



Comm28x V2.2.0

USB reader interface program

User manual

Rev. 1.0 2010.8

**Supports the following readers:
SL-283-1, SL-283-2, SL-283-3, SL-284, SL-287**

Introduction

The Comm28x V2 program is used as an interface between CardWare SL-28x readers and any higher-level user applications. More precisely, it acts as an interface between the driver for the FDTI USB device (not the device itself) and user applications.

Note: the x in 28x means any digit that will denote the type of USB reader. Currently, the following types of USB readers are supported:

SL-284 (USB iButton reader)

SL-287 (RF tag reader),

SL-283-1 (Track 1 magnetic card reader)

SL-283-2 (Track 2 magnetic card reader)

SL-283-3 (Track 1 & 2 magnetic card reader).

Therefore, the term *badge* in the following text can refer to iButton, RF tag or magnetic card.

- Comm28x outputs data into the currently focused application's keyboard buffer, as if it had been typed in on the keyboard.

(Data can also be written into a database, but this feature currently only supports CardWare's KatzeReports database, which allows SL-28x readers to be used for PC-based time&attendance clocking.)

- Starting with version 2.0, Comm28x supports more than one USB reader, which along with the extensive prefixing and suffixing possibilities, enables the user to make time-stamped ID logs with distinguishable sources: reader #1, reader #2, etc.
- Very flexible output format can be achieved with up to 4 prefixes and up to 4 suffixes

Prefixes and suffixes (data sent before and after the badge code) can be ASCII characters, timestamps (current date & time), CR/LF, and two configurable constants (Event Code and Reader ID). All this is kept in the reader's EEPROM.

Main program window

The main program window consists of 3 panes and it is shown on the Picture 1.

Device pane

The upper pane of the main program window contains a list of currently attached SL-28x USB readers. The columns have the following meanings:

Serial Number: this is the unique serial number of the USB chip inside the reader and is used to distinguish between readers. This number can't be changed within this program.

Name: the 6-character name of the reader. This is user-defined and can be changed in

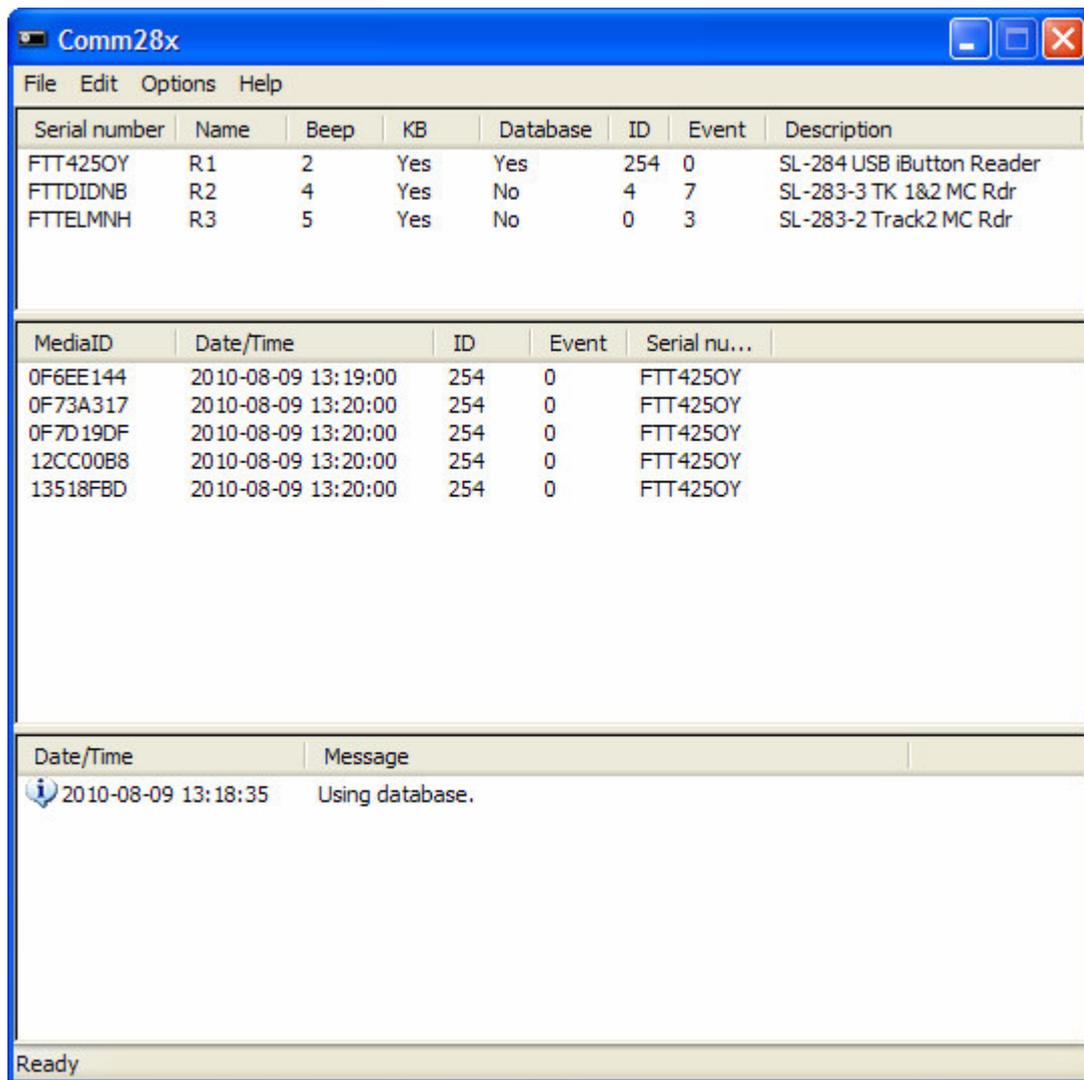
the Edit/Device window. Note that the characters of the name are also the so-called user-bytes (UB1 to UB6) which can be used in the prefix and suffix definitions.

