

---

User's Guide

# Using ChangeMe



# Using ChangeMe



ChangeMe software is a user friendly program that enables the user to configure Tipro products according to his needs.

ChangeMe supports FREE, FREE+, BeFREE, MID, FCX and K-LINE range of products.

**Using ChangeMe** **i**

---

**Introduction** **7**

---

|                                 |    |
|---------------------------------|----|
| Description.....                | 7  |
| History .....                   | 8  |
| Features.....                   | 9  |
| Typographical Conventions ..... | 10 |

**What's new ?** **11**

---

|                      |    |
|----------------------|----|
| 5.8 to 5.7 .....     | 11 |
| 5.7 to 5.6 .....     | 12 |
| 5.6 to 5.5 .....     | 12 |
| 5.5 to 5.4 .....     | 13 |
| 5.4 to 5.3 .....     | 13 |
| 5.3 to 4.7 .....     | 14 |
| 4.7 to 4.5 .....     | 15 |
| 4.5 to 4.4 .....     | 15 |
| 4.4 to 4.3 .....     | 16 |
| 4.3 to 4.2 .....     | 16 |
| 4.2 to 4.1 .....     | 16 |
| 4.1 to 4.0.4 .....   | 17 |
| 4.0.4 to 3.0.9 ..... | 18 |

**Installation of FREE/FREE+ software** **18**

---

|                    |    |
|--------------------|----|
| General.....       | 19 |
| Touch screen ..... | 20 |

**ChangeMe – Overview** **21**

---

|                  |    |
|------------------|----|
| First look ..... | 22 |
| Status bar ..... | 23 |

**Menu Structure** **25**

---

|                                      |    |
|--------------------------------------|----|
| File .....                           | 28 |
| New .....                            | 28 |
| Open .....                           | 29 |
| Save .....                           | 29 |
| Save As.....                         | 30 |
| Save as batch update file (TXB)..... | 31 |
| Print with LabelMe.....              | 32 |
| Exit .....                           | 33 |
| Desktop.....                         | 33 |
| Add Module.....                      | 33 |
| Delete Module .....                  | 34 |
| Open Desktop .....                   | 34 |

---

|  |    |
|--|----|
| Save Desktop .....                     | 35 |
| Clear Desktop .....                    | 35 |
| Auto Detect.....                       | 36 |
| Keyboard .....                         | 36 |
| Update keyboard content .....          | 36 |
| Update and Verify .....                | 37 |
| Verify.....                            | 37 |
| Load content from keyboard.....        | 37 |
| Info .....                             | 37 |
| Tools .....                            | 38 |
| Scanline .....                         | 38 |
| Text Window.....                       | 38 |
| TTY Terminal.....                      | 39 |
| Options.....                           | 40 |
| Toolbars.....                          | 40 |
| Communications Port .....              | 41 |
| Preferences .....                      | 41 |
| Security .....                         | 45 |
| Show/Hide Security toolbar.....        | 45 |
| View .....                             | 46 |
| Edit passwords.....                    | 47 |
| Protected key combinations.....        | 56 |
| Security wizard.....                   | 58 |
| Set content .....                      | 58 |
| Set keys to Security Level 0 .....     | 58 |
| Set keys to Security Level 1 .....     | 59 |
| Set keys to Security Level 2 .....     | 59 |
| Set keys to Security Level 3 .....     | 59 |
| Set LOGON key .....                    | 59 |
| Set LOGOFF key.....                    | 59 |
| Windows .....                          | 60 |
| Help .....                             | 61 |
| ChangeMe Help.....                     | 61 |
| Go to Tipro home page.....             | 61 |
| Go to Tipro support .....              | 61 |
| Send mail to support.....              | 62 |
| About.....                             | 62 |
| Shortcut Toolbar .....                 | 63 |
| Module Context Menu (Right click)..... | 63 |
| Clear Module .....                     | 63 |
| Set all AT/PS2 .....                   | 64 |
| Set all RS232 .....                    | 64 |
| Set all USB .....                      | 64 |
| Set default.....                       | 64 |
| RS232 OPOS .....                       | 65 |
| USB OPOS .....                         | 66 |
| Import Text.....                       | 67 |
| Export Text.....                       | 67 |
| Key Context Menu (Right click).....    | 68 |
| Clear Key.....                         | 68 |
| Cut Content.....                       | 68 |
| Copy Content.....                      | 68 |
| Paste Content .....                    | 68 |
| Make RS232 OPOS key .....              | 68 |
| Make USB OPOS key .....                | 68 |
| Load default content .....             | 69 |
| Key Content Form .....                 | 69 |
| Menu structure.....                    | 69 |
| Toolbar .....                          | 73 |

---

|  |           |
|--|-----------|
| Scanline .....   | 73        |
| <b>Programming</b> .....                               | <b>77</b> |
| General.....   | 77        |
| Desktop.....   | 77        |
| Select a module.....                                   | 78        |
| Select a Key.....                                      | 78        |
| Enter contents .....                                   | 78        |
| Save a configuration .....                             | 79        |
| Update .....   | 79        |
| Testing .....  | 81        |
| Programming a Keyboard.....                            | 81        |
| Content Key.....                                       | 84        |
| Layer Key .....  | 85        |
| Size .....   | 86        |
| Interface.....   | 87        |
| Programming a Chameleon .....                          | 89        |
| Programming a Card Reader.....                         | 89        |
| Magnetic Card Reader.....                              | 89        |
| Barcode slot reader.....                               | 93        |
| Programming an ID module.....                          | 95        |
| Keylock .....  | 96        |
| iButton.....   | 97        |
| RFID (Radio Frequency Identification).....             | 98        |
| Programming a Handset.....                             | 99        |
| Handset (standard version) .....                       | 100       |
| Handset HUA-5A .....                                   | 102       |
| Handset with dialpad .....                             | 103       |
| Handset and Speakerbox together in configuration ..... | 104       |
| Programming a Speakerbox.....                          | 106       |
| Audio .....  | 107       |
| Speakerbox keys.....                                   | 108       |
| Handset and headset events .....                       | 109       |
| Play and record sound (WAV) .....                      | 111       |
| Potentiometer.....                                     | 113       |
| Advanced.....  | 115       |
| Microphone initial .....                               | 117       |
| Channel/Speaker.....                                   | 119       |
| Programming a BeFREE module.....                       | 120       |
| BeFREE v3 (Atom based) .....                           | 121       |
| BeFREE (Celeron and Core2Duo based) .....              | 133       |
| Advanced Techniques.....                               | 137       |
| Import text .....                                      | 137       |
| Export text .....                                      | 137       |
| Default contents.....                                  | 138       |
| Text file format.....                                  | 139       |
| Load content from keyboard.....                        | 140       |
| Keyboard Info.....                                     | 141       |
| Rollover .....   | 141       |
| What is rollover .....                                 | 141       |
| How does it occur .....                                | 142       |
| What to do when it occurs .....                        | 143       |

|  |            |
|--|------------|
| FileTypes .....                            | 144        |
| <b>Printing</b>                            | <b>145</b> |
| FREE/FREE+ family .....                    | 145        |
| MID family .....                           | 146        |
| <b>Security</b>                            | <b>147</b> |
| Introduction.....                          | 148        |
| Security wizard .....                      | 149        |
| Advanced techniques .....                  | 149        |
| Key module .....                           | 150        |
| iButton.....                               | 150        |
| KeyLock.....                               | 151        |
| <b>Settings / Options</b>                  | <b>153</b> |
| Visual.....                                | 153        |
| Input.....                                 | 153        |
| Default .....                              | 154        |
| Communication.....                         | 154        |
| <b>Automatic update (using parameters)</b> | <b>155</b> |
| <b>How do I ?</b>                          | <b>159</b> |
| Program special contents .....             | 159        |
| Multiple layer key.....                    | 159        |
| Beep and delay .....                       | 161        |

Change national layout .....161  
Click and autorepeat .....162  
Program through COM port.....162  
Program shortcut keys .....163

---

**FAQ 167**

---

FREE/FREE+ and Operating Systems.....167  
Where can I get pre-cut paper to print labels on? .....167  
Is it possible to map ASCII values to keys?.....168  
Is it possible to have Caps Lock 'OFF' on Tipro keyboard and 'ON' on the secondary keyboard?.....168  
Can I change the functionality of the keyboard on line during work? .....169  
What is the lifetime of MID or FREE module? .....169  
The MCR delivers the data to the host to fast. Is it possible to put in a "Character delay"?.....170  
Can I program contents and lock to layer in one key? .....171

---

**Troubleshooting 173**

---

I can't program a Tipro keyboard with a laptop .....173  
Error when updating .....174  
I have a RBA module but it is recognized as RAA.....174  
Verify reports an error .....175

---

**Copyrights and technical support 177**

---

Copyright .....177  
Software distribution.....178  
No liability for consequential damages.....178  
WIN Keys .....178  
Technical support.....179

---

**Index 181**

---

# Introduction

A short introduction to ChangeMe and FREE/FREE+/BeFREE.

What is it, where it came from and what you can do with it.

## In This Chapter

|                                 |    |
|---------------------------------|----|
| Description .....               | 7  |
| History .....                   | 8  |
| Features .....                  | 9  |
| Typographical Conventions ..... | 10 |

---

## Description

FREE/FREE+/BeFREE is a fully modular family of programmable keyboards, ID-modules, card readers, LCD screens, systems, pointing devices and other modules.

A composition of up to 14 FREE/FREE+/BeFREE modules and one Controller, mechanically and electrically connected, is referred to as a FREE/FREE+/BeFREE configuration.

FREE/FREE+/BeFREE configurations can be divided into four categories:

- one based on a System (BeFREE),
- one built around a Touch module (FREE+),
- another one built around a keyboard module (FREE) and
- one based on the Chameleon or Speakerbox.

The first one has the Controller built into the BeFREE module, the second one has the Controller in the Touch module, the third one has the Controller (Master module) in the keyboard, the last option has the Controller in the Chameleon or Speakerbox.

---

## History

FREE is the successor of TIPRO's successful MID generation.

MID started in 1997 as a revolutionary idea for modular and programmable keyboards.

A master module as base, making a combination of slave devices possible.

In 2002 this line is continued and expanded with FREE.

The master is now a Controller and slaves are called modules, the principle stays.

A FREE+ module is a low profile design LCD touch screen, which can act as a base for a configuration.

The FREE/FREE+/BeFREE family is growing, as constantly new modules and features are under development.

---

## Features

A variety of modules can be combined with FREE/FREE+BeFREE.

Keyboards ranging from 32 to 128 keys with straight-xy matrix or QWERTY layout can be side by side with magnetic card readers, identification modules (keylock or iButton®), barcode readers, pointing devices, handset and RF ID module.

The All in one system (BeFREE), the Touch screen (FREE+) and Chameleon can be used stand-alone or can act as a base for a configuration.

All keys are fully programmable with ChangeMe software.

Keys can contain

- a sequence of codes or a string like "SOLUTION" or
- special keys like CTRL+F11
- functions like Beep and Delay
- a combination of all

USB controller offers also security features on the device itself.

This makes FREE/FREE+ excellent suited for

- POS, where every key means an item
- special office applications, where every programmable key replaces a combination of keys, for instance menu shortcuts (e.g. CAD, editors, bookkeeping programs)
- dedicated applications where very few commands are needed or where low introduction time is essential (e.g. telephone control system, label printers, industrial machines)

Because of FREE/FREE+/BeFREE's elegant design it is not needed to hide the keyboard and because of the touch screen's low profile there is less barrier between the client and the salesperson or receptionist.

---

# Typographical Conventions

Before you start using this guide, it is important to understand the terms and typographical conventions used in the documentation.

For more information on specialized terms used in the documentation, see the Glossary at the end of this document.

The following kinds of formatting in the text identify special information.

| <b>Formatting convention</b> | <b>Type of Information</b>   |
|------------------------------|--|
| Triangular Bullet(➤)         | Step-by-step procedures. You can follow these instructions to complete a specific task.                                      |
| <b>Command</b>               | Items you must select,such as command buttons, or items in a list.   |
| MENU OPTION                  | All Menu's are listed like this  |
| <b>Important</b>             | Use to emphasize the importance of a point.  |
| Monospace                    | Names of keys on the keyboard. for example, Shift, Ctrl, or Alt.   |
|                              | Also text to be entered  |
| KEY+KEY                      | Key combinations for which the user must press and hold down one key and then press another, for example, Ctrl+P, or Alt+F4. |

## CHAPTER 2

# What's new ?

What is new in this version of ChangeMe.

## In This Chapter

|                     |    |
|---------------------|----|
| 5.8 to 5.7.....     | 11 |
| 5.7 to 5.6.....     | 12 |
| 5.6 to 5.5.....     | 12 |
| 5.5 to 5.4.....     | 13 |
| 5.4 to 5.3.....     | 13 |
| 5.3 to 4.7.....     | 14 |
| 4.7 to 4.5.....     | 15 |
| 4.5 to 4.4.....     | 15 |
| 4.4 to 4.3.....     | 16 |
| 4.3 to 4.2.....     | 16 |
| 4.2 to 4.1.....     | 16 |
| 4.1 to 4.0.4.....   | 17 |
| 4.0.4 to 3.0.9..... | 18 |

---

## 5.8 to 5.7

- Support for 64-bit operating systems (Windows 7)
- Supported new module:
  - Handset with dialpad
- Speakerbox module:
  - 6th key defined as Push-to-talk or Push-to-mute
  - Channel/Speaker issue fixed
  - Version issue fixed
- Sending issue of success/fail/restore security sequences fixed
- Updated drivers
- ChangeMe help updated

---

## 5.7 to 5.6

- Supported new modules:
  - BeFREE v3 (Atom based)
  - BeFREE BF104
  - Handset HUA-5B
- Speakerbox & Handset new features:
  - Handset key can be defined as Push-to-talk or Push-to-mute
  - Alert tone can be muted when Handset is active
  - Channel/Speaker selection
  - OPOS content can be programmed into Speakerbox keys and events
  - Volume initial values can be defined
- BeFREE v3 events:
  - LCD Luminance Up/Down/Max/Min
  - LCD Backlight On/Off
  - Touch Enable/Disable/Toggle
- Updated drivers
- ChangeMe help updated

---

## 5.6 to 5.5

- Issue with programming on BeFREE is fixed
- Dual interface (PS/2 and USB) is programmed by default
- New modules:
  - standalone USB Handset
  - 5-position Keylock
  - RF-ID module in numeric part of front keyboard
- Automatic update using parameters:
  - -SAVEBEFOREUPDATE parameter:
    - a) current content is saved in lay file before update is made
- Keyboard info window:
  - shows info about controller memory size
  - firmware type info for new hardware/firmware
- Option to show Labels on keys is saved when ChangeMe is closed
- Updated drivers
- ChangeMe help updated

---

## 5.5 to 5.4

- BeFREE module:
  - LEDs can show BeFREE state or keyboard layer
  - RS232 communication supported
- Speakerbox module:
  - initial values of microphone and sidetone
  - keys and LEDs functionality
  - support for new hardware: handsfree and handset/headset microphone can be separately set
- Scanline:
  - F13, F14, F15 and F16 key can be added from scanline context menu (right-click)
- Automatic update using parameters:
  - loading mtz file into the first module in configuration
  - -NOINTERACTION parameter:
    - a) no user interaction is possible during the automatic update
    - b) exit error code is returned
- ChangeMe help updated
- Updated drivers
- MidApi:
  - support for Speakerbox module
  - additional functions for Chameleon module

---

## 5.4 to 5.3

- Support for Speakerbox module:
  - Audio settings of Speakerbox
  - Key sequences for key press and release can be defined separately
  - Handset and Headset events (connect, disconnect)
  - Digital potentiometer and bargraph settings (VU-meter, Speakerbox and Handset/Headset volume)
- Support for new BeFREE module
- Chameleon module:
  - OPOS content for mechanical (non LCD) keys

- Key-click option
- Handset module:
  - Handset can send events to Speakerbox if both are in configuration:
    - a) Mute/activate microphone on the Push to talk button press/release
    - b) Switch between Speakerbox and Handset on the Hookswitch event
- ChangeMe help updated
- New OPOS installation (Device logical name and interface can be defined)
- Updated drivers

---

## 5.3 to 4.7

- Windows Vista ready
- Updated drivers
- USB driver is WHQL certified by Microsoft
- Support for new Chameleon module
- RS232 boot sequence support
- Additional AtMega support:
  - RS232 content
  - Add-on modules
  - Verify bug solved
  - Security for secondary PS/2 keyboard
- RS232 support for Handset
- Keyboard info updated
- KB50 and FCX keylock is shown as two-position keylock
- Labels can be shown on keys instead of type
- BeFREE, Handset and iButton bugs solved
- Positioning of industrial keyboards bug solved

---

## 4.7 to 4.5

- New installation
- Updated drivers
- Double-clicking the .lay file opens it in ChangeMe
- Drag/drop of .lay files supported
- Additional command line parameters:
  - lay files can be downloaded (add complete path to the parameters string)
  - port can be defined with USB PS2 or COMx switch where x is the port number. If no port is defined, default from ChangeMe.ini file is used
  - if "-AUTO" switch is added, ChangeMe closes after download
- Added support for PS/2 controller based on AtMega
- Code sequence - is now programmed as "memory dump" Data written in hex codes is directly copied to memory - same as in USB case, different to old Motorola based PS/2
- Boot sequence supported by all controllers
- Mcr form reorganized
- iButton and Keylock forms bugs solved
- Handset form reorganized
- USB industrial keyboards support

---

## 4.5 to 4.4

- key content window redesigned, new USB features added
- context sensitive help - press F1 on each form to get help for the module.
- new features in scanline (right click)
- new modules: TM-KMS128, TM-RFID
- new features added for OCR, bidirectional MCR
- some bugs removed (MID iButton)
- multiplatform batch download (TXB) support

---

## 4.4 to 4.3

- controller module visible
- support for advanced features for USB controller
- adding beep and delay supported in new scanline
- new modules: TM-KMR128, TM-HUA, KB50

---

## 4.3 to 4.2

- improved USB download
- USB upload
- OCR module support
- new MidApi ver. 4.0

---

## 4.2 to 4.1

- support for USB controller
  - faster, platform independent USB protocol support
  - new features: security
- keyboard content (PS/2 and USB) can be programmed with PS/2 or USB keyboard
- LabelMe supports printing labels also for MID

---

## 4.1 to 4.0.4

- (autodetect) function changed . If controller is not connected to the specified port, other ports are checked.
- New parameter in preferences: default port. This port is always checked first.
- Load predefined content is added as New entry to key popup menu.
- Three default key contents files are added- Qwerty.mtx, NumPad.mtx and Front.mtx (in the directory "Predefined")
- Improved API 3.1.8
- Improved XP compatibility

---

## 4.0.4 to 3.0.9

- support for new FREE/FREE+ modules
- removed the limitation of 256 keys
- new look of the program
- new LabelMe utility (FREE/FREE+ modules supported only). The MID users have to use the PrintLabels utility of ChangeMe
- support for Chameleon module, JIS reader
- improved support for downloading on the portable computers

---

if you have a MID or FREE/FREE+ device with RS232 output then you can download it also on the notebook computer through the COM port you need to connect both the keyboard connector (mini DIN 6) to the auxiliary keyboard port on your notebook and the RS232 connector (DSUB9) to a free COM port

---

- start the program ChangeMe with the parameter -COM. Using this parameter the program does not check whether the modular keyboard is connected on the system and searches it on COM port only.
- improved communication routines (MIDAPI ver 3.1.5)
- new features in service (debug) mode
- Winkoki : capturing keyboard scan codes
- ScanLineBig : capturing and displaying a lot of entered codes
- Copy/Move layers utility
- Set Click and Autorepeat flags for all keys

## Installation of FREE/FREE+ software

The **general** section covers the installation of ChangeMe, needed for programming the keyboard.

If you have a FREE+ module with touchscreen you will also need to install drivers. This is described in the **Touch screen** section

---

## General

There are three types of modules: Display, touch screen and programmable modules.

The display modules don't need any software to be installed.

The touch screen needs software for specific features like calibration.

Programmable modules need ChangeMe to be configured. They don't need any software or special drivers once they are programmed. (An exception is when MidAPI is used by an application)

Insert the Tipro CD into the CD drive. A startup screen will appear. (If there is no startup screen, go to the CD drive in explorer and double-click "install")

Click "Install ChangeMe".

Follow the on-screen directions.

Standard Installed software

- **ChangeMe**

ChangeMe is Tipro's keyboard configuration utility, previously known as MIDWIN.

Use ChangeMe to program your keyboards, card readers, key locks etc.

- **LabelMe**

LabelMe is a program to print labels. These labels can be placed under transparent keycaps on the keyboard.

- **MIDAPI**

MIDAPI is the library of functions that can be used by other software to directly access the keyboard.

MIDAPI is installed together with ChangeMe.

You can also choose to install just one or two of the components.

On a computer where you don't program the keyboard and don't print labels, ChangeMe and LabelMe are not needed.

Additionally, if your software doesn't use MIDAPI, you don't need to install anything! Just plug the -programmed- Keyboard to the computer and it works.

---

## Touch screen

If you have a FREE+ module based configuration with a touch screen (TM-T\_\_ ) you also need to install the drivers for the touch screen.

Insert the Tipro CD into the CD drive, a startup screen will appear.

Choose "Install ELO touch driver", "Install drivers for this computer". Select the port which the FREE+ module is connected to. It can be Serial (COM port) or USB.

At serial port it is important to choose the right COM port.

After installation the touch screen can be calibrated by going to START > SETTINGS > CONTROL PANEL > TOUCH SCREEN.

## CHAPTER 3

# ChangeMe – Overview

Tipro keyboards are programmable keyboards. Before you can use them you first have to program them. **ChangeMe** is the utility to do that.

In this chapter we will have a first look at the program. What can we see on the screen and what can we do with it.

## In This Chapter

|                  |    |
|------------------|----|
| First look ..... | 22 |
| Status bar ..... | 23 |

## First look



- **Menu**
  - All ChangeMe commands are placed here. see *Menu structure* for a detailed description of all menu's
- **Modules**
  - All the -programmable- modules in your configuration are listed here. Click the one to open its **Module view**. Modules are *autodetected* or can be added by *hand* (offline).
- **Shortcuts**
  - Frequently used menu items are listed here.
- **Module view**
  - Depending on the type of module, different windows can open. Refer to the section *programming* for a detailed explanation of each moduletype.
- **Statusbar**
  - Shows the current status of program settings. See *statusbar* for a detailed description.

---

## Status bar



Layout : United States // KbdMem : 6510 B // Intf.: AT/PS2

- **Layout** the current keyboard layout. Can be changed in menu OPTIONS > PREFERENCES > KEYBOARD SETTINGS
- **KBDMem** the keyboard memory still available. See also KEYBOARD INFO
- **Intf** The current interface used. Can be PS/2, a COM port or USB. Double click to access menu OPTIONS > COMMUNICATIONS PORT



## CHAPTER 4

# Menu Structure

**File** (on page 28)

|  |   |
|--|---|
| <i>New</i>                               | Creates a new file                          |
| <i>Open</i>                              | Opens an existing file                      |
| <i>Save</i>                              | Saves the current configuration             |
| <i>Save As</i>                           | Saves under new name                        |
| <i>Save as batch download file (TXB)</i> | Saves the current configuration as TXB file |
| <i>Print with LabelMe</i>                | Print labels                                |
| <i>Exit</i>                              | Exits ChangeMe                              |

**Desktop**

|                      |   |
|----------------------|---|
| <i>Add Module</i>    | Adds a module to the desktop            |
| <i>Delete Module</i> | Deletes a module from the desktop       |
| <i>Open Desktop</i>  | Opens a previously saved desktop        |
| <i>Save Desktop</i>  | Saves current desktop                   |
| <i>Clear Desktop</i> | Clears the desktop                      |
| <i>Auto Detect</i>   | Detects all modules currently connected |

**Keyboard**

|                                   |  |
|-----------------------------------|--|
| <i>Update keyboard content</i>    | Updates the keyboard with the current configuration      |
| <i>Update and Verify</i>          | Updates the keyboard and checks the memory               |
| <i>Verify</i>                     | Checks the Controllers memory                            |
| <i>Load content from keyboard</i> | Loads the configuration from the keyboard to the desktop |
| <i>Info</i>                       | Gets keyboard information                                |

**Tools**

|                     |   |
|---------------------|---|
| <b>Scanline</b>     | Test keyboard content (PS/2 and USB)    |
| <b>Text Window</b>  | Test printable PS/2 or USB key contents |
| <b>TTY Terminal</b> | Test RS232 key contents                 |

**Options**

|                           |                           |
|---------------------------|---------------------------|
| <b>Toolbars</b>           | Show / hide toolbars      |
| <b>Communication port</b> | Select communication port |
| <b>Preferences</b>        | Set program preferences   |

**Security**

|                                     |   |
|-------------------------------------|---|
| <b>Show/Hide Security toolbar</b>   | Manage Security toolbar                           |
| <b>View</b>                         | Choose which information is displayed on the keys |
| <b>Edit passwords</b>               | Manage security passwords                         |
| <b>Protected key combinations</b>   | Manage protected key combinations                 |
| <b>Security wizard</b>              | Assist you to set up Security features            |
| <b>Set content</b>                  | Set content to a key                              |
| <b>Set keys to Security Level 0</b> | Define keys for security level 0                  |
| <b>Set keys to Security Level 1</b> | Define keys for security level 1                  |
| <b>Set keys to Security Level 2</b> | Define keys for security level 2                  |
| <b>Set keys to Security Level 3</b> | Define keys for security level 3                  |
| <b>Set LOGON key</b>                | Define Log on key                                 |
| <b>Set LOGOFF key</b>               | Define Log off key                                |

**Windows**

|         |                       |
|---------|-----------------------|
| Tile    | Show tiled Windows    |
| Cascade | Show cascaded Windows |

**Help<sup>1</sup>**

|                             |                                      |
|-----------------------------|--------------------------------------|
| Check for update            | Check for program update on internet |
| <b>ChangeMe Help</b>        | This help file                       |
| <b>Go to Tipro homepage</b> | Surf to Tipro homepage               |
| <b>Go to Tipro support</b>  | Surf to Tipro support page           |
| <b>Send mail to support</b> | Send an e-mail to Tipro support      |
| <b>About...</b>             | Display About box                    |

**Module Context Menu**

|                       |   |
|-----------------------|---|
| <b>Clear Module</b>   | Clear the module's configuration                |
| <b>Set all AT/PS2</b> | Fill module with default PS2 contents           |
| <b>Set all RS232</b>  | Fill module with default RS232 contents         |
| <b>Set all USB</b>    | Fill module with default USB contents           |
| <b>Set default</b>    | load default from definition file               |
| <b>RS232 OPOS</b>     | Set keys to OPOS standard (RS232 communication) |
| <b>USB OPOS</b>       | Set keys to OPOS standard (USB communication)   |
| <b>Import Text</b>    | Import contents from text file                  |
| <b>Export Text</b>    | Export contents to text file                    |

**Key Context Menu**

|   |                          |
|---|--------------------------|
| <b>Clear Key</b>                        | Clear the key            |
| <b>Cut Content</b>                      | Cut the key's contents   |
| <b>Copy Content</b>                     | Copy the key's contents  |
| <b>Paste Content</b>                    | Paste the key's contents |
| (Un)Fix Key (only with predefined keys) | Protect key's contents   |

---

<sup>1</sup> In the help menu you can find this help file, support, update-checking and program information.

|                             |  |
|-----------------------------|--|
| <i>Make RS232 OPOS key</i>  | Set the key to OPOS standard (RS232 communication) |
| <i>Make USB OPOS key</i>    | Set the key to OPOS standard (USB communication)   |
| <i>Load default content</i> | Load predefined contents                           |

*Toolbar Shortcuts*

## In This Chapter

|   |    |
|---|----|
| File .....                              | 28 |
| Desktop .....                           | 33 |
| Keyboard.....                           | 36 |
| Tools.....                              | 38 |
| Options .....                           | 40 |
| Security .....                          | 45 |
| Windows .....                           | 60 |
| Help.....                               | 61 |
| Shortcut Toolbar .....                  | 63 |
| Module Context Menu (Right click) ..... | 63 |
| Key Context Menu (Right click).....     | 68 |
| Key Content Form.....                   | 69 |

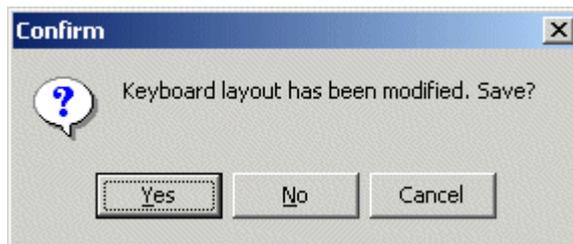
---

## File

### New

Creates a new ChangeMe file. If your previous layout is not saved you will be asked if you want to *save* it.

You keep your desktop, but all contents is cleared.



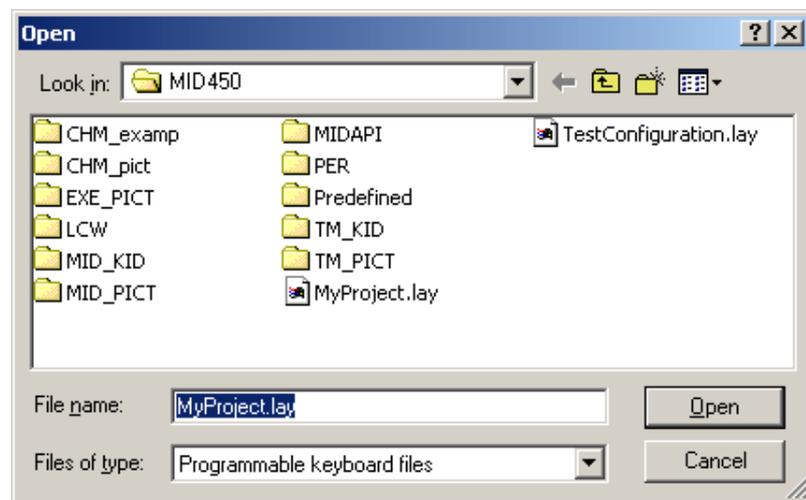
## Open



F3

Opens an existing layout (.lay) file. If your previous layout is not saved you will be asked if you want to *save* it.

