



Axxis Biometrics LLC

**BioAxxis L113
Fingerprint Door Lock
Programming Kit**



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1. Introduction

Product Overview

The L113 is used for programming the L113 stand-alone fingerprint door lock. With the programming kit, the fingerprint templates stored in the fingerprint door lock can be copied and transferred to multiple fingerprint door locks without registering one by one.

Main Features

- User friendly design, easy to operate
- 16 characters by 2 rows LCD display
- 14 keys keypad control
- Add Master / User with ID
- Delete Master / User with ID
- Enable / disable free ingress mode
- Enable / disable user restriction mode
- Enable/disable timed free ingress mode
- Master / User identification
- Selectable registration of one or two fingerprint templates for each user
- Selectable and programmable user time zone restrictions / free ingress (20 zones)
- Download / Upload fingerprint templates
- Download events log
- Check the status of the fingerprint door lock (number of masters and users registered, ID numbers used, and free memory)
- Check the fingerprint door lock serial number and firmware version
- Set date and time of the fingerprint door lock internal clock (for events log)
- For privacy protection, all registered fingerprints are encrypted to templates that are stored in memory. The fingerprint template contains only the feature points of the fingerprint and cannot be converted back to fingerprint image
- Uses non-volatile memory for fingerprint template and events log storage
- Direct print-out of events log (FP door lock serial number ID, date, time, user number and event description)
- Operates using 2 x AA (LR6) batteries
- Auto-off after 3 minutes of non-use to conserve battery life
- An USB-Serial converter (included with PC connection kit) for USB connection to PC
- Support the RS232 Serial interface and USB 1.1 or 2.0 port (For USB connection, an USB-Serial Converter is required)

Packing Lists

L113 Programming Kit

Item	Quantity
L113 Programming Kit	1
L113 stand-alone fingerprint door lock Connection Cable (White)	1
L113 Programming Kit User Manual	1
Fingerprint Product Warranty Card	1

PC Connection Kit (Optional)

Item	Quantity
L113 Event Logs Download Utility Installation CD	1
PC Connection Cable (Blue)	1
USB-to-Serial Converter	1

2. Operation Guide

The L113 Fingerprint Door Lock Programming Kit can communicate with the L113 Fingerprint Door Lock actively using the RJ-45 connections, provided that the Door Lock has already been initialized. Please plug the RJ-45 connectors to both devices. (Figure 2)

When you power-on the Programming Kit, it will first take a few seconds to initialize the device. Operation menu will be shown once the device is in READY mode. You can scroll up/down the menu by ↑, ↓ button or number pad, press <ENT> to select or <CLR> to exit.

Eight main menus are provided for administrators to manage and control the FP Door Lock functions remotely. These include Door Lock settings, Events Log, Fingerprint transfer, Door Lock status, Fingerprint ID check, and Door Lock ID & Version, Print Menu and PC Mode.



Connection Method

For L113 stand-alone fingerprint door lock connection

Using the Door Lock connection cable (White), connect the L113 Programming Kit's RJ45 port to the RJ45 port of L113 Fingerprint Door Lock.

For PC connection

Using the PC connection cable (Blue), connect the L113 Programming Kit's RJ45 port to the serial port of your computer. If your computer has only USB ports, and no serial (DB9) connector ports, or if there is no spare serial port left in your computer, you can use a USB-to-Serial converter (included with package) to build a serial port in your computer. Please go to "Setup an USB-Serial Converter on a PC" for details.

User Menu

1. Door Lock Setting^{*1}

Connection to L113 Fingerprint Door Lock and Master Authorization is required to access this menu.

(If this is the initial setup of a new lock and a master fingerprint has not yet been registered, the LCD panel instructions will ask for registration of the first master fingerprint. Enter # 1 for the 1st master fingerprint ID number and follow the Add Master instructions below.)

1.1 Master Menu

Under this sub-menu, you can add or delete master fingerprint templates. Up to 10 master fingerprint templates can be stored in each door lock.

^{*1} Master authorization is required

1.1.1 Add Master

Choose an ID number (1 to 10) to use for your registered fingerprint, press **<ENT>** to select or **<CLR>** to exit. If the ID number has already been used, you will need to finish the registration using another ID number. Please follow the instructions on the LCD panel.