- Beep:* the number of times the reader will beep when a badge is read. This value can be set in the Edit/Device window
- KB:* Yes/No - shows if the reader will send its output to the currently focused application's keyboard buffer. This value can be set in the Edit/Device window
- Database:* Yes/No - shows if the reader will send its output to the selected KatzeReports database. This value can be set in the Edit/Device window
- ID:* byte value that denotes the device ID (this corresponds to the controller ID of the SL-8x controllers, which is set by DIP-switch). This value can be set in the EDIT/Device window.
- Event:* byte value that denotes the Event Code (this corresponds to the Event Code of SL-8x controllers, which identifies the event that caused the log entry). This value can be set in the EDIT/Device window.
- Description:* This is the USB device description field.

When a line (USB device) is selected, right clicking will bring up a context-menu with the following options:

- Edit - opens the Edit\Device window for configuring device-specific parameters
- Buzz - beeps and flashes the LED of the selected USB device (useful for finding out which is which reader when there are several attached to one PC)

Double-clicking on a device line will also open the Edit window for that device.



Picture 1

Database log pane

The central pane of the main window is where you see the written database records, based on data coming from the attached USB reader(s).

The formatting settings have no effect on what is written into the database and the records always have the following fields:

MediaID: 4-byte variant of the badge code

Date/Time: date and time when the data was received, according to the PC clock

ID: configurable 1-byte device ID

Event: configurable 1-byte Event Code

Serial No.: serial number of the USB reader (this is not stored into the database)

Message pane

The lower pane is for informative messages about the program.

Edit/Device window

This window is for configuration of device parameters, mainly the formatting of data sent to the keyboard buffer. The Edit/Device window depends on the type of selected reader.

SL-284 and SL-287 Edit/Device Window.

The screenshot shows the 'Device' configuration window. The 'Properties' section contains a 'Serial number' field with the value 'FTT425OY', a 'UB' field with '123456', and dropdown menus for 'Name' (R1), 'Beep' (2), 'ID' (254), and 'EC' (0). The 'Data Format' section is divided into three columns: 'Media ID (Example)' with radio buttons for 8, 12, 14, and 16 bytes; 'Prefixes' with checkboxes and dropdowns for PF1-4; and 'Suffixes' with checkboxes and dropdowns for SF1-4. Below these is a summary table for PF1-PF4, MEDIA ID, SF1-SF4. At the bottom are checkboxes for 'Send to KB buffer' and 'Store to database', and 'OK' and 'Cancel' buttons.

Picture 2

Serial No. this is a non-editable field that shows the unique serial number of the USB device

Name: six character name. The characters are also the User Bytes UB1 to UB6, which can be used as the PF and SF characters.

Beep: number of beeps after a badge has been read

ID: Device ID (0-255)

EC: Event Code (0-255)

Data format: radio buttons to select sending all 8, 7, 6 or 4 bytes of the badge (iButton) code
The numbers to the right of each radio button show the complete 8-byte (16-character) code of an iButton, with the characters that will be sent in bold.

