You-R® RFID LAN Reader

User Manual

Version 1.0.0

Contents

1 Introduction

Package Contents

Check your package for the following items.

- You-R® RFID LAN Reader Device
- Power Adapter
- Ethernet Network Cable
- Mounting Accessories
- You-R® RFID LAN Reader CD
    - Software: RFID Lan Reader Tool
Sample Applications
Library
Firmware Update and Update Tool
    - Documentation: User Manual
Interface Protocol
Developer Guide
Mounting Instruction

Document Overview

This user guide covers the steps for setting up and using the You-R® RFID LAN Reader.

- Chapter: Introduction
  This chapter describes the reader's applications and this User Guide.

- Chapter: RFID LAN Reader
  This chapter provides a description of the reader's upside and rear panels, external ports and internal connectors.

- Chapter: Connecting the RFID LAN Reader
  This chapter instructs you on how to connect the reader to your network.

- Chapter: RFID LAN Reader Tool

- Chapter: Upgrading Firmware
  This appendix instructs you on how to upgrade the firmware on the reader.

- Appendix: Safety Instructions
  This appendix provides safety instructions that have to be obeyed when working with the reader.

- Appendix: Specifications
  This appendix provides the technical specifications for the reader.

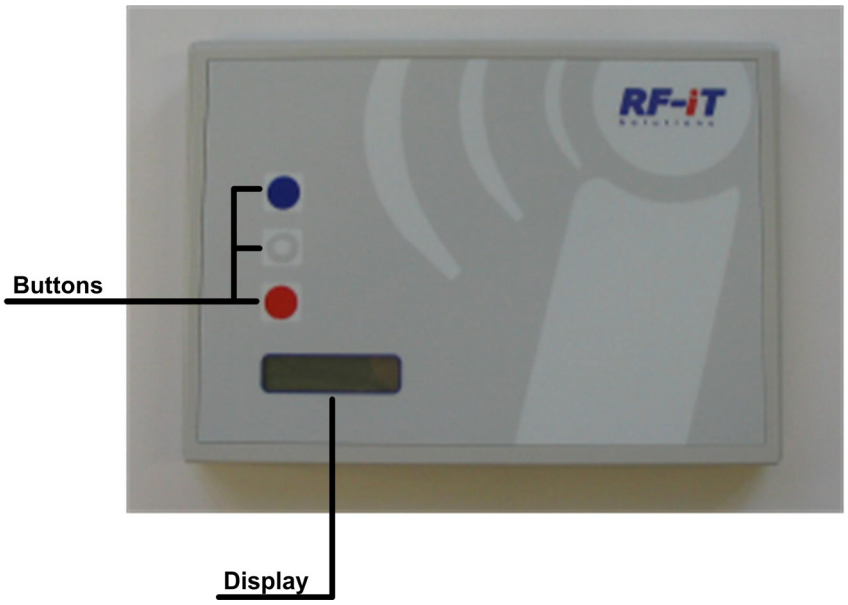
- Appendix: Regulatory Information
  This appendix supplies the regulatory information regarding the reader.

- Appendix: Contact Information
  This appendix provides contact information, including Technical Support.

2 RFID LAN Reader

This section describes the the upside and rear panel of the reader device.

2.1 Upside Panel

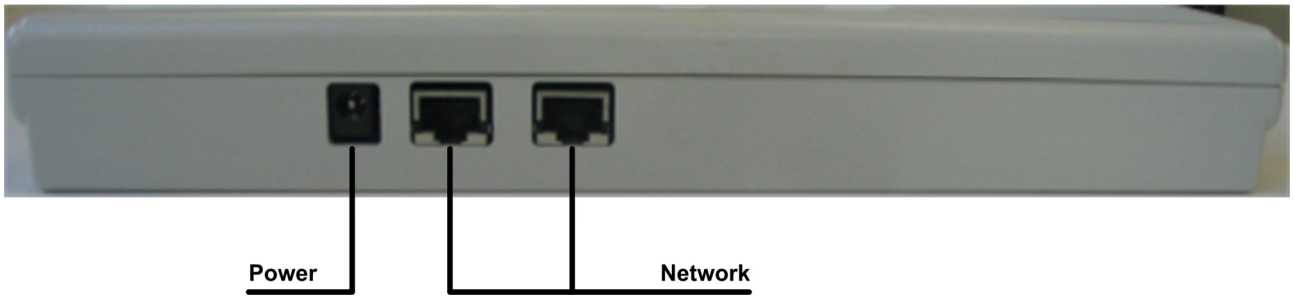


Buttons. Three buttons colored red, grey and blue.

Display. The 2 x 16 character display.

2.2 Rear Panel

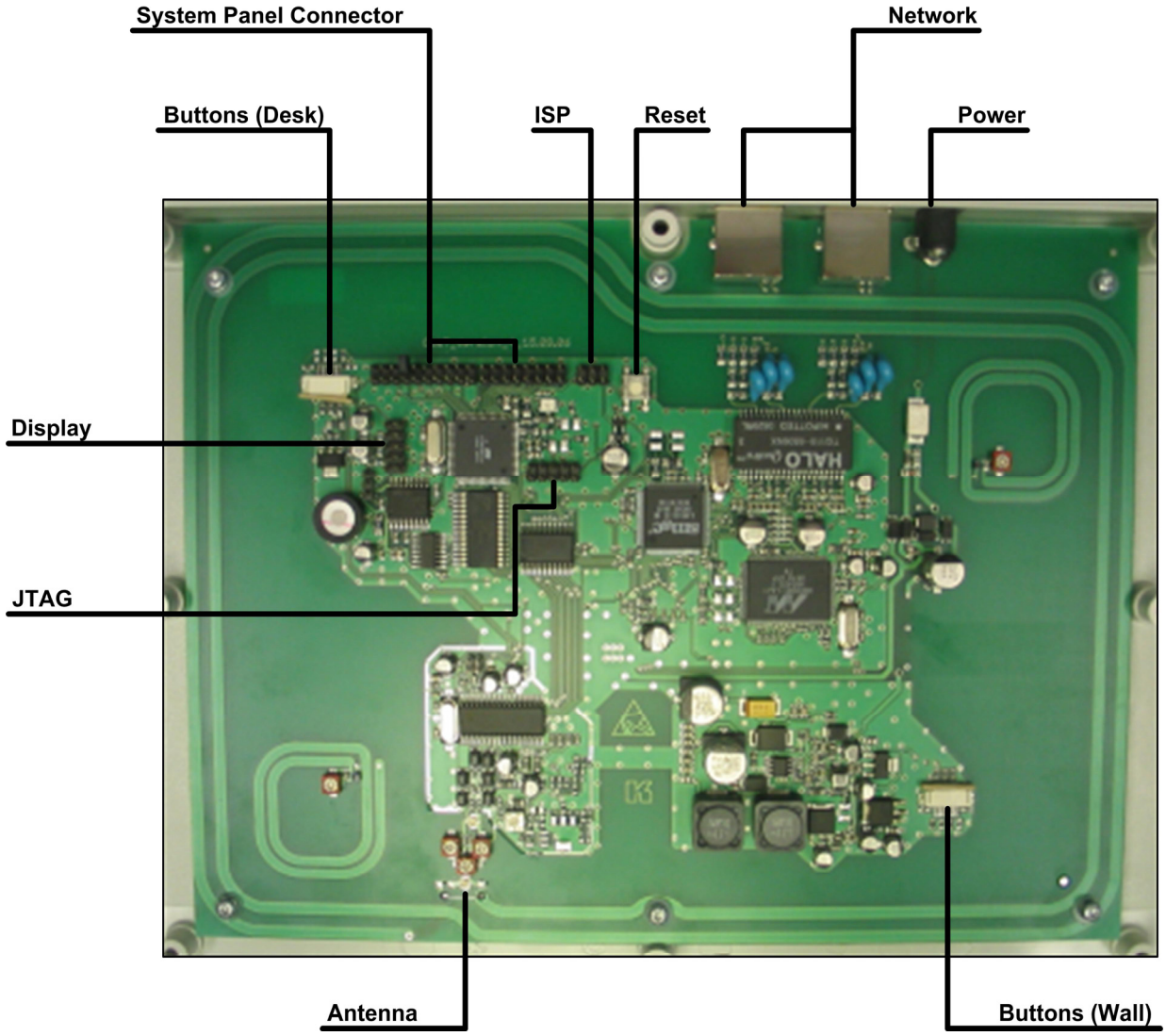
The reader's external ports, where the cables are connected, are located on the back panel.



Network. Two switched ports to connect the Reader to your networked PCs and other Ethernet network devices.

Power. The power port is where you will connect the power adapter.

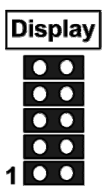
2.3 Board Overview



Reset. A reset button to restart the reader device.

Internal Connectors

Display. The connector for the 2 x 16 character display.

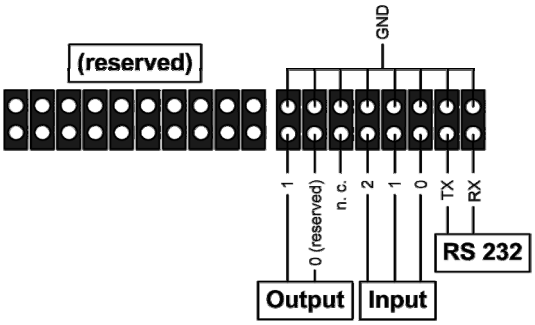


Button Connectors. There are two internal connectors for the buttons of the upside panel. The upper left connector is used, if the reader is applied as desktop version. For wall mounting turn the

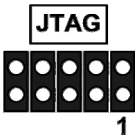
bottom half of the reader case by 180° and connect the rippon cable to the second connector (bottom right).

Antenna. This connector is for the provided RF antenna signal cable.