1.1.2 Delete Master

Select the ID number of the master fingerprint you wish to delete, press **<ENT>** to select or **<CLR>** to exit. The fingerprint template and master ID number will be permanently deleted.

1.2 User Menu

Under this sub-menu, you can Add/Delete user fingerprint templates. Either one or two fingerprints can be registered for each user. If registration of only one fingerprint per user is selected, a maximum of 300 users (ID #'s 1-300), can be enrolled in door lock memory. If registration of a pair (two) fingerprints for each user is selected, then a maximum of 150 users can be enrolled.

Note: Use of the maximum number of registered users mentioned above will slightly increase the time it takes for the lock to verify the FP of the registered user..

1.2.1 Add User

Choose an ID number to use for your registered fingerprint, press **<ENT>** to select or **<CLR>** to exit. If the ID number has already been used, you will need to finish the registration using another ID number.

Following the instructions on the LCD panel, choose to register a single fingerprint, or two fingerprints for each enrolled user. The advantage of registering a pair (two) fingerprints is that this allows the user to still unlock the door even if one of the fingers is injured, and also allows a fingerprint on either hand to be used to unlock the door. The main advantage of registering only one fingerprint per user is increased door lock user capacity, which provides reliable and repeatable operation of the FP door lock for most users as long as a good quality single fingerprint template has been registered and tested.

If the registered fingerprint becomes unusable due to injury, the emergency key can be used and another fingerprint easily enrolled.

After registering 1 or 2 fingerprint user templates, select a user restriction time zone for this user using the up/down arrow keys **↑/↓** and press **<ENT>**.

You can edit this user time zone assignment at any time per 1.4.3 below.

1.2.2 Delete User

Select the ID number of fingerprint you wish to delete, press **<ENT>** to select or **<CLR>** to exit. The FP template and user ID record will be permanently deleted.

1.3 Set Date/Time

This sub-menu allows you to set the date and time of the Door Lock internal clock. The clock is used to capture the time and record a log of each door lock event. The time will be shown on the LCD screen when you enter this mode. Press **<ENT>** to start setting. Format is Date/Month/Year and Hour:Minute:Second (24 hours format) respectively. Use the number pad to change value and **↑/↓** to move between different position. Press **<ENT>** to confirm when finished.

1.4 Door Lock Mode

Under certain conditions, door entry restrictions are needed. Two Door Lock restriction modes are available depending on your security plan.

1.4.1 Free ingress

ENABLING this function will change Door Lock to Free Ingress mode that will allow free entry to anyone just by triggering the Trigger Switch. Uses ↑ or ↓ key to alter **ENABLE / DISABLE**. Press <ENT> to select.

1.4.2 User restriction

ENABLING this function will change Door Lock to User Restriction mode which will allow entry of Masters only. Uses ↑ or ↓ key to alter **ENABLE / DISABLE**. Press <ENT> to select.

1.4.3 Time restrict

1.4.3.1 Edit user time zone

Key in user ID # and then, using ↑/↓ arrow keys, edit this time zone or select a different time zone and press <ENT>. If a suitable time zone is not available, go to 1.4.3.2 below and setup the required time zone.

Note: It is important that you use a log sheet to record all user names, enrollment ID #'s, and time zone assignments.

1.4.3.2 User restriction / free ingress time zone set-up.

You may program up to (20) time zones for user access control using the, ↑/↓ arrow keys, keypad number, and the <ENT> keys to modify the time zones to fit your requirements. For example:

Zone # 1 could be 00:00 – 23:59 Mon – Sun

Zone # 2 could be 08:00 – 16:59 Mon – Fri

Note: Use the day of the week # to change the days. After setting up the time zones, you can go to the D/L (download) function and download the time zones. You may then print them out using any dot-matrix, laser, or thermal printer for your records.

1.4.3.3 D/L time table

You can download the programmed time zones from the door lock to the Programming Kit using the cable provided for direct print-out of time zones.