Browse to the .lay file you want to open and press **Open**



## Save



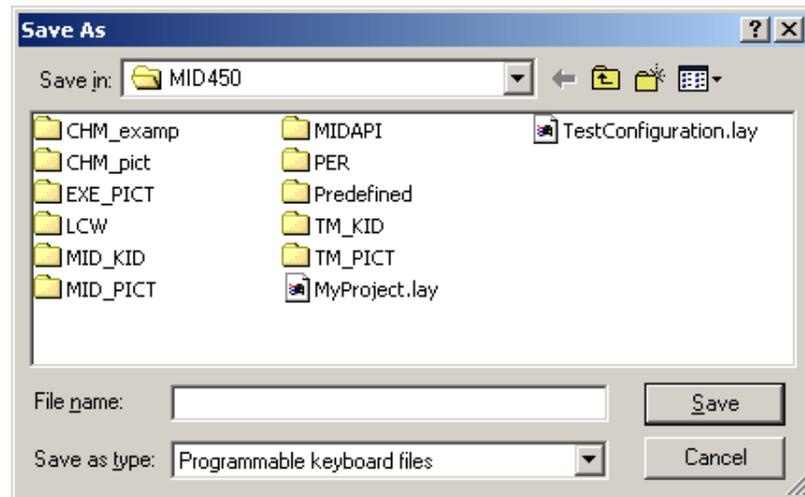
F2

Saves your current file. If you haven't saved your file before, the behavior is the same as *Save As* .

## Save As

Opens the **Save As** dialog.

Browse to the directory you want to save your layout in and type the filename in the **File name** textbox. Then press **Save**.

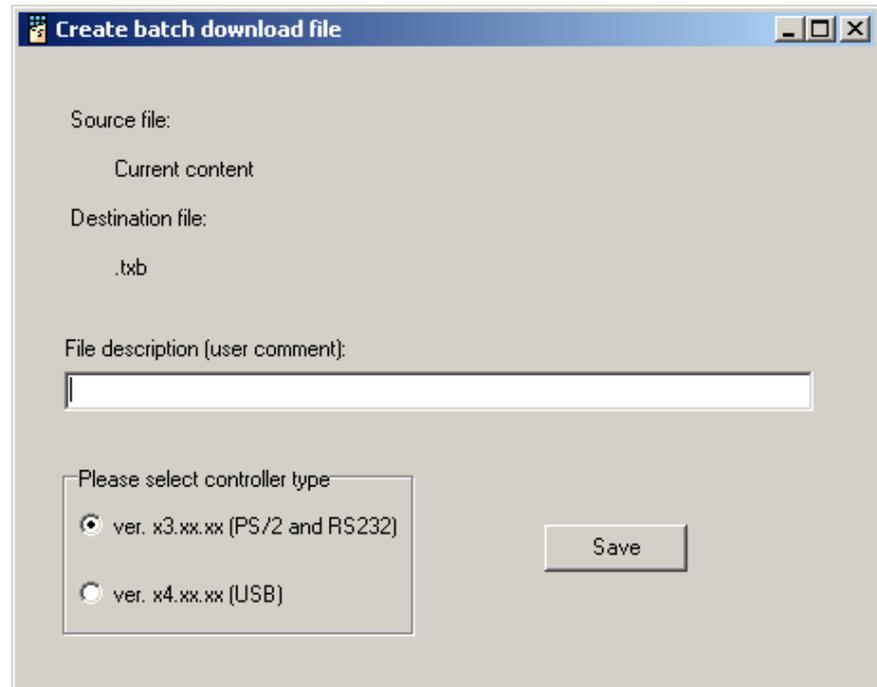


For more information on the different files that are saved, see *ChangeMe file types*

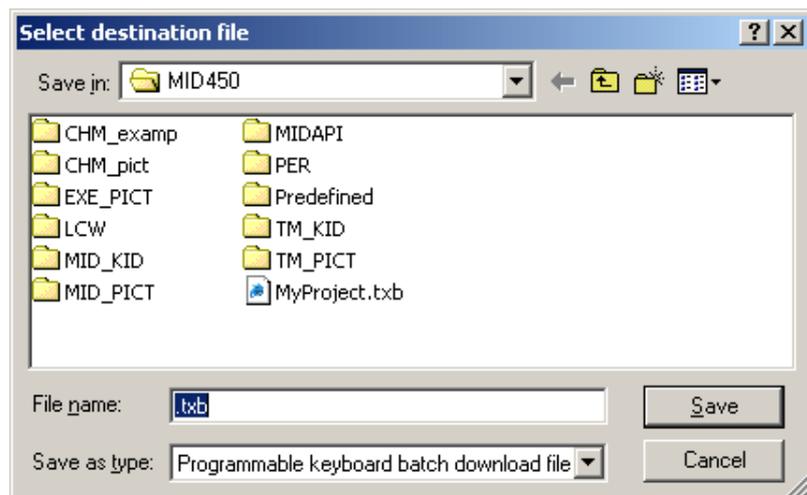
## Save as batch update file (TXB)

Saves your current file to a TXB file.

Opens the **Create batch update file** dialog.



- 1 Click on the destination file filename. The **Select destination file** dialog opens. Browse to the directory you want to save your layout in and type the filename in the **File name** textbox. Then press **Save**.



- 2 You can add your comment about the file. Type it in **File description** textbox.

- 3 Select the **controller type** the TXB file will be created for. It can be either AT/PS2 and RS232 or USB.
- 4 Press **Save** to create the file.



For more information on TXB file, see *ChangeMe file types*

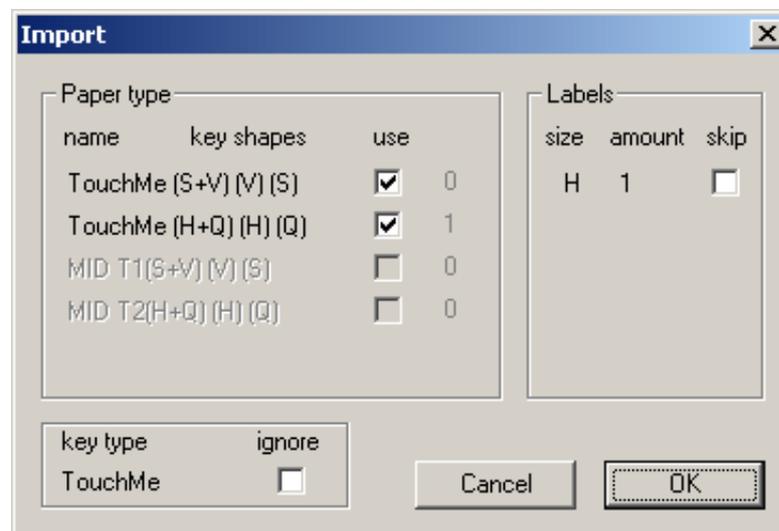
## Print with LabelMe



Ctrl + P

This menu option lets you print your labels on pre-cut paper that fits under the transparent keycaps.

The labels that you created with ChangeMe can be imported to LabelMe. There you can edit them and -for instance- add graphics.



Just pressing **OK** will import all labels. Select **skip** or de-select **use** to import just certain label formats. (H = Horizontal double, S = Single, V = Vertical double and Q = Quadruple keys)

more details are in the LabelMe help file.

## Exit

Exits the program ChangeMe. If you haven't save your changes you will be asked if you want to *save* .

---

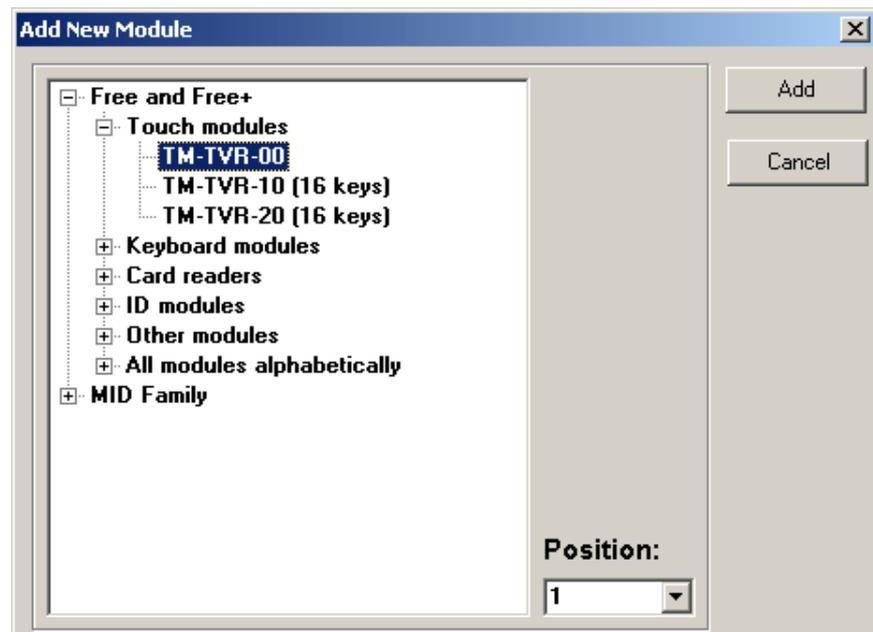
## Desktop

When your FREE/FREE+ configuration is connected to your computer you can use AUTO DETECT to detect all modules connected. This procedure is automatically performed when you start ChangeMe.

In off-line mode (no keyboard is connected) You can create and edit a configuration by adding and deleting modules by hand.

## Add Module

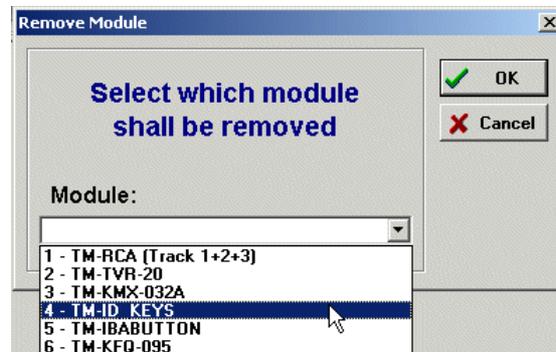
This command adds a module to your desktop.



- 1 Choose the product family – FREE/FREE+ or MID –
- 2 Choose the module category – Touch, Keyboards, Card reader etc –
- 3 Choose the module you want to insert
- 4 You can specify the position on which the module will be inserted. 1 is left.
- 5 Press **Add**

## Delete Module

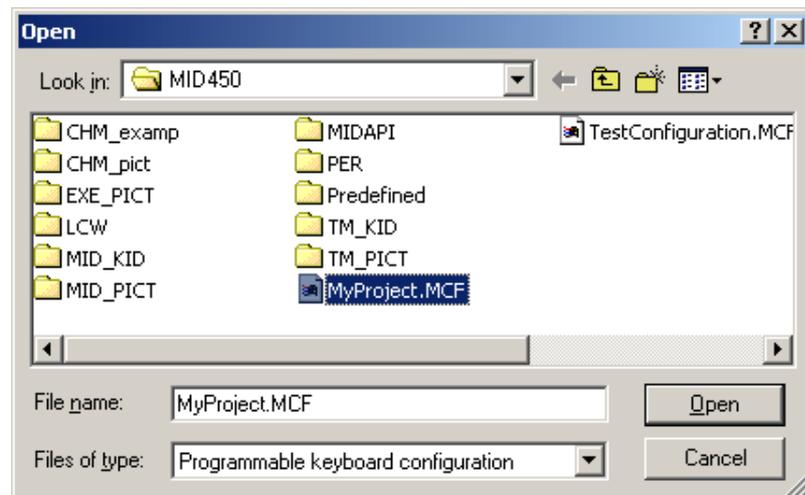
This command removes a module from the desktop.



Select the module you want to remove from the dropdown box and press **OK**.

## Open Desktop

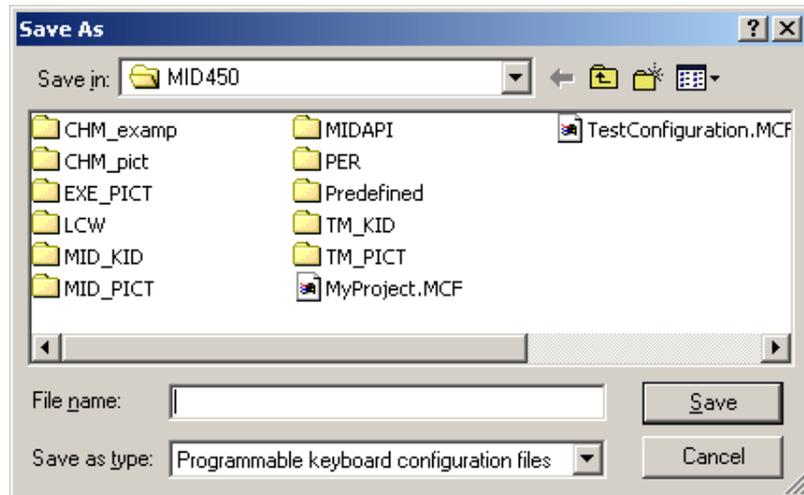
A previously *saved* desktop can be loaded with this command.



Browse to the location, choose the file and click **Open**.

## Save Desktop

This saves the current desktop to file. After this you can reload it anytime with *Open Desktop*

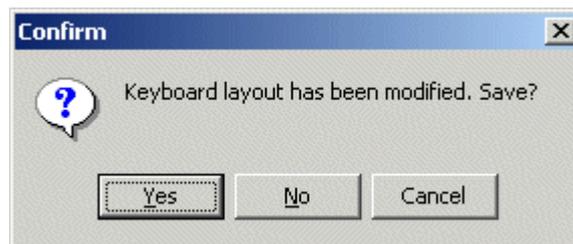


Choose a filename and press **Save**.

## Clear Desktop

Clears the desktop. All modules will be removed.

If there are unsaved changes you will be asked to save them.

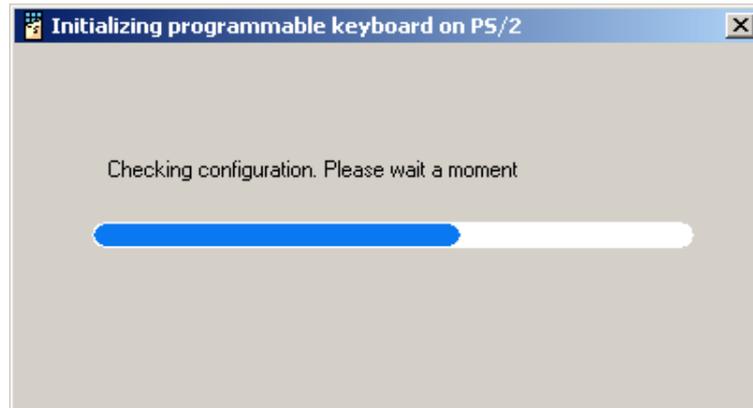


## Auto Detect



This command checks the configuration that is connected to your computer and displays it in the main window.

This procedure is automatically performed when you start ChangeMe.



Autodetect queries the port set under **OPTIONS > COMMUNICATIONS PORT**

---

## Keyboard

### Update keyboard content



Updates the connected keyboard with the current configuration.

All settings of all modules and all key contents are sent to the Controller and stored in the flash memory.

**Stop** will cancel the update.

Update uses the communication port set under **OPTIONS > COMMUNICATIONS PORT**

## Update and Verify



Update and verify

Use this command to see if the configuration has been successfully stored in the controller's memory.

This command does exactly what it says: first it performs an UUPDATE , then a VERIFY .

## Verify



Verify

Verify compares the Controller's memory with the configuration and key contents in ChangeMe.

Any differences will be reported.

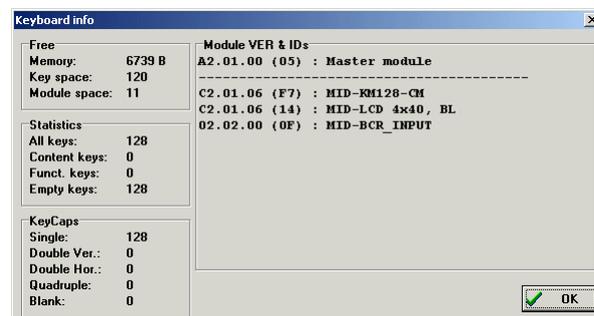
## Load content from keyboard

Loads the configuration stored in the Controller's flash memory to ChangeMe's desktop

## Info

Displays information about the keyboard.

Information about memory, keys, controller and connected modules.



---

## Tools

Tools for testing key contents can be found here.

Two tools for Keyboard content (PS/2 and USB) and one for RS 232.

## Scanline

F4



This window shows the Keyboard content (PS/2 and USB) of pressed keys. It captures all keys (also Shift, Control, Alt, F1...)

Click in the window and test the keys.

**Clear** button empties the window.

Press  button in upper right corner to close the window.

see *testing* for more details

## Text Window

F5



This window shows the Keyboard contents (PS/2 and USB) of the pressed keys.

**Clear** empties the text window.

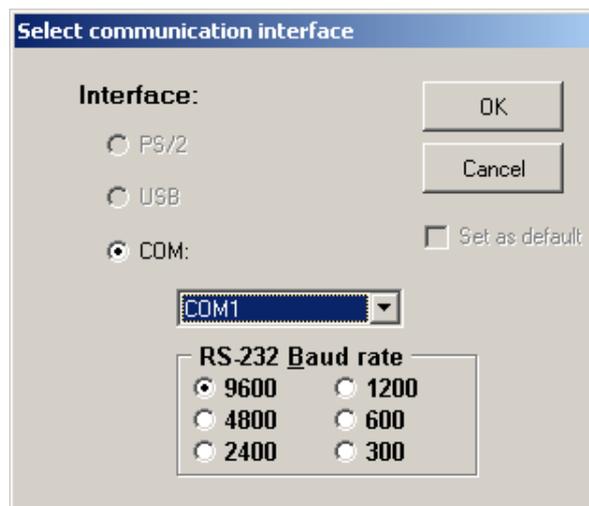
see *testing* for more details

## TTY Terminal

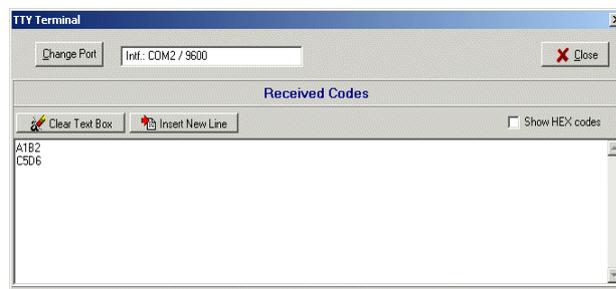
F6

This tool is used to test the RS232 contents of keys.

First select the COM port your keyboard is connected to from the Interface dropdown box and the communication speed in the Baud rate section.



Then the terminal window appears



To listen to another COM port, press **Change Port**.

**Clear Text Box** empties the text area,

**Insert New Line** starts the next input on the next line.

Select **Show HEX codes** to view the -raw- hexadecimal codes sent to the computer, not the translated ASCII codes.

see *testing* for more details

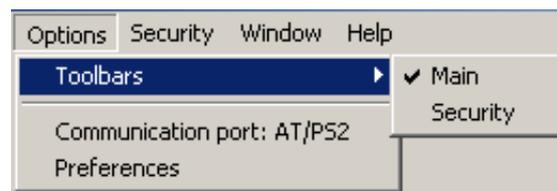
---

## Options

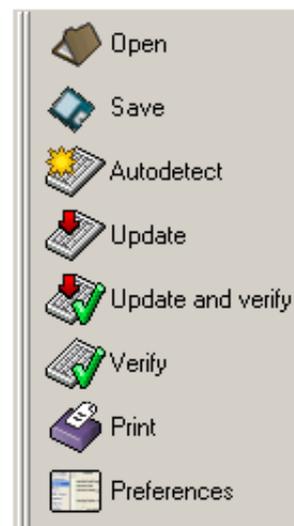
Set program preferences and options here.

## Toolbars

Set which toolbars are visible. There are Main and Security toolbar.



Main (Shortcut) toolbar:

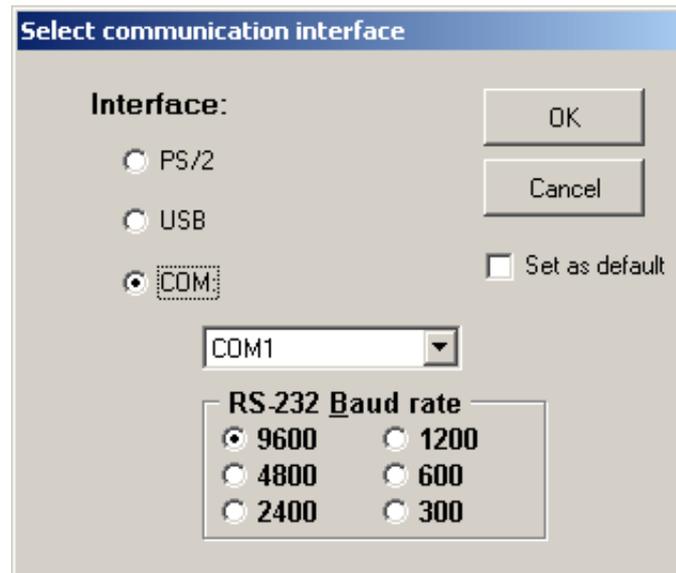


Security toolbar:



## Communications Port

Set the communications port used to program the keyboard.



Select the **Interface** you want by checking the radio button.

When you choose a COM port you also have to define the **Baud rate**.

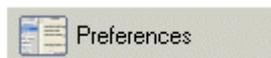
**Set as default** checkbox sets the selected interface to default. Next time the ChangeMe starts it will search it for a configuration.

---

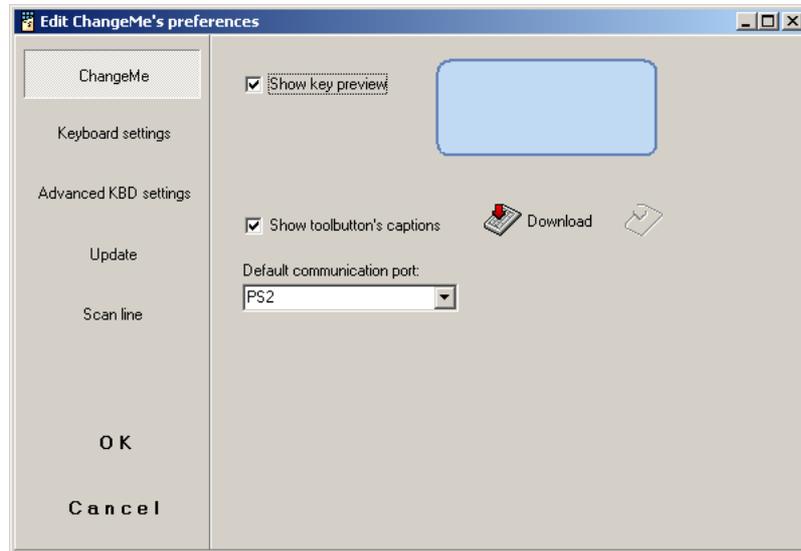
**note:** this interface is independent from the protocol used in the programmed keys.

---

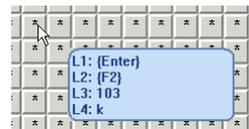
## Preferences



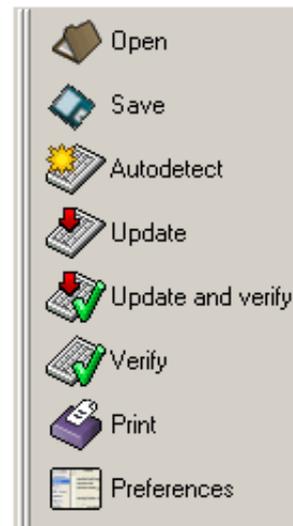
## ChangeMe Preferences



**Show key preview** turns the key preview on or off. When this is turned on, you can see the contents of a key by holding the mouse pointer over the key.



**Show toolbar's captions** turn the text next to the toolbar's icon on or off.

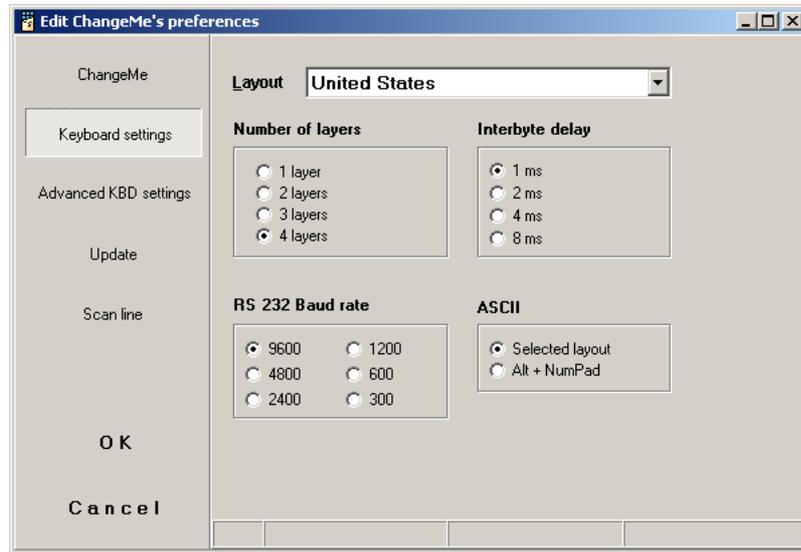


becomes



**Default communication port** sets which port is checked when ChangeMe starts.

## Keyboard settings



Choose the international layout that should be used from the **Layout** dropdown box.

The **Number of layers** sets how many layers can be programmed per key (maximum 4)

If the controller is sending codes too fast (this can happen on certain computers) you can select a different **Interbyte delay**. This is the time between two consecutive sent codes. The default is 1 ms.

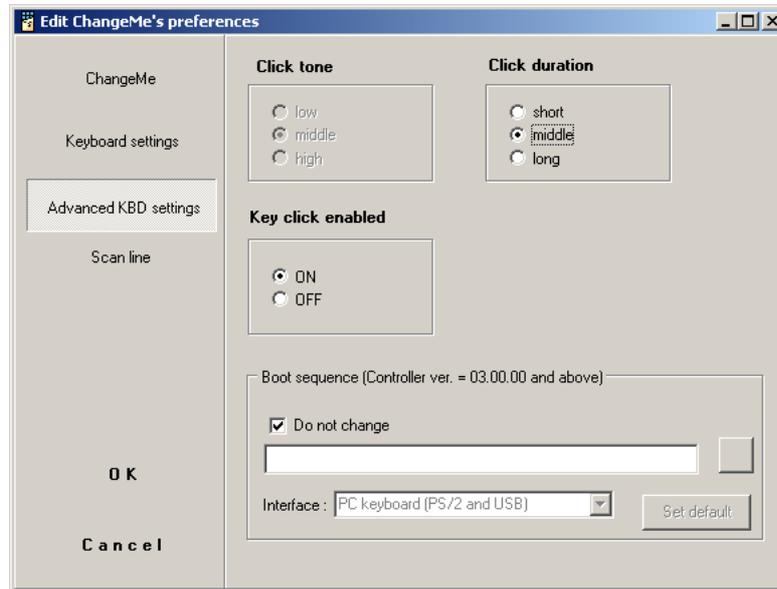
RS232 Baud rate can be set. Default is 9600.

**Ascii** selects how the ASCII key content is sent to the computer.

It can be as keyboard scan codes with the selected layout (see above),

or as Alt – ASCII sequence

## Advanced keyboard settings



The CLICK TONE cannot be changed anymore.

CLICK DURATION sets the click tone to last short, middle long or long.

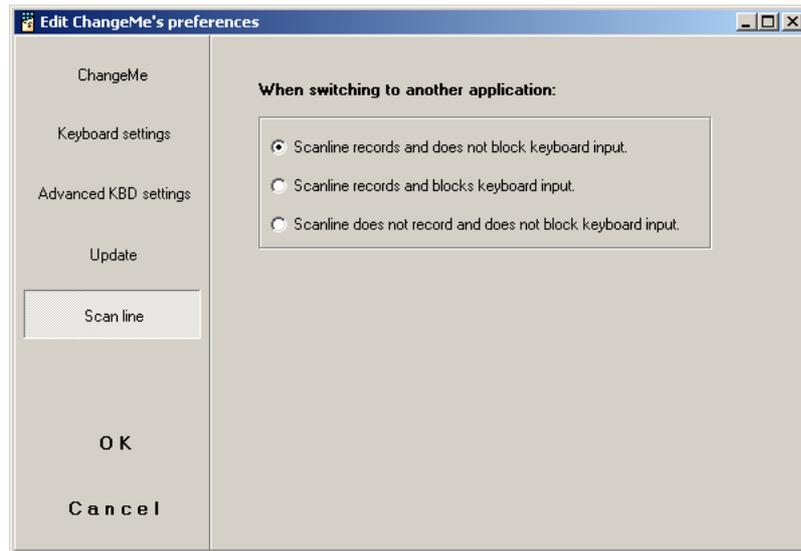
CLICK DEFAULT: By selecting **OFF**, the key click is disabled regardless of click setting on each key.

BOOT SEQUENCE: Here you can define a boot sequence that is send when a keyboard is started up.

## Scan line

Behaviour of scanline after changing focus to another application can be set here.

Scanline is a textbox that captures codes of pressed keys.



---

## Security

Security is a feature of USB Controller.