PF1 to PF4: Prefix field definitions. Each prefix field may be configured to contain the following:

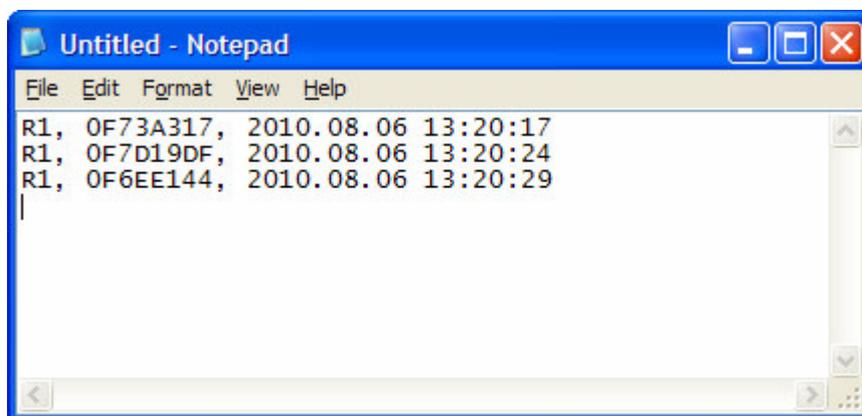
- UB1 to UB6 (individual characters of the *name* field)
- SPACE
- , (comma)
- ID (one byte sent as hexadecimal, i.e. two ASCII characters)
- EC (one byte sent as hexadecimal, i.e. two ASCII characters)
- timestamp (this has the effect of sending the current PC date & time)
example: 2009.01.21 11:13:38 (date is in format YYYY.MM.DD)
- Enter (CR/LF)
- N.U. (not used) this means that nothing will be sent for this field

SF1 to SF4: Suffix field definitions. Choice of options is the same as for prefixes.

The non-editable table at the bottom shows what will be sent to the keyboard buffer if the current configuration is used :

PF1	PF2	PF3	PF4	Data	SF1	SF2	SF3	SF4
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The contents of the table change as the PF and SF values are changed. If device is set on the way shown on Picture 2, after badge reading the data will be written in focused text editor, like on the Picture 3.



Picture 3

Note that N.U. (not used) values of PF and SF fields have no effect on the output. This means that e.g. if you just want to send the code of an iButton and a CR/LF, you could set any of the SF1 to SF5 to ENTER, provided all the others are set to N.U.

Send to KB buffer: Checkbox. If selected, data will be sent to the keyboard buffer.

Store to database: Checkbox. If selected, data will be sent to a KatzeReports MSSQL database.

SL-283-1 and SL-283-2 Edit/Device Window.

The 'Edit Device' window is divided into two main sections: 'Properties' and 'Data Format'.

Properties:

- Serial number: FTTELMNH
- UB: 123456
- Name: R3
- Beep: 5
- ID: 0
- EC: 3

Data Format:

- Transmit Start Sentinel
- Prefixes:**
 - PF1: UB1
 - PF2: UB2
 - PF3: COMMA
 - PF4: SPACE
- Suffixes:**
 - SF1: COMMA
 - SF2: SPACE
 - SF3: TIMESTAMP
 - SF4: NEW LINE

Summary Table:

PF1	PF2	PF3	PF4	TRACK	SF1	SF2	SF3	SF4
R	3	,		; + DATA	,		TS	NL

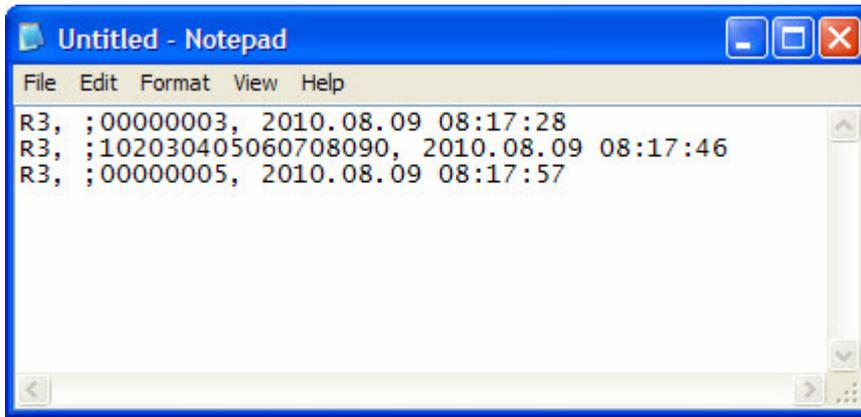
Send to KB buffer Store to database

Buttons: OK, Cancel

Picture 4

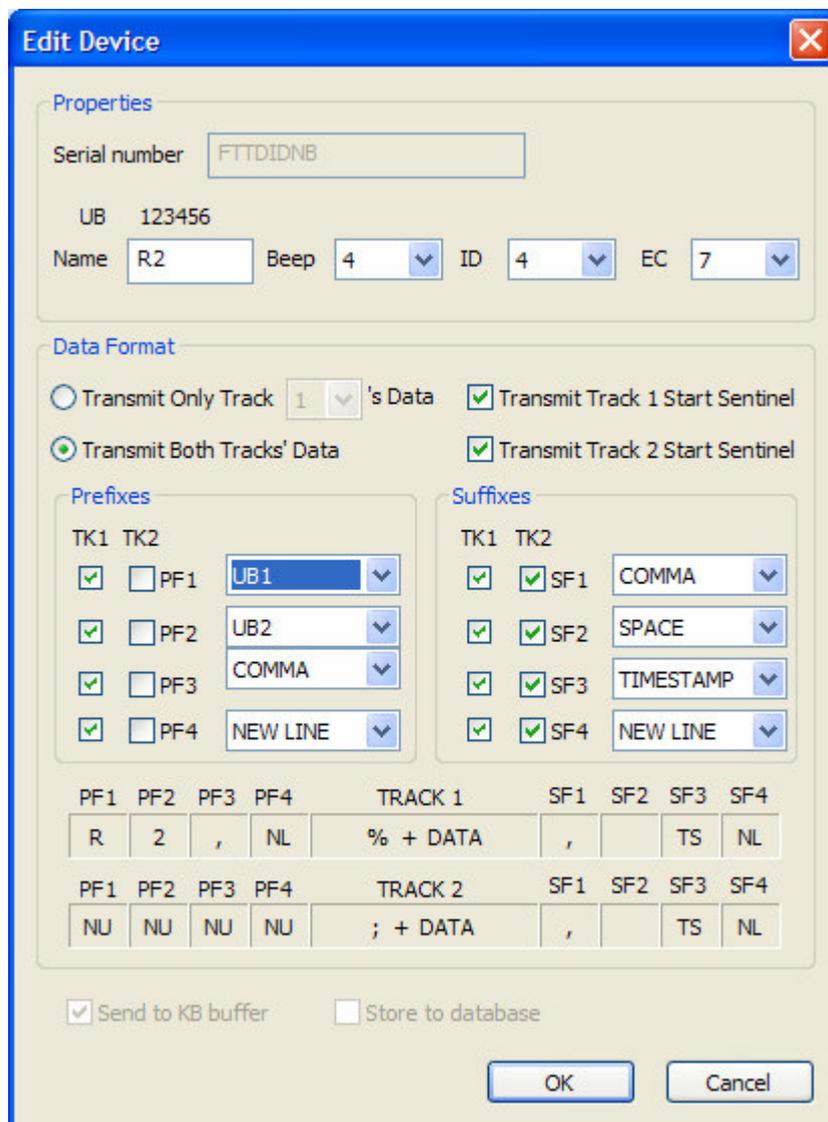
Transmit Start Sentinel: Checkbox. If selected, a special character will be send to the keyboard buffer, before all other characters from the magnetic track. That character is % for track 1, and ; for track 2.

If the device is set the way shown in Picture 4, the data will be written into the focused text editor as in Picture 5.



Picture 5

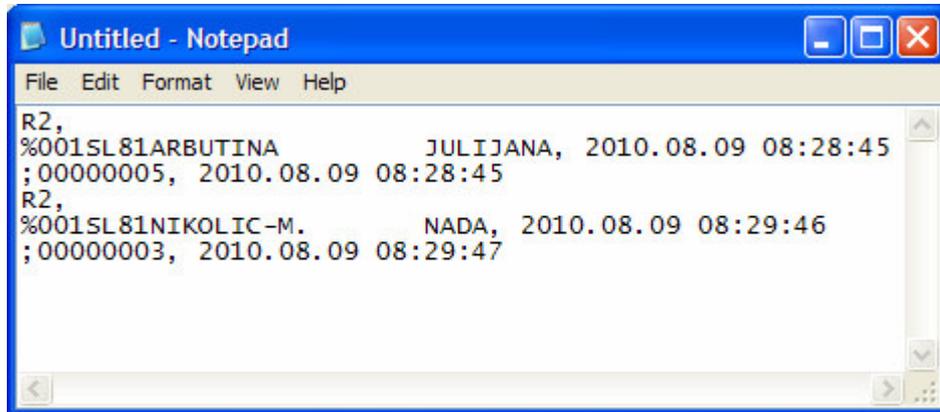
SL-283-3 Edit/Device window.



Picture 6

The user can choose if the data from both tracks or just from one track will be sent to the keyboard buffer. Data format can be configured for each track.

If the device is set the way shown in Picture 6, data will be sent into focused text editor, as in Picture 7.



Picture 7

Import Registrations

If the user selects the main menu item *File -> Import Registrations*, the dialogue for importing unwritten registrations into the database will be shown. Those registrations are stored in files with *c28xreg* extension, one for each month.

Program Options

If the user selects the main menu item *Options -> Intercharacter Delay*, the dialog for setting delay between sending characters to the keyboard buffer will be shown. The delay can be set to value between 1 and 500 milliseconds.

Running program at Windows Start-up can also be configured, if the appropriate item of *Options* submenu is selected and the user interface language can be changed on the same way, too.