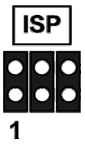
System Panel Connector (16- and 20-pin). The 16-pin connector is used for the internal serial adapter and the GPIOs. At the moment there are three inputs and two outputs. One of the outputs (0) and the 20-pin connector are reserved by the system.



JTAG (10-pin). This connector can be used to connect a JTAG programmer.

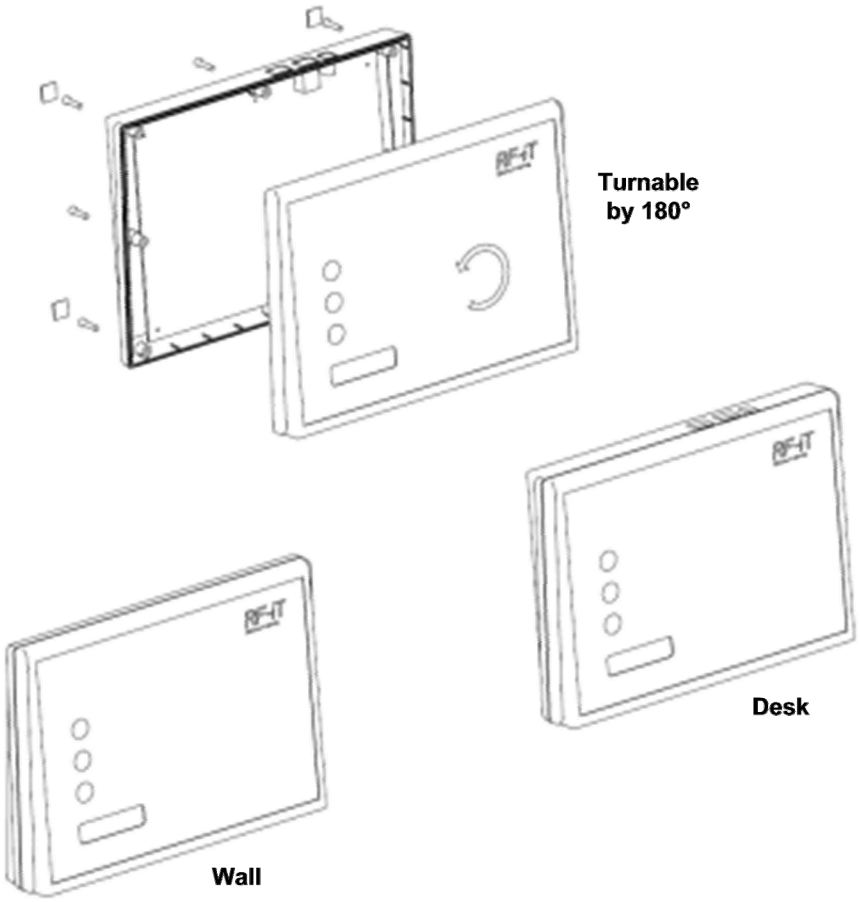


ISP (6-pin). This connector is for an ISP programmer.



2.4 Desk or Wall Mounting

There are two assembly possibilities for the reader, one for using the reader on a desk and the other to erect it to a wall. To change from one to the other mounting turn the bottom half of the reader case by 180° and connect the rippon cable to the particular connector intended for the buttons.



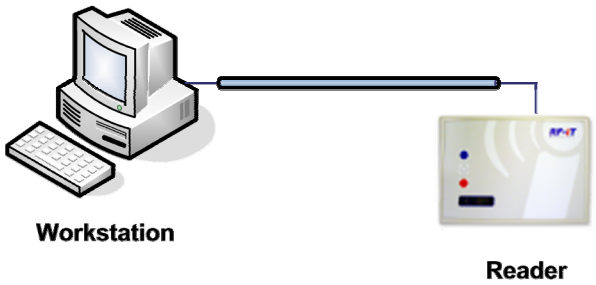
2.5 Mounting the Reader to a Wall

Use the provided accessories (screws and plugs) for mounting the reader to a wall. A detailed sketch (RFID LAN Reader Wall Mounting) can be found on th CD.

3 Connecting the RFID LAN Reader

This section includes two sets of instructions. If the RFID LAN Reader will be directly connected to a laptop, PC or local network follow the instructions in „Direct Connection to PC or Local Network." If your laptop or PC has only one network port that is already used for your home or company network, then follow the instructions in „Using the Internal Switch for Connection to Local Network."

Direct Connection to PC or Local Network

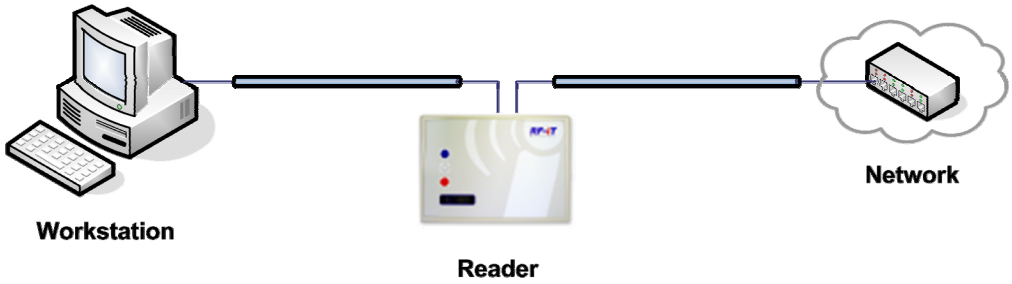


1. Find an optimum location for the reader.
   Note: Please keep some distance to metal parts or other RF antennas working at the same radio frequency. Otherwise a reduction of the reading range may occur.

2. Connect a standard Ethernet network cable to one of the reader's ports. Then, connect the other end of the Ethernet cable to your laptop, PC or local network.

3. Connect the AC power adapter to the reader's power port and the other end into an electrical outlet. Only use the power adapter supplied with the reader. Use of a different adapter may result in product damage.

Using Internal Switch for Connection to Local Network



1. Find an optimum location for the reader.
   Note: Please keep some distance to metal parts or other RF antennas working at the same radio frequency. Otherwise a reduction of the reading range may occur.

2. Disconnect the Ethernet cable from your laptop or PC. Then, connect the other end of the Ethernet cable to one of the reader's ports.

3. Connect a standard Ethernet network cable to the free reader port. Then, connect the other end of the Ethernet cable to your laptop or PC.
   Note: Repeating step three and four it is possible to cascade two or more RFID LAN Reader in a row.

4. Connect the AC power adapter to the reader's power port and the other end into an electrical outlet. Only use the power adapter supplied with the reader. Use of a different adapter may result in product damage.

4 Starting up the RFID LAN Reader

After connecting the AC Power adapter the reader is starting up and tries to configure its network configuration using a DHCP server. If no server can be found, it falls back to the preconfigured IP.

At startup some information is shown on the display of the reader, thereby the obtained or preconfigured IP address is also displayed.

Starting with DHCP or Static IP Address

DHCP. DHCP is enabled by factory default. If you have a DHCP server on your network, the reader will obtain its network configuration from the server. If there is no such server on your network, you can use „Tftpd32", a small program providing DHCP server functionality. See the appendix for further details regarding Tftpd32.

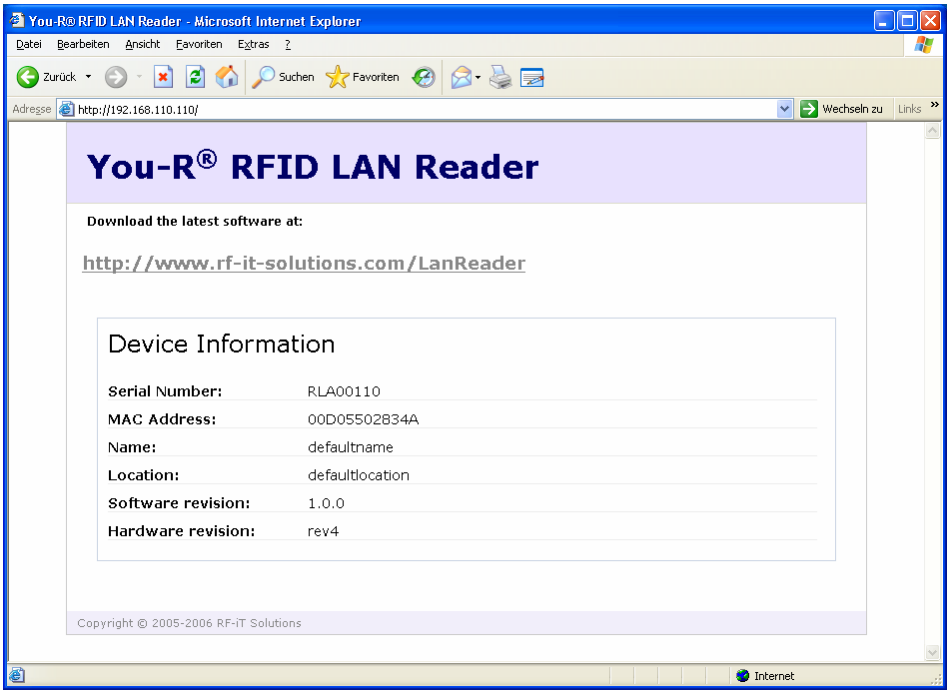
Static IP Address. If no DHCP server can be found, the reader falls back to the preconfigured IP address. The factory default IP Address is **192.168.110.110**, subnet mask is **255.255.255.0**.

Note: Ensure that no other Ethernet device uses the same IP address in a network, for example when connecting two or more RFID LAN Reader with factory default settings for the first time.

Viewing the Standard Information Web Page

A standard information page can be accessed using a web browser on a computer successfully connected to the reader. Therefore launch your web browser, and enter the obtained IP address via DHCP or the reader's default IP address, **192.168.110.110**, in the address field. Then press **Enter**.

A web page, as shown in following figure should appear.