---

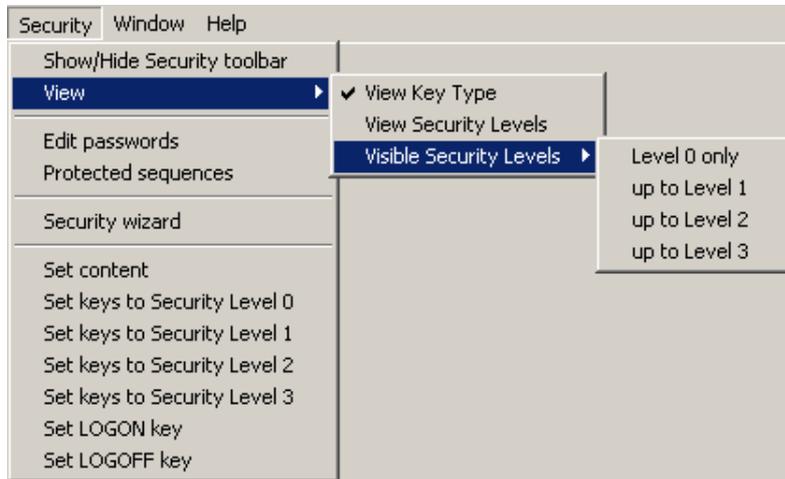
A keyboard must have an USB controller to support security features.

---

## Show/Hide Security toolbar

Shows or hides the **Security** toolbar.

## View



Select which key property is shown on a key. It can be either type, security level or both.

**View Key Type**

Select to show the key type/function.

It is displayed like:

- \* - Keyboard content (PS/2 or USB)
- **R** - RS232 content
- **C** - custom content
- **Sn** - shift to a layer
- **Ln** - lock to a layer

**View Security Levels**

This command shows the security level for each key

**Visible Security Levels**

Choose which security levels are visible:

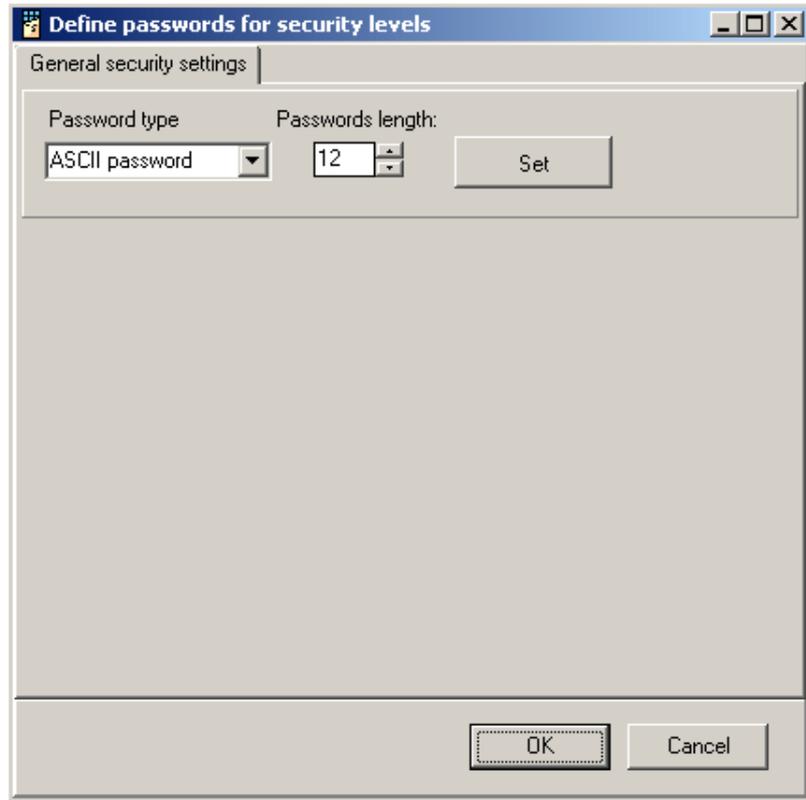
- Level 0 only - Keys that are functional in security level 0 are visible
- up to Level 1 - All keys that are functional in security 1 are visible
- up to Level 2 - All keys that are functional in security level 2 are visible
- up to Level 3 - All Keys are visible

## Edit passwords



Opens **Define passwords for security levels** dialog. Here you can manage passwords for security levels.

If no passwords have been defined the following dialog appears:



First you have to decide what **Password type** you will use. It can be either ASCII or Key password.

ASCII PASSWORD is composed of ASCII characters (e.g. content of a magnetic card or iButton number).

KEY PASSWORD is composed of key strokes (pin code). Content of the keys used is not important.

All passwords must have the same length. In **Password length** editbox you can set it:

- from 1 to 12 for ASCII password
- from 1 to 8 for Key password

Press **Set** (or **Change** if password type/length was changed)

## General security settings

Define passwords for security levels

General security settings | Level 1 | Level 2 | Level 3

Password type: Key password | Passwords length: 4 | Change

|                          | Destination Layer | Timeout in minutes |
|--------------------------|-------------------|--------------------|
| Success sequence level 1 | 1                 | 0                  |
| Success sequence level 2 | 1                 | 0                  |
| Success sequence level 3 | 1                 | 0                  |
| Fail sequence            |                   |                    |
| Restore sequence         |                   |                    |

OK | Cancel

For each successfully log to security level the following can be set:

- SUCCESS SEQUENCE LEVEL - content that is sent to the system
- DESTINATION LAYER defines the layer that the keyboard is locked to
- TIMEOUT IN MINUTES - if a keyboard is inactive (no key is pressed) for that time, it is automatically logged off (0 means never)

There are also:

- FAIL SEQUENCE - this content is sent when an unsuccessful log on happens
- RESTORE SEQUENCE is sent when the keyboard is logged off (log to security level 0)

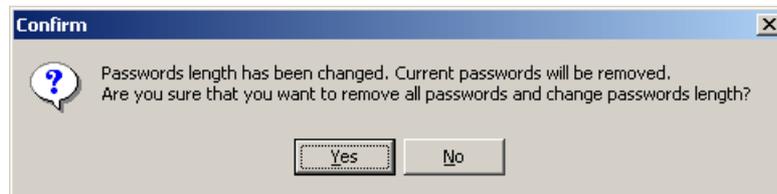
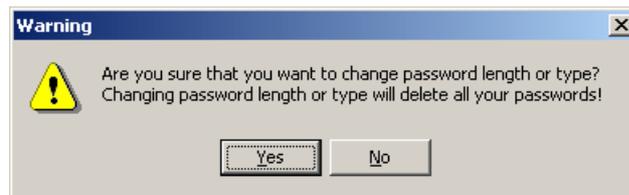
If you would like to change password type or/and length press **Change**.

---

note: when changing password type/length all current passwords will be removed.

---

The following Warning/Confirm dialogs can show up:



## ASCII password

ASCII passwords are entered manually.

Select the Security level by clicking the tab.

**Level** tab has 3 sections:

- EDITBOX where you can edit passwords
- BUTTONS: Add, Remove, Replace
- LIST BOX where all passwords are listed

### Add a new password



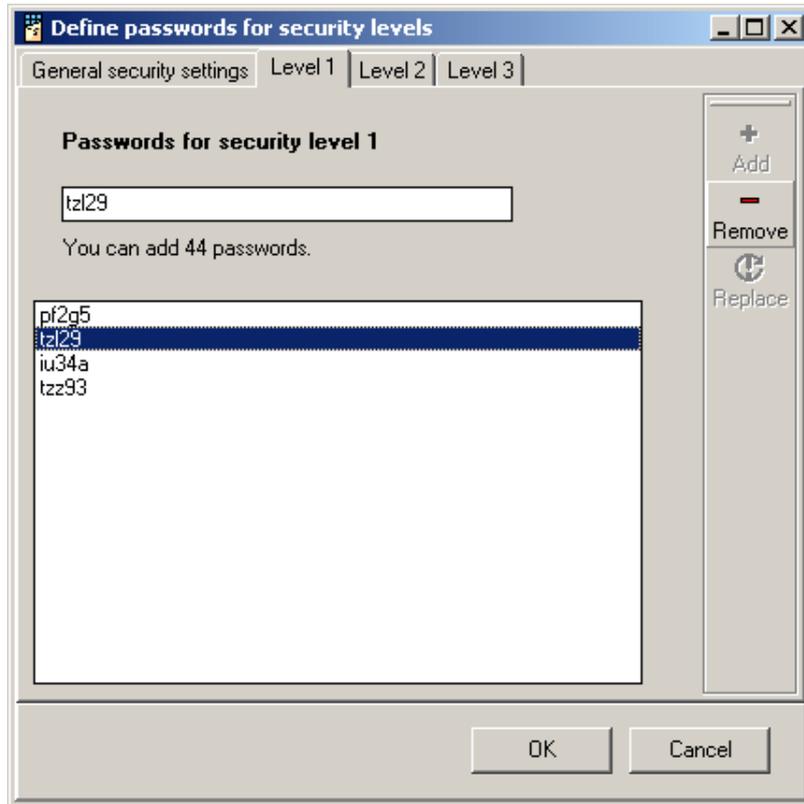
Enter a password into editbox. Its length must be as it was set in **General security setting** tab. Click **Add** to add the password to the list. If a password already exists, the following dialog shows up:



If you want to add this password to this Security level, you have to remove it first from the list where it already exists.

### Remove a password

To remove a password from password list: click the password you want to delete and press **Remove**.



## Change a password

Click the password you want to change. Edit it in editbox and press **Replace**.



## Key password

Select the Security level by clicking the tab.

**Level** Tab has 3 sections:

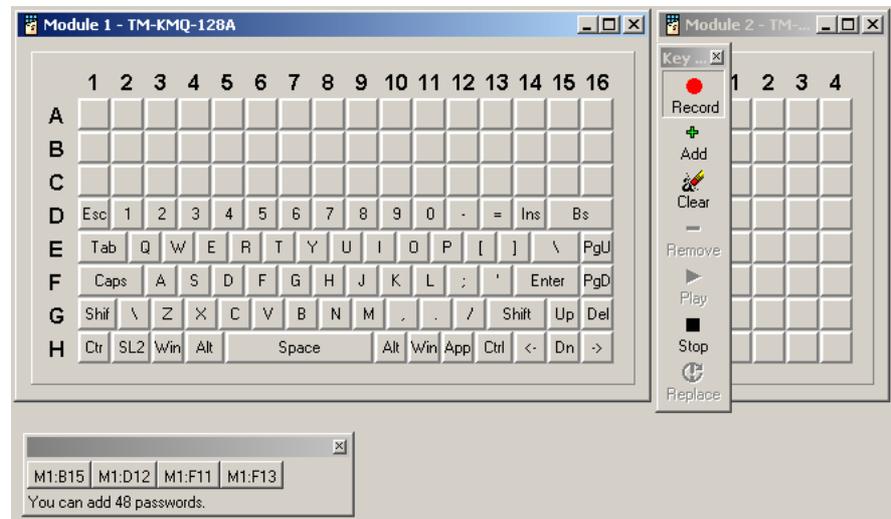
- KEYS (their number matches to the password length) where you can edit a password
- BUTTONS: Record, Add, Remove, Play, Stop, Replace
- LIST BOX where all passwords are listed

### Add a new password

Press **Record** to add passwords by clicking the onscreen modules' keys.



The modules appear:

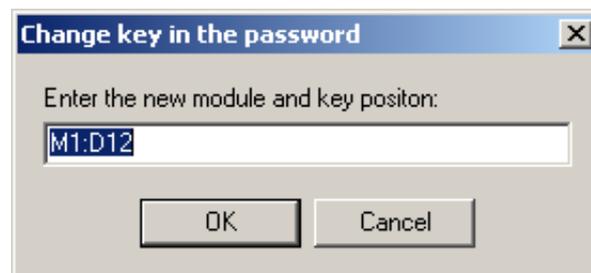


Simulate the password by clicking the keys. Press **Add** to add it to the list.

**Clear** button clears keys that represent password.

When you are finished, press **Stop**.

You can edit password keys manually. Click the key representing part of the password you wish to change. **Change key in the password** dialog opens:



Each key code consist of two parts which are separated by colon (:). First part always starts with letter M that is followed by module number in configuration. The second part represents a key position in the module: row (from A to H) and column (from 1 to 16). So a key is defined by module number, row and column.

If a password already exists, the following dialog is shown:



If you want to add this password to this Security level, you have to remove it first from the list where it already exists.

### Remove a password

Click the password in a password list that you want to delete and press **Remove**.

### Demonstrate a password

Select a password from the list. Press **Play**. A password key sequence will be demonstrated.

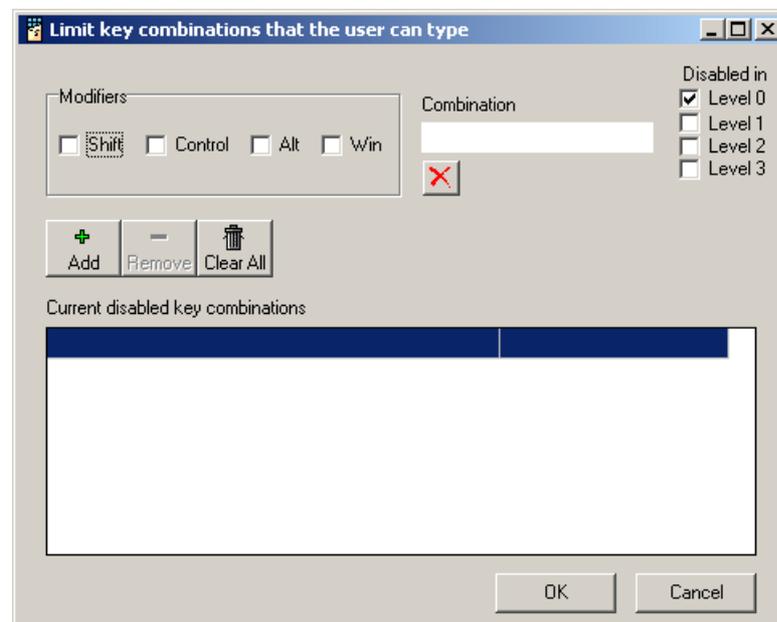
### Change a password

Click the password you want to change. Edit its keys by clicking them and press **Replace**.

## Protected key combinations



Opens **Limit key combinations that the user can type** dialog.



Here you can define the key combinations that are disabled in certain Security Level.

---

Important: A key combination is a group of keys pressed at the same time.

---

The dialog has four sections:

- MODIFIERS - Check which modifiers with the key in combination box present a disabled key combination.
- COMBINATION - enter the last part of disabled combination. Press  to clear the edit box.
- DISABLED IN - check security levels where the key combination is disabled and press **Add** to add it to the list.
- CURRENT DISABLED KEY COMBINATIONS shows the already defined combinations. Use **Remove** and **Clear All** to delete them from the list.

➤ Example 1: if you want to disable `Control+A` in security level 0 and 1:

- 1 check Control in Modifiers section
- 2 enter A in Combination editbox
- 3 check Level 0 and Level 1
- 4 press **Add**

In this example it doesn't matter which Control key is pressed, the `Control+A` sequence is disabled for left and right Control key.

➤ Example 2: if you want to disable `RightAlt + E` in security level 0 and 1:

- 1 uncheck all modifiers
- 2 enter `RightAlt + E` in Combination editbox
- 3 check Level 0 and Level 1
- 4 press **Add**

In this example only `RightAlt + E` is disabled, `LeftAlt + E` is enabled.

---

Important: To disable all `Control + Alt + Del` combinations, check Control and Alt checkboxes and enter Del into editbox. If there is a Decimal sign on numeric key pad, it should also be disabled: `Control + Alt + NumDecimal`

---

## Security wizard



Opens the **Security Wizard** window. Wizard will guide you to set security options for your configuration.



## Set content



Changes the mouse pointer to normal arrow (back from **Set keys to Security Level**). So that you can define key contents by clicking the key.

---

Note: Normally a mouse cursor is in **Set content** state.

---

## Set keys to Security Level 0



Select the keys for Security Level 0.

These keys are always enabled.

## Set keys to Security Level 1



Select the keys for Security Level 1.

These keys are disabled in Security Level 0 and enabled in other three.

## Set keys to Security Level 2



Select the keys for Security Level 2.

These keys are enabled in Security Level 2 and 3; and disabled in 0 and 1.

## Set keys to Security Level 3



Select the keys for Security Level 3.

These keys are enabled only in Security Level 3.

## Set LOGON key



Select the log on key. The keyboard will expect the password after pressing this key.

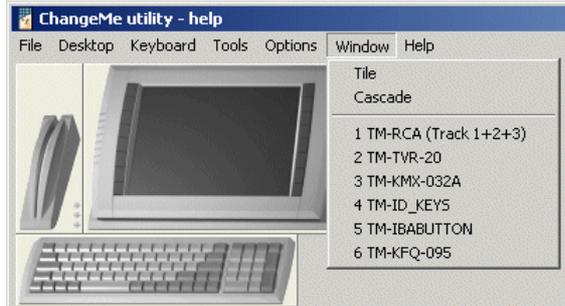
## Set LOGOFF key



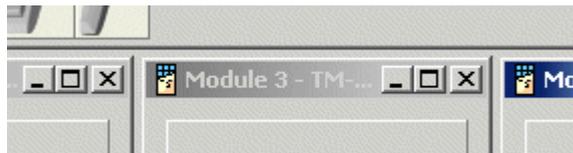
Select the log off key. The keyboard will return to Security level 0 after pressing this key.

---

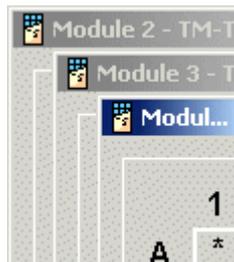
## Windows



TILE opens all the module windows and puts them next to one another.



CASCADE opens all Module windows cascading (partly overlapping)



Selecting one module in the MODULE LIST opens that module window.

---

## Help

In the HELP menu you can find this help file, support, update-checking and program information.

### ChangeMe Help

F1

Shows this help

### Go to Tipro home page

Opens your internet browser and loads Tipro's *home page*  
<http://www.tipro.net>.

### Go to Tipro support

Opens your browser and loads Tipro's *support page*  
<http://www.tipro.si/download/>.

## Send mail to support

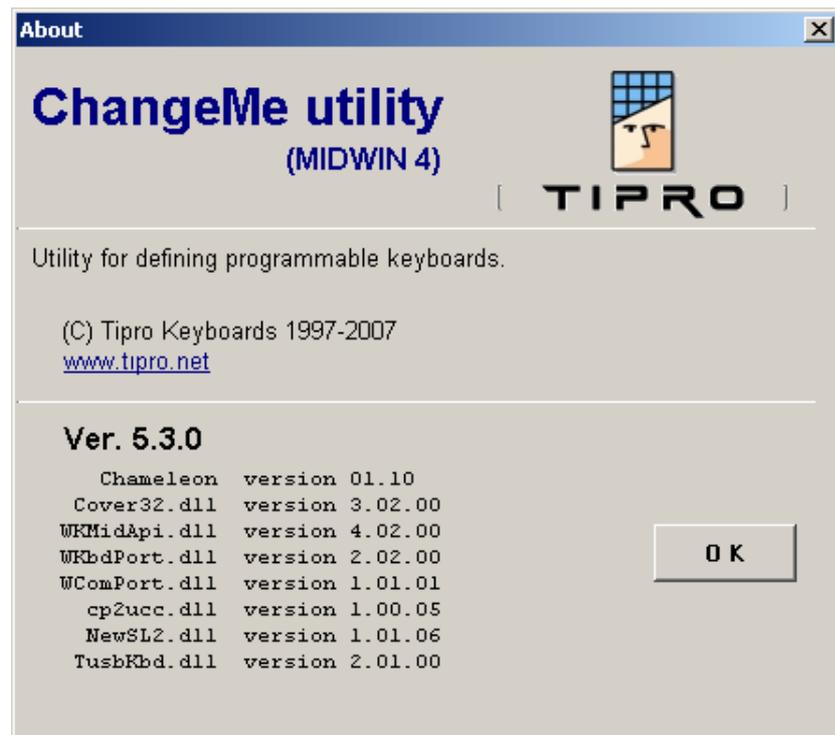
Opens your default e-mail program and creates a new message addressed to Tipro's support team.

Type your question in the message body and send it.

When you have a question about ChangeMe, please also include the following:

- **Version** of ChangeMe
- KEYBOARD > INFO
- Operating system that you use
- Kind of computer (desktop/laptop)

## About...



The program version is shown in **bold**, the versions of the other program modules –dll's and Chameleon configuration utility- are shown beneath that.

Press **OK** to close the window.

---

## Shortcut Toolbar

### Toolbar Shortcuts

|   |                                    |
|---|------------------------------------|
|  Open              | FILE > OPEN                        |
|  Save              | FILE > SAVE                        |
|  Autodetect        | DESKTOP > AUTO DETECT              |
|  Update            | KEYBOARD > UPDATE KEYBOARD CONTENT |
|  Update and verify | KEYBOARD > UPDATE AND VERIFY       |
|  Verify            | KEYBOARD > VERIFY                  |
|  Print           | FILE > PRINT WITH LABELME          |
|  Preferences     | OPTIONS > PREFERENCES              |

---

## Module Context Menu (Right click)

This is the menu that appears when you click with your right mouse button on the module's icon.

### Clear Module

This command empties the module's contents and sets all keys to their default size.

## Set all AT/PS2

Loads all the keys with a default PS2 contents. This ascending numbering, starting from the upper-left corner, can be one of the following:

- A1..H16
- 1..128
- Physical A1..H16
- Physical 1..128

## Set all RS232

Loads all the keys with a default RS232 contents. This ascending numbering, starting from the upper-left corner, can be one of the following:

- A1..H16
- 1..128
- Physical A1..H16
- Physical 1..128

## Set all USB

Loads all the keys with a default USB contents. This ascending numbering, starting from the upper-left corner is the following:

- a1 ... hg

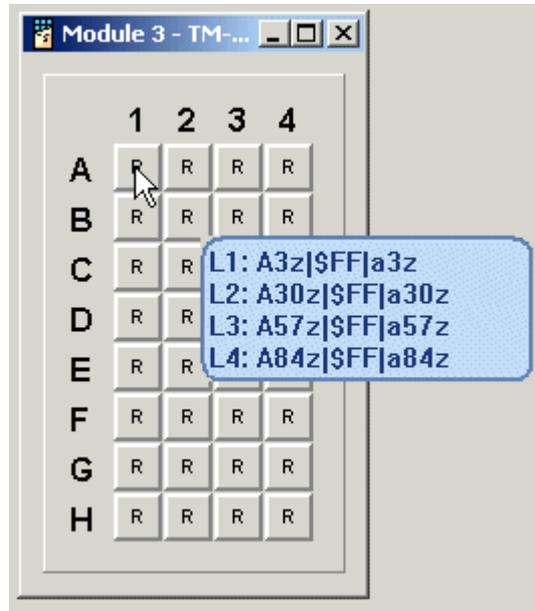
## Set default

Loads the module predefined configuration.

This only has effect for modules that actually have a predefined configuration, like the Qwerty modules.

## RS232 OPOS

This command sets all the keys to the RS232 OPOS default.

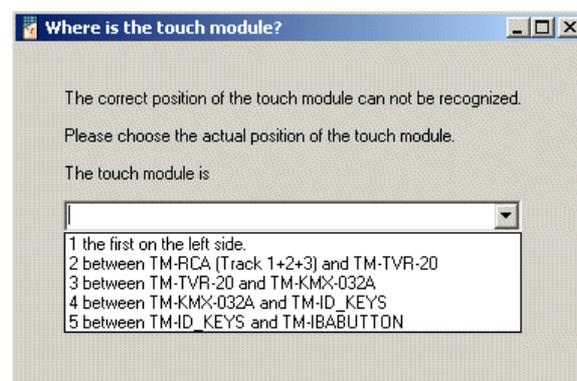


The options are:

|              |                                    |
|--------------|------------------------------------|
| ▪ All layers | Fill all layers with OPOS values   |
| ▪ Layer 1    | Fill just layer 1 with OPOS values |
| ▪ Layer 2    | Fill just layer 2 with OPOS values |
| ▪ Layer 3    | Fill just layer 3 with OPOS values |
| ▪ Layer 4    | Fill just layer 4 with OPOS values |

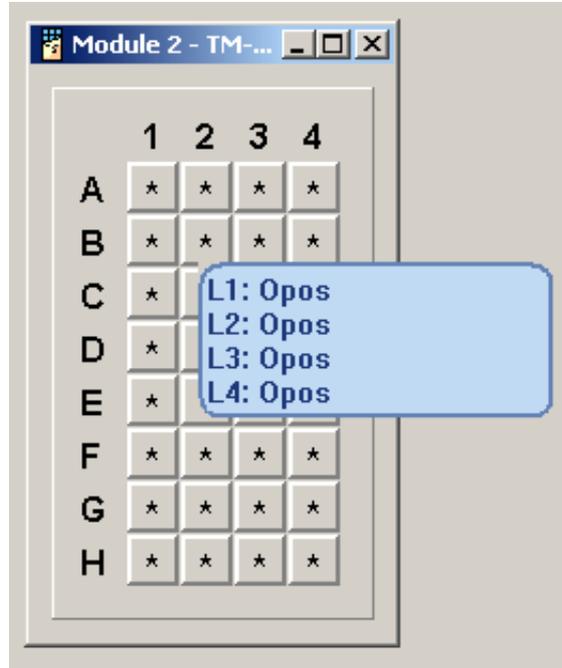
You might be prompted to give the physical location of the Touch (FREE+) module (ChangeMe cannot detect this)

Choose the position from the dropdown box and press **OK**.



## USB OPOS

This command sets all the keys to the USB OPOS default.

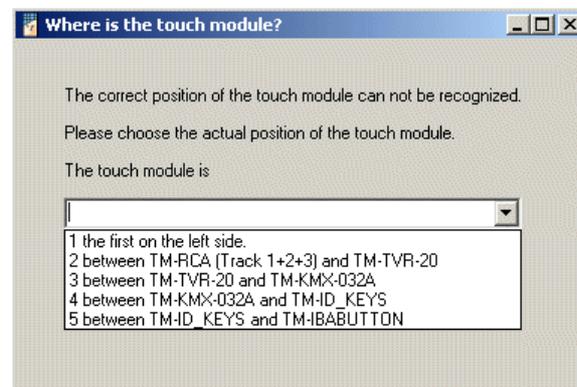


The options are:

|              |                                    |
|--------------|------------------------------------|
| ▪ All layers | Fill all layers with OPOS values   |
| ▪ Layer 1    | Fill just layer 1 with OPOS values |
| ▪ Layer 2    | Fill just layer 2 with OPOS values |
| ▪ Layer 3    | Fill just layer 3 with OPOS values |
| ▪ Layer 4    | Fill just layer 4 with OPOS values |

You might be prompted to give the physical location of the Touch (FREE+) module (ChangeMe cannot detect this)

Choose the position from the dropdown box and press **OK**.



## Import Text

Import the key contents for this module from a text file.

This text file can be created by *exporting* key contents of a module

## Export Text

Exports the module's key contents to a text file.

This text file can later be used to import key contents for a whole module or for a part of the keyboard

## Key Context Menu (Right click)

This menu appears when you right-click the key.

### Clear Key

Empties the key's contents. The size of the key is not altered.

### Cut Content

Cuts the key's contents. The contents can be *pasted* to other keys.

Effectively the same as a combined COPY and CLEAR Key.

### Copy Content

Copies the key's contents. The contents can be *pasted* to other keys

### Paste Content

Pastes the key contents currently in memory to the key. Present contents will be overwritten.

### Make RS232 OPOS key

Sets the contents of the key to its corresponding **RS232 OPOS** value.

You might be prompted to set the position of the Touch (FREE+) module, because ChangeMe could not detect that.

### Make USB OPOS key

Sets the contents of the key to its corresponding **USB OPOS** value.

You might be prompted to set the position of the Touch (FREE+) module, because ChangeMe could not detect that.

## Load default content

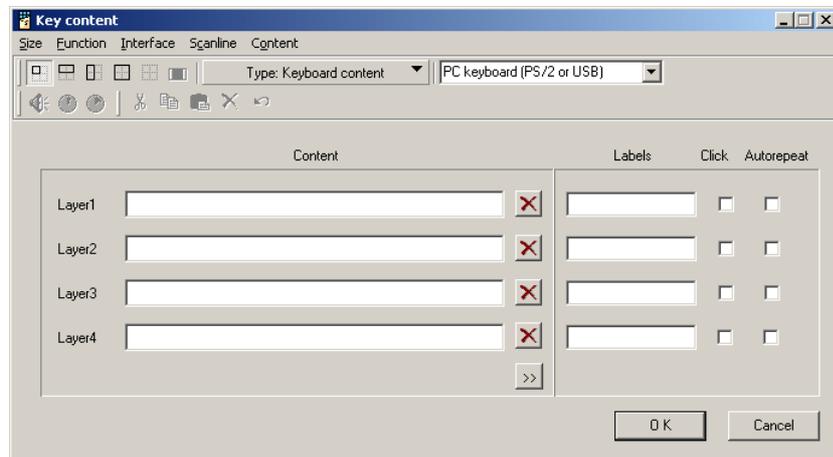
Enables you to load content from a text file, starting with the current key as the upper-left.

Use this to place for instance the numpad layout anywhere on a keyboard

---

## Key Content Form

**Key content** form opens when you click the key in a module view. Here you can define key settings.



## Menu structure

- SIZE Defines the key shape
- FUNCTION Defines the key type
- INTERFACE Defines the interface the codes are send through
- SCANLINE Manages the scanline
- CONTENT Adds special content

## Size

You can select the key size from the toolbar:



or from the SIZE menu:



Define the key shape. It can be:

- a single key (1 x 1 key)
- a double horizontal key (1 x 2 keys)
- a double vertical key (2 x 1 keys)
- a quadruple key (2 x 2 keys)
- a custom key (custom sized key in qwerty part)
- a blank cover (blocked key)

---

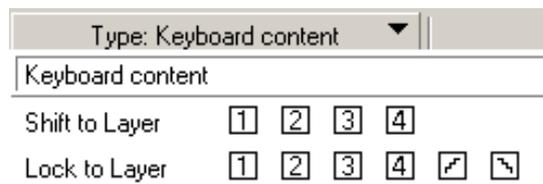
The neighbouring keys have to be empty to make one large key

---

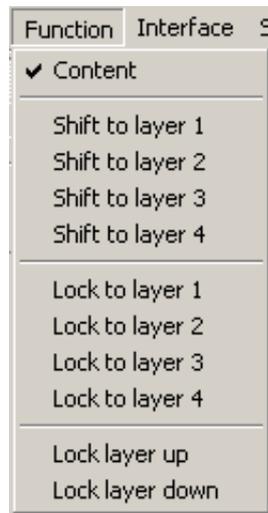
## Function

Define key function

from TYPE dropdown menu in the toolbar:



or from the FUNCTION menu:



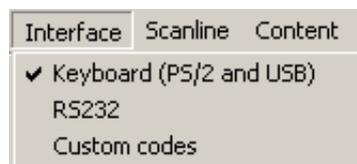
A key can have the following functions:

- CONTENT key has contents defined by user
- SHIFT TO LAYER key shifts to a specific layer while the key is held down. If another key is pressed, its content of shifted layer is sent. After the shift to layer key is released, the keyboard restores the layer state before pressing the key. (like CapsShift key)
- LOCK TO LAYER key switches to a specific layer. The keyboard remains in this layer after the key is released (like CapsLock key).
- LOCK LAYER UP or DOWN locks to one layer higher or lower.