1.4.4 Timed Free In (Ingress)

By ENABLING this function, the Door Lock will be in Free Ingress mode based on the time period set in the “**User restriction / free ingress time zone set-up**”. There are a total of five time periods that can be selected from the 20-programmed time zones. The display will show “NA” flashing at each of the time period when no time zone is selected at the beginning. To set the time period, choose the Time Zone # that you want to program by using the ↑/↓ arrows, then press <CLR> to change the selected status, and select one of the programmed time zones by using the keypad number keys, then press <ENT> key to confirm. After you have finished setting all the five time periods, press <ENT> again to upload the settings to the door lock connected. By re-entering the menu, you can check back which time zone is programmed to the five time periods.

1.4.5 Security Level

1.4.5.1 High Security

By ENABLING this function, the fingerprint reader of the Door Lock will be set to prevent false acceptance of latent fingerprints during user enrollment

or identification. *Note: Enabling this function will increase the identification time.*

1.4.5.2 Adaptive

By ENABLING this function, the fingerprint reader of the Door Lock will automatically optimize the fingerprint image to improve the recognition ratio for dry fingerprint.

Note: Enabling this function will increase the identification time.

1.5 Delete all fingerprint templates

You can delete all fingerprint templates stored in the memory of the L113 Door Lock. After deletion, the Door Lock will be automatically changed to Free Ingress Mode. Please follow the instructions on the LCD panel.

2. Events Log

From the view of the administrator, entry records are necessary for management, and statistical analysis of Door Lock usage, so we have provided functions that allow administrators to obtain and print-out the events log stored in the L113 Door Lock, or erase the downloaded events log stored in L113 memory. All events log information stored in L113 Door Lock memory cannot be deleted.

2.1 Download Events*¹

Enter the start date of the events log that you wish to download by using the number pad to change value and ↑/↓ to move between different positions and press <ENT> when finished. Choose the databank number in which you wish to store the events log (The L113 has 4 or 16 databanks to store events log data from 4 or 16 different L113 door locks), and press <ENT> to confirm. Press <ENT> to overwrite or <CLR> to cancel download. It will take some time to finish the download process. The events downloaded to the Programming Kit will be stored in non-volatile memory and remain unchanged for either Power off or Low battery.

2.2 Erase databank

To erase the events history stored in the databank of the Programming Kit, you can optionally erase the stored events in each bank, bank by bank, or delete all databanks at the same time. Please **NOTE** that only the events stored in the Programming Kit are erasable and not those in the Door Lock. Key-in the databank number (1-4), or (1-16), or 99 for all databanks, then press <ENT> to proceed.

2.3 Erase time table

You can erase all the time zones stored in the Programming Kit. Please note that all the time zones stored in the Programming Kits will be erased, no changes will be made to the Door Lock connected.

2.4 Set databank number

You can arrange the size of the databank based on the number of event history required to store. The total memory can be divided into 4 databanks with each databank can store up to 18,000 events, or 16 databanks, with each storing up to 4,500 events. Please note that all the history events stored in the memory will be erased each time when you changing the size of databank.

¹ Master authorization is required

3. Fingerprint Transfer^{*1}

This function allows transfer of fingerprints from one Door Lock to another using the Programming Kit as the transfer device.

3.1 Download fingerprints (FPs)

You can access this sub-menu to download all fingerprint templates from the door lock to the Programming Kit. (See below caution note before proceeding to download FP's) It will take some time to finish the download progress.

The "Download completed" will be shown on the LCD panel once the download finishes.

Caution: At the "Overwrite all FP? (No-CLR, Yes-ENT)" prompt message, pressing the (Y-ENT) key will overwrite (erase) all existing master and user FP templates in programming kit memory so make sure to verify that any FP's saved in the programming kit by another master (FP) are not required for uploading to another lock before proceeding. This caution note also applies when using Step 3.3 below to erase all FP's in programming kit memory.

If your programming kit firmware version does not have the "Overwrite all FP? (No-CLR, Yes-ENT)" prompt message, then step 1.3 below must be used to erase any existing FP's in programming kit memory before another set of master and user FP's can be downloaded to the programming kit.

Note: The download operation will "time-out" and FP's will not be downloaded, if existing FP's have not been erased.