5 RFID LAN Reader Tool

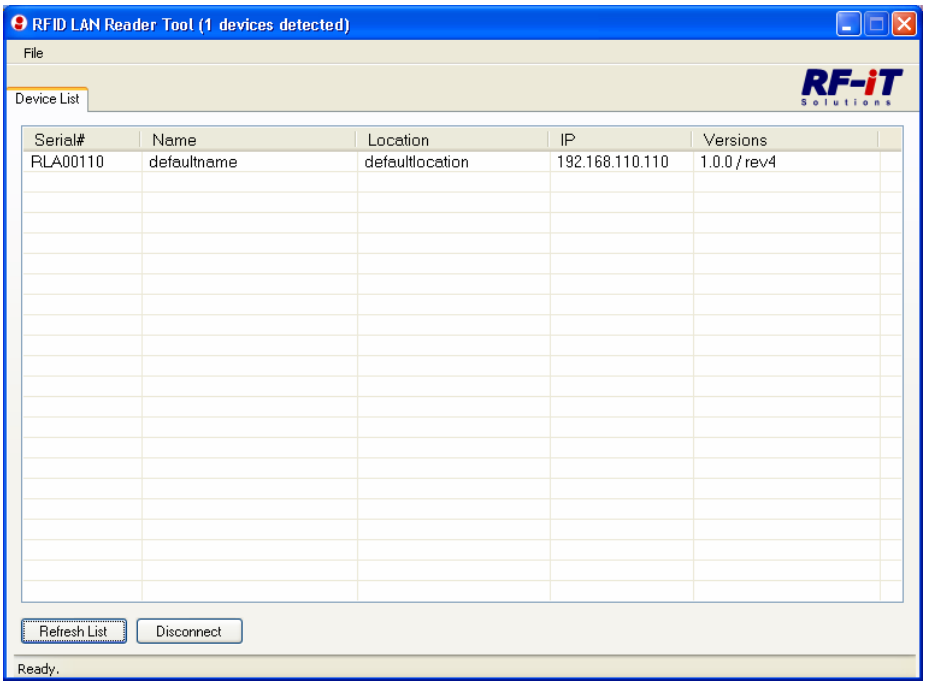
The RFID LAN Reader Tool is a simple application to enable access to the RFID functionality of a reader device as well as other functions, such as the display, the input keys and the integrated buzzer. It also enables the user to configure the reader device.

At startup the application shows all reader devices found on your network in the Device tab. Additional tabs for configuration and control will become available after establishing a connection to a reader.

All functional and configurational options are grouped into three categories: Configuration, Device Control and Notification Viewer. Each category is represented as a tab and is described in detail in this section.

5.1 Device Tab

Shows a list of readers on your network. For each device the additional informations Serialnumber, Name, Location, IP address and Soft- and Hardwareversions are displayed.



Select a reader and doubleclick to open a connection to the device. Additional tabs for configuration and control will become available after establishing a connection to a reader.

Refresh List. Updates the list of Readers on your network.

Disconnect. Closes the connection to the Reader.

5.2 Configuration Tab

This chapter will describe each page in the Configuration Tab and each page's configuration parameters.

There are nine pages: Device, Network, RF Tuning, ISO 15693, MIFARE, RS232, Display, Key/Input Notifications and Tag Notifications.

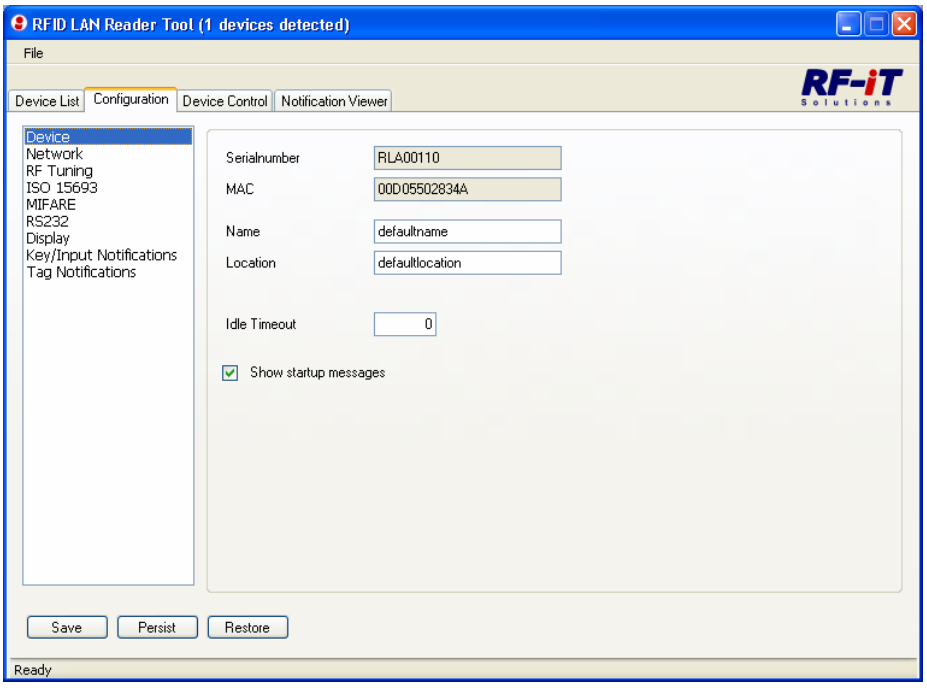
Save. Instructs the reader to store all changed configuration options. Note that the configuration is stored in volatile memory and is not preserved after a reboot or power-down.

Persist. Instructs the reader to store the current configuration into the EEPROM. This preserves settings over a power-down or reset.

Restore. Instructs the reader to overwrite the current configuration with the one stored in the EEPROM. This sets all configuration values to their bootup defaults.

Configuration Tab – Device

This page is used to set up basic reader informations.



Serialnumber. The unique serialnumber that is assigned to the reader

MAC. The unique MAC address that is assigned to the networking device.

Name. A freely chooseable name of the reader.

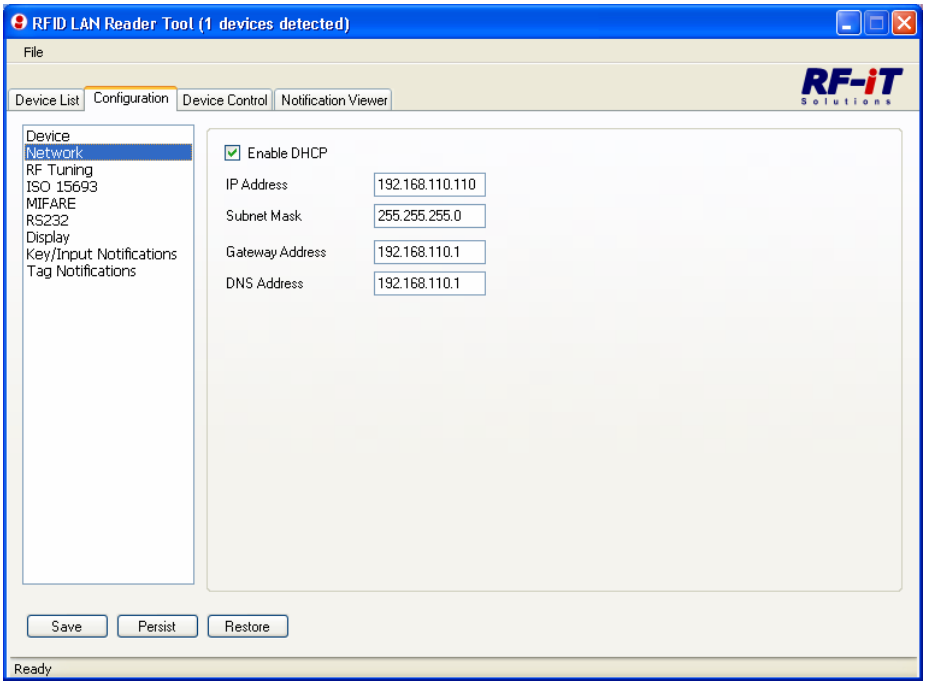
Location. A freely chooseable location of the reader

Idle Timeout. Time of client inactivity in seconds after the reader terminates the connection. Note: If set to zero the reader sends keepalive notifications at regular intervals.

Show startup messages. If checked the reader shows startup information on the display, e.g. IP address and name.

Configuration Tab - Network

This page is used to set up the readers's network interface.



By default, the Reader's Connection Type is set DHCP, which should only be used, if you have a DHCP server on your network. TFTPD32 can be used to run a small DHCP server on your local PC. Otherwise the reader will use the default static IP address 192.168.110.110.

Enable DHCP. If checked the reader tries to get a IP address from a DHCP server on your network, the configured address below is used as a fallback.

IP Address. The static IP address the reader will use, if DHCP is disabled.

Subnet Mask. The Subnet Mask the reader will use, if DHCP is disabled.

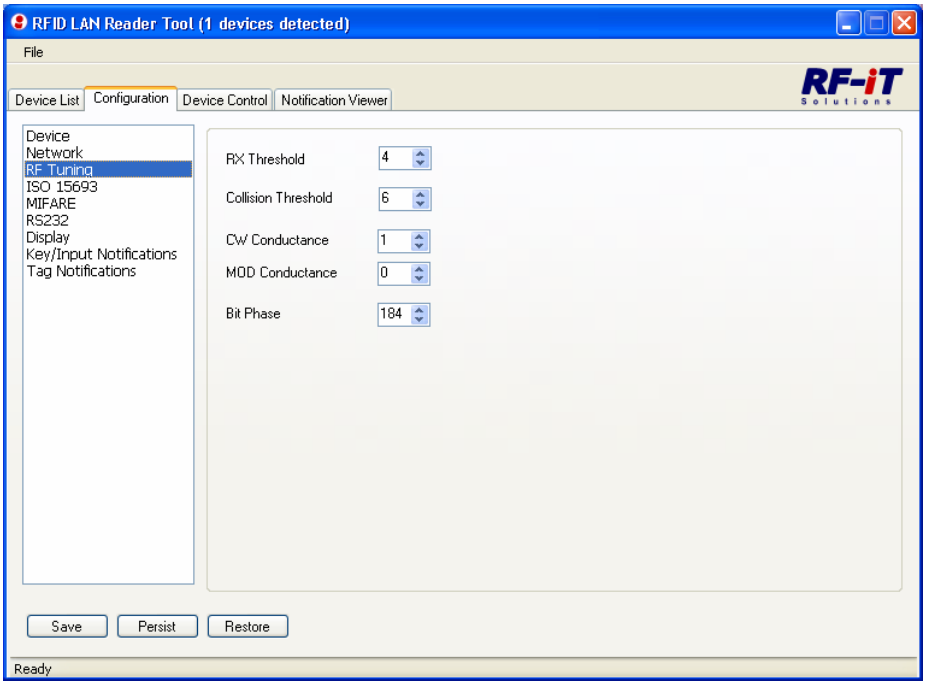
Gateway Address. The IP address of the default router on your network.