## Interface

Interface defines how the code is sent to the computer. It should be selected accordingly to the type of your Controller.

It can be set from the INTERFACE menu:



or from the toolbar:



The following options are possible for keyboards:

- Keyboard (PS/2 and USB)
- RS232
- Custom codes

See *interfaces* (see "Interface" on page 87) for details.

## Scanline

Here you can edit content of the currently selected scanline.

The commands can be selected from the toolbar:



or from the Scanline menu:



To manage content you can use standard edit commands: CUT, COPY, PASTE, DELETE and UNDO.

In scanline menu you can set mode and view options for the scanline. See *Scanline options* for details.

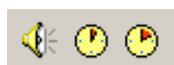
---

note: These commands are enabled when scanline is active.

---

## Content

Here you can add special content to the current scanline. Commands can be selected from the toolbar:



or from the CONTENT menu:



You can add beep, short (100 ms) or long delay (1 s).

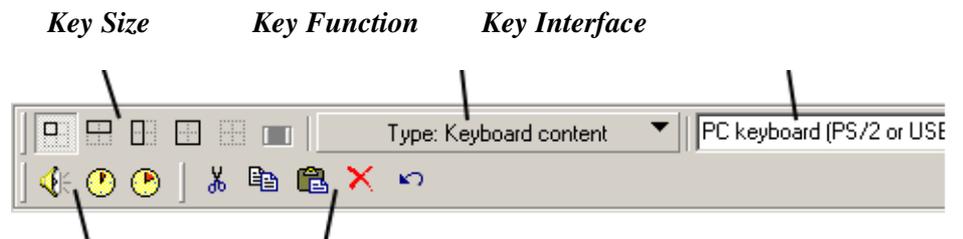
---

note: These commands are enabled when scanline is active.

---

## Toolbar

Toolbar of the Key content has the following sections:



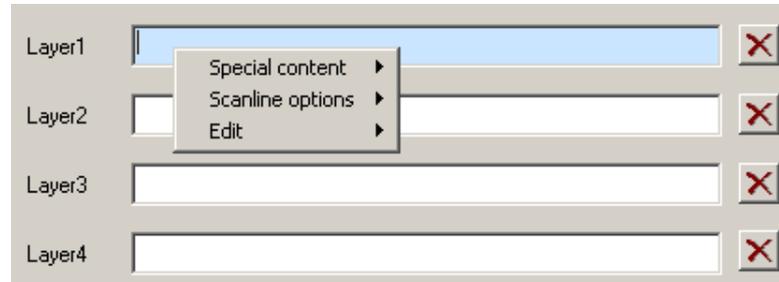
*Special Content Edit Scanline content*

## Scanline

Scanline is a special tool, which captures keyboard input.

## Scanline context menu (Right click)

By right-clicking into the scanline (interface must be set to PC Keyboard) the following context menu shows:



Here you can:

- add SPECIAL CONTENT,
- set SCANLINE OPTIONS and
- EDIT the content itself.

### Special content



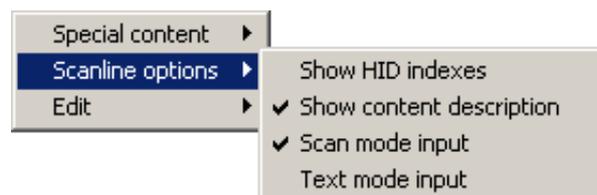
Here you can add special content (like BEEP, short and long DELAY) to the current scanline.

---

Some options can be used only with USB controller. These commands are USB OPOS and LOCK TO LAYER.

---

### Scanline options



Here you can select

- description type
- manual or scan mode.

Key codes can be displayed as CONTENT DESCRIPTION (Shift key as LEFTSHIFT, q key as q...) or as HID INDEXES (Shift as /E1 E1\, q key as /14 14\). "/" means make code and stands in front of the code, "\" means break code and stands after the code.

Content description:



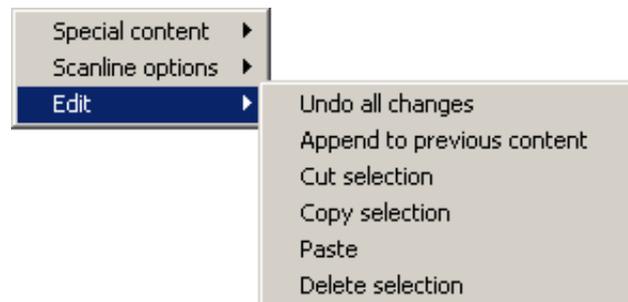
The same content in HID indexes:



Input can be set to SCAN MODE - scanline scans the keys pressed - or you can edit them by writing their make and break HID indexes (TEXT MODE INPUT).

## Edit

Here you can edit the scanline content.



UNDO ALL CHANGES restores the content before entering the scanline

APPEND TO PREVIOUS CONTENT - By default previous content is deleted after entering the scanline. If APPEND TO PREVIOUS CONTENT is selected, new content is added at the end of previous one.

CUT SELECTION removes the selected content and puts it to a clipboard, so it can be pasted somewhere else

COPY SELECTION puts the selected content to a clipboard, so it can be pasted later

PASTE pastes the previously copied/cut content from clipboard to the current content

DELETE SELECTION removes the selected content

---

Some options are disabled if nothing is selected in scanline or if there is no content in the clipboard.

---

## CHAPTER 5

# Programming

All aspects of programming a FREE/FREE+ configuration are explained in this chapter. Starting with general information, then the different module types are explained more detailed. Under advanced techniques you can find ways to improve efficiency when programming more than one configuration.

## In This Chapter

|                                  |     |
|----------------------------------|-----|
| General .....                    | 77  |
| Programming a Keyboard .....     | 81  |
| Programming a Chameleon.....     | 89  |
| Programming a Card Reader.....   | 89  |
| Programming an ID module.....    | 95  |
| Programming a Handset.....       | 99  |
| Programming a Speakerbox .....   | 106 |
| Programming a BeFREE module..... | 120 |
| Advanced Techniques .....        | 137 |
| Rollover.....                    | 141 |
| FileTypes.....                   | 144 |

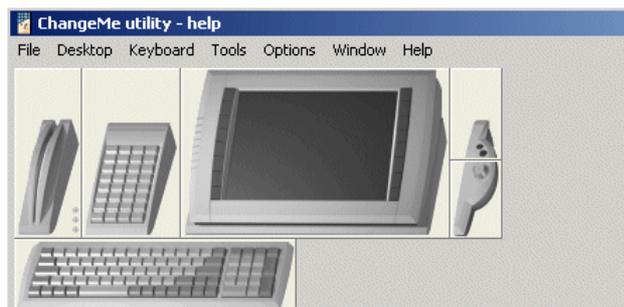
---

## General

This chapter covers the basics of programming a module. How to select a module or key and how to enter contents.

## Desktop

When you start the program, autodetect will find the FREE/FREE+ configuration connected to your computer. The detected modules are displayed at the top of the window.



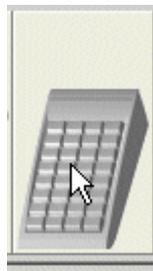
Alternatively you can manually define your configuration, off-line, by *adding* or *deleting* modules. Go to Menu: DESKTOP.

Desktops can be *saved* and (re-)opened .

When a desktop is saved, only the modules and their position are saved, *not* the key contents.

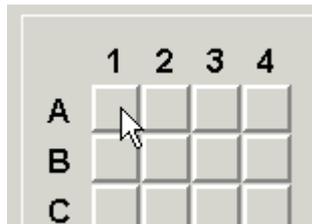
## Select a module

A module can be selected by clicking it with the mouse. Depending on the module, different windows can open. Programming of the different modules will be discussed below.



## Select a Key

A key can be selected by clicking on it with the mouse.



## Enter contents

To enter key contents you have to have a standard keyboard connected to the computer. You can connect the keyboard to the FREE/FREE+ configuration.

---

If you are using a Chameleon without a PS/2 pass-through port, you can connect the keyboard directly to the computer and connect the Chameleon just with the RS232 cable when programming it.

---

## Save a configuration

*Save* a configuration so you can use it more than once. The information is stored in a .lay file, which can be opened again.

## Update

After you are finished defining your FREE/FREE+, update the Controller's memory with new configuration. Once the Controller is updated the keyboard can be used independently from ChangeMe.



---

## CHAPTER 6

### Testing

*Update* your configuration to the keyboard.

At Menu: TOOLS you can find two options for testing Keyboard content (AT-PS/2 and USB) and one, a terminal, for RS232.

To test AT/PS2 and USB contents choose TOOLS > TEXT WINDOW or TOOLS > SCANLINE .

Test the RS232 contents with TOOLS > TTY terminal.

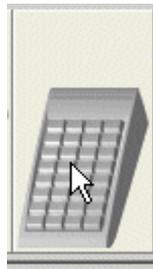
Try all the modules. Pressing a key, inserting an iButton or a card and turning a key; the contents shows up in the window.

---

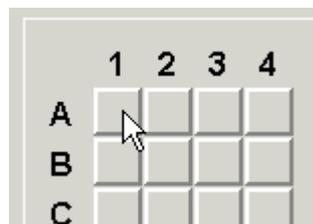
## Programming a Keyboard

Each keyboard can have up to 4 layers of key definitions. This means that each key can have –but does not need to have- 4 different contents. (Think of the Shift-, Control-, Alt- and Alt gr. layers on a standard keyboard)

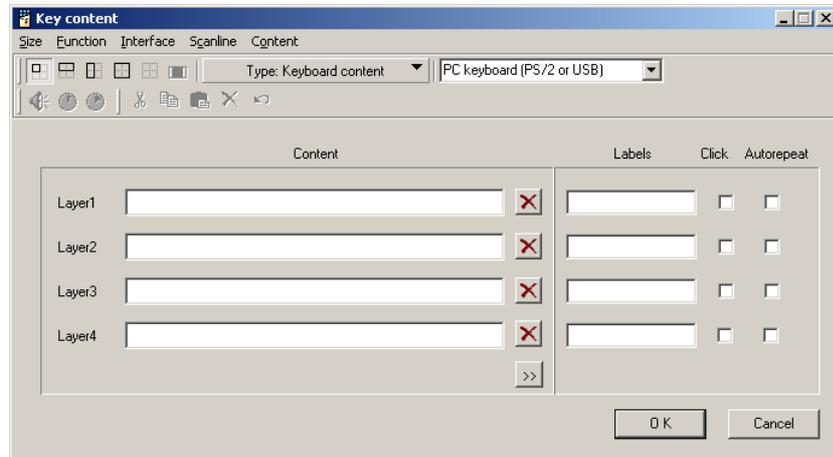
After clicking on the picture of the keyboard, a window opens with the keyboard layout.



Each key can now be programmed.



Clicking the key will open the key definition window



Key content **window has:**

- **Main menu** (Size, Function, Interface, Scanline and Content)
- **Key toolbar** (Key size, Key type and Interface type)
- **Content toolbar** (Special content and Edit content)
- **Scanline** to enter content for each layer

**The Form has the following sections:**

- **Content**

This section contains four scanlines to define content for each of the four layers. You can right click in the scanline to access additional commands and settings in *context menu* .

- **Labels**

Each key can have a name for each layer.

These labels can be *printed* .

- **Click**

Toggle click sound on or off when key is pressed.

- **Autorepeat**

If selected, the key repeats sending its contents while it is being pressed.

When turned off, the contents is sent just once.

- **Clear button** 

Press Clear to empty the contents for that layer. (pressing `Delete` doesn't work, it just programs "delete")

- **Expand/compress labels button** 

Click it to expand/compress the scanline and hide/show labels.

See also: *Key content form*

## Content Key

You can define up to 4 layers (number of layers can be defined in *preferences* ). Content can be:

- string (sequence of key presses)
- combination of key presses
- special function (beep, delay)
- combination of the above

| Content |  |    | Labels   |
|---------|--|----|----------|
| Layer1  | jump                                   | X  | string   |
| Layer2  | F7                                     | X  | function |
| Layer3  | LEFTCTRL+LEFTSHIFT+W                   | X  | multiple |
| Layer4  | LEFTALT+W Delay100ms LEFTSHIFT+P Enter | X  | combined |
|         |  | >> |          |

### a number

Just enter the number you want as content.

---

Be careful: numpad keys send different content than the numbers above the qwerty keyboard.

---

| Content |      |
|---------|------|
| Layer1  | Num1 |
| Layer2  | 1    |

### a string

| Content |                                    |
|---------|------------------------------------|
| Layer1  | this Space is Space a Space string |
| Layer2  |                                    |

The string you enter is displayed, characters in black, space bars in blue.

## a special function key

(only when the *Interface* is set to PC Keyboard (PS/2 or USB))

Special function contents is displayed in color (blue).

You can press any special key and the contents will be programmed.



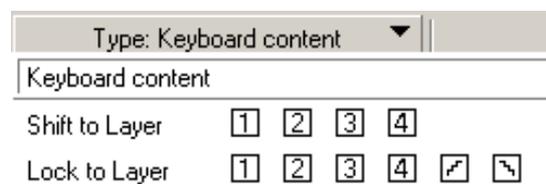
## a combination of one or more of the above



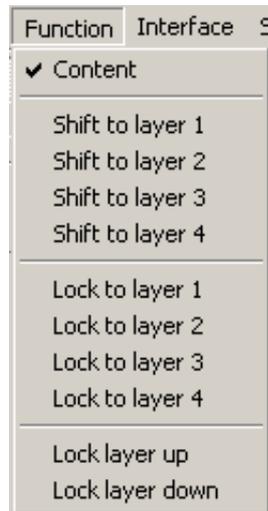
You can combine all of the above, if needed you can insert delays.

## Layer Key

It can be selected from **Key Type** dropdown menu in toolbar:



or from **Function** menu:



- **Shift to layer** works similarly as **Shift**, **Control** and **Alt** on a standard keyboard; you press them together with another key to temporarily switch to the indicated layer.
- **Lock to layer** works similarly as **CapsLock**
- **Step layer up** or **down** locks to one layer higher or lower.

see also *Function*

## Size

Key size can be defined from the toolbar:



or from the **Size** menu:



When double or quadruple keys are placed on the keyboard, they also have to be programmed. The size has to be set in the key in the upper-left corner.

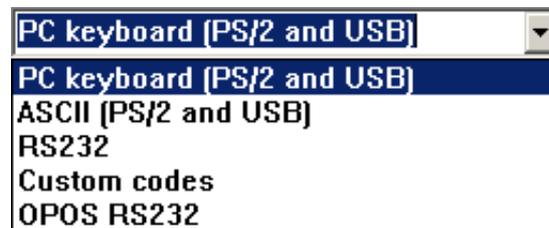
Possible sizes are:

- single                    1 x 1 key
- horizontal              2 x 1 keys
- double
- vertical double        1 x 2 keys
- quadruple              2 x 2 keys

The key(s) that are combined with the current one have to be empty.

Setting to **Blank** disables the key.

## Interface



A list of possible interfaces. Check the sections below for an explanation of each interface.

---

Some modules do not have all listed options.

---

### PC Keyboard (PS/2 and USB) - default

Contents is entered as normal scan codes and captured by pressing the desired key. Also key combinations can be entered e.g. A, F11, Ctrl+A.

When the scan line is active it is coloured in yellow:



and white when inactive:



All codes are captured.

### ASCII (PS/2 and USB) (not for Keyboards)

Contents is entered as characters and ASCII codes.

You can enter a character by pressing the corresponding key (A, B,...) or by entering the ASCII code, either decimal or hexadecimal. These codes must be between pipe characters ("|").

```
Layer 1 |A B C |65,$4A,32|
```

### RS232

The same as *ASCII (PS/2 and USB)* , except that the contents are sent through the RS232 -COM- port.

Contents are entered as characters and ASCII codes.

You can enter a character by pressing the corresponding key (A, B,...) or by entering the ASCII code, either decimal or hexadecimal. These codes must be between pipe characters ("|").

```
Layer 1 |A B C |65,$4A,32|
```

### Custom codes

Contents is entered as codes, which should be sent from the keyboard to the system.

---

**NOTE:** Use this option only if you are familiar with the system architecture and communication protocols!

---

```
Layer 1 |65,$4A,32
```

### OPOS RS232 (not for Keyboards)

sends the OPOS default.

---

## Programming a Chameleon

See the help in the Chameleon configuration utility.

---

## Programming a Card Reader

There are two types of card readers, magnetic card readers and barcode readers.

### Magnetic Card Reader



After clicking the icon for the card reader the following window appears. Depending on which reader version you have, different tracks can be disabled.

A screenshot of the 'MCR form' configuration window. The window has a title bar with 'MCR form' and a close button. Below the title bar, there is a section for 'Enabled tracks' with three checked checkboxes: 'Track 1', 'Track 2', and 'Track 3'. To the right of this section are 'OK' and 'Cancel' buttons. Below this is a tabbed interface with three tabs: 'Headers and Terminators' (selected), 'Success/fail', and 'Separators'. Under the 'Headers and Terminators' tab, there are two columns: 'Headers: PC keyboard' and 'Terminators: PC keyboard'. Each column has three rows corresponding to 'TRACK 1', 'TRACK 2', and 'TRACK 3'. Each row contains a text input field, a red 'X' button, and a blue 'Enter' button. At the bottom of the window, there is a dropdown menu labeled 'Interface, Head/Term type' with 'PC keyboard (PS/2 and USB)' selected. In the bottom right corner, there is a label 'Intf.: AT/PS2'.

## Tracks

All active tracks are shown. De-select if you want to disable a track.

The three dots on the Card reader's icon show how many and which tracks can be read.

e.g. the TM-RAA can read tracks one and two.



## Headers and Terminators

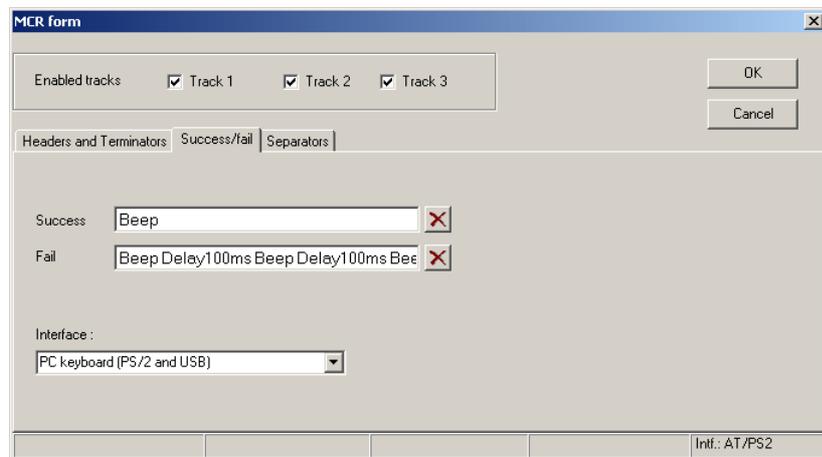
You can assign codes that will be sent before (header) and after (terminator) the content of the track is transmitted to the computer.

|   |                |            |
|---|----------------|------------|
| <b>sent to the system for each track:</b> |                |            |
| header                                    | track contents | terminator |

The contents of the header and terminator can be the same as for a *key*.

## Success/fail

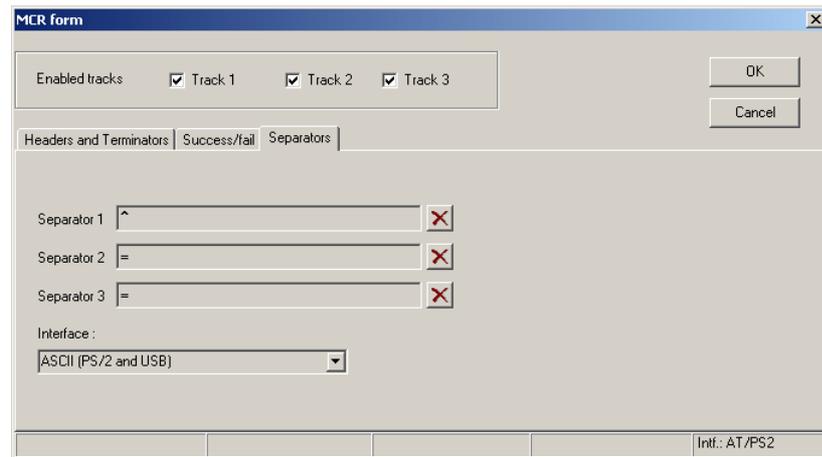
Standard these success and fail codes are programmed, but they can be changed.



Successful reading of the card gives one beep, a failure three.

## Separators

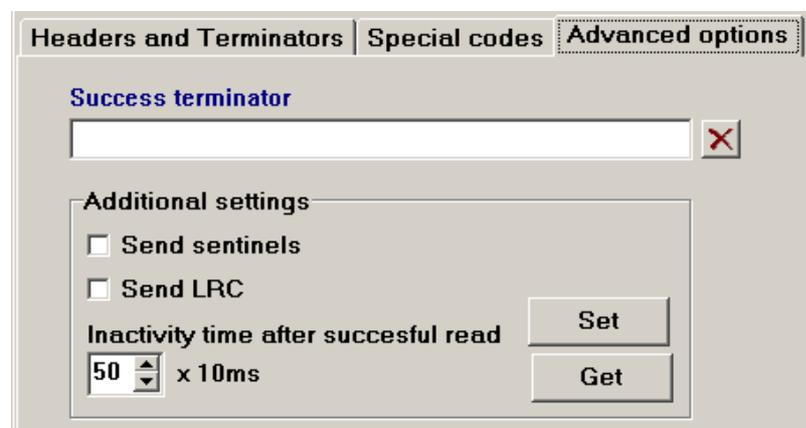
Standard these separator codes are programmed, but they can be changed.



The separator codes in the contents of the card, that are sent to the system, can also be changed. In order to change them you have to enter debug mode. It can be entered by pressing Control+Backspace in main ChangeMe window.

## Advanced options

This tab is visible only in debug mode or if the reader is bidirectional. (To enter the debug mode, press Shift+Alt+Backspace in ChangeMe main window.)



Here you can enter a SUCCESS TERMINATOR, which is sent after successful read. It is empty by default.

In ADDITIONAL SETTINGS you can set if card sentinels and LRC are sent and for how long the bidirectional reader is inactive after a successful read.

You can read these settings from configuration by pressing **Get**.

You can set them by checking/unchecking the checkboxes, entering the inactivity time and pressing **Set**.

---

Note: These options are only possible with bidirectional readers.

---

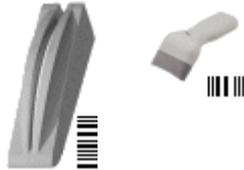
### **Interface, Head/Term type**

Select the interface for the header, terminator and contents from the dropdown box.

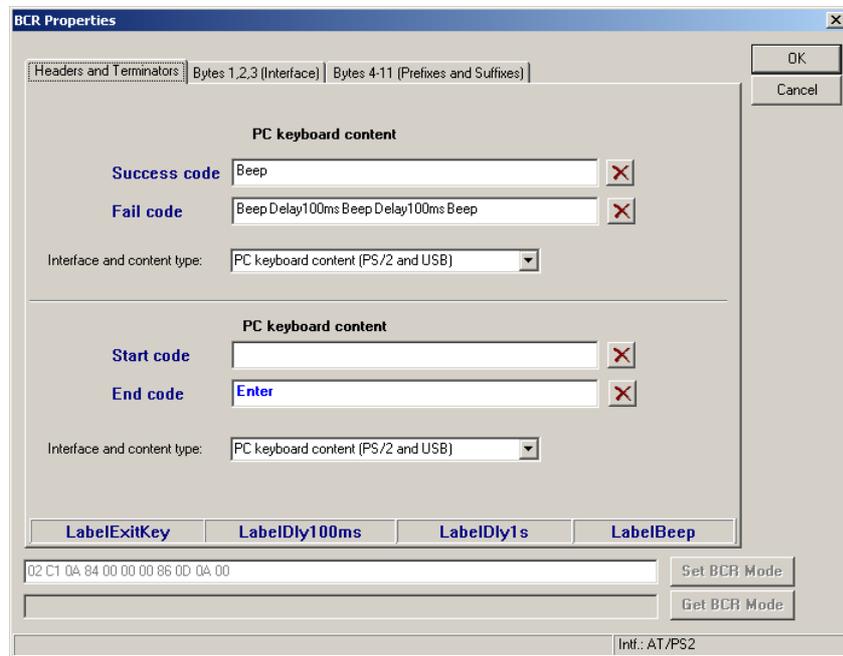
See *interfaces* (see "Interface" on page 87) for more information on each interface.

## Barcode slot reader

This configuration applies to the barcode slot reader as well as the RS232 pass-through port (e.g. barcode scanner input).



After clicking on the icon for the card reader the following window appears.



## Start/End code

You can assign codes that will be sent before (**Start code**) and after (**End code**) the content of the track is transmitted to the computer.

|                            |              |            |               |          |
|----------------------------|--------------|------------|---------------|----------|
| <b>successful read :</b>   | success code | start code | bar code data | end code |
| <b>unsuccessful read :</b> | fail code    |            |               |          |

**Success/Fail code:** The codes that will be sent when the card couldn't be read or was read successfully can be changed.

To add beep, short and long delay right-click into scanline and select SPECIAL CONTENT > BEEP, DELAY 100MS or DELAY 1S

## Interface

The interface for success/fail and start/end can be independently set.

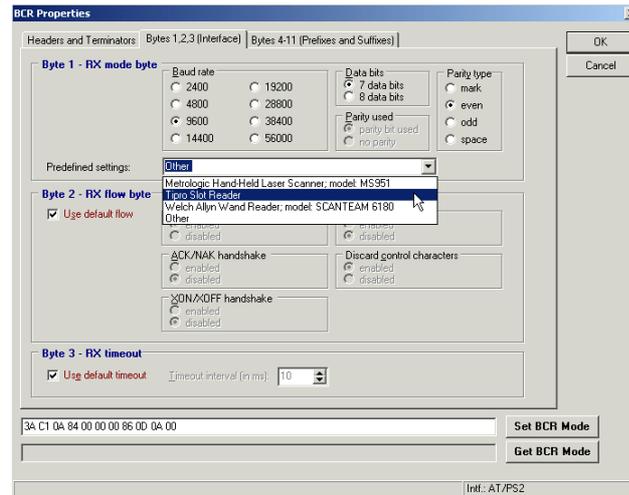
More on interfaces, *click* (see "Interface" on page 87)

## Properties

**Tab 2-** Bytes 1, 2, 3 (Interface) & **Tab 3-** Bytes 4-11 (Prefixes and suffixes)

Here the parameters of the connected Bar Code Reader can be defined.

A few types have already been programmed.

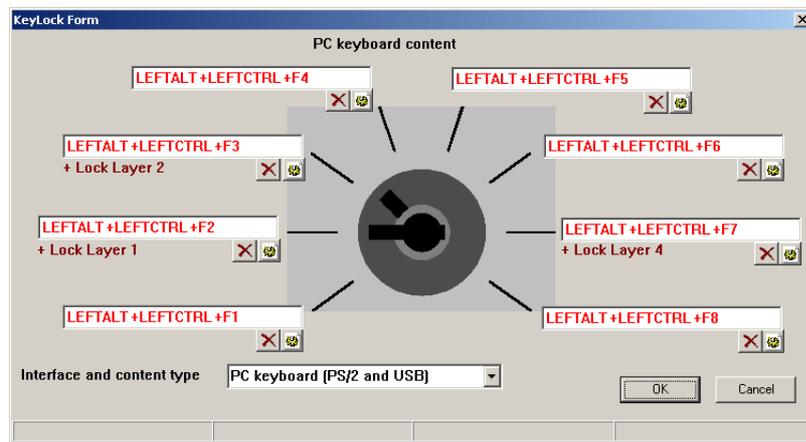



---

## Programming an ID module

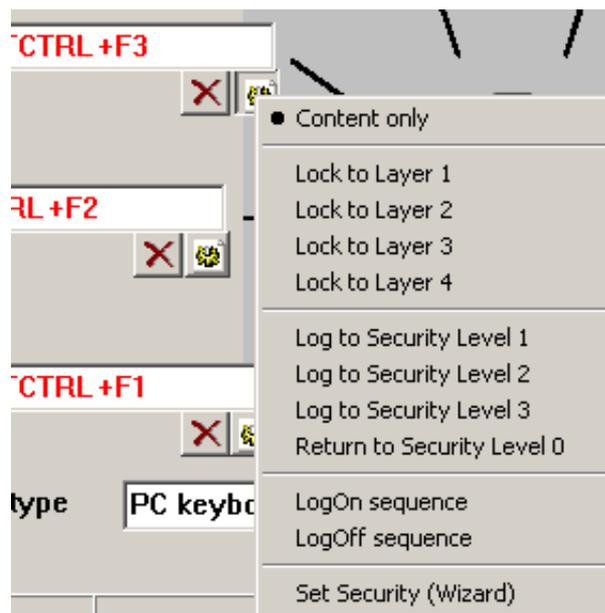
There are several types of ID modules. All have 2 programmable keys. These keys can be programmed like normal keys on a keyboard (see *Programming a keyboard* )

# Keylock



For every key position content *and* a lock to layer can be defined.

