

User Manual



QKeyboard

...designed to succeed

Dear valued customer!

On behalf of our proud company we wish to welcome you to the QUORION family of fine business machines. We sincerely hope you will appreciate the many benefits of being associated with a distinguished product name that represents both quality and commitment to customer satisfaction. It is therefore with great pride that we look forward to continuing our close collaboration with our customers.

Sincerely,

Your QUORION Team

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1. Components



Display: either 2x16 alphanumeric LCD or 1x11 numeric VFD
 Keyboard: either 40 or 64 keys raised

2. Interface

Default values after power on of the display are:

- display disabled (to have lower power consumption)
- Baud rate 9600, 8bit, 2stopbit, none parity.

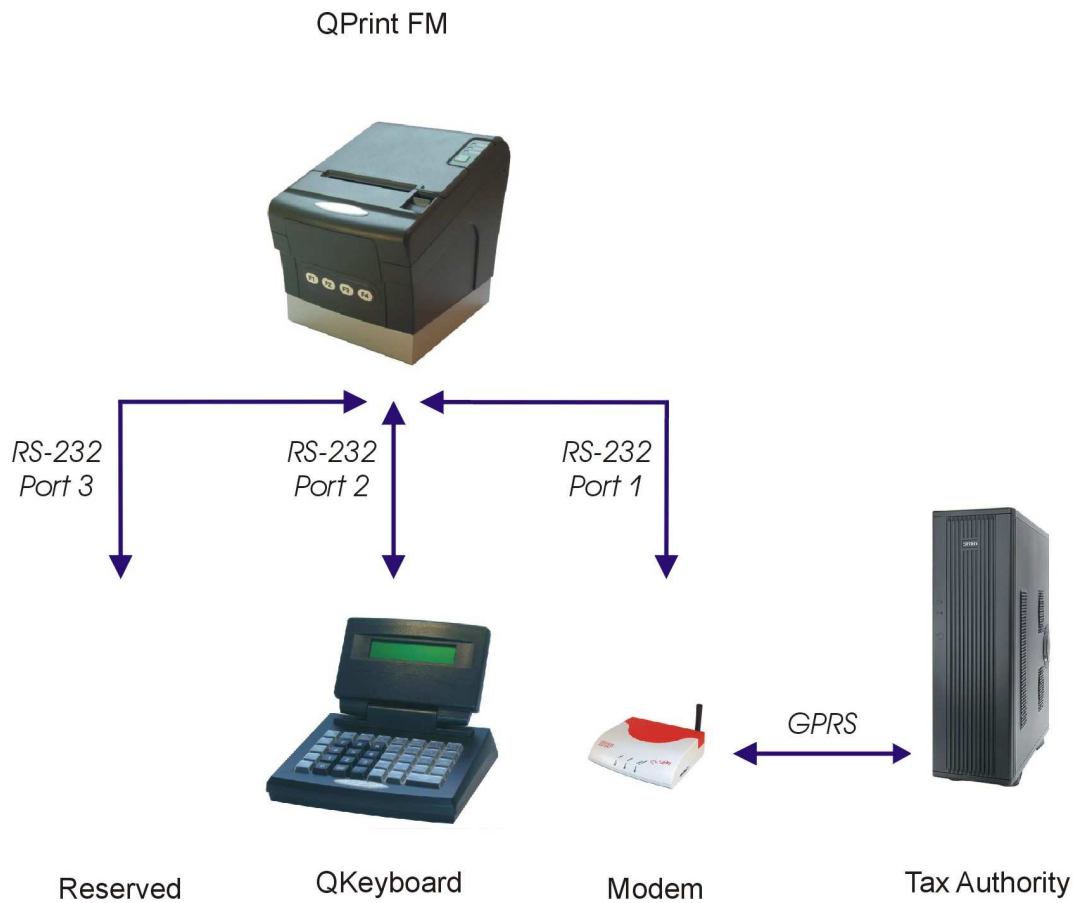
To connect the QKeyboard use the following information:

| - Pin out: | PC (D-Sub 9pin male) | do not connect | Display (D-Sub 9pin male) |
|------------|----------------------|----------------|---------------------------|
| | 1 DCD | | PROG 1 |
| | 2 RxD | ————— | RxD 2 |
| | 3 TxD | ————— | TxD 3 |
| | 4 DTR | | DTR 4 |
| | 5 GND | ————— | GND 5 |
| | 6 DSR | | DSR 6 |
| | 7 RTS | | RTS 7 |
| | 8 CTS | | CTS 8 |
| | 9 VCC | ————— | VCC 9 |

- Power supply: The external display needs a power supply over pin 9 of its interface cable.