DNS Address. The IP address of a DNS server, which translates the names of websites into IP addresses.

Configuration Tab - RF Tuning

This page is used to set up the readers's advanced RF tuning options. These settings should only be adjusted by an expert as incorrect settings can reduce RF performance.

Note: Changing these values might result in violation of the radio regulations.



RX Threshold. The receive threshold of the 13.56MHz sideband receiver.

Collision threshold. The collision detection threshold of the 13.56MHz sideband receiver.

CW Conductance. The RF driver stage output conductance.

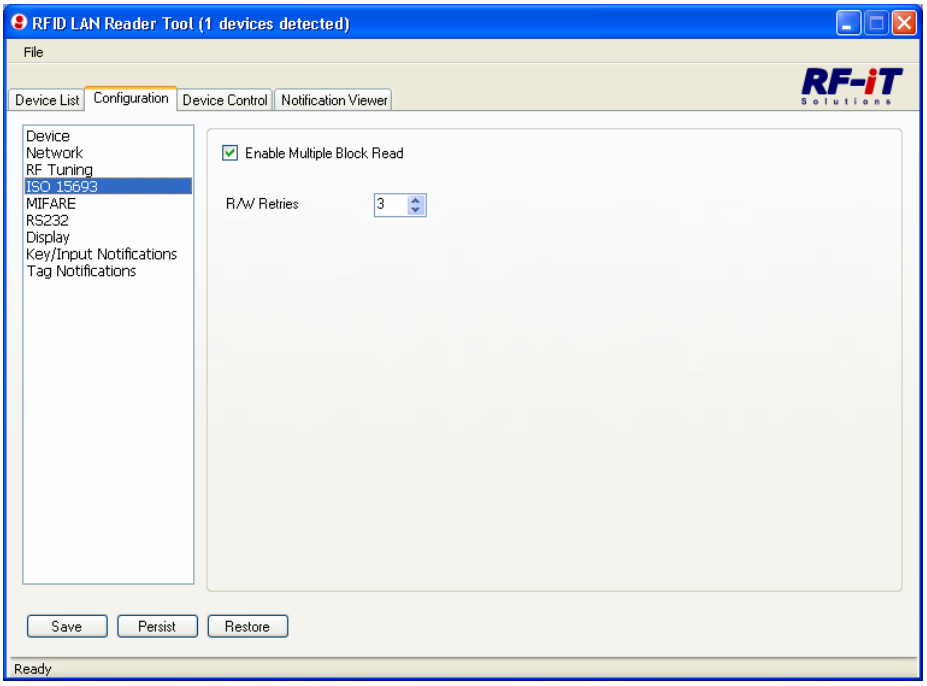
MOD Conductance. The RF driver stage modulated output conductance.

Bit Phase. The RX/TX bitphase relation.

Note: Changing not recommended.

Configuration Tab - ISO 15693

This page is used to set up the readers's ISO 15693 options.



Enable Multiple Block Read. If checked reading blocks uses the ISO „read multiple blocks" command, else multiple single block reads are issued.

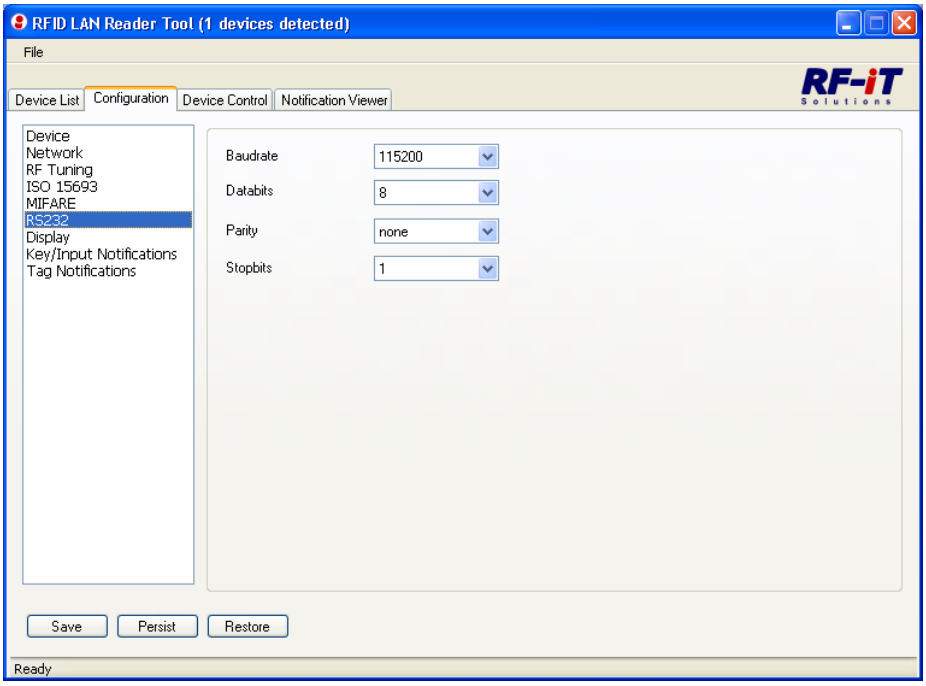
R/W Retries. Number of retries for read/write operations (before an error is reported).

Configuration Tab - MIFARE

There is nothing to configure for MIFARE at the moment.

Configuration Tab - RS232

This page is to configure the internal serial adapter.



Baudrate. The baudrate for serial communication.
Note: some non-standard baud rates can only be set to an approximate value.

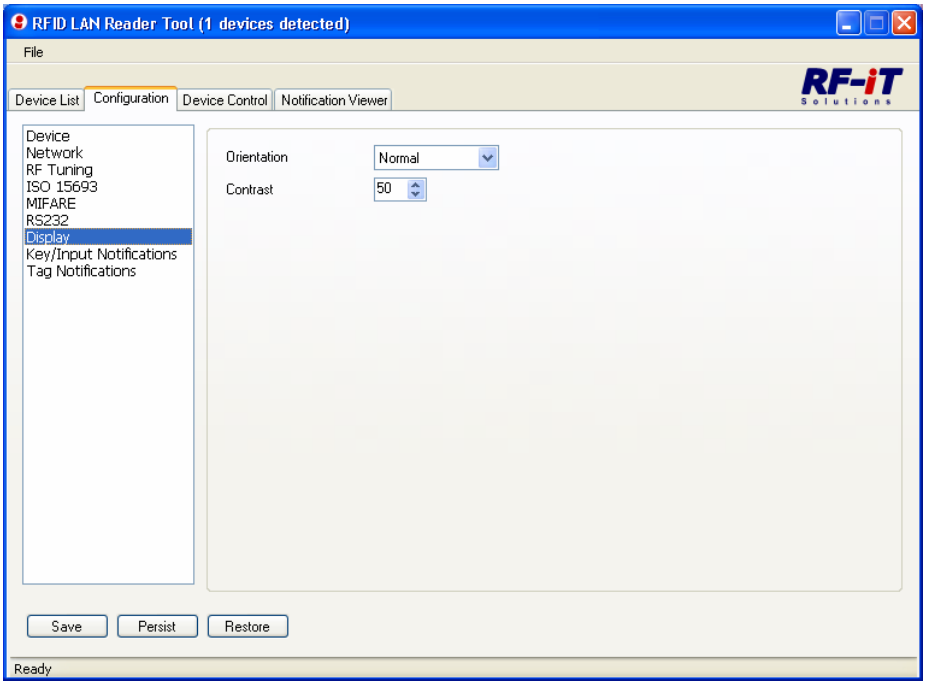
Databits. Number of databits.

Parity. Possible Parity types are „none", „even" or „odd".

Stopbits. Possible Number of stopbits are „1", „1.5" or „2".

Configuration Tab - Display

This page is to configure the display.

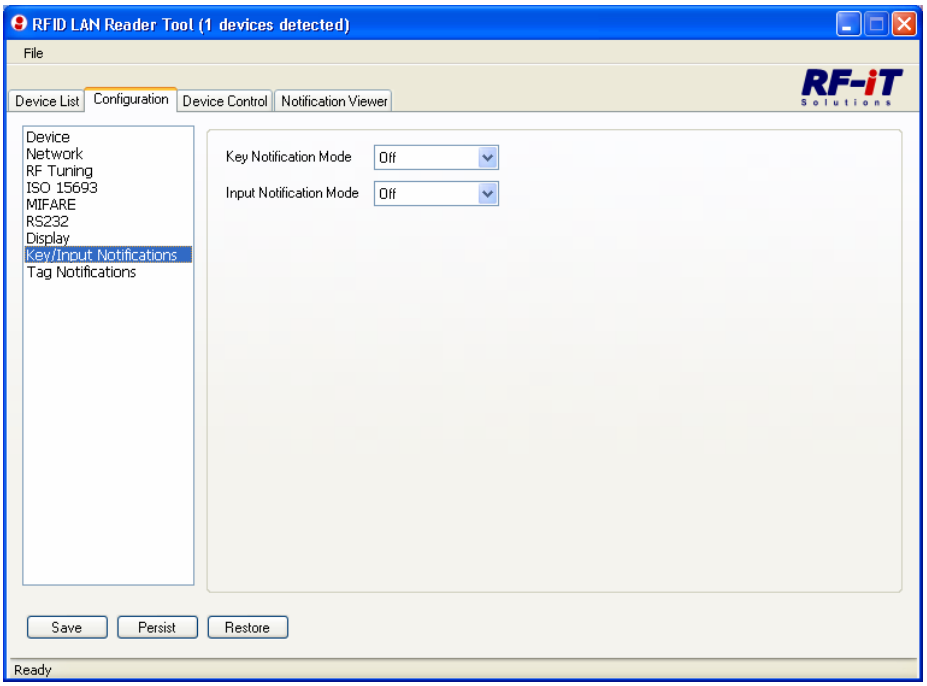


Orientation. „Normal" display orientation or „flipped" one for 180° rotation.