Press  to choose a layer to lock to.



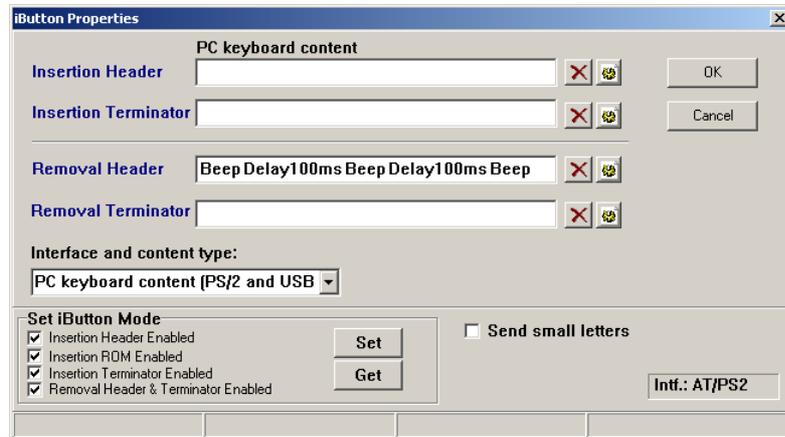
To clear the contents press ; to remove the lock to layer, press  and set to CONTENT ONLY.

If your configuration has an USB controller, you can also define security. See *Security features* for details.

Interface depends on the connection to the computer; PS2, USB or RS232. See also *interface* .

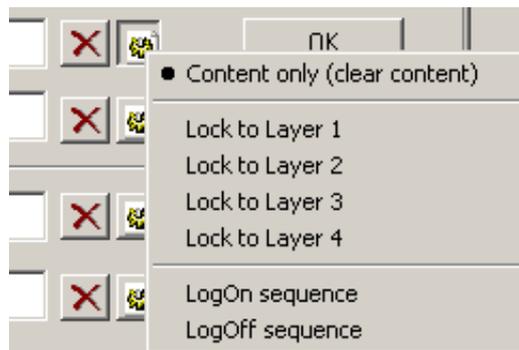
To add beep or delay right-click the scanline. *Context menu* opens.

# iButton



To define Beep or Delay right-click in scanline. Content menu opens. See *Beep and Delay* for details.

By clicking  you can define special content:



When iButton is inserted/removed, the keyboard can be locked to a certain Layer.

If you have an USB controller, security can be also defined. See *Security features* for details.

## Contents

The content of the iButton is sent after the insertion header and is followed by the insertion terminator.

|  |                         |                        |
|--|-------------------------|------------------------|
|  | <b>iButton inserted</b> | <b>iButton removed</b> |
|--|-------------------------|------------------------|

|                            |                  |           |                      |                |                    |
|----------------------------|------------------|-----------|----------------------|----------------|--------------------|
| <b>sent to the system:</b> | insertion header | ID number | insertion terminator | removal header | removal terminator |
|----------------------------|------------------|-----------|----------------------|----------------|--------------------|

When the iButton is removed, just the removal header and terminator are sent. To send a code to the system *and* lock a layer, define the header to send the code and the terminator to lock to layer.

### Interface

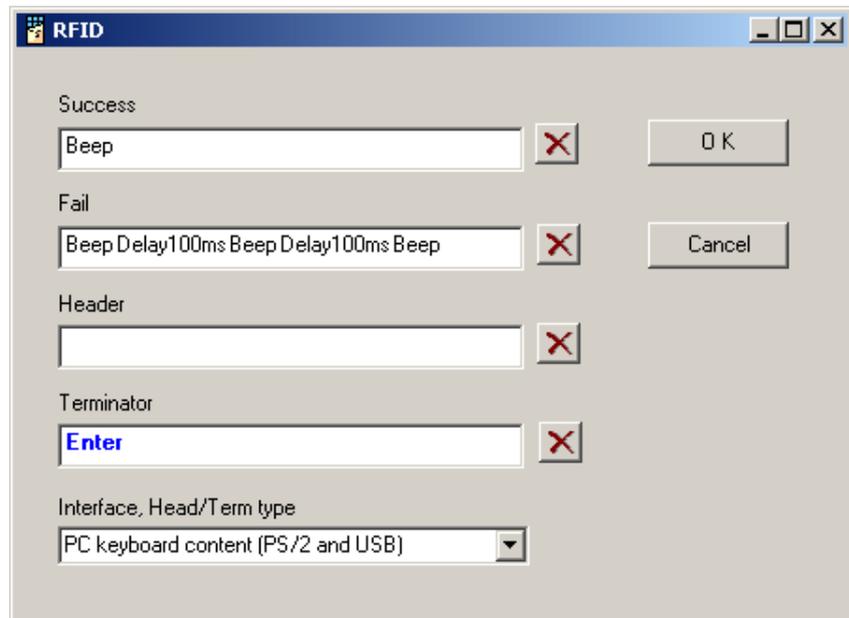
Select the interface for the header, terminator and contents.

see also *interfaces* (see "Interface" on page 87) for more information about the available interfaces.

### Set iButton Mode

Only in special occasions these settings need to be changed. For instance when some data (e.g. Removal Header) should not be sent.

## RFID (Radio Frequency Identification)



RFID form has the following settings:

- SUCCESS is sent when an RFID tag is successfully read. Beep by default.
- FAIL is sent when it fails to read an RFID tag. Triple beep by default.
- HEADER is sent before the RFID number.
- TERMINATOR is sent after the RFID number.
- INTERFACE defines the RFID module interface. RFID header, number and terminator are sent through it. See also *Interface type*

The content of the RFID tag is sent after the header and is followed by the terminator.

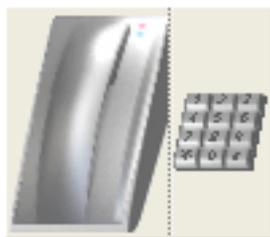
|                            | RFID tag successfully read |           |            |
|----------------------------|----------------------------|-----------|------------|
| <b>sent to the system:</b> | header                     | ID number | terminator |

---

## Programming a Handset

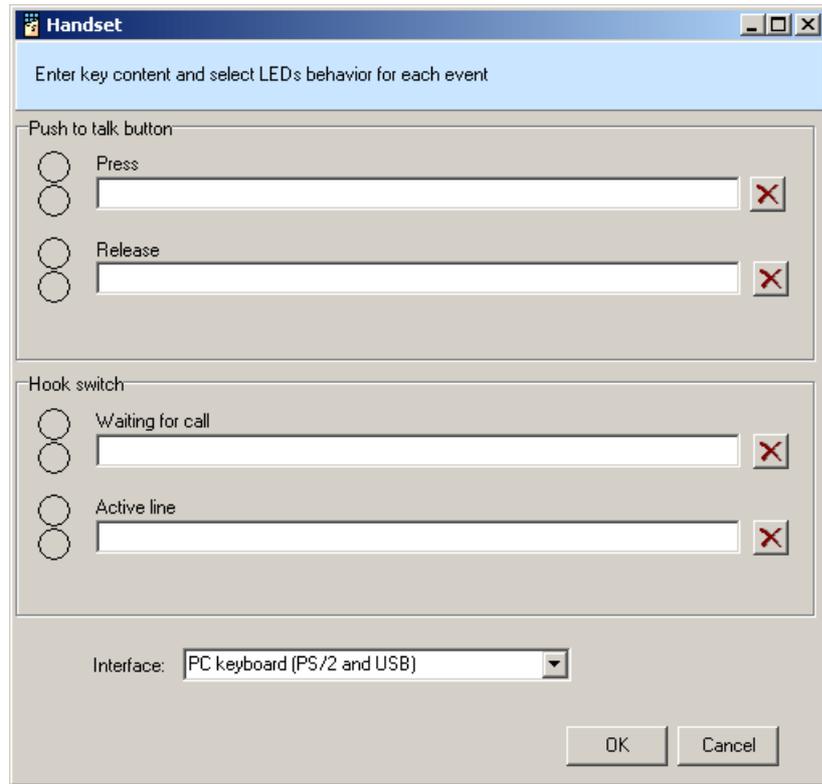


Handset



Handset with dialpad

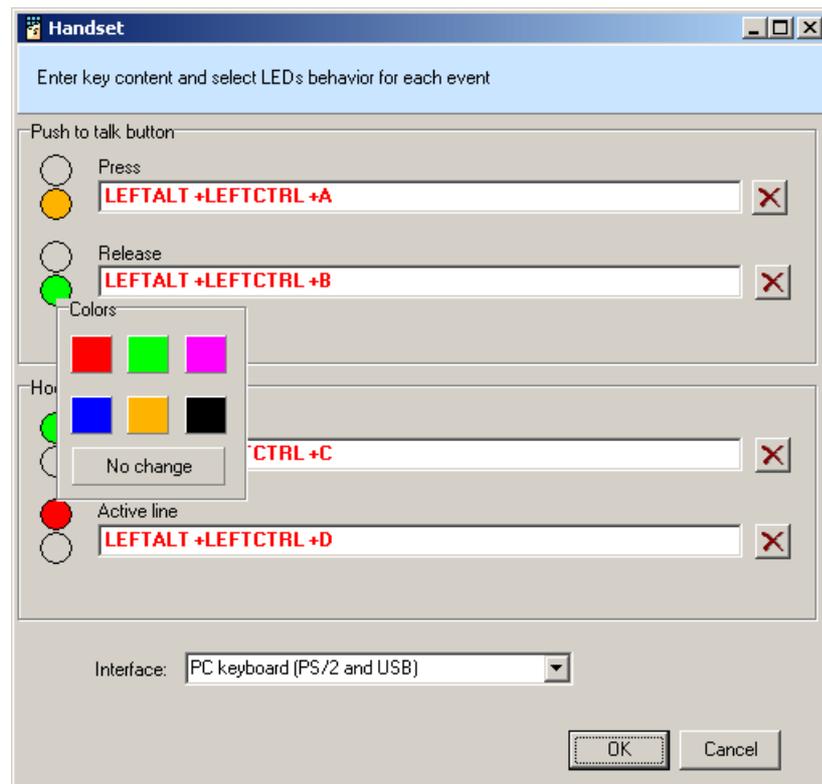
## Handset (standard version)



Handset form defines the following key sequences:

- PUSH TO TALK - PRESS is sent when the key on the handset is pressed.
- PUSH TO TALK - RELEASE is sent when the key on the handset is released.
- HOOK SWITCH - WAITING FOR CALL is sent when the handset is put on the handset base.
- HOOK SWITCH - ACTIVE LINE is sent when the handset is lift up from the handset base.

### LEDs tab



Handset module has two LEDs. Their color can be changed on the above events. You can set their color by moving the mouse over a circle and choosing a color. Black color means the LED is off. NO CHANGE means nothing happens - the color from previous event stays.

## Handset HUA-5A

Handset HUA-5A has a headset connector in addition to standard Handset. **Press to talk button** and **Hook switch** events are the same as at *Standard version* .

**Handset**

Enter key content and select LEDs behavior for each event

Push to talk button

Press

[Text Field] [X]

Release

[Text Field] [X]

Hook switch

Hang up (waiting for call)

[Text Field] [X]

Pick up (active line)

[Text Field] [X]

Headset

Connect

[Text Field] [X]

Disconnect

[Text Field] [X]

Priority device

Headset

Handset

Interface: PC keyboard (PS/2 and USB)

OK Cancel

Two **Headset** events can be defined:

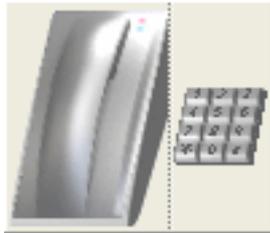
- CONNECT sequence is sent when the headset is connected to the handset.
- DISCONNECT sequence is sent when the headset is disconnected from the handset.

**Priority device** defines which device is active when handset is picked up and headset is connected. Only one of them can be active:

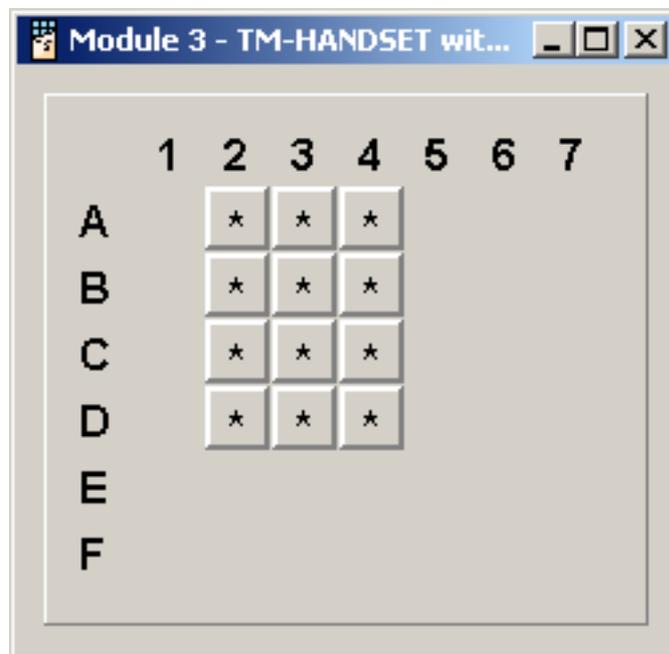
- HANDSET or
- HEADSET.

Please see *Handset (standard version)* for details about LEDs.

## Handset with dialpad



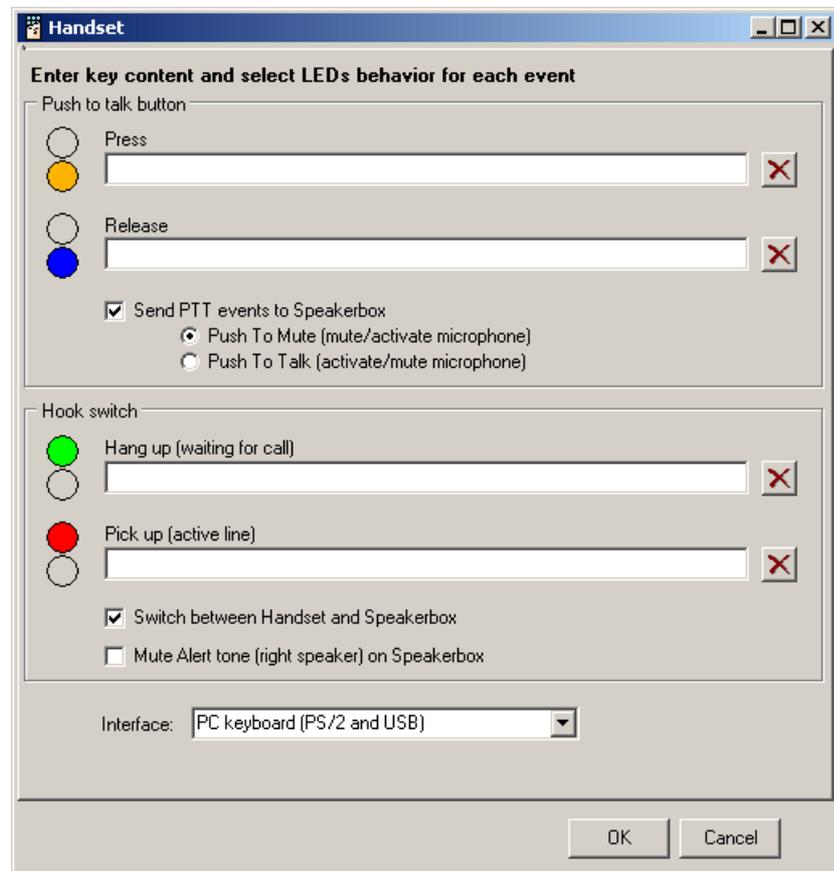
Handset is configured in the same way as *standard version* .



Content of keys is defined in the same way as *programming a keyboard* .

## Handset and Speakerbox together in configuration

When Handset (with analogue audio - HHA) and Speakerbox module are in the configuration, the Handset can send events to the Speakerbox.



### Handset button

Check the SEND PTT EVENTS TO SPEAKERBOX checkbox to enable the handset button. It can have the following functionality:

- PUSH TO MUTE
  - Microphone is muted when the PTT button is pressed.
  - Microphone is activated when the PTT button is released.
- PUSH TO TALK
  - Microphone is activated when the PTT button is pressed.
  - Microphone is muted when the PTT button is released.

## Hook switch

Check the SWITCH BETWEEN HANDSET AND SPEAKERBOX checkbox to enable the following functionality:

- Handset is activated when the handset is lift up from the handset base.
- Speakerbox is activated when the handset is put on the handset base.

Check the MUTE ALERT TONE (RIGHT SPEAKER) ON SPEAKERBOX to enable the following functionality:

- Alert tone is muted when the handset is lift up from the handset base.
- Alert tone is activated when the handset is put on the handset base.

Otherwise alert tone is always on on Speakerbox speaker.

## Programming a Speakerbox



Speakerbox

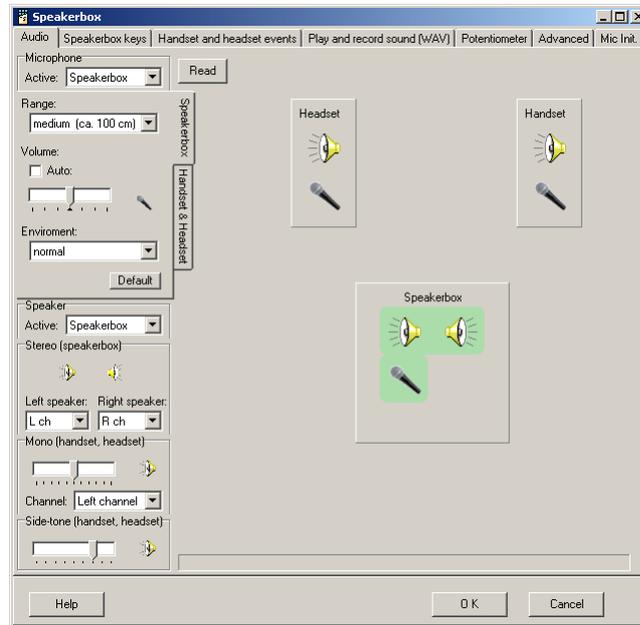


Speakerbox without gooseneck microphone

The Speakerbox is an audio device for a hands-free bidirectional voice communication. Besides the primary function (i.e. hands free voice communication) it also provides connection for an external analogue headset and handset, as well as the digital control over all the three (HandsFree, Headset and Handset) audio devices that share the same audio channel. The hands-free audio device comprises built-in Voice Speaker (i.e. left-hand side loudspeakers) and goose-neck microphone, along with an incremental encoder for volume control, bar-graph multicolour LED indicator and two function keys (MIC key and HF key). Two more keys are provided for immediate loudspeaker volume control of the external headset and handset. Since the output audio channel is stereo, there is also the right audio output which is dedicated to alarm/alert messages from the host system at the Alert Speaker (i.e. right-hand side loudspeakers).

## Audio

Here you can try out different audio settings of a Speakerbox module.



### MICROPHONE settings:

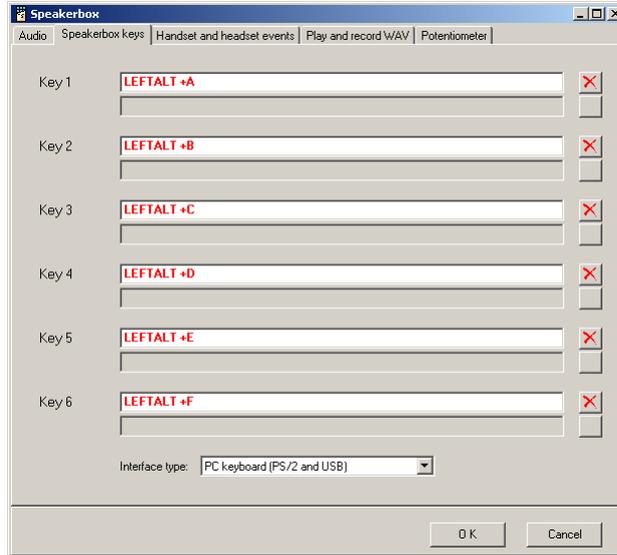
- Select active microphone. It can be also selected by clicking on the microphone image on Speakerbox, Handset or Headset module.
- Microphone attenuation can be set
- Microphone can be muted
- Microphone COMPRESSION can be set
- Microphone noise TRESHOLD can be set

### SPEAKER settings:

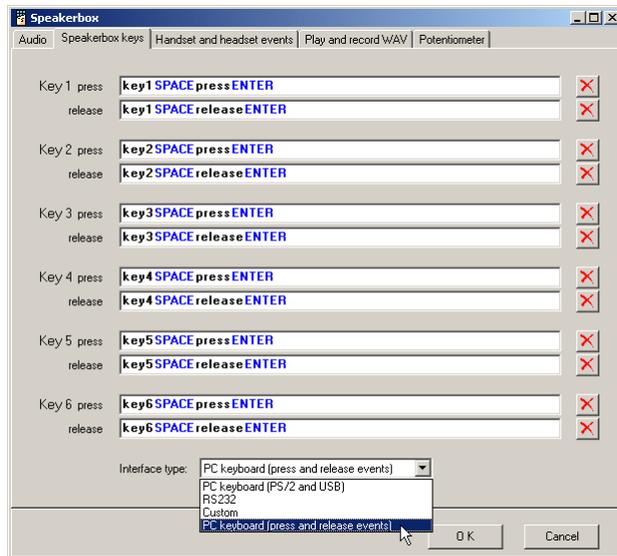
- Select active speaker. It can be also selected by clicking on the speaker image on Speakerbox, Handset or Headset module.
- Stereo speakers are in Speakerbox module:
  - Left or right speaker can be muted
  - Channel for each speaker can be selected
- MONO speaker is speaker in Handset or Headset module:
  - Speaker amplifier gain level can be set
  - It can be muted
  - Channel can be selected: both, left, right or none channel
  - SIDE-TONE attenuation can be set

## Speakerbox keys

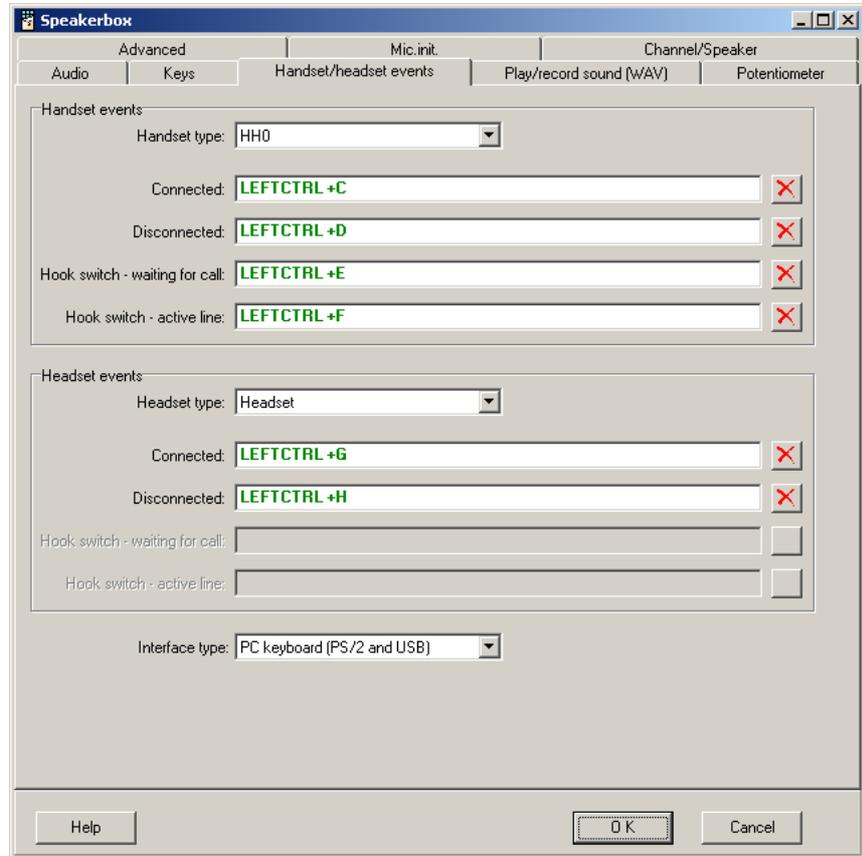
Define Content for 6 keys on Speakerbox module.



Press and release events can be defined separately by setting INTERFACE TYPE to *PC keyboard (press and release events)*:



## Handset and headset events



**Handset events**

Define a HANDSET TYPE that is connected to the Speakerbox:

- *HHO* - a Handset unit is not in configuration with the Speakerbox.
- *HHA* - a Handset module that is in the same configuration as the Speakerbox. Only Connected and Disconnected events can be set here. Other events should be set in *Handset form* .

Content for the following Handset events can be set:

- CONNECTED - happens when a handset module is connected to the Speakerbox
- DISCONNECTED - happens when a handset module is disconnected from the Speakerbox
- HOOK SWITCH - WAITING FOR CALL - happens when a handset is placed back on the cradle
- HOOK SWITCH - ACTIVE LINE - happens when a handset is picked up

**Headset events:**

**Define a HEADSET TYPE that is connected to the Speakerbox:**

- Headset - only Connected and Disconnected events can be defined.
- Handset

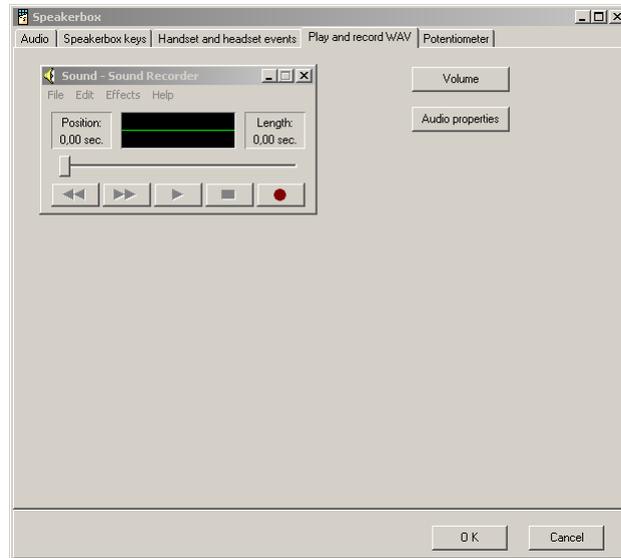
Content for the following Headset events can be set:

- CONNECTED - happens when a headset/handset module is connected to the Speakerbox
- DISCONNECTED - happens when a headset/handset module is disconnected from the Speakerbox
- HOOK SWITCH - WAITING FOR CALL - happens when a handset is placed back on the cradle
- HOOK SWITCH - ACTIVE LINE - happens when a handset is picked up

INTERFACE TYPE:

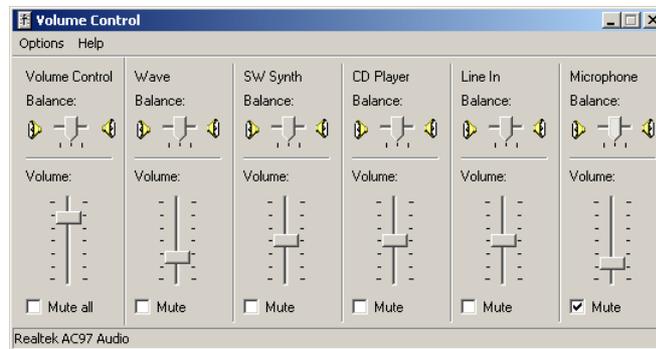
- defines an interface that events of Handset and Headset are sent through. See also *Interface type*

## Play and record sound (WAV)



Record and play sound using Sound Recorder.

VOLUME CONTROL is shown by clicking on the **Volume** button:



SOUNDS AND MULTIMEDIA PROPERTIES are shown by clicking on the **Audio properties** button:



Here you can select playback and recording device.

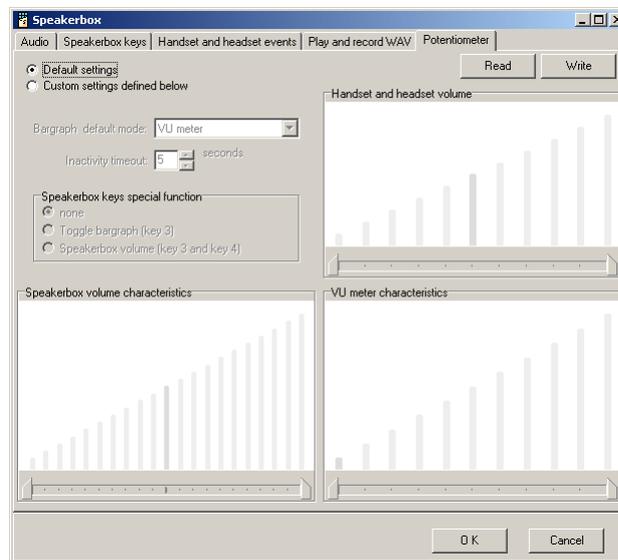
## Potentiometer

Here you can define bargraph and potentiometer settings. Also the lowest and highest limit of speakers can be defined.

Press the **Read** button to read the current settings from Speakerbox module.

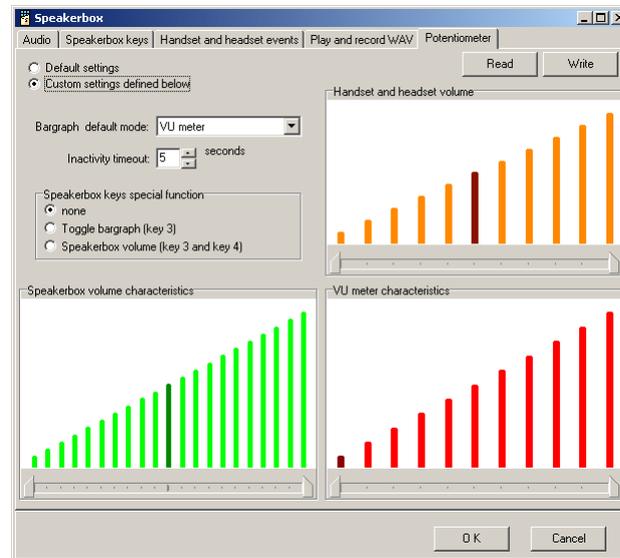
Settings can be written into the Speakerbox by clicking on the **Write** button.