3.2 Upload fingerprints (FPs)

You can access this sub-menu to upload fingerprints from the Programming Kit to the Door Lock. It will take some time to finish the upload. "**Upload completed**" will be shown on the LCD panel once the upload finishes.

Note: After the FP upload to door lock memory operation has been completed, and there are no other locks requiring uploading of this particular set of master and user FP's, it is recommended to erase all FP's stored in programming kit memory using step 3.3 below.

3.3 Erase fingerprint templates memory in program kit

(Refer to above caution notes in 3.2)

You can access this sub-menu to erase the fingerprints in the Programming Kit. It will take some time to erase. "**Erase completed**" will be shown on the LCD panel once the download finishes.

^{*1} Master authorization is required

4. Door Lock Status

Status of Door Lock can be shown by in this sub-menu. You can scroll down a list of Door Lock Status by using the ↑, ↓ arrows. Press <CLR> to exit.

For example:

Free ingress mode :	Disable
User restriction mode :	Disable
No. of registered Master :	2
No. of master free :	3
Master list :	1 ; 2
No. of registered User :	1
No. of user free :	49
User list :	01

5. Fingerprint ID check

This function is used to determine the ID of a live finger on the sensor. Place the finger to be identified on the fingerprint reader, the Master or User ID of the finger will be shown on the LCD screen. For user ID, it will also show if the finger is the 1st or 2nd finger enrolled during user registration.

6. ID & Version

The door lock's ID will show on LCD screen. Use the ↑ or ↓ arrows to display the firmware version of fingerprint door lock and the programming kit itself.

7. Print menu

7.1 Print events

Connect the Programming Kit to a printer if you want to print out the events history stored in the databank. Enter **Print Events** and key-in which databank (databank 1 to 4, or 1 to 16, or enter 99 to print-out all 4 or 16 databanks). Enter the start date of the events log that you wish to print by using the number pad to change value and ↑/↓ to move between different positions, then press <ENT> when finished. Any PC compatible ink-jet, dot-matrix, LASER or Thermal printer can be used for this function.

Here is an example of the print-out:

BioAxxis L113 Events Log

Databank: 1
 Total Registered Masters: 1 Total Registered Users: 00
 Door Lock ID: 00000004

Index	ID	Date	Time	Access type
0040	Master 1	17/Apr/2003	17:52:35	Add Master
0039	-----	17/Apr/2003	16:38:30	DB Delete All
0038	-----	17/Apr/2003	16:32:16	Identify Failure
0037	Master 3	17/Apr/2003	16:31:13	Identify Failure
0036	Master 3	17/Apr/2003	16:20:58	Identify Failure
0035	Master 3	17/Apr/2003	16:19:57	Identify Failure
0034	-----	17/Apr/2003	16:20:27	Identify Failure
0033	User01-1	17/Apr/2003	16:19:50	Identify Failure
0032	Master 3	17/Apr/2003	16:19:14	Identify Failure

7.2 Print table

Connect the Programming Kit to a printer if you want to print out the time zones stored in the timetable. Any PC compatible ink-jet, dot-matrix, LASER or Thermal printer can be used for this function.

Here is an example of the print-out:

L113 TIME TABLE

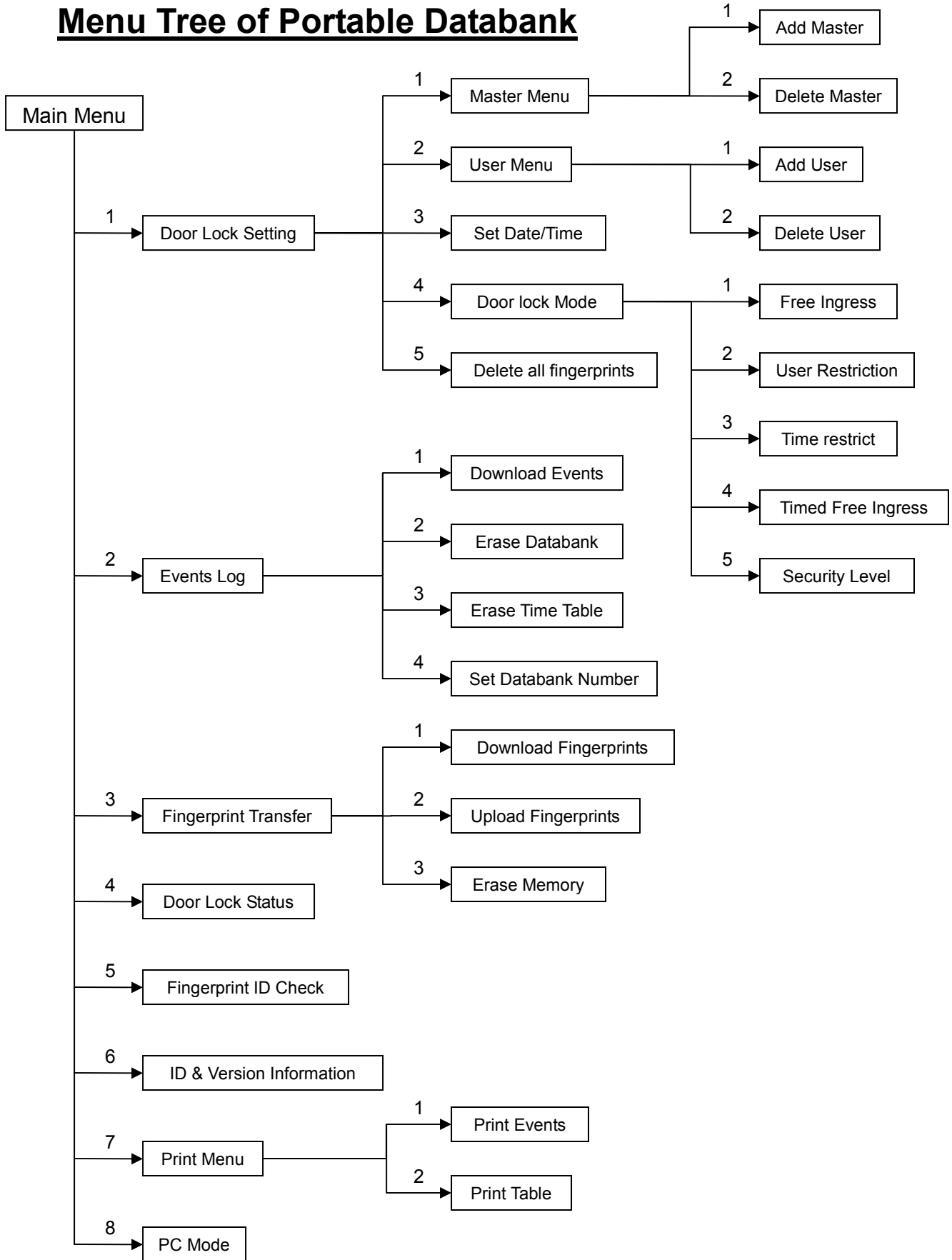
Door Lock ID: 0009999

Time Zone	Day	Operating Time
01	Monday---Sunday	00:00-23:59
02	Monday---Sunday	00:00-23:59
03	Monday---Sunday	00:00-23:59
04	Monday---Sunday	00:00-23:59
05	Monday---Sunday	00:00-23:59
06	Monday---Sunday	00:00-23:59
20	Monday---Sunday	00:00-23:59

8. PC Mode

The Programming Kit can be connected to a PC for uploading events Record. Please go to the next section for this function.

Menu Tree of Portable Databank



3. Uploading Events Record to a PC

L113 Event Logs Download Utility

By using the L113 Event logs Download Utility, Events history stored in the L113 Programming Kit can be uploaded to a PC through the connection of serial port. If your computer has only USB ports, and no serial (DB9) connector ports, or if there is no spare serial port left in your computer, you can use a USB-to-Serial converter (included with package) to build a serial port in your PC. You have to install the driver to your PC first before you can use the converter to download any events history from a programming kit, please go to 'Setup an USB-Serial Converter on a PC' for details.

System Requirements

Before installation, please check that your system has the following minimum system requirements.