Contrast. The display contrast in percent.

Configuration Tab - Key/Input Notifications

This page is used to set up key and input notifications. Key notifications can be generated when a user presses a key, input notifications if an edge has been detected on an input. For further details on key/input notifications see Notification Viewer Tab description.

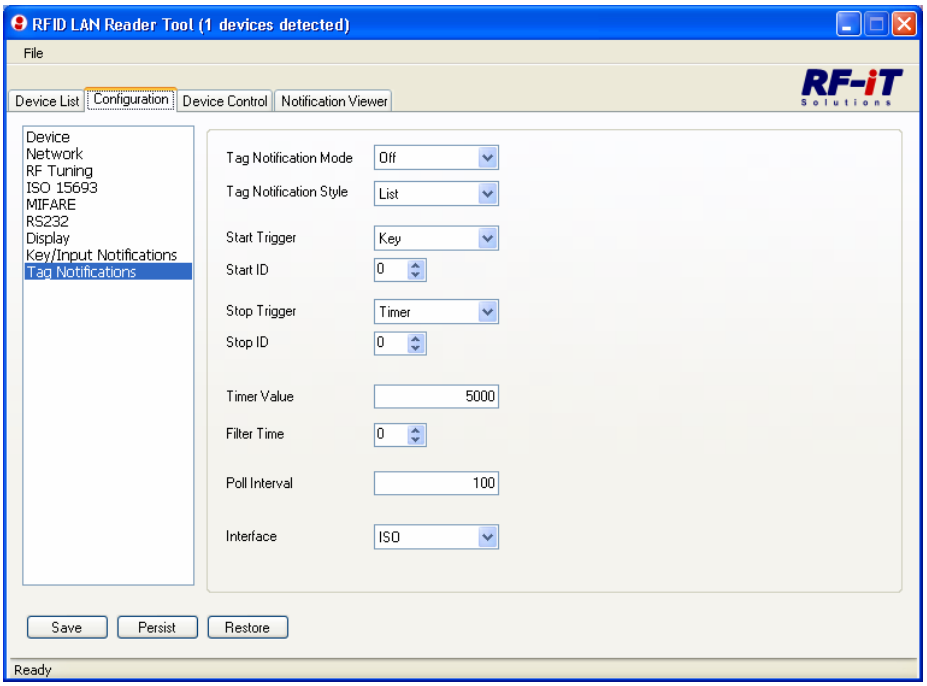


Key Notification Mode. The notification mode when a user presses a key.

Input Notification Mode. The notification mode if an edge has been detected on an input.

Configuration Tab - Tag Notifications

This page is used to set up tag notifications. Tag notifications contain information about tags detected by the reader. For further details on tag notifications see Notification Viewer Tab description.



Tag Notification Mode. The notification mode when when a tag inventory operation is started or stopped.

Tag Notification Style. The notification style determines how the client is notified about these tags.

Start Trigger. Type of trigger condition to start a tag inventory operation.

Start ID. The id of the input or key for the start trigger.

Stop Trigger. Type of trigger condition to stop a tag inventory operation.

Stop ID. The id of the input or key for the stop trigger.

Timer Value. The stop trigger timer timeout value in ms.

Filter Value. The filter constant for tag event filtering, in multiples of the poll interval. Slower,but more reliable for higher values. Zero for no filtering.

Poll Interval. The air-interface poll interval in ms.

Interface. Selects the tag interface which is used for inventory.

5.3 Device Control Tab

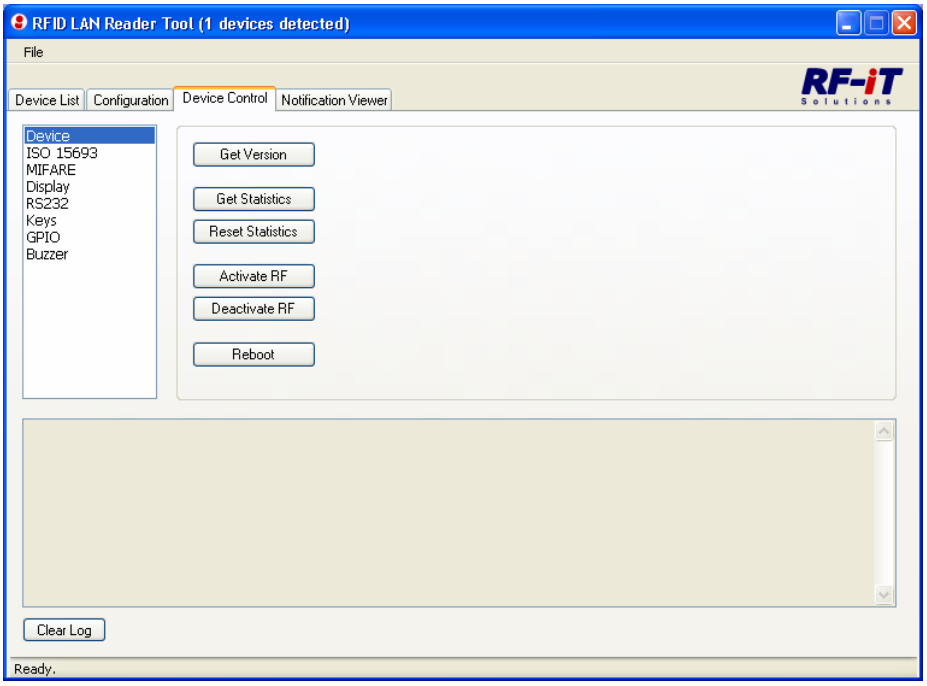
This tab is used to control the reader device. All functions of the reader can be tested and the responses of the device are displayed in a message box. Response messages always contain a „response" and a „status" field. In the case of „status" being „error", the response has to be handled as an error message.

The functionality the reader device is able to process is grouped into the following eight categories: Device, ISO 15693, MIFARE, RS232, Display, Keys, GPIO and Buzzer. All commands of each category are managed on a separate page.

Clear Log. Clear all logs from the message box.

Device Control Tab – Device

This page holds all functionality which concerns the reader in general, for example rebooting the device version and statistic queries.



Get Version. Retrieves software, hardware, and protocol versions from the reader.

Get Statistics. Retrieves statisticical information from the reader.

Reset Statistics. Resets all statistics to zero.

Activate RF. Instructs the reader to activate the RF-field power.

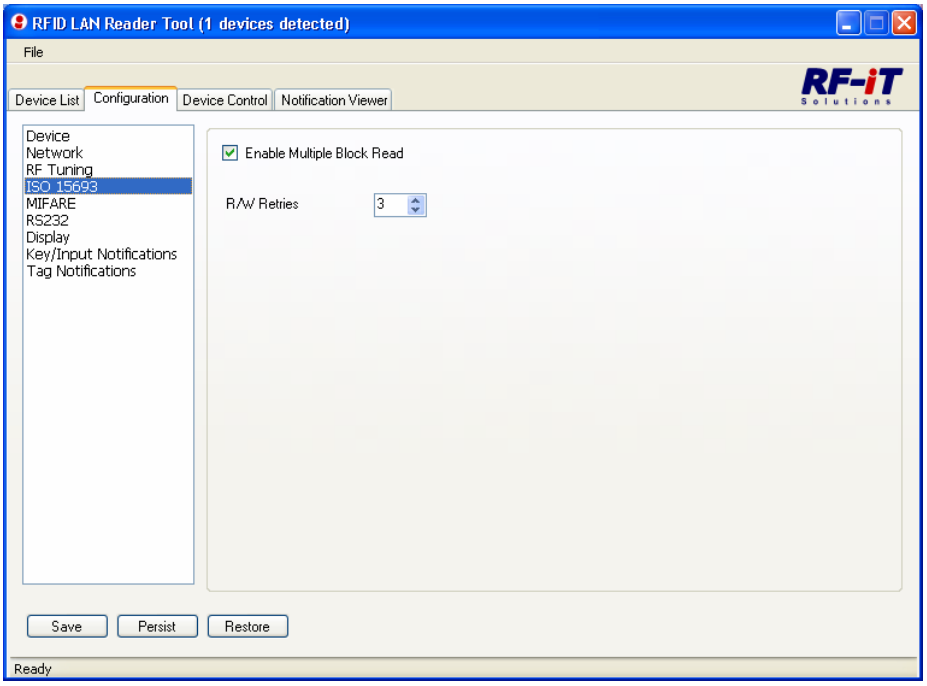
Deactivate RF. Instructs the reader to deactivate its RF-field power. When deactivated, no tags

are accessible. Note: Tag identification requests automatically reactivate the RF power.

Reboot. Instructs the reader to perform a hardware reset. After issuing this command, the connection has to be reopened.

Device Control Tab – ISO 15693

In this page commands which perform actions on ISO 15693 transponders can be managed.