Default settings can be written by selecting DEFAULT SETTINGS and clicking on the **Write** button.



## Custom settings

You have to choose CUSTOM SETTINGS DEFINED BELOW to set your own settings:

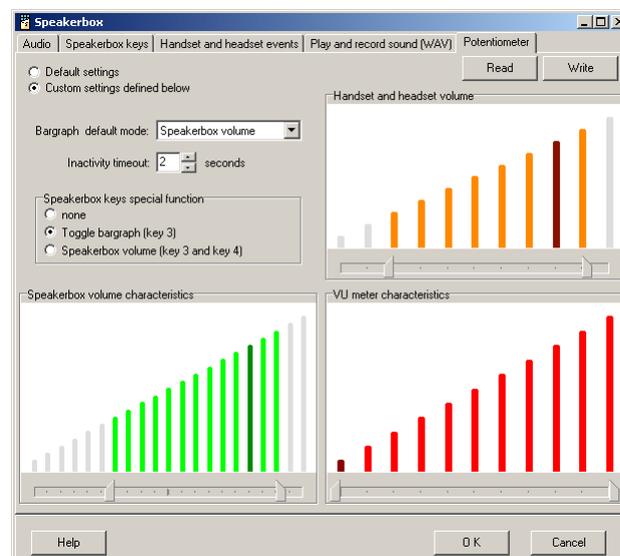


BARGRAPH DEFAULT MODE defines what is shown on bargraph by default. It can be state of VU meter, Speakerbox volume or Handset and Headset volume.

After the INACTIVITY TIMEOUT the bargraph returns to the default mode. It can be set in range of 1 to 10 seconds.

SPEAKERBOX KEYS SPECIAL FUNCTION can be defined:

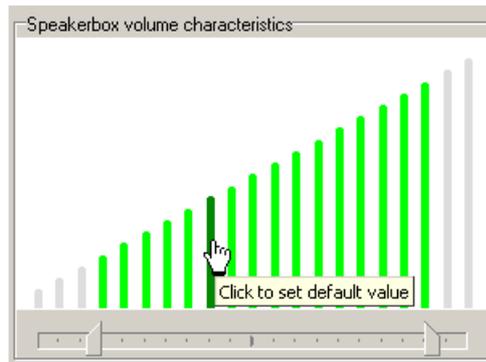
- NONE
- TOGGLE BARGRAPH (KEY 3) - the third key on the Speakerbox is used to toggle between different modes of bargraph
- SPEAKERBOX VOLUME (KEY 3 AND KEY 4) - the third and fourth key are used to decrease and increase the volume of Speakerbox module



Characteristics (Speakerbox volume, Handset and headset volume and VU meter)

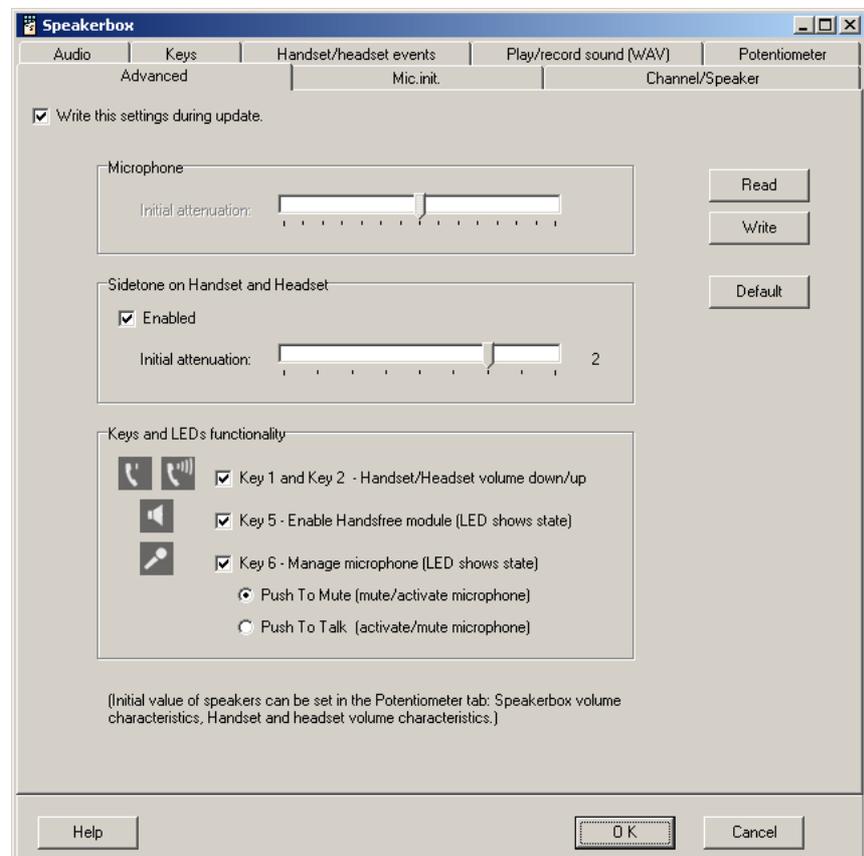
For each characteristics the following parameters can be set:

- minimum - the lowest value - it can be set by moving a slider
- maximum - the highest value - it can be set by moving a slider
- default - default value - it can be set by clicking in the characteristics



## Advanced

Microphone, sidetone and keys/LEDs settings can be managed in the Advanced tab.



Press the **Read** button to read the current settings form Speakerbox module.

Settings can be written into the Speakerbox by clicking on the **Write** button.

Default settings are shown in the form by clicking on the **Default** button.

## Microphone

There are two versions of Speakerbox hardware:

- 02.00.xx (more recent) - Microphone initial attenuation is disabled. The microphone initial settings can be set in the MIC.INIT. tab.
- 05.00.xx (older) - Microphone initial attenuation is enabled.

Set the initial microphone attenuation by dragging the slidebar.

## Sidetone on Handset and Headset

Initial value of sidetone attenuation for handset/headset can be set. The sidetone can be disabled by not selecting the Enabled checkbox.

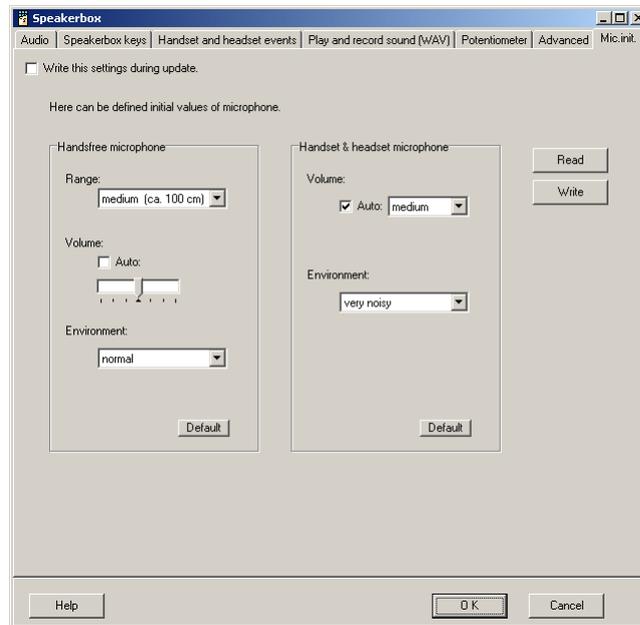
## Keys and LEDs functionality:

- Key 1 and Key2 - Handset/Headset volume down/up - The first and second key on the Speakerbox can manage volume of Handset/Headset speaker.
- Key 5 - Enable Handsfree module (LED shows state) - The fifth key can enable the Handsfree module when pressed. The LED shows when the Speakerbox speakers are active (the current device is overridden).
- Key 6 - Manage microphone (LED shows state) - The sixth key can operate as Push-to-mute or Push-to-talk. The LED shows when the microphone is active.

## Microphone initial

Microphone settings can be defined here. These settings are supported by the latest Speakerbox hardware (version 02.00.xx). Previous version of Speakerbox hardware (version 05.00.xx) does not support these settings. It supports the microphone initial attenuation only, which can be set in the ADVANCED tab.

Settings for Handsfree (Speakerbox) microphone and Handset/Headset microphone can be set separately.



Press the **Read** button to read the current settings form Speakerbox module.

Settings can be written into the Speakerbox by clicking on the **Write** button.

Default settings are shown in the form by clicking on the **Default** button.

Check the WRITE THIS SETTINGS DURING UPDATE checkbox to write microphone initial settings when the configuration is updated.

RANGE defines a distance of a person from the microphone. It can be:

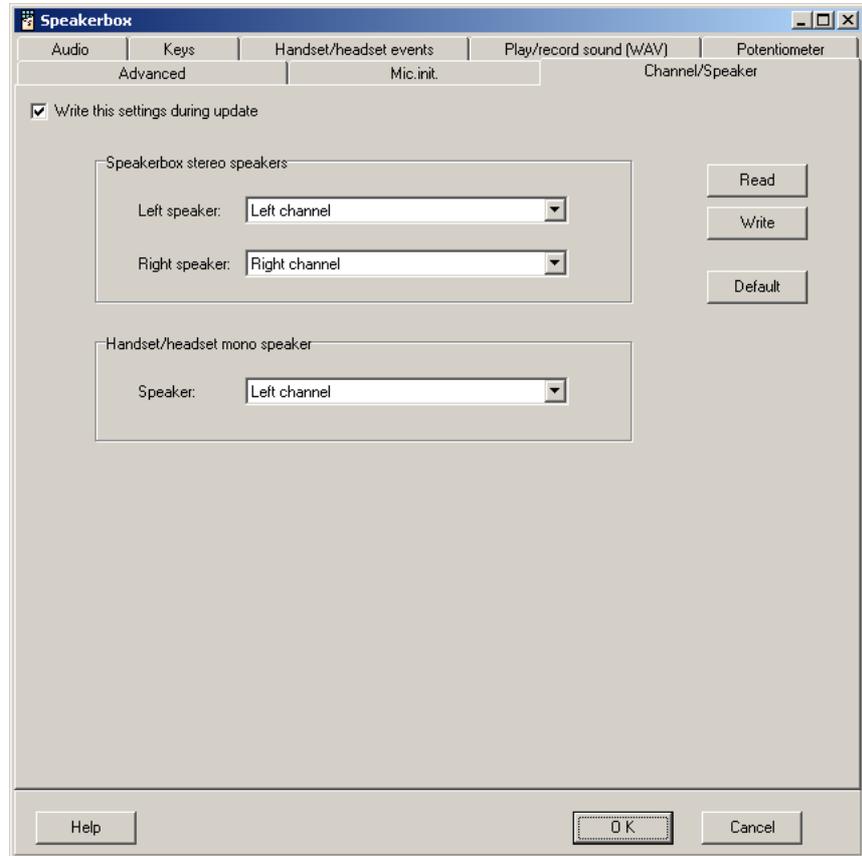
- very short (~10 cm)
- short (~30 cm)
- medium (~100 cm)
- long (~200 cm)

Microphone VOLUME can be set as AUTO. The volume is automatically adjusted. In this way you can choose MEDIUM or HIGH. When it is not set to AUTO, then you can set it using the track bar. If it is put more to right, its attenuation is higher. If it is put more to left it is lower.

ENVIRONMENT indicates the environment where the Speakerbox is used. It can be set to:

- normal (not noisy)
- noisy
- very noisy
- extremely noisy

## Channel/Speaker



Channel for each speaker can be defined here.

### Speakerbox stereo speakers

Speakerbox has left and right speaker. Each of them can be attached to left or right channel.

### Handset/headset mono speaker

Handset/headset mono speaker can be attached to:

- BOTH (LEFT+RIGHT) CHANNELS,
- LEFT CHANNEL,
- RIGHT CHANNEL or
- NONE of them.

Press the **Read** button to read the current settings form Speakerbox module.

Settings can be written into the Speakerbox by clicking on the **Write** button.

Default settings are shown in the form by clicking on the **Default** button.

Check the WRITE THIS SETTINGS DURING UPDATE checkbox to write channel/speaker settings when the configuration is updated.

---

## Programming a BeFREE module



BeFREE is an integration of PC and a LCD touch screen, based on the existing FREE+ line. Therefore BeFREE is compatible with all existing and future FREE/FREE+ line modules. The BeFREE offers full connectivity in a very compact form and allows for easy-access serviceability. A special low heat producing processor is used, which is powerful enough for most tasks (except gaming and server applications). Due to low heat components and special design BeFREE produces very low noise levels. BeFREE is built in the housing of the original 15" FREE+. It consist of an industrial grade motherboard, hard disk, DC/DC converter, touch screen, high brightness TFT and Tipro controller.

## BeFREE v3 (Atom based)

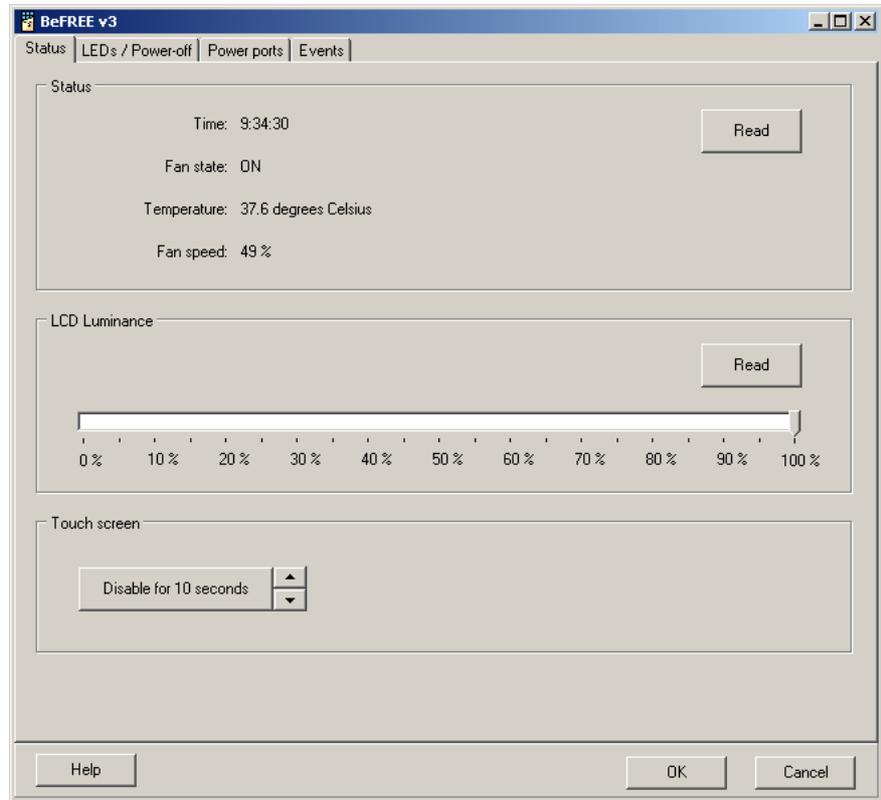
Standard version of BeFREE:



Powered version of BeFREE:



## Status



**Status**

STATUS shows information about:

- FAN STATE (OFF, ON, MAX)
- TEMPERATURE inside the BeFREE and
- FAN SPEED.

Press the **Read** button to update information.

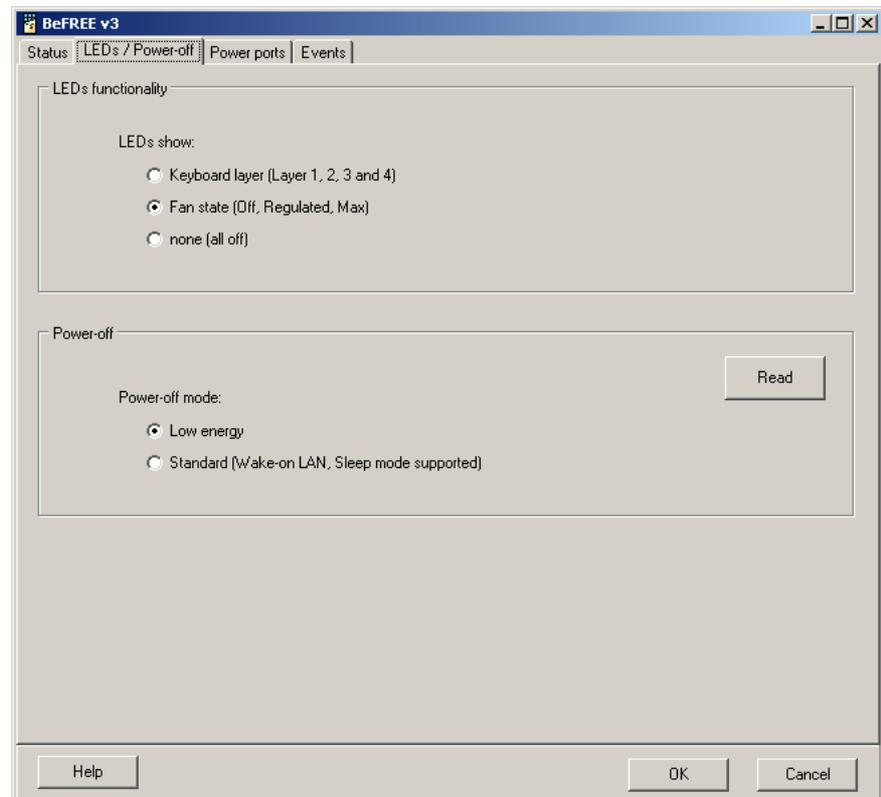
**LCD luminance**

LCD LUMINANCE can be set here. The luminance is set immediately when the bar is moved.

**Touch screen**

Press the **Disable** button to disable the touch screen for 10 to 60 seconds. This functionality is practical for cleaning the touch screen.

## LEDs / Power-off



### LEDs functionality

On the top of BeFREE module there are LEDs. Its functionality is (from left to right):

- *1st LED*:
  - off - the BeFREE is not connected to the power
  - blinking - the BeFREE is connected to the power and is turned off
  - on - the BeFREE is running
- *2nd LED* - hard disk activity
- *3rd LED* - if it is on, then touch screen is disabled
- *4th LED* - if it is blinking, then the LEDs from 5th to 8th show the error code
- Functionality for 5th, 6th, 7th and 8th LEDs can be customized.

Four right most LEDs can show the following information:

- A LAYER THE KEYBOARD IS IN:
  - Layer 1 - 5th LED is on
  - Layer 2 - 6th LED is on
  - Layer 3 - 7th LED is on
  - Layer 4 - 8th LED is on

- FAN STATE:
  - fan is not running - all four LEDs (from 5th to 8th) are off
  - fan is running - 5th and 6th LEDs are on
  - fan is running at maximum speed - all four LEDs are on
- NONE:
  - all four LEDs are always off

### **Power-off**

The Power-off mode can be:

- LOW ENERGY or
- STANDARD (WAKE-ON LAN AND SLEEP MODE SUPPORTED).

The LOW ENERGY mode turns everything off in power-off state.

If you want to enable wake-on LAN or use a Sleep mode, then the power-off mode must be set to the STANDARD option.

## Power ports

Here you can turn on and off switches of the powered ports. The switches change states when the buttons are pressed.

The current values of switches can be read by clicking on the **Read** button.

The initial values (when the BeFREE is started) of switches can be set by clicking on the OK button and updating the whole configuration.

---

Note: The configuration must be updated in order to set initial values.

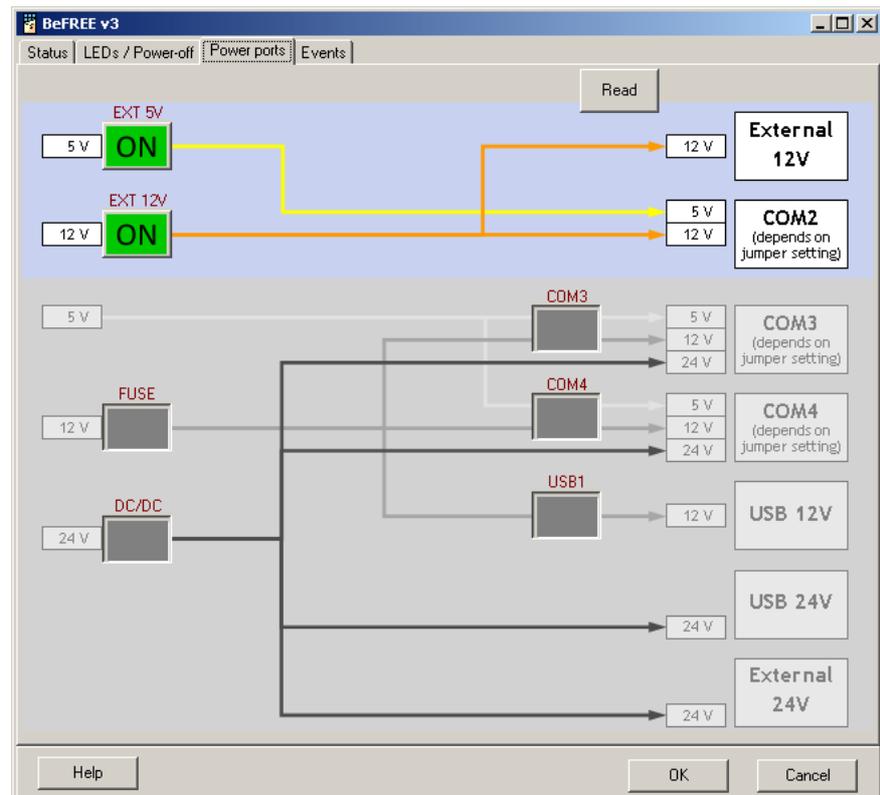
---

Standard power ports:

- EXTERNAL 12V
- COM2 can be powered by 5V or 12V. It can be chosen by setting a jumper inside the BeFREE module.

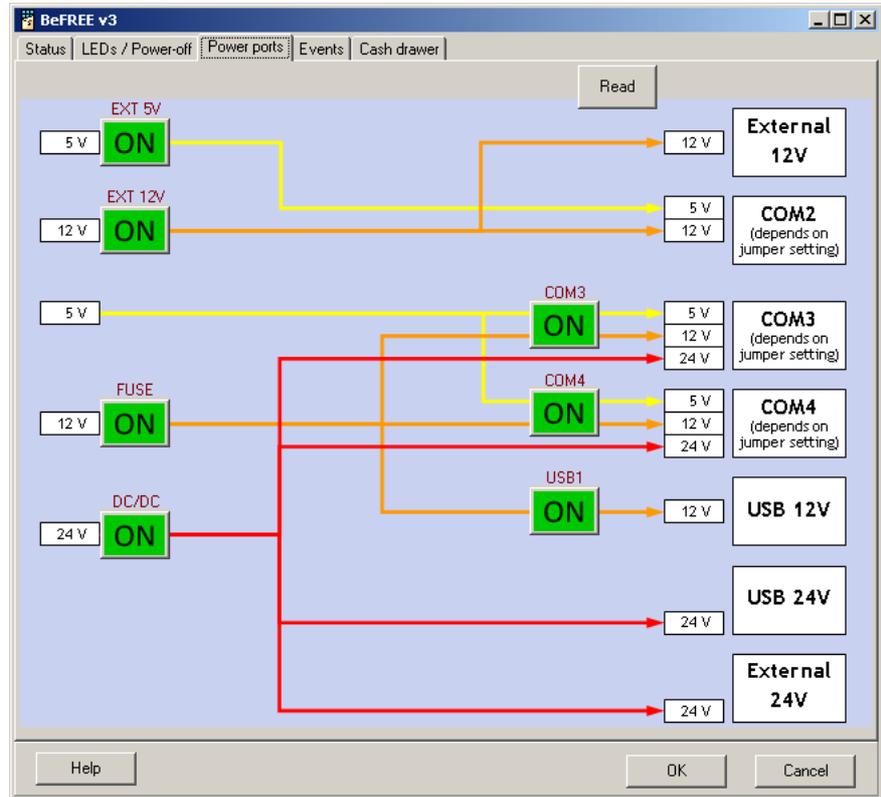
Power switches:

- **EXT 5V** turns on/off 5V on COM2.
- **EXT 12V** turns on/off External 12V and 12V on COM2.



On the powered version of BeFREE there are more power ports to be controlled.

The following diagram shows how switches are connected:



Additional power ports on the powered version of BeFREE:

- COM3 can be powered by 5V, 12V or 24V. It can be chosen by setting a jumper inside the BeFREE module.
- COM4 can be powered by 5V, 12V or 24V. It can be chosen by setting a jumper.
- USB 12V
- USB 24V
- EXTERNAL 24V

Power switches:

- **FUSE** turns on/off the 12V on COM3, COM4 and USB 12V.
- **DC/DC** turns on/off the 24V on COM3, COM4, USB 24V and External 24V.
- **COM3** turns on/off the 5V and 12V on COM3 port.
- **COM4** turns on/off the 5V and 12V on COM4 port.
- **USB1** turns on/off the 12V on USB 12V port.

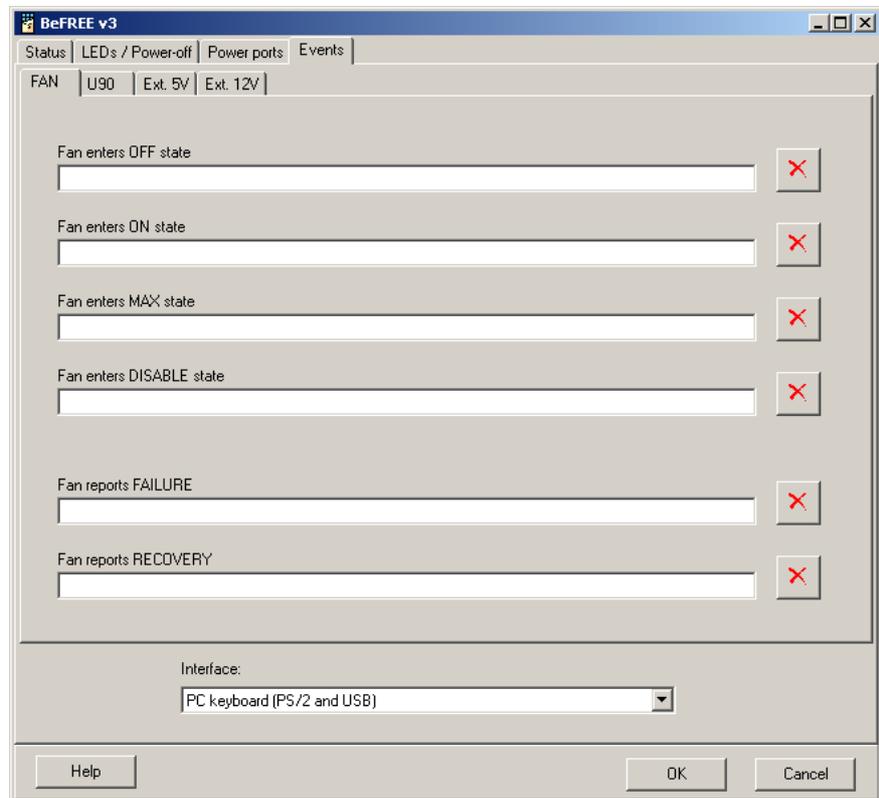
## Events

An event sends its content to a system when the BeFREE enters the specific state.

Events on standard version of BeFREE:

- FAN - fan events:
  - cooling fan OFF (not running)
  - cooling fan ON (with regulation)
  - cooling fan at max-speed (100%)
  - fan-control disabled (running at 100%, without regulation)
  - cooling fan failure detected
  - cooling fan auto-recovery from failure
- U90 - USB events:
  - USB failure detected
  - USB auto-recovery from failure
- EXT. 5V - events about the 5V switch:
  - EXT-5V switched off because of failure (OC)
  - EXT-5V switched on via MID-message
  - EXT-5V switched on using AUTO-restore
- EXT. 12V - events about the 12V switch:
  - EXT-12V switched off because of OC-failure
  - EXT-12V switched off because of FBO-failure

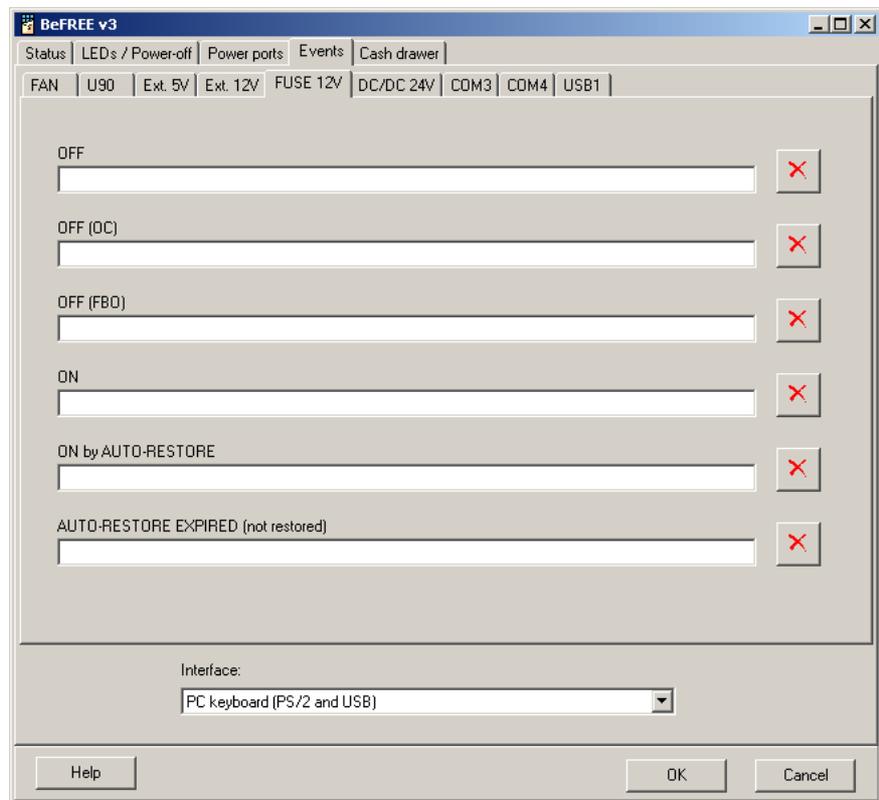
- EXT-12V switched on via MID-message
- EXT-12V switched on using AUTO-restore



The powered version of BeFREE has additional events:

- FUSE 12V - events about the FUSE 12V:
  - FUSE-12V is off
  - FUSE-12V is off, because of OC
  - FUSE-12V is off, because of FBO
  - FUSE-12V is on
  - FUSE-12V is on, by auto-restore
  - FUSE-12V auto-restore expired (not restored)
- DC/DC 24V - events about the DC/DC:
  - DC/DC-24V is off
  - DC/DC-24V is on
- COM3 - events about the power supply of COM 3:
  - COM3 (12/5V) power-supply is off
  - COM3-12V power-supply is on
  - COM3-5V power-supply is on

- COM3 power-supply error
- COM4 - events about the power supply of COM 4:
  - COM4 (12/5V) power-supply is off
  - COM4-12V power-supply is on
  - COM4-5V power-supply is on
  - COM4 power-supply error
- USB1 - events about the power supply of USB port
  - USB1 power-supply is off
  - USB1 power-supply is off, because FUSE-12V is off
  - USB1 power-supply is on



## Cash drawer

Note: The powered version of BeFREE has the connector for the cash drawer. So the Cash drawer tab is shown on the powered version of BeFREE only.