Following is necessary: **5V DC, 250mA.**

3. Topology



4. Function Code Description

4.1 All External Devices

| | |
|-------------------|---|
| - GET TYPE DEVICE | send type of external device |
| syntax: | 0x1B, 0xFC |
| answer: | 0xF1 for external VFD |
| | 0xF2 for external LCD |
| | 0xF3 for external Keyboard |
| | 0xF5 for external VFD/Keyboard-Terminal |
| | 0xF6 for external LCD/Keyboard-Terminal |

4.2 External Display LCD

The external LCD-display supports the following function codes with **ESC**:

- **DISPLAY INIT** reset display and clear all buffers
 syntax: **0x1B, 0x40**

- **DISPLAY OFF** display off
 syntax: **0x1B, 0xF0**

- **DISPLAY ON** display on
 syntax: **0x1B, 0xF1**

- **GET TYPE DISPLAY** send the type of display back
 syntax: **0x1B, 0xF2**
 answer: 0x20 for alphanumeric display with 16 characters and 2 lines

- **GET SIZE DISPLAY** send the number of digits
 syntax: **0x1B, 0xF3**
 answer: 2,16 number of lines, number of digits

- **GET SW VERSION** send the version of the software of the external device
 syntax: **0x1B, 0xFD**
 answer: 0x10 for version 1.0

- **GET CODEPAGE** send number of codepage
 syntax: **0x1B, 0xF9**
 answer: number of codepage

- **DEC CONTRAST** decrement contrast LCD
 syntax: **0x1B, 0xF4**

- **INC CONTRAST** increment contrast LCD
 syntax: **0x1B, 0xF5**

- **SET CONTRAST** set contrast LCD to specific value
 syntax: **0x1B, 0xF6,value**

- **GET CONTRAST** get actual contrast value LCD
 syntax: **0x1B, 0xF7**
 answer: actual value

- **SET CURSOR** move cursor to specified position
 syntax: **0x1B, 0x48,colum,line**

- **SET CURSOR END** move cursor to right end on current line
 syntax: **0x1F, 0x0D**

- **CLEAR DISPLAY** clear the hole display
 syntax: **0x18**

- **WRITE CHARACTER** write normal character ASCII (0x20..0xFF)
 syntax: **0x20 .. 0xFF**

4.3 External Display VFD with 11 digits

The external VFD-display supports the following function codes with **ESC**:

- **DISPLAY INIT** reset display and clear all buffers
 syntax: **0x1B, 0x40**

- **DISPLAY OFF** display off
 syntax: **0x1B, 0xF0**

- **DISPLAY ON** display on
 syntax: **0x1B, 0xF1**

- **GET TYPE DISPLAY** send the type of display back
 syntax: **0x1B, 0xF2**
 answer: 0x01 for numeric display with 11 digits

- **GET SIZE DISPLAY** send the number of digits
 syntax: **0x1B, 0xF3**
 answer: 11 number of digits

- **GET SW VERSION** send the version of the software of the external device
 syntax: **0x1B, 0xFD**
 answer: 0x10 for version 1.0

- **SET CURSOR** move cursor to specified position
 syntax: **0x1B, 0x48,pos**

- **SET CURSOR END** move cursor to right end on current line
 syntax: **0x1F, 0x0D**

- **CLEAR DISPLAY** clear the whole display
 syntax: **0x18**

- **WRITE CHARACTER** write normal character ASCII (0x20..0x7F)
 syntax: **0x20 .. 0x7F**

4.4 External Keyboard

The external keyboard supports the following function codes:

Function codes with FS:

- **RESET KEYBOARD** reset keyboard and clear all buffers
 syntax: **0x1C, 0xFF**

- **ENABLE KEYBOARD** enable keyboard
 syntax: **0x1C, 0xF1**

- **DISABLE KEYBOARD** disable keyboard
 syntax: **0x1C, 0xF0**

- **GET TYPE KEYBOARD** send the type of keyboard back
 syntax: **0x1C, 0xF2**
 answer: 0x09 for keyboard 156

- **GET SIZE KEYBOARD** send the number of keys
 syntax: **0x1C, 0xF3**
 answer: 156 number of keys

- **SET KEYBOARD-MODE** enable keyboard
 syntax: **0x1C, 0xF4,data**
 data: 0=send key immediately
 data: 1=send key after command (0xF5)

- **SEND PRESSED KEY** send a pressed key (otherwise 0x00)
 syntax: **0x1C, 0xF5**
 answer: key code

The keyboard sends (if enabled) the number of the key **1** to **156** as one byte to the connected device (PC).

5. Information on the Electromagnetic Compatibility and Safety

CE Conformance

This QUORION cash register conforms to the European Community's EMV 2004/108 directive. The cash register fulfills the following technical European requirements:

- EN 55022 – „Norm values and measuring procedures for radio interference properties – characteristics of information technology devices“
- EN 55024 – „Norm values and measuring procedures for the interference resistance properties– characteristics of information technology devices“
- EN 60950 – „Security measurements for the installation of IT“

A "conformance explanation" in accordance with the directives and standards cited on top has been delivered and can be reviewed with

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REMARK: If the cash register is installed in a system with other devices and components, all other devices and components must each show EMV conformance to the norm. According to the EMV 2004/108 directive as well as EC and national laws, the system integrator is responsible to ensure that the built system complies with regulations

Power Cord Exchange

The power cord can only be exchanged by a certified technician. The same type of cord has to be used.



Disposal of Old Electrical & Electronic Equipment (applicable in the European Union and other European countries with separate collection systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronics equipment.

For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.