YSOFT

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making the MFDs think™

YSoft SafeQ® Ethernet Reader

Administrator's Guide

Version 1.3

TABLE OF CONTENTS

1   INTRODUCTION

1.1   PURPOSE OF DOCUMENT

This documentation provides essential information on usage of **YSoft SafeQ® Ethernet Reader**. The YSoft SafeQ® Ethernet Reader is based on YSoft SafeQ® Terminal UltraLight, but is not equipped with a keyboard.

1.2   VALIDITY OF DOCUMENT

This document applies to YSoft SafeQ® Ethernet Reader with firmware version 1.2 and newer.

Note: If you have firmware version 1.1 or older, please update the firmware first. Otherwise the chapter 3 is not relevant and another configuration util has to be used.

1.3   GOALS AND OBJECTIVES

The YSoft SafeQ® Ethernet Reader is based on YSoft SafeQ® Terminal UltraLight. YSoft SafeQ® Ethernet Reader provides compact, fast and simple user interface for authorization to printer. It has no display available; therefore user interaction is limited to status leds. User authentication (on Ethernet Reader) is possible only with card.

Compatibility with following YSoft SafeQ editions is guaranteed:
- YSoft SafeQ PCAS 3.1.5.15 and newer
- YSoft SafeQ PCAS 3.5 Instant Edition (all releases)
- YSoft SafeQ PCAS 3.6 Professinal and Enterprise Edition

1.4   TERMS AND ABBREVIATIONS

Ethernet Reader
YSoft SafeQ® Ethernet Reader

MFD
Multi-Functional Device

1.5   DISCLAIMER

The user that makes changes or modifications not expressly approved by the party responsible for compliance (Y Soft Corporation a.s.) could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

2   OVERVIEW

2.1   SYSTEM OVERVIEW

The purpose of Ethernet Reader is to handle user authentication and authorization to the device using card.

User can use also the PIN authorization (using the MFD integrated panel). The Device Server has to be configured properly.

Picture 1 - System Overview

Only selected card readers are supported by Ethernet Reader.

The YSoft SafeQ® Ethernet Reader is displayed on the Picture 2.

Picture 2 - Ethernet Reader

The Ethernet Reader is equipped with a 2-ports network switch and so it is not necessary to provide another Ethernet socket for connection - the copier or printer can be connected via the terminal. It features a micro-computer, flash ROM, network interface and a card reader.

Terminal is powered by external power supply that is also included in installation package.

Picture 3 - Interface of Ethernet Reader

The emergency button is used for reset the terminal into default settings.

2.2 ETHERNET READER SPECIFICATION

Parameter	Value
Identification	Using a card reader
Network	2-port 10/100 Mbit switch (auto MDI/MDIX)
Processor	Freescale Coldfire v2
Memory	64kB RAM, 512kB Flash

Electric power supply input	12V DC
Maximum current input	1.0A
Working temperature	+5°C to +35°C
Storage temperature	0°C to +50°C
Working air humidity	20% to 85% without condensation
Storage air humidity	8% to 85% without condensation
Resistance to magnetic field	no added resistance

3   TERMINAL CONFIGURATION

Ethernet Reader requires TCP/IP connection to the YSoft SafeQ server. Ethernet Reader has own IP and MAC address.

There is special tool for configuration of Ethernet Reader – SafeQ Terminal Configuration utils – see Picture 4.