Inventory. Instructs the reader to perform an inventory of the tags present in the readers field.
Anticollision. Boolean value which defines if anticollision should be used. If unchecked, placing more than one tag in the reader antennas vicinity results in an empty list.
Quiet Tags. Defines if tags should be set quiet during anticollision.
Retries. Number of retries for ISO requests that did not yield a result. Can improve reading range, but takes more time.

Select. Selects a tag present in the reader antennas field. This tag can then be used with selected mode commands (see next few commands).
UID. UID of the transponder to be selected.

Read Blocks. Reads a number of blocks from tag memory.
Selected. If checked, the currently selected transponder is used.
Address. Number of the first block to read. (0=block 0, 1=block1,..)
Count. Number of blocks to read. Must be >0. Note that when using the multiread feature, reading more than 14 blocks is not supported, and depending on the tag, more than 8 blocks at a time might not work reliably.

Write Blocks. Writes a number of blocks to tag memory.
Selected. If checked, the currently selected transponder is used.
Address. Number of the first block to write.
Data. Hex data bytes, with a length being a multiple of 4.

Lock Block. Locks a single block of tag memory, resulting in a read only block.

Note: This operation is not reversible, use with care!

Selected. If checked, the currently selected transponder is used.

Address. Number of the block to lock.

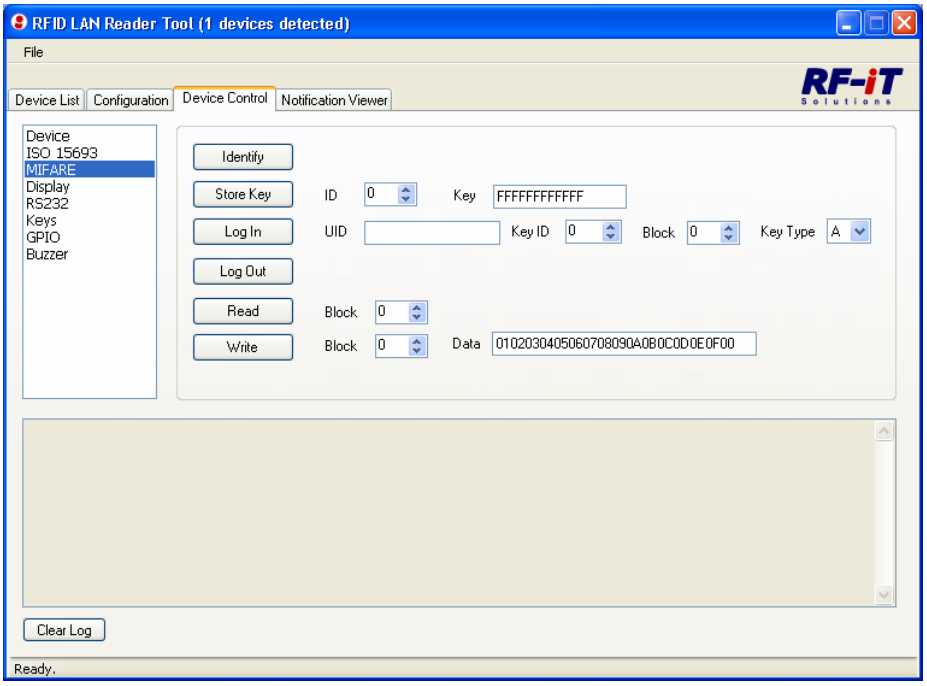
Transceive. Sends an arbitrary string of data to the transponder and returns the answer.

Delay. Expected delay between end-of-transmission and reception start, in multiples of 37.76Os. Defaulting to 8 for most ISO commands.

Data. Data to be sent to the transponder. Note that if this is used to send ISO custom commands, the ISO flags field has to be included.

Device Control Tab – MIFARE

In this page commands which perform actions on MIFARE transponders can be managed.



Identify. Identifies a single ISO14443-A/MIFARE transponder in the reader's field.

Store Key. Stores a key for use with MIFARE Crypto1 authentication.

Note: Because key transport is done in plaintext, special care has to be taken that keys are initialized in a pre-productive environment only.

ID. The id of the key which is used as a handle during the authentication step (must be between 0 and 23).

Key. The key data as hex-string (48bit for MIFARE Classic)

Login. Perform mutual authentication with a MIFARE transponder. This step is required before any card data can be accessed.

Note: After this step the cards data can be accessed. If any RF errors occur during data access, the authentication step has to be repeated.

Note: Tag notifications are suspended until MIFARE Logout is performed.

UID. The UID of the transponder to authenticate to.

Key ID. The id of the key which is used (And has previously been stored using the MIFARE Store Key request).

Block. A block address in the sector to be used for authentication.

Key Type. Determines if sector key A or sector key B is used for authentication.

Logout. Ends an authenticated MIFARE session. No effect if not authenticated.
Note: This resumes tag notifications.

Read. Reads block data from the (authenticated) MIFARE transponder. If successful, 16 bytes of data will be returned.

Block. The address of the block to read. The address must be in the current authenticated sector for this operation to succeed.

Write. Write block data to the (authenticated) MIFARE transponder.

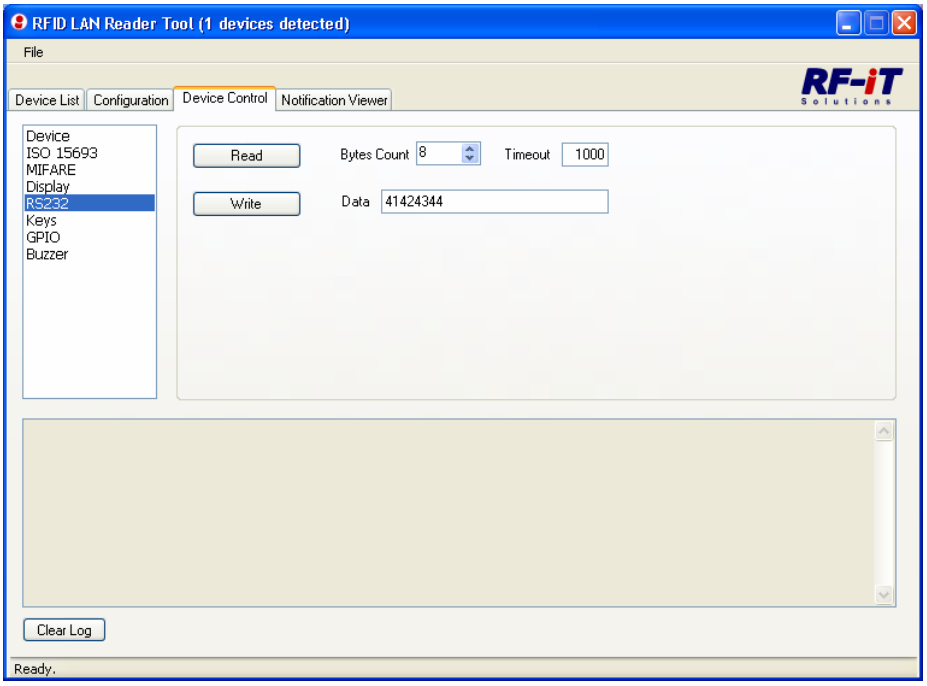
Block. The address of the block to write to. The address must be in the current authenticated sector for this operation to succeed.

Data. The data to write. Padded with zeros to 16 bytes.

Note: With MIFARE Ultralight transponders, only the first 4 bytes are written.

Device Control Tab – Display

This page holds all functionality concerning the alphanumeric display.



Print. Prints text on the display at the specified position. The default text is „Hello Tag".

Row. The row in which to print the text. Defaults to 0.

Column. The column in which to print the text. Defaults to 0.

Text. The text to print.

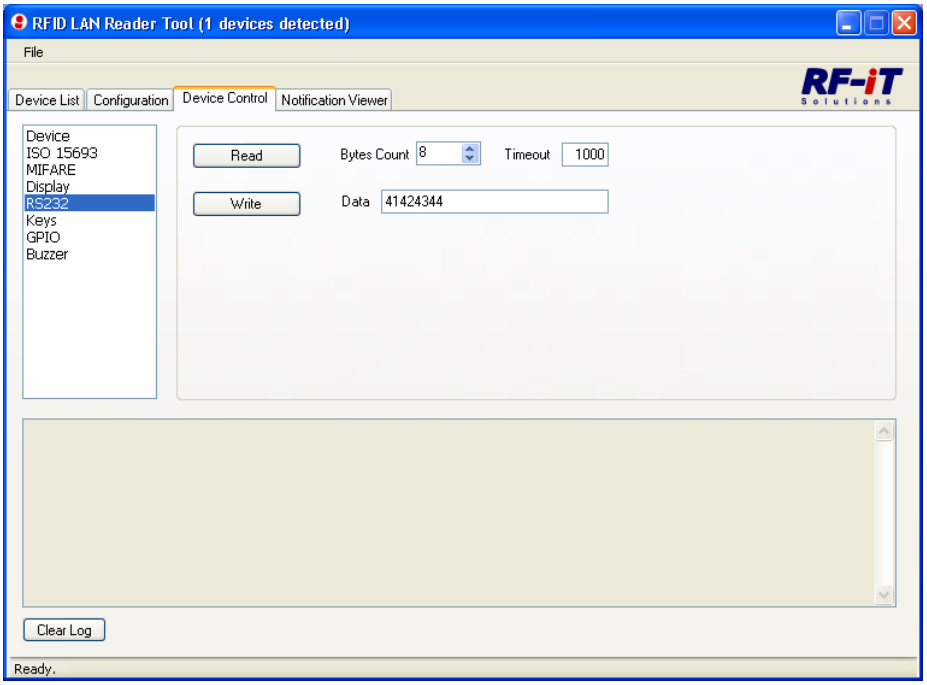
Clear. Clears the display, setting all characters to blank.

Set Backlight. Switches the display's backlight on or off.

Enabled. If checked, backlight is switched on.