The screenshot shows the 'BeFREE v3' software interface with the 'Cash drawer' tab selected. The window is divided into several sections:

- Status:** Displays the current time (11:49:09) and state (CLOSED or not connected). It includes a 'Read' button and two 'Open Cash drawer' buttons (1 and 2).
- Security:** Contains a checked 'Enabled' checkbox. It is further divided into two sub-sections:
  - Cash drawer is open:** Features a 'Timeout in minutes [1 - 255]' spinner set to 2, a 'First warning' text field containing 'Beep', and a red 'X' button.
  - Cash drawer is still open:** Features an 'Interval in seconds [1 - 255]' spinner set to 20, a 'Repeated warning' text field containing 'Beep', and a red 'X' button.
- Interface:** A dropdown menu currently set to 'PC keyboard (PS/2 and USB)'.

At the bottom of the window are 'Help', 'OK', and 'Cancel' buttons.

### Status

Press the **Read** button to read the cash drawer state. It can be:

- CLOSED OR NOT CONNECTED,
- OPEN.

Press the **Open Cash drawer 1/2** button to open the connected cash drawer.

### Security

The BeFREE can warn you if a cash drawer is open. There can be defined the first warning and the repeated warning.

Check the ENABLE (WRITE AT UPDATE) check box to enable the security feature of cash drawer.

#### **Cash drawer is open - first warning**

The TIMEOUT IN MINUTES defines time from opening the cash drawer and sending the first warning. The FIRST WARNING content can be defined as Beep or/and any content send to the system.

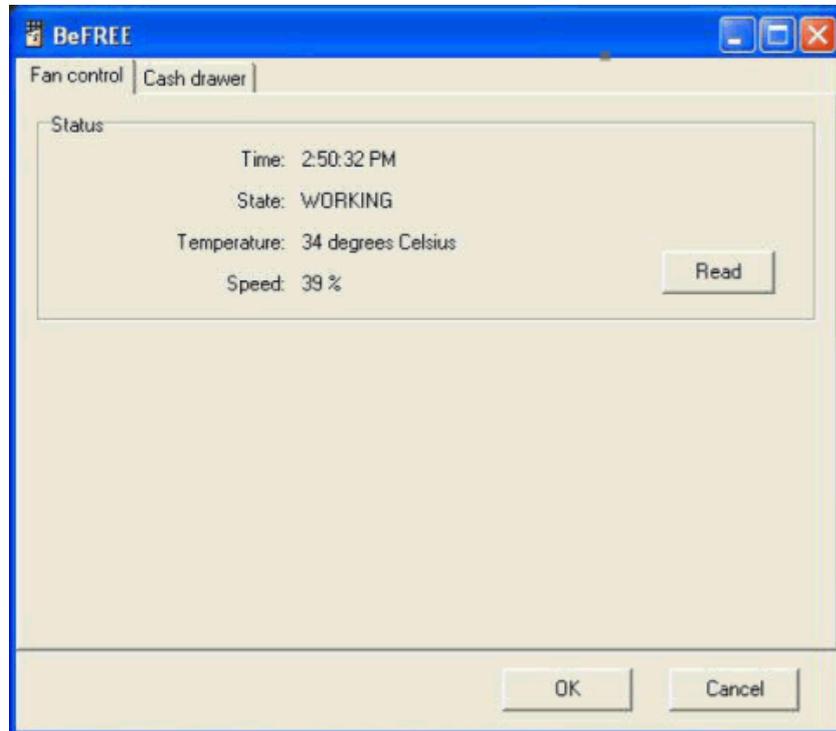
#### **Cash drawer is still open - repeated warning**

The INTERVAL IN SECONDS defines interval in which the repeated warnings are send from the first warning, if the cash drawer is still open. The REPEATED WARNING content can be defined as Beep or/and any other content send to the system.

Select the INTERFACE of the warnings.

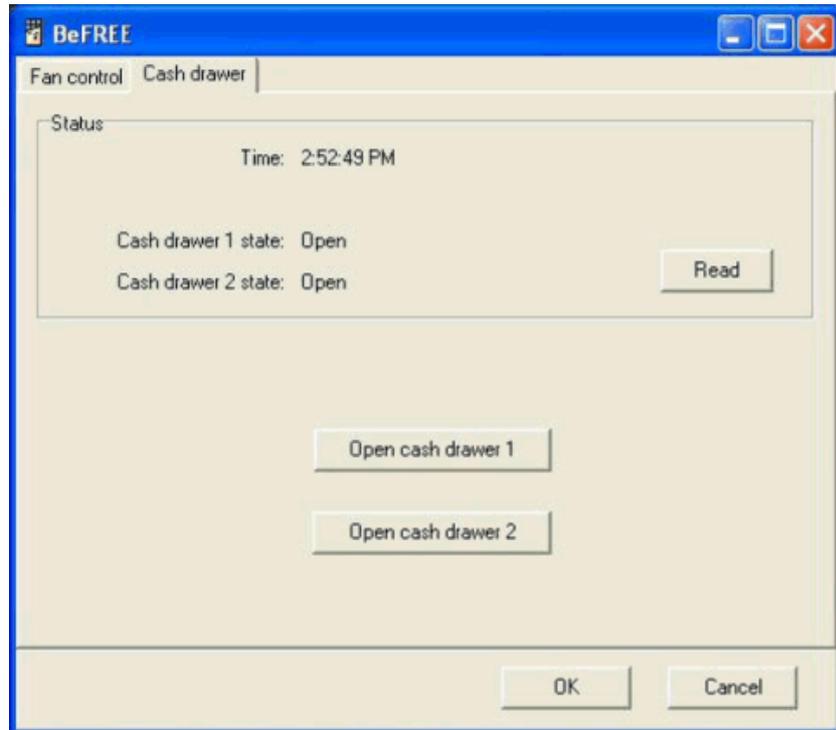
## BeFREE (Celeron and Core2Duo based)

### Fan control



The Fan control window is just for information purposes. Press on "Read" to get the air temperature inside BeFREE and the relative fanspeed.

## Cash drawer



The Cashdrawer window is used for testing the cashdrawer port.

---

NOTE: Although the window is shown for all versions of BeFREE, it functions just for Powered BeFREES, which have a cashdrawer port.

---

Press the **Read** button to get the current status of the drawer(s). In case no cashdrawer connection is present (standard and fanless BeFREE) the status *Open* is shown.

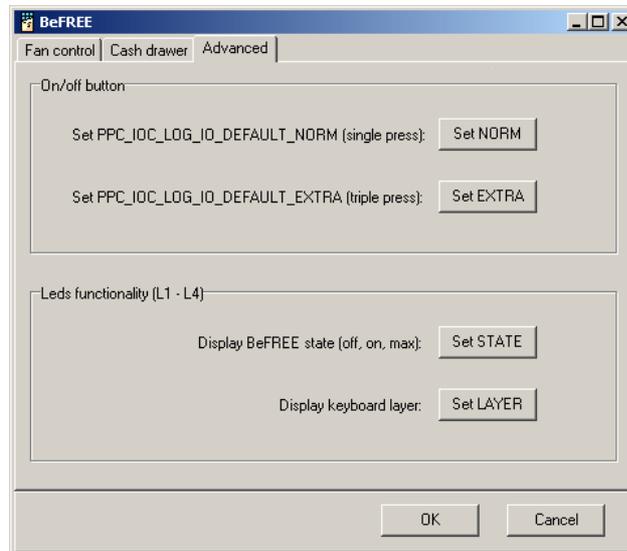
On the Powered BeFREE the status is *Closed or not connected* when no cashdrawer is present or when it is connected and closed. The Status is *Open* when the drawer is open. Use the buttons below to test opening the drawer.

---

NOTE: Since the connector allows for only one open/close signal, the signal for both drawers is combined. So if either one of the drawers is open both Drawer 1 and Drawer 2 indicate open.

---

## Advanced



Normally this tab is hidden since there is a risk of not being able to start the BeFREE again if this is set by mistake.

To show this tab you have to go to ChangeMe's "debug mode" by pressing the keys **Ctrl + Backspace** at the same time when in the main window. You will see 2 extra menu items in the menu bar: Extended Tools and Debug.

When you now click on the BeFREE icon again you will see the extra **Advanced** tab.

### On/off button

Advanced ON/OFF is a feature to protect the system against accidental and unauthorized turning on or off.

To turn the BeFREE on or off when in this mode, the user needs to press the power button 3 times in a fast sequence.

**Set EXTRA** sets the Advanced ON/OFF feature.

**Set NORM** restores the ON/OFF configuration to normal, default behavior

---

Testing: The best is to test this feature before turning off the system!

---

### LED functionality

The BeFREE LEDs on the top of the frame labeled L1 to L4 can show:

- the state of BeFREE fan control (default) or
- the current layer of Tipro controller.

The status of the fancontrol has the following meaning:

- L1 - Fan control is off
- L2 - Fan control is working, fanspeed is relative to temperature
- L3 - Temperature is over maximum, fan at 100%. Serious damage might occur!
- L4 - Error on fan control

Choose **Set State** to show the fan status on the LEDs L1 – L4.

Optionally you can also display the current layer of the Tipro controller, as is displayed on Tipro keyboards. To do this press the button **Set Layer**.

---

## Advanced Techniques

### Import text

To copy key contents from one module to another you can use the IMPORT TEXT feature.

Right click the module you want to import key contents to and select *Import Text*

Use this when you have identical modules in different configurations.

Program the module once and *export* the key contents of this module.

Next, in new configurations import the saved contents.

When the imported contents file is of different dimensions then the module you are importing to, two things can happen:

- The imported file is larger than the current module: Keys outside the current module will be ignored and not imported
- The imported file is smaller than the current module: All keys are imported and the remaining keys are cleared.

Import always starts at the upper left corner.

If you want the import to start at a different position, see *default contents*

---

A few contents files are supplied in the folder "Predefined", for instance "numpad.mtx" with a predefined numpad section.

---

### Export text

Export key contents from a module you want to re-use in another configuration. Exported text can later be *imported* .

➤ *to export:*

- 1 Program the keys of the module you want to export.
- 2 Right click the module you want to export and choose *Export Text* .
- 3 The format of the generated file is described *here* .

## Default contents

You can import key contents starting from the selected key. Right click the desired key and choose *Load default content*

Choose the file where the predefined contents is stored. This can be an earlier *exported* file.

To import less keys than the module contained that the export file was created from, you have to manually edit the file.

Open the file, with extension `.mtx`, in a text editor and delete the keys you don't want to import.

A description of the file format can be found *here* .

## Text file format

Exported key contents is saved in the MID/FREE export text file format (filename.mtx). This format is used not only by exporting and importing key contents but also by reading the definition of fixed keys (e.g. QWERTY module).

Here is listed an example of exported text file:

```
A1/S/CT/A++++/C++++/F+---/~1~{F1}~~~!~1~~~
A2/S/CT/A++++/C++++/F+---/~2~{F2}~~~@~2~~~
A3/S/CT/A++++/C++++/F+---/~3~{F3}~~~#~3~~~
A4/S/CT/A++++/C++++/F+---/~4~{F4}~~~$~4~~~
A5/S/CT/A++++/C++++/F+---/~5~{F5}~~~%~5~~~
```

Every following line consists of key definition (describing the first line):

A1 : coordinate of the key (left-hand upper key)

S : single key (C = Custom key, Q = Quadruple, etc.)

CT : content key (S2 = Shift to layer 2 etc.)

A++++ : autorepeat: key has in all layers autorepeat function

C++++ : key click function: key has in all layers click function

F+--- : fixed layers: layer 1 and 2 are fixed, 3 and 4 are programmable

~1~{F1}~~~ : 4 contents, separated by ~

content 1 is letter 1,

content 2 is key F1,

contents 3 and 4 are blank,

\*\*\* all contents are described in the US English layout and are translated when importing;

~!~1~~~ : 4 labels, separated by ~

label 1 is letter !,

label 2 is letter 1,

labels 3 and 4 are blank.

## Load content from keyboard

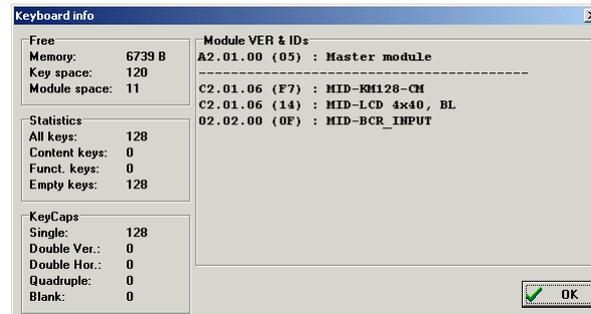
Use LOAD CONTENT FROM KEYBOARD to get the definition from an already programmed configuration.

---

## CHAPTER 7

### Keyboard Info

At menu **KEYBOARD > Info** a summary is given about the status of the connected configuration.



**Module VER & IDs** shows The version of the Controller (Master module) and lists the different modules in the configuration.

The ID's and the names of the modules are listed.

**Free:** listed is:

- how much memory is still available, in Bytes.
- How many keys could still be added when adding another module.
- How many modules can still be added to the configuration.

---

## Rollover

### What is rollover

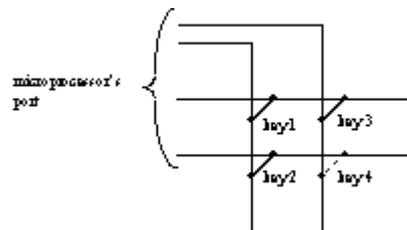
Sometimes, when three or more keys are pressed at the same time, the microprocessor in the Controller detects that also an extra -fourth- key was pressed. This is the so-called *Ghost Key*, and the situation when this happens is called **rollover**. Since the keyboard cannot know which specific key combination was used (could be any combination of 3 out of these 4 keys, or all 4) it reacts as if an illegal condition has occurred. The Controller warns the user with a beep and doesn't send a code to the system.

## How does it occur

It has to do with the architecture of a keyboard.

The terminals of each key are connected to the microprocessor. When the key is pressed the processor detects that 2 signals are linked together.

On the following figure you can see the situation when 3 keys, which are connected to the same processor's port, are pressed at the same time. From the processor's point of view it is the same as if the 4<sup>th</sup> key was pressed as well (dashed line).



Because of the design of the keyboard, multiple keys are pressed when you press an extra-sized key (2 for double, and 4 keys for a quadruple)

The matrix modules are designed in such a way that no rollover will occur with an extra-sized key. The quadruple key can be placed anywhere on the keyboard.

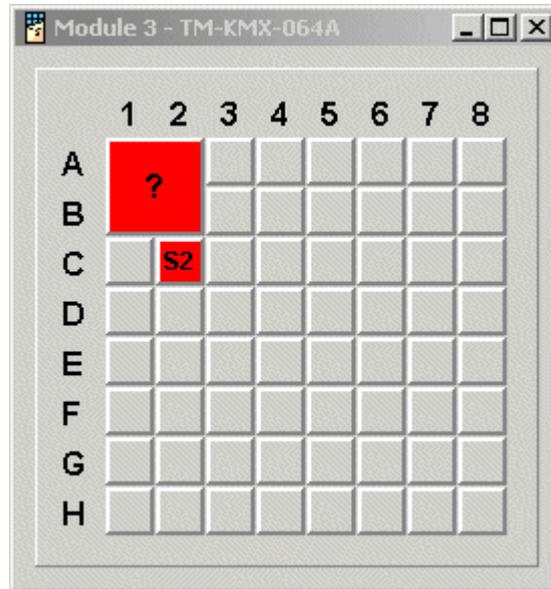
The only time when rollover can occur is when an extra-sized key is combined with another key, normally a *shift to layer* key.

ChangeMe will **detect** these situations and warns the user.

The data can only be downloaded to the keyboard when there is no rollover.

## What to do when it occurs

An example of rollover:



ChangeMe shows that rollover occurs by changing the color of the keys involved. Also the problematic quadruple key is showing a question mark.

Key **A1** is a quadruple key with contents, **C2** is programmed as shift to layer 2.

Rollover will occur when both keys are pressed at the same time.

Three things can be done to solve the rollover:

- Move the quadruple key to another location
- Move the shift to layer key
- Change the size of the quadruple key.

---

## FileTypes

List of Filetypes used by ChangeMe and their -short- description

|      |   |
|------|---|
| .lay | Lay files contain all content and settings of the keyboard. It is the only file that ChangeMe needs to know the content of a configuration.                                       |
| .cov | Cov files contain data needed for the Print labels utility (but not LabelMe!) – colors, text, and fonts of the key labels. It is only used for MID.                               |
| .bin | Bin file is a binary file downloaded to the keyboard – it is used only for batch downloading.   |
| .txb | Txb file is an xml file that contains all content and settings of the keyboard. It is used for updating a configuration by Libero utility that runs on various operating systems. |

## CHAPTER 8

# Printing

ChangeMe provides printing utility **LabelMe** used with the FREE/FREE+ family.

For MID family you have to install MIDWIN and use **MID printing utility**.

The difference is in the output. The key size is different.

## In This Chapter

|                         |     |
|-------------------------|-----|
| FREE/FREE+ family ..... | 145 |
| MID family .....        | 146 |

---

## FREE/FREE+ family

To print labels to be placed under transparent keycaps for FREE/FREE+ keyboards, use **LabelMe**.

This is a separate utility and has its own helpfile. Refer to that helpfile for details.

LabelMe is designed to print on special pre-cut paper. Labels can be imported from ChangeMe with **FILE > Print with LabelMe**, or you can start with a blank file and create your labels.

Imported labels can be edited. Also bitmaps can be added.



- 3 The Draft button starts printing of the complete keyboard layout on single page. Since all single, double and quadruple keycaps are visible on the same sheet, this feature is very useful for layout design and verification. The drawback of such printout is disproportional size of double and quadruple keycaps. Therefore it should not be used for final labels assembling.
- 4 The option Print preview enables you to see the printed layout before printing.
- 5 Only labels on one module can be seen at once. You can change the visible module with keys in the upper row.
- 6 Each key can have up to 4 different labels printed on the inserted paper. You can set different font type, text and background color, font style (bold, italic and underline), alignment and font size for each label separately. Font size can be set automatically to maximum (check the Autosize field) or manually. Font size cannot be bigger than the one that fits onto the key label. For the background color also a custom color could be selected.

To change the key label properties first click on the selected field (if the keycap size is bigger than single keycap you should click the upper left-handed corner) and then change the text, color and other text properties.

## Security

**IMPORTANT:** use the right mouse button to select multiple keys!

If you have a USB controller you can use security features for your keyboard.

---

## Introduction

### Security

Security enables the following features:

- the user can have a restricted keyboard access - some keys can be disabled for him/her
- some key combinations can be disabled - like Control+Alt+Delete

### Security Levels

A configuration can have up to four Security Levels.

Security level tells when the key is enabled - from which security level on it is enabled:

- If a key is set to Security Level 0, it is always enabled - in all Security Levels
- If a key is set to Security Level 1, it is disabled in Security level 0 and enabled in other three
- If a key is set to Security Level 2, it is disabled in 0 and 1 and enabled in 2 and 3
- If a key is set to Security Level 3, it is disabled in all Levels except in Level 3

---

Note: Layer and Security Level are independent. They shouldn't be mixed. A key can have up to four Layers with different contents. A key can be set to one of four Security Levels.

---

See SECURITY > SET KEYS TO SECURITY LEVEL for details how to set a security level for a key.

### Log on procedure

Press the LogOn key. Type a password.

### Log off procedure

Press a key with programmed LogOff sequence.

---

## Security wizard

There is an easy way to set up security features. This is by using the security wizard. It will assist you through the following steps:

- 1 Choose the module you will use to log on (Keyboard, iButton or KeyLock).
- 2 If a keyboard was chosen, you have to set the password length.
- 3 Define passwords for each security level.
- 4 If logging is implemented on keyboard module, you have to define log on and log off key.
- 5 Define keys that are enabled in each security level.

You can also define key combinations that are disabled in certain security level. Go to menu *Security > Protected key combinations*

---

## Advanced techniques

The easiest way to define security is using *Security wizard* .

Here are described some advanced techniques to set security options.

## Key module

### A. Set passwords

All passwords have to be of the same length.

See *Edit passwords* for details about password types and how to set it.

### B. Set LogOn and LogOff key

The LogOn key is used to log on: keyboard expects the password to be entered after pressing the key.

The LogOff key is used to return to Security Level 0.

See also *Security > Set LogOn key*

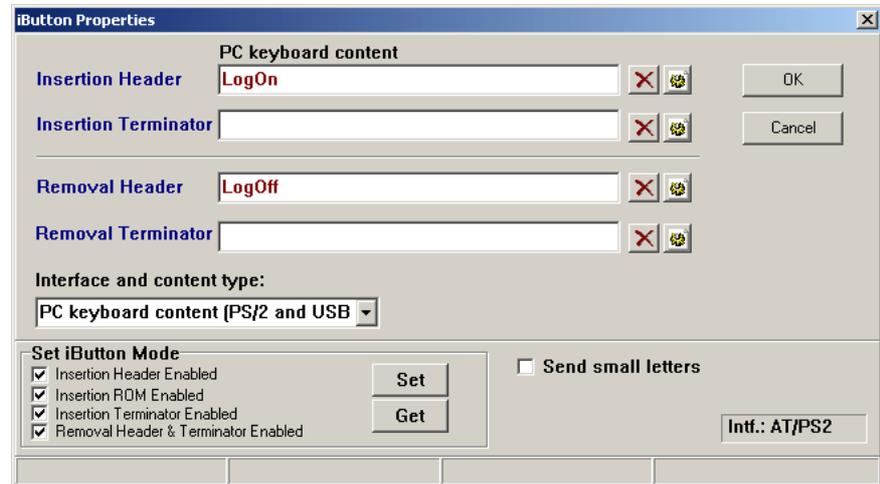
## iButton

Security can be defined on iButton module. So a user can log on by inserting his iButton key and log off by removing it. Here it is described how to configure the iButton module.

### A. Configure iButton module

- 1 Open iButton window by clicking on iButton module.
- 2 Set LogOn sequence as INSERTATION HEADER by clicking on 
- 3 Set LogOff sequence as REMOVAL HEADER by clicking on 

Note: **Interface and content type** must be set to **PC keyboard content (PS/2 and USB)**



## B. Add passwords

Each iButton key has its own code. This code has 12 digits in hexadecimal format. So the password type should be set to *ASCII* and password length to *12*. Then you can add passwords for each Security Level. See SECURITY > EDIT PASSWORDS for details.

# KeyLock

KeyLock module can be used for log on. Here it is described how it has to be set.

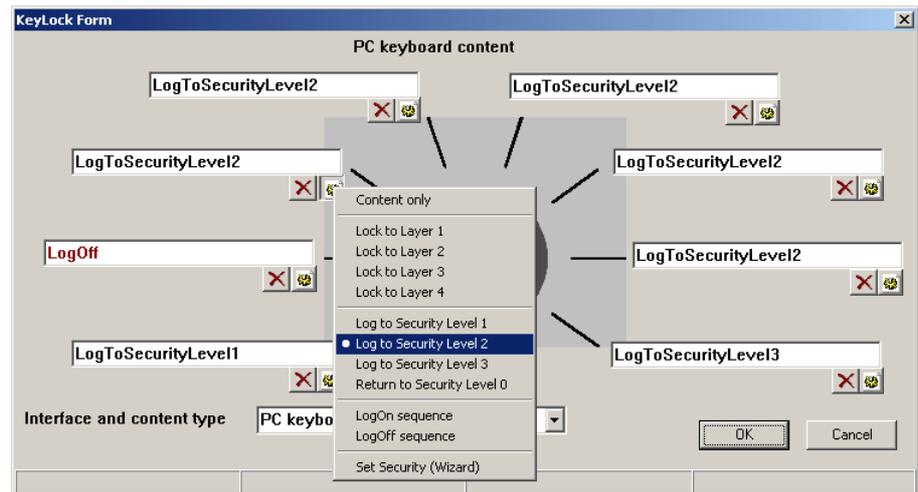
## A. Set password type and length

- 1 Open **Edit passwords dialog** .
- 2 If password type/length was previously set, press **Change** to enable editboxes.
- 3 Set **Password type** to KEY PASSWORD.
- 4 Set **Password length** to 1.

### B. Set Security Levels for individual KeyLock position

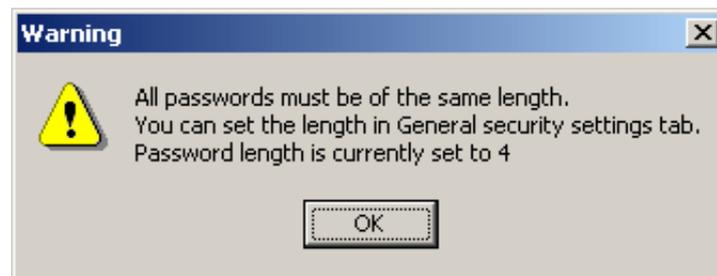
By clicking the  button you can define Security level for each KeyLock position.

Note: **Interface and content type** must be set to **PC keyboard (PS/2 and USB)**.



RETURN TO SECURITY LEVEL 0 command is actually a **LogOff** sequence.

If the following Warning dialog appears, the password type and/or length have to be set. See above.



# Settings / Options

There are different settings that change the behavior of the program.

Some are visual, like settings for the **toolbutton's captions** and the **key preview**.

Others change the interpretation of input or the default settings.

The last category changes the way that ChangeMe communicates with the attached configuration

## In This Chapter

|                    |     |
|--------------------|-----|
| Visual .....       | 153 |
| Input .....        | 153 |
| Default.....       | 154 |
| Communication..... | 154 |

---

## Visual

In menu **OPTIONS > PREFERENCES > CHANGEME** you can set the following visual options:

- show key preview
- show toolbutton's caption

---

## Input

The first thing to set for the input is the correct layout of your keyboard. This can be done under **OPTIONS > PREFERENCES > KEYBOARD SETTINGS** .

---

## Default

In *Options > Preferences > Keyboard settings* you can set how many layers can be programmed per key. The maximum is four.

You can choose the default click behavior in *OPTIONS > PREFERENCES > ADVANCED KBD SETTINGS*

---

## Communication

Choose the programming interface -USB, PS/2 or RS232- in *OPTIONS > COMMUNICATION PORT* .

---

This is the port used for programming your configuration. The interface used when a key is pressed is set in the contents dialog (see *interface* )

---

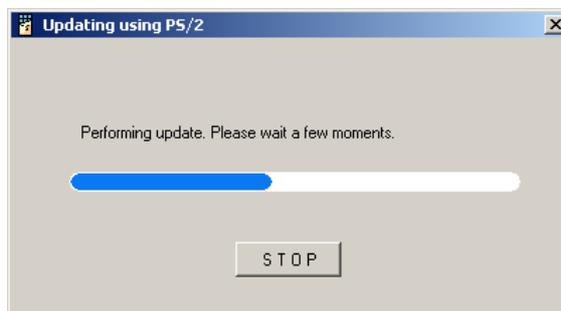
The default port, the one that is used to check for a connected FREE/FREE+ configuration when ChangeMe starts, can be set under: *Options > Preferences > ChangeMe* .

The baud rate with which the keyboard will send its RS 232 contents can be set in *Options > Preferences > Keyboard settings* . (This can be a different one than the programming interface)

In this menu you can also set the **interbyte delay**. This is the delay between each byte sent to the computer.

# Automatic update (using parameters)

Keyboard content can be updated automatically if ChangeMe is run with the path to the lay file as parameter (we recommend to put the name of the lay file between double quotes) and parameter -AUTO is added. The port used for updating can also be specified by adding parameter USB, PS2 or COMx (where x is the number of COM port). If no port is specified, default port from the ChangeMe.ini file is used.



### Program call syntax:

```
[Program name] [Layout file name] [PORT] -AUTO
```

Program name is ChangeMe.exe with full path

Layout file name is the name of the file to be downloaded (LAY file)

PORT is optional and defines the communication port which is used for downloading. If not specified then the default port from the ChangeMe.ini is used. Can be: USB, PS2 or any of the COMx ports (COM1, COM2, ..., COM32)

### Example:

```
C:\Tipro\MID4\ChangeMe.exe "D:\temp\test.lay" PS2  
-AUTO
```

updates the keyboard with D:\temp\test.lay via PS/2 port and closes ChangeMe after download.