Note: This util applies to Ethernet Reader (based on YSoft SafeQ® Terminal UltraLight) with firmware version 1.2 and newer. There is another tool for older firmware version.
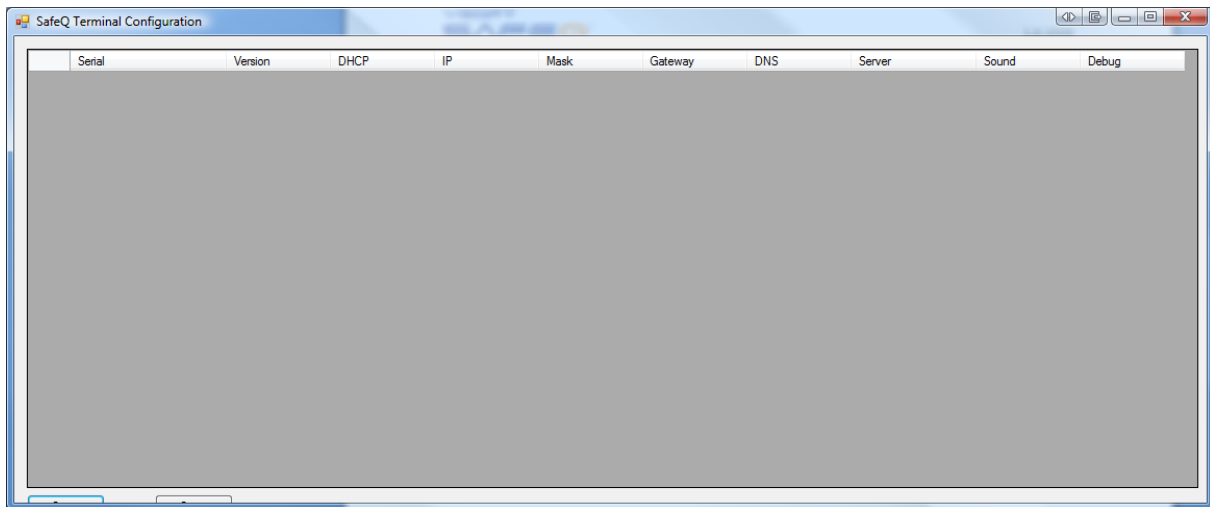
Picture 4 - SafeQ Terminal Configuration util

When you start this tool and press on **Scan** button, the tool discovers all the readers in the same network (independently on the network settings), see Picture 5. You can change settings for the particular reader in the list and using **Save** button the configuration is applied. Upon successful configuration change the terminal will be rebooted.
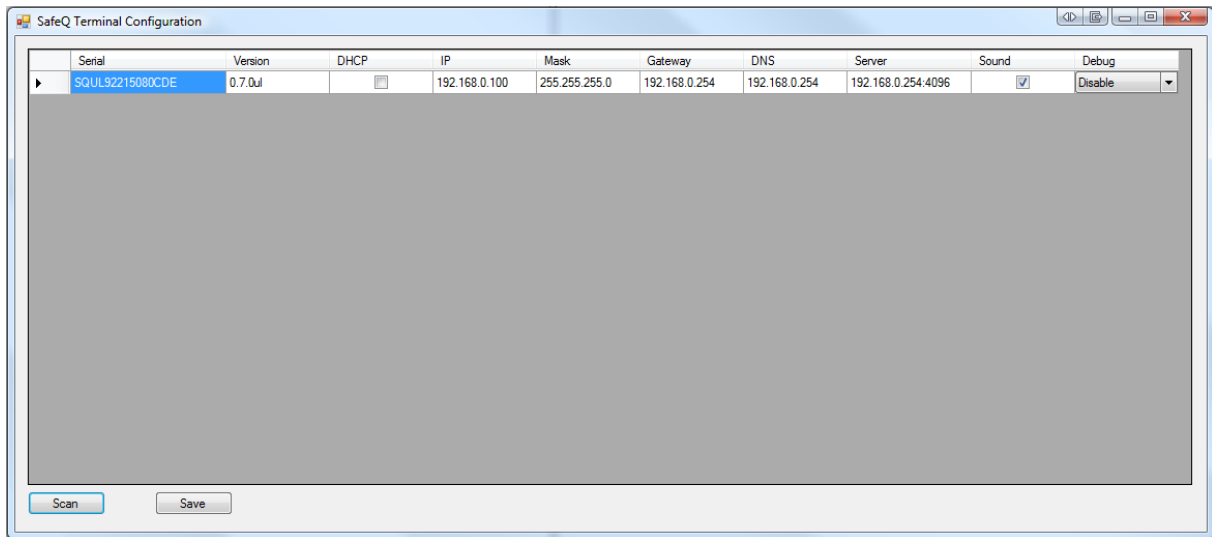
Picture 5 - Ethernet Reader configuration

There is a default network configuration used for Ethernet Reader:

- DHCP=0
- IP=192.168.0.100
- NETMASK=255.255.255.0
- GATEWAY=192.168.0.254
- DNS=192.168.0.254
- SERVERIP=192.168.0.254:5011
- SERVERUPD=192.168.0.254:4096

The `SERVERIP` corresponds to the IP address and port of the YSoft SafeQ® Device Server. The IP and port are used for card authentication.
The `SERVERUDP` corresponds to the SafeQ server and serves for firmware updates.