Device Control Tab – RS232

This page holds all functionality which allow transparent access to the modules' RS232 interface.

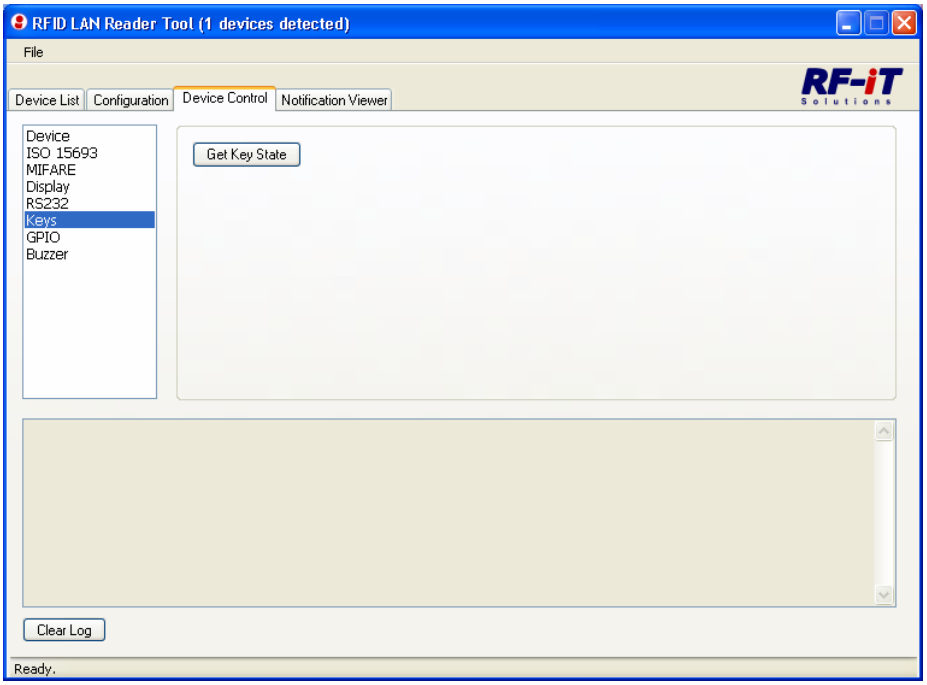


Read. Reads a number of bytes from the internal serial port.
Bytes Count. Number of bytes to read.
Timeout. Time in ms after which a timeout error is generated.

Write. Writes a number of bytes to the internal serial port.
Data. Bytes to write as hex string.

Device Control Tab – Keys

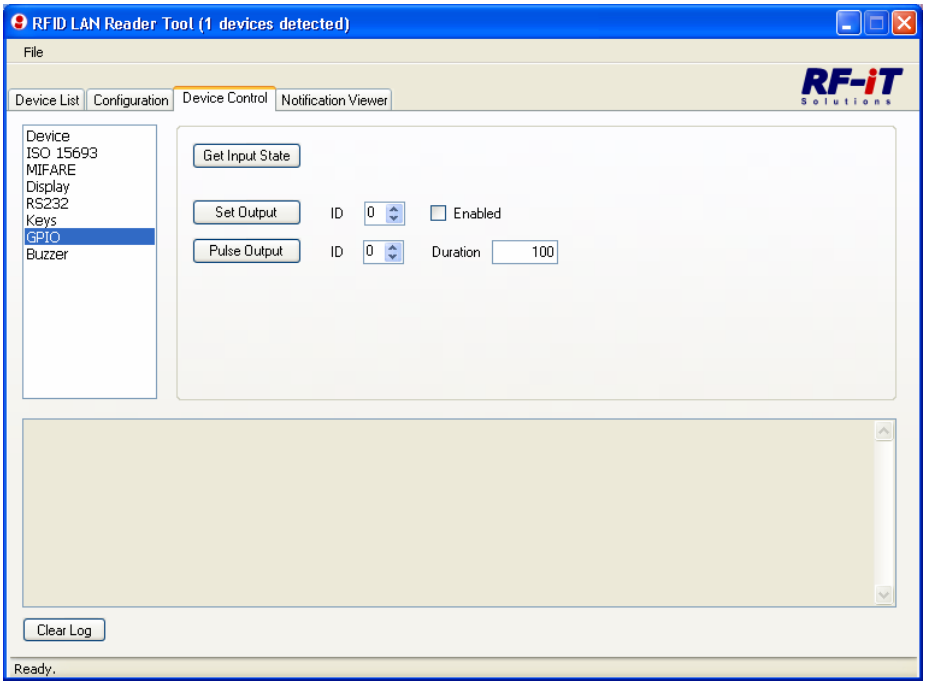
In this page commands querying the key state fall into this category can be executed.



Get Key State. Get the current state of the keys.

Device Control Tab – GPIO

All commands working with the general purpose input/output pins can be accessed here.



Get Input State. Get the current state of the inputs. Note: Inputs are internally pulled high.

Set Output. Set an output to the specified state.

ID. The ID of the output, numbering from 0 to 3.

Enabled. If checked, output is set active high.

Pulse Output. Pulse an output for a specified amount of time.

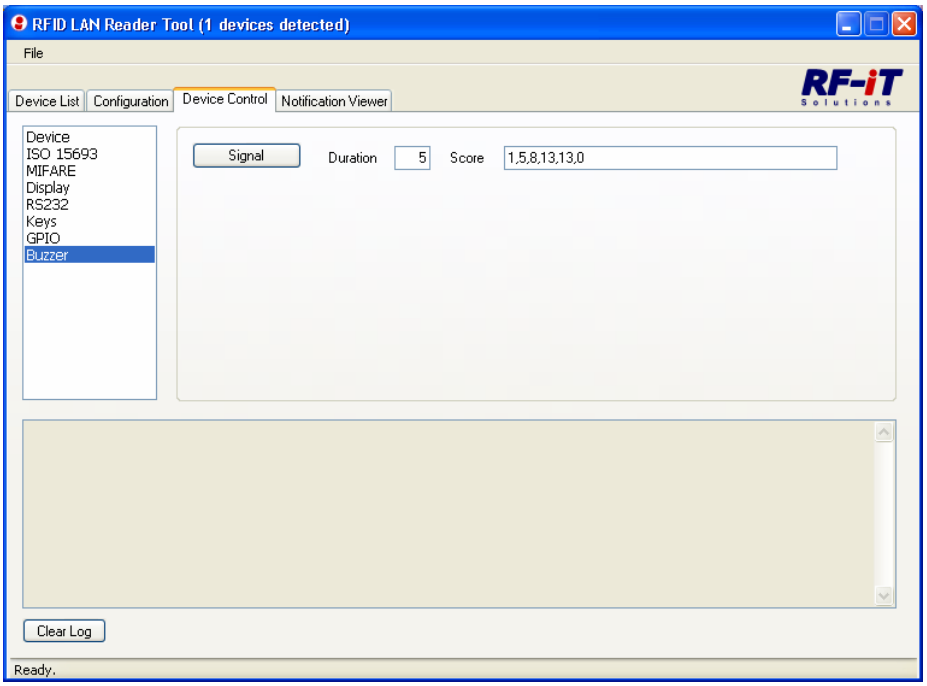
Note: The pulse generated is the inverse of the current output state, e.g. a currently „lo" output generates a „hi" pulse.

ID. The ID of the output, numbering from 0 to 3.

Duration. The duration of the pulse, in ms.

Device Control Tab – Buzzer

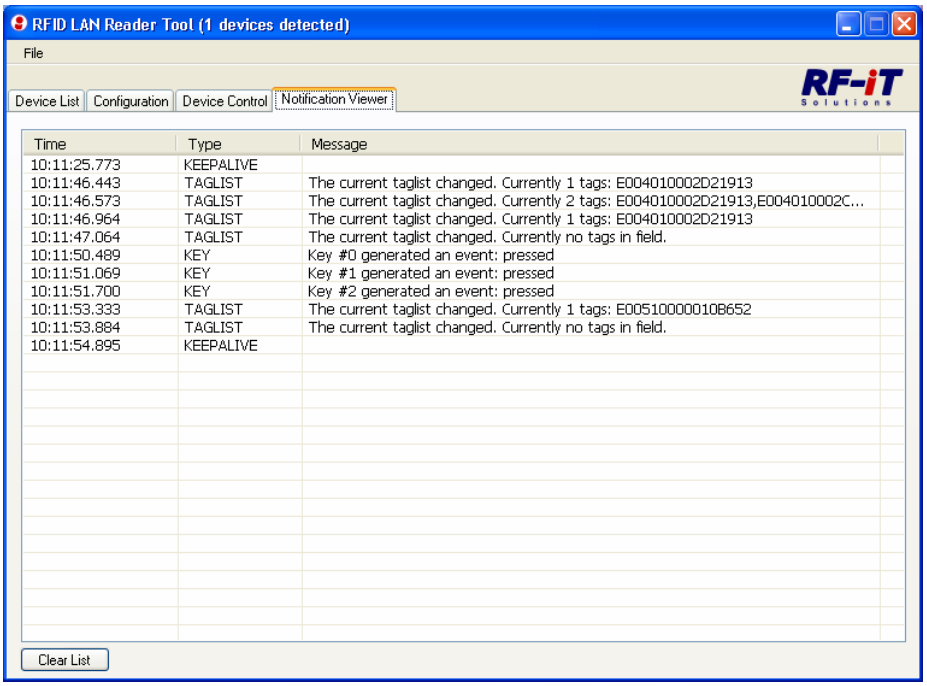
This page shows the command to generate different signals using the integrated buzzer.



Signal. Generates a beep signal with the internal buzzer.
Duration. The duration of a single note in ms.
Score. List of Notes.

5.4 Notification Viewer Tab

Notification messages are generated by the reader to notify the client of different classes of events. They are turned off by default and have to be explicitly turned on by the client. See the configuration tab description for further information, how to turn on notifications.