### Additional parameters:

- [MTX file name]
  - An MTX file contains information about the content of one module. It is a text file and can be manually edited or created by an application. If an MTX file name is placed as parameter, then it is loaded into the first module in the configuration.

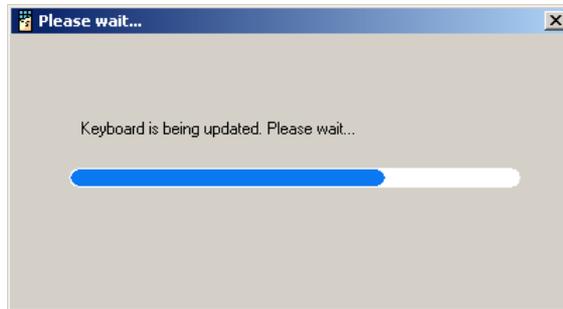
---

Note: There must be specified also a LAY file name of current configuration beside the MTX file; e.g. C:\Tipro\MID4\ChangeMe.exe "D:\temp\test2.lay" "D:\temp\kbd.mtx" USB -AUTO

---

- -NOINTERACTION
  - No user interaction: The application cannot be closed during the update.
  - ChangeMe returns an error code. If it is 0, the update was successful; otherwise not.

- example: `C:\Tipro\MID4\ChangeMe.exe`  
`"D:\temp\test.lay" COM1 -AUTO -NOINTERACTION`





## CHAPTER 10

# How do I ?

Some specific tasks are explained here.

If you are looking for answers to some problems you might have, please check the *FAQ* section (Frequently Asked Questions)

## In This Chapter

|                               |     |
|-------------------------------|-----|
| Program special contents..... | 159 |
| Change national layout.....   | 161 |
| Click and autorepeat.....     | 162 |
| Program through COM port..... | 162 |
| Program shortcut keys.....    | 163 |

## Program special contents

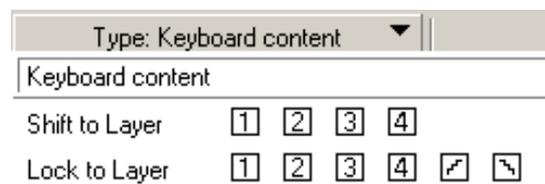
This chapter explains how to program some special contents like delay or beep and how to program a multiple layer key.

### Multiple layer key

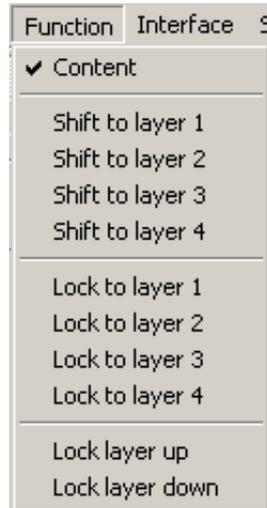
Each key can have up to 4 layers of content defined. Depending on which layer the keyboard is in (visible by the LED's L1-L4) different contents can be sent to the system.

To access different layers –at least – one key has to be programmed to change layers.

It can be done from the toolbar:



or from the FUNCTION menu:



**Shift to layer** works like a shift, control or alt key; it has to be pressed together with a content key.

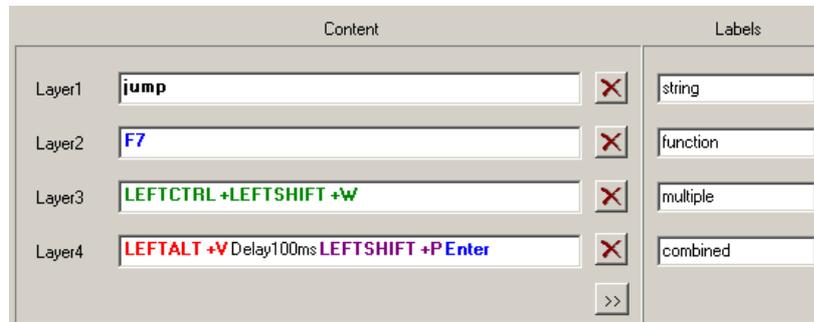
**Lock to layer** works like a Caps lock key; after pressing it, the keyboard stays in that layer till another lock to layer key is pressed.

---

Note: pressing a Shift to Layer key while being locked to a layer will also change the layer. In fact, by default the keyboard is locked to layer 1.

---

The different layers of the keys can now be accessed.



After programming, when this key is pressed it will send the string `jump` to the system.

Pressing a shift to layer 2 key together with this key will send `F7` to the system.

The same key pressed after a lock to layer 4 was pressed sends `Alt-V` and then, after a 100ms delay, `P` and `Enter`.

## Beep and delay

You can program Beep and Delay by right-clicking in scanline. The context menu shows:



Now you can choose beep, short or long delay.

---

Note: if you want to send Beep for success or failure, the interface must be PC keyboard (AT/PS2 or USB)

---

---

## Change national layout

In menu: OPTIONS > PREFERENCES, KEYBOARD SETTINGS, you can change the layout of the keyboard.

Since the keyboard sends IBM codes, different contents can be sent when a different layout is selected.

### example:

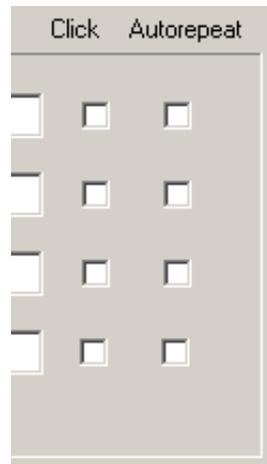
---

"y" pressed on a US keyboard will send "z" when pressed on a German keyboard. This means that a key programmed to send "y" with US layout will actually send "z" when the layout setting is changed to German.

---

---

## Click and autorepeat



When click is selected the key will give a clicking sound when pressed.

The default setting can be changed in menu:  
OPTIONS > PREFERENCES, ADVANCED KBD SETTINGS.

Autorepeat defines if the key will repeat to send its contents when the key is pressed for a longer time.

---

## Program through COM port

When you want to communicate with Tipro modules through RS232 instead of PS/2, you have to change the following settings:

In menu: OPTIONS > COMMUNICATIONS PORT select the port your cable is connected to.

The statusbar will show in the lower right corner what interface is currently used. (You can also double click here to change the interface)



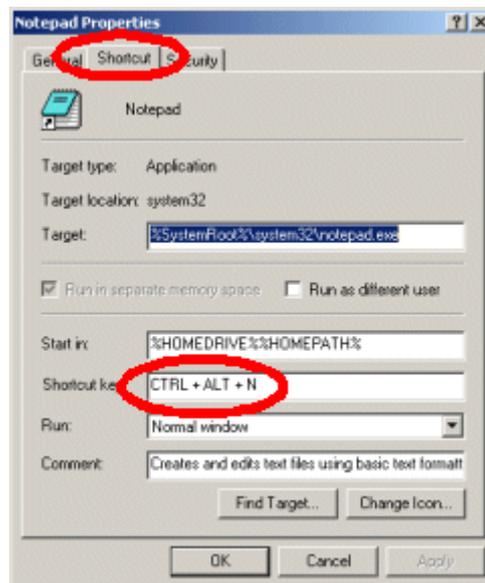
Tip: When you have problems using ChangeMe on a notebook, connect the FREE/FREE+ configuration to the COM port. You can set the default port in the *preferences* to your COM port.

In ChangeMe versions 4.0.x do the following: Run ChangeMe with commandline option `-com`. This way autodetection will look only at the COM port, not at the PS/2 port. `START > RUN`, type: `"C:\Tipro\MID40\ChangeMe.exe -com"` (or change the path when you installed in a different directory)

**Note:** Keep PS/2 connected, this is needed for the power supply.

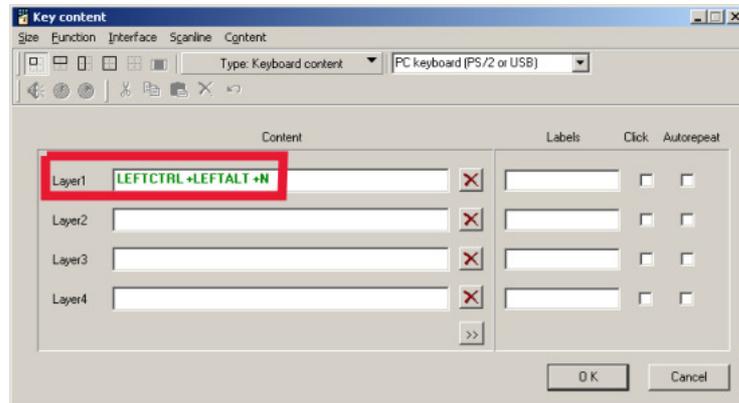
## Program shortcut keys

- 1 Press right mouse button on icon of the program that you want to make shortcut key for
- 2 Choose Properties
- 3 Under Shortcut tab, there is a field called Shortcut key (see picture), click it and press the desired combination of keys (`Ctrl+Alt+N` for Notepad in our example)



- 4 Press **OK** button
- 5 Start **ChangeMe** utility
- 6 Your programmable keyboard should be detected automatically
- 7 Press the button that represents the key
- 8 Key content requester will show up

- 9 Set the content of layer1 to the same key combination you set before (see picture)



- 10 Press **OK**
- 11 Press **Update** to update the keyboard with new content
- 12 Close ChangeMe and try to press the key. Notepad should start.

There are two ways to accomplish this.

The first option is to use shortcuts. These can be Windows shortcuts, like Win+E to open explorer, or defined by you. See *program shortcut keys*

The other option is to use the Windows shortcut for running programs (Win+R) and then supply the path to your executable, followed by enter.

---

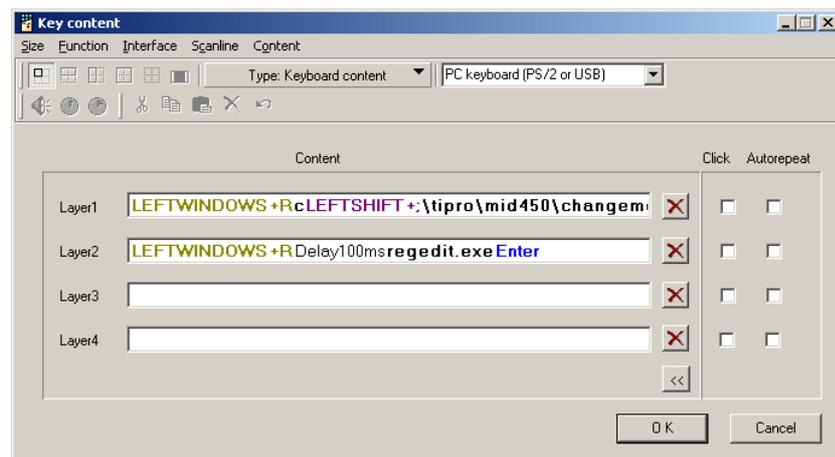
Note: Sometimes you need to put a *delay* between Win+R and the path.

---

Example:

To start ChangeMe with a key:

Press the Win (GUI) key +R followed by  
C:\Tipro\MID450\ChangeMe.exe and end with Enter.





## CHAPTER 11

## FAQ

## In This Chapter

|  |     |
|--|-----|
| FREE/FREE+ and Operating Systems.....  | 167 |
| Where can I get pre-cut paper to print labels on? .....  | 167 |
| Is it possible to map ASCII values to keys?.....   | 168 |
| Is it possible to have Caps Lock 'OFF' on Tipro keyboard and 'ON' on the secondary keyboard?.....  | 168 |
| Can I change the functionality of the keyboard on line during work? .....                          | 169 |
| What is the lifetime of MID or FREE module? .....  | 169 |
| The MCR delivers the data to the host to fast. Is it possible to put in a "Character delay"? ..... | 170 |
| Can I program contents and lock to layer in one key? .....   | 171 |

---

## FREE/FREE+ and Operating Systems

You can **program** keyboards in any Windows system ( 2000, XP, Vista), but you can **use** them also in other systems (Unix, Linux, OS/2, Mac OS...) that support IBM standard keyboards.

---

## Where can I get pre-cut paper to print labels on?

Pre-cut papers for FREE and MID are available in different sizes and different colors.

Please contact your distributor for more information.

---

## Is it possible to map ASCII values to keys?

Yes, just press the ALT key and then ASCII value of the desired character on the numeric keypad.

Example: We want to assign a key to a temperature sign (°). Select the key you want to assign in ChangeMe, press ALT+2+4+8.

---

Note: You need to press numbers on Numeric keyboard! ChangeMe will recognize the keys you pressed and the operating system will translate the sequence to the temperature sign.

---

---

## Is it possible to have Caps Lock 'OFF' on Tipro keyboard and 'ON' on the secondary keyboard?

No, because the keyboard turns LED indicators only on when the PC requests it. The **Caps Lock** indicator is a matter of the PC and the keyboard doesn't "know" whether it is 'ON' or 'OFF'. Let's see what happens if you press the sequence: A, CapsLock, A.

When you press the key 'A', the PC gets a code and prints 'a'.

When you then press Caps Lock, PC gets another code, remembers that Caps Lock is 'ON' and sends request to the keyboard to turn the LED 'ON'.

If you press 'A' again, the PC gets the same code as before (as in case 1), but because PC knows that Caps Lock is 'ON', it prints 'A'.

---

## Can I change the functionality of the keyboard on line during work?

No, this functionality was not incorporated because:

Changing the configuration means also changing the labels. You probably don't want to do that every day.

It is easier to change the application instead of the keyboard. Example from the restaurant: on Monday Menu1=beef, on Tuesday Menu1=chicken... Instead of changing the keyboard, it is more appropriate to define a key 'Menu1', which is in software translated into the daily menu.

---

## What is the lifetime of MID or FREE module?

Mean Time Before Failure (MTBF) is 80.000 hours (More than 9 years if you use it every day, 24 hours a day).

---

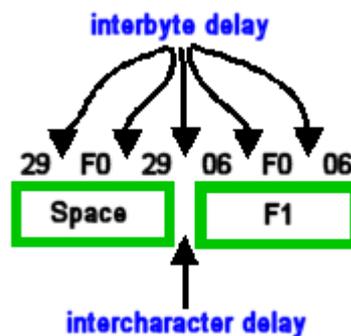
## The MCR delivers the data to the host to fast. Is it possible to put in a "Character delay"?

You can set the speed of sending data toward system in the *Options > Preferences > Keyboard settings* , **Interbyte delay** field. It is set to minimum by default (1ms). You can increase this value to up to 8 ms.

You can also add an intercharacter delay as a part of MCR's headers and terminators. You can define that first track one is sent, then the keyboard waits for 100ms and sends other codes (intercharacter delay could be 100ms or 1s or a sequence of these periods e.g. 1s + 100ms + 100ms ... see also *delay*

example:

If one key has a content of <Space><F1> the following codes are sent:



---

## Can I program contents and lock to layer in one key?

### **If you have PS/2 or RS232 controller:**

No, with a key this is not possible. A key is either a contents key or a shift / lock to layer key.

You can do this with a Keylock. There you can enter contents and shift / lock to layer at the same time.

### **If you have USB controller:**

It is possible. You can program a contents and lock to layer in one key. Lock to layer can be added by right clicking the scanline and selecting SPECIAL CONTENT > LOCK TO LAYER.

See *Scanline's context menu* for details.



# Troubleshooting

## In This Chapter

|  |     |
|--|-----|
| I can't program a Tipro keyboard with a laptop ..... | 173 |
| Error when updating.....                             | 174 |
| I have a RBA module but it is recognized as RAA..... | 174 |
| Verify reports an error.....                         | 175 |

---

## I can't program a Tipro keyboard with a laptop

ChangeMe doesn't work perfectly on many portable computers. The reason is the following:

On a desktop computer, the MID or FREE keyboard is connected directly to the PC and the standard IBM keyboard is connected to the MID / FREE. The keyboards are connected in serial (everything works fine this way). In case of a laptop, the keyboards are connected in parallel. This means that both keyboards (laptop's and MID/FREE) are connected directly to the PC and ChangeMe might communicate with both of them.

A problem might occur when ChangeMe wants to get information from the MID/FREE keyboard and both keyboards answer. If the internal one has the priority, then it will answer with 'I don't understand', because we need to send some non-standard commands towards the MID/FREE keyboard.

### Solution:

- Connect the keyboard to a COM port to program. See *program through COM port*
- Program the keyboard on another computer.

---

You can still use the keyboard on the laptop

---

## Error when updating

Update through PS/2 requires some specific circumstances.

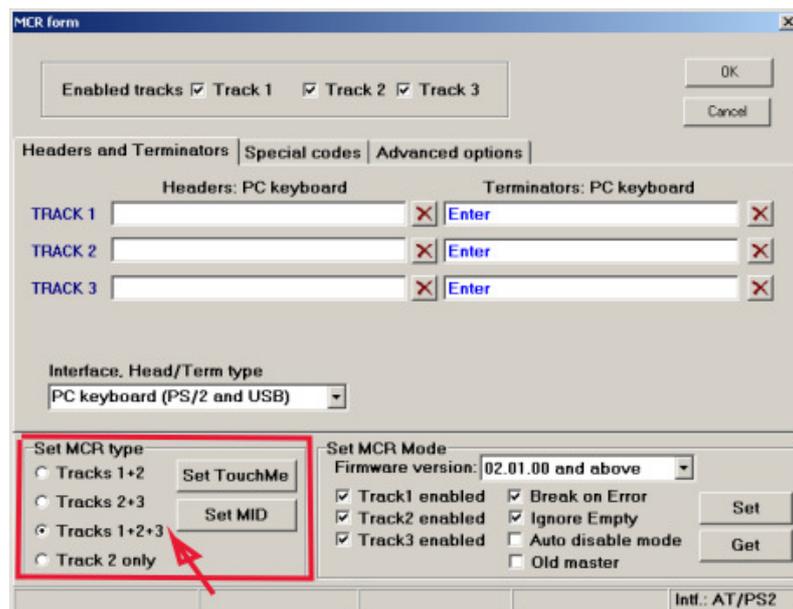
Please make sure that:

- Update is performed on a desktop (not notebook) computer
- Tipro keyboard is not connected directly to the computer via the Tipro PS/2 cable. Update can not work if a KVM switch or some other device like a scanner is connected between the keyboard and the computer
- Applications that disturb the update process are not running. We strongly suggest closing all internet browsers, movie players or any other application that is using Flash or a lot of processor resources.

ChangeMe can detect the known applications that maybe causing the problems and can close them for you. Keep in mind that no data will be saved if ChangeMe closes these applications.

## I have a RBA module but it is recognized as RAA

- 1 Start ChangeMe
- 2 Press (simultaneously) SHIFT+ALT+BACKSPACE to enter the DEBUG mode (this mode is used for troubleshooting and demonstration).
- 3 Open the MCR module. You get the following picture



- 4 In the bottom left side corner, select tracks 2+3 and press **Set TouchMe** for FREE/FREE+ or **Set MID** for MID configuration.
- 5 In the next Autodetect, the module will be recognized as RBA module.

---

## Verify reports an error

Verify means Load content from keyboard & Compare. There could be a problem with reading the contents on your computer. We advise you to do the following:

Press SHIFT+ALT+BACKSPACE. Menu DEBUG should appear.

Choose SET ALL AT/PS2. The keyboard is filled with numbers 1..128

Update (don't Verify) and check whether all the keys are programmed

If everything is OK, update the keyboard with your file.

If something is still not o.k. please contact our *technical support*



# Copyrights and technical support

In this chapter you can find the copyrights and information about technical support.

## In This Chapter

|   |     |
|---|-----|
| Copyright .....                             | 177 |
| Software distribution.....                  | 178 |
| No liability for consequential damages..... | 178 |
| WIN Keys .....                              | 178 |
| Technical support.....                      | 179 |

---

## Copyright

**ChangeMe** Copyright by Tipro keyboards d.o.o.

**FREE™** is a trademark of Tipro keyboards d.o.o.

**FREE+™** is a trademark of Tipro keyboards d.o.o.

**MIDWIN** Copyright by Tipro keyboards d.o.o.

**MID™** is a trademark of Tipro keyboards d.o.o.,

All rights reserved

**IBM®** is a registered trademark of International Business Machines Corporation.

**Windows®** is a registered trademark of Microsoft® Corporation

**iButton®** is a registered trade mark of Dallas Semiconductor

---

## Software distribution

The software that is distributed with **FREE/FREE+** or **MID** is free software and may be used by any number of systems.

Modification of the programs or their resources is strictly forbidden. Any modification of any component of **FREE/FREE+** software is a breach of intellectual property laws in most countries and will be pursued vigorously to the full extent of the law.

---

## No liability for consequential damages

Tipro keyboards and its suppliers shall be in no event liable for any damage (including without limitation, special, incidental, consequential, or indirect damages for personal injury, loss of business profits, loss of business information, or any other pecuniary loss) arising out of the use of or inability to use this product.

---

## WIN Keys

The key marked  is pre-programmed to emulate the Microsoft® Windows® Logo Key found on many standard 'QWERTY' devices that is used to launch the start menu in the Microsoft® Windows® Operating Systems normally marked with the copyright Microsoft® logo. We no longer apply this logo to our keyboards as part of the mandatory approval demands the fixed location of this key and it is felt that this is contrary to our policy of programmability.

---

## Technical support

Your first port of call for technical support for FREE/FREE+ and ChangeMe is this manual, the helpfile and the Troubleshoot on the Internet. The address of the Tipro Technical support web site is:

*<http://www.tipro.net/download/>*

If these sources do not give satisfactory answers, you may contact our technical support by Email or Fax. We endeavor to answer questions within 48 hours (except on holidays, weekends and working free days).

When you have a question about ChangeMe, please also include the following:

- *Version* of ChangeMe
- *Keyboard > Info*
- Operating system that you use
- Kind of computer (desktop/laptop)

### Contact Tipro keyboards

| <u>Via</u> | <u>At</u>  |
|------------|--|
| e-mail     | <i><a href="mailto:support@tipro.si">support@tipro.si</a></i><br>mailto:support@tipro.si |
| Fax        | +386 1/78 88 299   |
| Mail       | Tipro keyboards d.o.o.<br>Ljubljanska cesta 64<br>SI-1290 Grosuplje<br>Slovenia          |



# Index

## 4

- 4.0.4 to 3.0.9 • 18
- 4.1 to 4.0.4 • 17
- 4.2 to 4.1 • 16
- 4.3 to 4.2 • 16
- 4.4 to 4.3 • 16
- 4.5 to 4.4 • 15
- 4.7 to 4.5 • 15

## 5

- 5.3 to 4.7 • 14
- 5.4 to 5.3 • 13
- 5.5 to 5.4 • 13
- 5.6 to 5.5 • 12
- 5.7 to 5.6 • 12
- 5.8 to 5.7 • 11

## A

- a combination of one or more of the above • 85
- a number • 84
- a special function key • 85
- a string • 84
- About... • 27, 62, 179
- Add Module • 22, 25, 33, 78
- Advanced • 115, 135
- Advanced keyboard settings • 44, 154
- Advanced options • 91
- Advanced techniques • 149
- Advanced Techniques • 137
- ASCII (PS/2 and USB) (not for Keyboards) • 88
- ASCII password • 51
- Audio • 107
- Auto Detect • 22, 25, 36, 63
- Automatic update (using parameters) • 155

## B

- Barcode slot reader • 93
- Beep and delay • 96, 97, 161, 165, 170
- BeFREE (Celeron and Core2Duo based) • 133
- BeFREE v3 (Atom based) • 121

## C

- Can I change the functionality of the keyboard on line during work? • 169

- Can I program contents and lock to layer in one key? • 171
- Cash drawer • 131, 134
- Change national layout • 161
- ChangeMe – Overview • 21
- ChangeMe Help • 27, 61
- ChangeMe Preferences • 42, 153, 154, 163
- Channel/Speaker • 119
- Clear Desktop • 25, 35
- Clear Key • 27, 68
- Clear Module • 27, 63
- Click and autorepeat • 162
- Communication • 154
- Communications Port • 23, 26, 36, 41, 154, 162
- Content • 69, 72, 73
- Content Key • 84, 90
- Contents • 97
- Copy Content • 27, 68
- Copyright • 177
- Copyrights and technical support • 177
- Custom codes • 88
- Cut Content • 27, 68

## D

- Default • 154
- Default contents • 137, 138
- Delete Module • 25, 34, 78
- Description • 7
- Desktop • 25, 33, 77

## E

- Edit • 75
- Edit passwords • 26, 47, 150, 151
- Enter contents • 78
- Error when updating • 174
- Events • 128
- Exit • 25, 33
- Export text • 137
- Export Text • 27, 67, 137, 138

## F

- Fan control • 133
- FAQ • 159, 167
- Features • 9
- File • 25, 28
- FileTypes • 30, 32, 144

First look • 22  
FREE/FREE+ and Operating Systems • 167  
FREE/FREE+ family • 145  
Function • 69, 70, 73, 86

## G

General • 19, 77  
General security settings • 49, 51  
Go to Tipro home page • 27, 61  
Go to Tipro support • 27, 61

## H

Handset (standard version) • 100, 102, 103  
Handset and headset events • 109  
Handset and Speakerbox together in  
configuration • 104, 110  
Handset HUA-5A • 102  
Handset with dialpad • 103  
Headers and Terminators • 90  
Help • 61  
History • 8  
How do I? • 159  
How does it occur • 142

## I

I can't program a Tipro keyboard with a laptop  
• 173  
I have a RBA module but it is recognized as  
RAA • 174  
iButton • 97, 150  
Import text • 137  
Import Text • 27, 67, 137  
Info • 25, 37, 141  
Input • 153  
Installation of FREE/FREE+ software • 18  
Interface • 69, 71, 72, 73, 85, 87, 92, 94, 96,  
98, 99, 110, 154  
Interface, Head/Term type • 92  
Introduction • 7, 148  
Is it possible to have Caps Lock 'OFF' on Tipro  
keyboard and 'ON' on the secondary  
keyboard? • 168  
Is it possible to map ASCII values to keys? •  
168

## K

Key Content Form • 69, 83  
Key Context Menu (Right click) • 27, 68  
Key module • 150  
Key password • 54  
Keyboard • 25, 36  
Keyboard Info • 23, 62, 141, 179  
Keyboard settings • 23, 43, 84, 153, 154, 170  
Keylock • 96

KeyLock • 151

## L

Layer Key • 85  
LED functionality • 136  
LEDs / Power-off • 124  
LEDs functionality • 124  
Load content from keyboard • 25, 37, 140  
Load default content • 28, 69, 138

## M

Magnetic Card Reader • 89  
Make RS232 OPOS key • 28, 68  
Make USB OPOS key • 28, 68  
Menu structure • 69, 83  
Menu Structure • 22, 25  
Microphone initial • 117  
MID family • 146  
Module Context Menu (Right click) • 27, 63  
Multiple layer key • 159

## N

New • 25, 28  
No liability for consequential damages • 178

## O

On/off button • 135  
Open • 25, 29, 63  
Open Desktop • 25, 34, 35, 78  
OPOS RS232 (not for Keyboards) • 88  
Options • 26, 40

## P

Paste Content • 27, 68  
PC Keyboard (PS/2 and USB) - default • 87  
Play and record sound (WAV) • 111  
Potentiometer • 113  
Power ports • 126  
Power-off • 125  
Preferences • 26, 41, 63  
Print with LabelMe • 25, 32, 63, 83, 145  
Printing • 145  
Program shortcut keys • 163, 165  
Program special contents • 159  
Program through COM port • 162, 173  
Programming • 22, 77  
Programming a BeFREE module • 120  
Programming a Card Reader • 89  
Programming a Chameleon • 89  
Programming a Handset • 99  
Programming a Keyboard • 81, 95, 103, 146  
Programming a Speakerbox • 106  
Programming an ID module • 95  
Properties • 95

Protected key combinations • 26, 56, 149

## R

RFID (Radio Frequency Identification) • 98

Rollover • 141

RS232 • 88

RS232 OPOS • 27, 65

## S

Save • 25, 28, 29, 33, 34, 63, 79

Save a configuration • 79

Save As • 25, 29, 30

Save as batch update file (TXB) • 25, 31

Save Desktop • 25, 35, 78

Scan line • 45

Scanline • 26, 38, 69, 72, 73, 81, 83

Scanline context menu (Right click) • 74, 83, 171

Scanline options • 72, 74

Security • 26, 45, 96, 97, 147

Security wizard • 26, 58, 149

Select a Key • 78

Select a module • 78

Send mail to support • 27, 62

Separators • 91

Set all AT/PS2 • 27, 64

Set all RS232 • 27, 64

Set all USB • 27, 64

Set content • 26, 58

Set default • 27, 64

Set iButton Mode • 98

Set keys to Security Level 0 • 26, 58

Set keys to Security Level 1 • 26, 59, 148

Set keys to Security Level 2 • 26, 59

Set keys to Security Level 3 • 26, 59

Set LOGOFF key • 26, 59

Set LOGON key • 26, 59, 150

Settings / Options • 153

Shortcut Toolbar • 28, 63

Show/Hide Security toolbar • 26, 45

Size • 69, 70, 73, 86

Software distribution • 178

Speakerbox keys • 108

Special content • 74

Start/End code • 94

Status • 122

Status bar • 22, 23

Success/fail • 90

## T

Technical support • 179

Testing • 38, 39, 40, 81

Text file format • 137, 138, 139

Text Window • 26, 38, 81

The MCR delivers the data to the host to fast.

Is it possible to put in a • 170

Toolbar • 73, 83

Toolbars • 26, 40

Tools • 26, 38

Touch screen • 20

Tracks • 90

Troubleshooting • 173

TTY Terminal • 26, 39, 81

Typographical Conventions • 10

## U

Update • 79, 81

Update and Verify • 25, 37, 63

Update keyboard content • 25, 36, 37, 63

USB OPOS • 27, 66

Using ChangeMe • i

## V

Verify • 25, 37, 63

Verify reports an error • 175

View • 26, 46

Visual • 153

## W

What is rollover • 141

What is the lifetime of MID or FREE module?  
• 169

What to do when it occurs • 142, 143

What's new ? • 11

Where can I get pre-cut paper to print labels  
on? • 167

WIN Keys • 178

Windows • 26, 60