Emergency button is the way how to reset the terminal into default settings if anything goes wrong with the configuration. Also it is possible to do some other actions such as force firmware update.

The correct procedure of using the emergency button is the following:

- Unplug the reader power cable
- Use a paper clip or a tiny screwdriver to push the emergency button. Hold the button pressed.
- Plug the terminal power back.
- The terminal now starts with short series of beeps with a longer pause between them. The action is selected by releasing the button in the pause. Once the beep count reaches selectable maximum it starts over again from 1. To cancel any selection unplug the power cable and release the button.
- 1 beep - do a set default configuration
- 2 beeps - do the firmware emergency update
- 3 beeps - do the normal firmware update
- 4 beeps - do the emergency reload - reset configuration to default and start emergency update

- 5 beeps - set network configuration to use DHCP server
- After the action is selected it is processed and the reader is rebooted after that

It is possible to enter emergency button menu by holding the button for more than 5 seconds when Ethernet Reader firmware has booted and the terminal is in default "Place card" state.
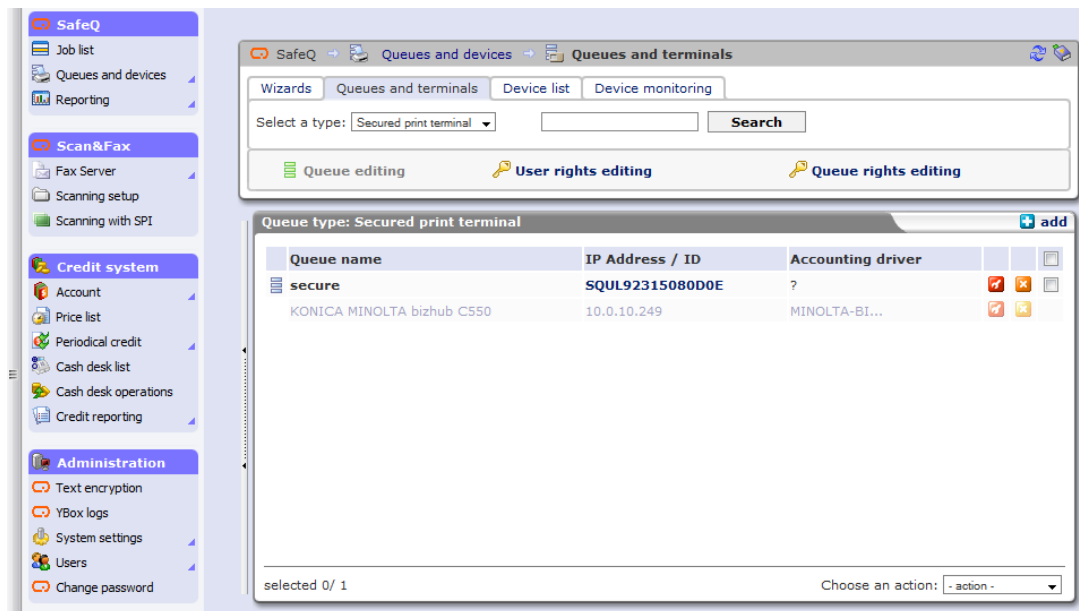
4   SAFEQ CONFIGURATION

After the Ethernet Reader is properly configured, it must be connected to the YSoft SafeQ®.

Assume that the YSoft SafeQ® server and YSoft SafeQ® Device Server are already installed and running. Once the YSoft SafeQ® Device Server is installed and connected to the YSoft SafeQ® server, the secure queue exists in the SafeQ.

