To observe the changed functions immediately in the **Tag Read Test** window, present the tag or card to the reader.



G. Ending the Program

1. Click on the “Disconnect” key (upper right). Then close the program.
2. *Important:* After you make changes in Read Repeat Rate and RF Power, cycle the reader’s DC power off for several seconds, and then restore power to the reader. The reader is now ready for use with the access control system. Cycling the power locks in the changes until the next time that you run the LRReaderSettings program.

Notes – Uses of This Program

- (a) The LRReaderSettings program displays RS-232 data in the Tag Read Test window for all AWID UHF long-range readers, using their RS-232 data interface.
 - For wiring the interface and configuring the system, see AWID’s Technical Reference “RS-232 Interface”.
 - For cable adapters that make the interface for testing easy, see AWID’s product sheet and instructions for LR-TEK or LR-2000KIT test/demo kit.
- (b) The UHF long-range readers use all of the features of this program – data display, read rate, and RF power level.
- (c) This program displays code data exactly like the Windows Putty and HyperTerminal programs.

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 (the Cable Adapter’s **orange**, **blue** and **violet**) as described in step D.1. Use the 9-pin “D” connector (step D.2) if suitable for the PC. Use the USB Cable Adapter (step D.2) if required. Connect ground and power (**black** and **red**).
The data and drain wires (**green**, white, and **gray** or bare) may be either connected or disconnected.
The RF arming circuit (**yellow**) may be either connected or disconnected when changing the “Read Repeat Rate” and the “RF Power” level, but it *must* be **connected** to the reader’s **black** wire when reading a tag in “Tag Read Test”.
- (c) Connections using Wiegand interface to an access control panel:
Connect the reader using the wiring list in the reader’s “Quick Installation Guide” (page 2, in words and in diagram).
- (d) Connections using RS-232 interface to a controller or PC:
Connect the reader using the wiring list in AWID’s Technical Reference “RS-232 Interface” (page 2, section B).

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 or USB port is active. In the Desktop, check in – My Computer → Control Panel → System → Hardware (if available) → Device Manager.
- (c) If the “LRReaderSettings” 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.