Clear List. Clear all notifications from the message box.

Notification Viewer Tab - Status Notifications

These notifications are a special class of messages and are generated upon connection and shutdown.

Welcome. This notification is sent after a client has newly connected to the reader. Name, location, serialnumber and various versioning informations of the reader are shown.

Shutdown. This notification is sent before the reader disconnects after the idle timeout has expired.

Keep Alive. This notification is sent by the reader at regular intervals if the connection idle timeout has been deactivated.

Notification Viewer Tab - Key Notifications

Key notifications can be generated when a user presses a key.
Possible notification modes are:

- **Off**: No notification takes place.
- **UpDown**: A notification is generated when a key is pressed down, and a second notification when the key is released. („up" and „down" notificiation actions)
- **Pressed**: A notification is generated after a key has been pressed and released. („pressed" action)

Key. Indicates that a key has been pressed and/or released.

Notification Viewer Tab - Input Notifications

Similar to key notifications, input notifications can be generated if an edge has been detected on an input.
Possible notification modes are:

- **Off**: No notification takes place.
- **Rising**: A notification is generated when a rising edge has been detected on an input.
- **Falling**: A notification is generated when a falling edge has been detected on an input.

Input. Indicates that an edge has been detected on an input.

Notification Viewer Tab - Tag Notifications

These notifications contain information about tags detected by the reader. The notification mode determines when a tag inventory operation is started or stopped. The notification style determines how the client is notified about these tags.

Possible notification modes are:

- **Off**: No notification takes place.
- **Periodic**: Inventory operations are performed periodically, as configured by „pollinterval"
- **Triggered**: Inventory operations start after a trigger condition is met, and stop after another trigger condition is met. In this interval, notifications are generated.

Trigger conditions („starttrigger", „stoptrigger") can be:

- **Key**: Triggers if the key with the configured „startid"/ „stopid" is pressed.
- **Input**: Triggers if an edge is detected at the input with the configured „startid"/ „stopid".
- **Timer**: Triggers after a given amount of time („timervalue"). Stop trigger only.

Possible notification styles are:

- **AddRemove**: For each tag entering the field, a „tagadded" notification is generated, for each tag leaving the field, a „tagremoved" notification is generated.
- **List**: For each tag entering or leaving the field a „taglist" notification is generated.
- **Detect**: For each tag detected by the reader a „detect" notification is generated. This style bypasses the internal filter and allows processing of raw tag detection data.

TagAdded. Reports the UID of a new tag that has been detected.

TagRemoved. Reports the UID of a tag that has been removed.

TagList. Indicates an update in the currently available list of tags and reports a list of UIDs of the tags currently in the field.

TagDetected. Indicates that a tag uid has been detected during an inventory cycle and shows the UID of the tag. Note: This notification is repeatedly generated as long the tag is in the field.

6 Upgrading Firmware

This section instructs you on how to upgrade the firmware on the reader. A firmware update to a newer version may be required to improve the functionality of the reader. This is done by downloading the new firmware image from a TFTP server to the reader.

The current firmware can be found on the CD in the folder „Firmware". If you are looking for a newer version, please visit our product web page (see Contact Information).

If you have a DHCP server on your network, setting TFTP server name (Option 66) and Bootfile (Option 67) options at the server eables the reader to find the TFTP server and the new firmware. Otherwise Tftpd32 provides DHCP and TFTP server functionality and can be used to do an update.

Using an existing DHCP server on your network

1. Set applicable for the following DHCP server options:

   TFTP server name. The name (or IP address) of the TFTP server on your network.

   Bootfile. Filename of the new firmware. The current firmware image can be found on the CD.

2. To set a reader in Bootloader configuration for uploading a firmware, it has to be switched on while holding down the blue button.

3. To start the download process confirm the displayed message „Activate Bootloader?" by pressing the red button. The firmware update is now in progress.
   Note: Don't switch of power during the update process!

4. After finishing the firmware update the reader will be rebooted automatically, and should display the new firmware version upon startup.

Using Tftpd32 for firmware update

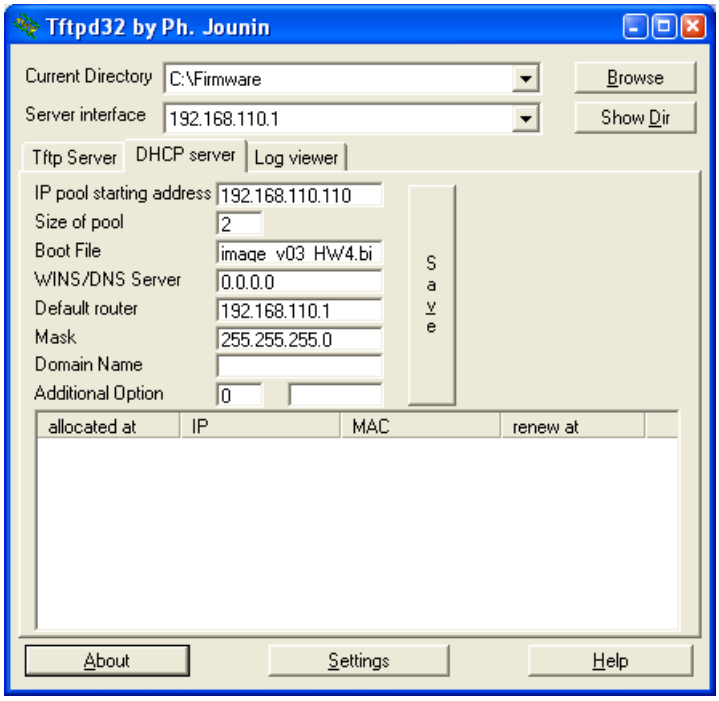
Tftpd32 can be found on the CD in the folder „Firmware". A help file for the program resides in the same folder.

1. Start Tftpd32.

2. Next some configuration steps have to be done:

   a. If there is more than one network card installed on the server, choose the correct server interface in the drop down list. The reader and the server have to be in the same subnet.

b. Go to „DHCP Server" tab and set applicable values in the following fields.



IP Pool Starting Address. Set the IP address appropriate to the choosen server interface, default is 192.168.110.110.

Boot File. Filename of the new firmware. The at delivery time current firmware can be found on the CD. The name of this firmware version is the preconfigured default value.

3. To set a reader in Bootloader configuration for uploading a firmware it has to be switched on while holding down the blue button.

4. To start download process confirm the displayed message „Activate Bootloader?" by pressing the red button. The firmware update is now started and can be watched via a small progress bar in Tftpd32.
   Note: Don't switch of power during the update process!

5. After finishing the firmware update the reader will be rebooted automatically, and should display the new firmware version upon startup.

7 Safety Instructions

Read the safety instructions and warnings before start-up.

- The device has to be used only for the purpose designed by the manufacturer.
- The user manual has to be filed available at any time and must be handed over all users.
- Unauthorized changes and the use of spare parts and additional devices which have not been sold or recommended by the manufacturer may cause fire, electric shocks or injuries. Such measures will lead to exclusion of any liability by the manufacturer.
- The liability-prescriptions of the manufacturer in the issue valid at the time of purchase are valid for the device. The manufacturer is not legally responsible for incorrect, unsuitable manual or automatical setting of parameters for a device or the incorrect application of a device.
- Repairs can only be executed by the manufacturer.
- Installation-, operation- and maintenance procedures should only be carried out by qualified personnel.
- Before opening the device, the power supply must always be interrupted. Make sure that the device is without voltage by measuring. CAUTION! The fading of an operation control (LED) is no indicator for an interrupted power supply or the device being without voltage!
- Works at the device and its installation have to be executed according to the national legal requirements and local prescriptions.
- When working on devices the valid safety regulations must be observed.

8 Specifications

Ports	LAN: Two 10/100 RJ-45 Switched Ports One Power Port	
Cabling Type	Ethernet Network Cable	
Foil	Three Buttons, Antenna and Display embedded in front panel	
Reader	Philips RC 632	
RF	Antenna	Foil
	Output Frequency	13.56 MHz
	Output Power	18 dBm
	Output Voltage	-17.5dBµV @ 13.56 MHz at 100 mm Distance (Measured with ISO 10373-6/7 Coil on Foil Antenna)
	Range / Coverage:	ca. 200 - 210 mm with Foil Antenna ca. 180 mm with PCB Antenna Measured from Reader Case Cover
Display	2 x 16 Characters 180° Turnable, White Backlight	
Dimensions	275 mm x 195 mm x 36 mm (desk) 275 mm x 195 mm x 25 - 50 mm (wall) Bottom Half of Reader Case 180° Turnable for Desk or Wall Mounting	
Unit Weight	0,740 kg	
Power	External, 12V DC, 1A	
Power Consumption	280 mA (max. 650 mA)	
Certifications	CE, FCC, IC-03	
Operating Temp.	3°C to 50°C	
Storage Temp.	-10°C to 65°C	

9 Regulatory Information

CE Marking

FCC STATEMENT and INDUSTRY CANADA STATEMENT

Trade Name: You-R® RFID LAN Reader

FCC ID: US2 06LAN1FCC
IC ID: 5530B-06LAN1IC

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions. (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

Warning: Changes or modifications made to this equipment not expressly approved by RFiT Solutions GmbH may void the FCC authorization to operate this equipment.

10 Contact Information

Visit us online for information on the latest products and updates to your existing products at:
http://www.rf-it-solutions.com http://www.rf-it-solutions.com/LanReader

If you experience problems with any RF-iT Solutions product, you can e-mail us at:
support@rf-it-solutions.com

11 Document History

Title of Document RFID LAN Reader Protocol		Ref.: RFID-LAN-Reader-User-Manual.doc
Revision History: Current Version 1.0.0 from 11.2006		
Previous Releases: None		
Version / Chapter	**Subjects (changes since last revision)**	**Who**
0.1	**New**	**twu**
1.0.0	**Release**	**twu**

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