1. Authenticate into SafeQ as administrator.

2. Select the secure queue automatically created by the YSoft SafeQ® Device Server (see Picture 6):

   Queues and devices > Queues and terminals

Picture 6 - Queue configuration

3. Insert the serial number of the Ethernet Reader into the SN/IP field (see Picture 7).

Picture 7 - Queue configuration (serial number)

4. Save the dialog for the queue settings.

Since the serial number of the Ethernet reader is entered, both PIN (using integrated panel) and card (using Ethernet Reader) authentication are possible.

5 ETHERNET READER FIRMWARE

5.1 SERVICE FIRMWARE

Service firmware is the most important part of the reader firmware. Right after power-up it will check the emergency button if any action is required. Then it will check the normal firmware for integrity. If the normal firmware is not valid then the emergency firmware will connect to server in emergency mode and download the firmware. If the normal firmware integrity is ok, then it is started.

5.2 READER FIRMWARE

Ethernet Reader firmware is the main part of the firmware. It initializes network, autodetects readers and sends the card number to the server when card is placed. By default the firmware starts UDP locator server which will help detecting available readers on the local network. Also the TCP configuration server is started.

5.3 FIRMWARE UPDATE

The following line must be added to `conf/modules/safeQ.fwupdate.conf` file on the SafeQ server for the emergency update of Ethernet Reader:

```
update-fw-ulemergency = update_file_with_ultralight_firmware
```

Example (it is similar to Terminal Professional):

```
update-fw-0.7.0ul = ultralight-0.8.fw
```

6   ETHERNET READER BEEP AND FLASH CODE SEQUENCES

The Ethernet Reader contains status leds that serve for interaction with user. This chapter provides list of beep and flash code sequences as well as their meanings.

6.1   ETHERNET READER BEEP CODE SEQUENCES

In the following text, the „-" denotes long beep and „." denotes short beep.

-   Card read error. Please try placing the card again or use the different card.

.-   Reader validation failed. Server reports that the terminal is not registered on SafeQ. Please consult administrator manual.

-.-   User validation failed. User card is not registered in the system.

.--   Received error or warning message from server.

---   Connection to SafeQ server failed.

...-   Hardware configuration damaged, cannot continue in booting.

-..-   Maximum number of update attempts reached but no valid firmware detected.

.-.-   Update of firmware failed.

--.-   Software configuration cannot be saved. Probably faulty onboard eeprom.

..--   Software configuration damaged, loading defaults.

-.--   Maximum number of update attempts reached, resuming normal boot.

.---   Firmware damaged.

----   Network init failed.

-...   No reader connected and reader required for correct functionality.

.-..   Update of firmware failed. Error in server response, SafeQ server is probably not configured correctly.

--..   Update of firmware failed. Cannot connect to SafeQ server.

-...-   Debug mode, not for public release!

6.2   ETHERNET READER FLASH CODE SEQUENCES

This section provides flash code sequences used for interaction with a user.

There are following colors used for icons:

- Green - Led is green
- Red - Led is red
- Orange - Led is orange

- Grey - Led is off

	All leds are switched off. Ethernet reader power is off.
	animated Ethernet reader is processing, please wait.
	animated Firmware upgrade in progress, please wait (service firmware working).
	Firmware upgrade in progress, please wait (service firmware working) *Similar to the previous one.*
	Place card.
	flashing Error occurred, see beep codes for details.
	during init sound Ethernet reader model (3). Please note that ethernet reader operation can be configuration selected on UltraLight or UltraLight print only models. In such case the read software configuration command can read current settings.

7   RELATIONSHIP WITH OTHER DOCUMENTS

This section describes how this guide is related to other documentation:

Nr.	Document	Version	Author
1.	YSQ Ethernet Reader – User's Guide [EN]	1.1	PNE
2.			
3.			
4.			
5.			
6.			
7.			

8   VERSION HISTORY

Document author/owner: Petr Neugebauer <petr.neugebauer@ysoft.com>

Version	Date	Change	Status	Author
0.1	06/2009	Initial version	Accepted	PNE
1.0	08/2009	Public version (Reviewed and updated)	Final	PNE
1.1	08/2009	Technical specification (chapter 2.2) extension – temperature and humidity parameters added	Final	PNE
1.2	09/2009	Chapter 1.5 (disclaimer added)	Final	PNE
1.3	12/2010	Updated version compatibility and company name	Final	PMA