- Pentium MMX CPU 166 MHz, AMD K6 MMX CPU or above
- 64MB RAM or greater
- Microsoft Windows 98, 98SE, ME, 2000, XP
- Microsoft Office 97 or later version
- CD-ROM drive
- 20MB minimum available hard drive storage space
- Available USB port if your system has no serial (DB9) connector ports

Installation Steps

1. Close all other programs and remove any disks or CD-ROMs from any drives in your computer.
2. Insert the "L113 Event Logs Download Utility Installation CD" into your CD-ROM in your computer.
3. Open "My Computer", open the CD-ROM drive icon, and then double click on the .exe file.
4. Bypass the "Welcome" dialog by clicking "Next".
5. Type in your User Name and Organization in the Name field and Organization field respectively.
6. Click "Install" to start the installation process.
7. Click "Finish" to end installation.

Downloading Events Log from a Programming Kit

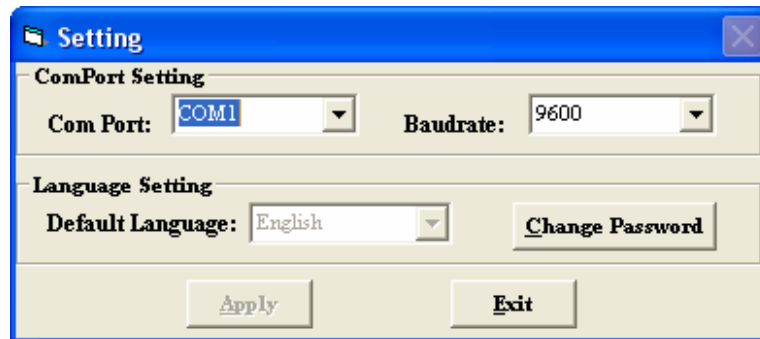
1. Connect the L113 Programming Kit to your computer as instructed in the Connection method.
2. Click Start – Programs – L113 Event Logs Download Utility.
3. You will see the Login windows.



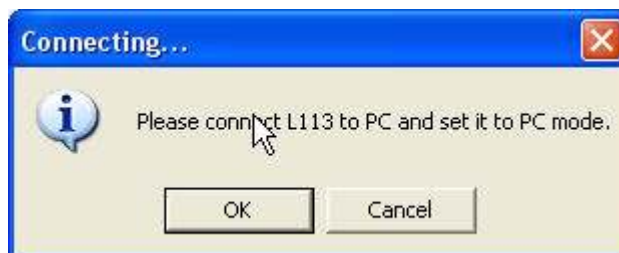
4. Enter a password if you want to use a Login password, or just leave it blank and click OK (default no password). If you have entered a password, please remember it, as the program will ask you to enter the password during your next login.
5. The L113 Event Logs Download Utility main menu appears.



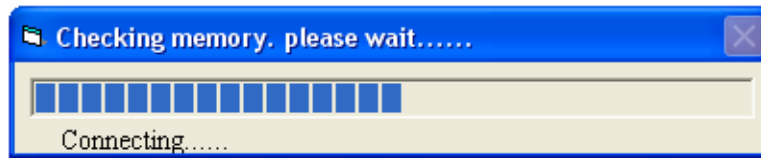
6. In the main menu, click “Setting”, and select the serial port that the supplied cable is connected to. If you want to change the login password, click “change password”, and the program will ask you to enter your old password and input your new password. Then click Apply to confirm your setting and click Exit.



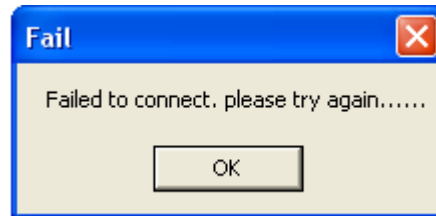
7. Using the PC connection cable (Blue), connect the L113 Programming Kit’s RJ45 port to the serial port of your computer. Then, turn on the power of the L113 Programming Kit and enter “8. PC Mode” from the Main Menu.
8. Go back to the L113 Event Logs Download Utility’s main menu and click “Download Events”.
9. The “Connecting” Window will appear. Click OK to continue.



10. The “Checking Memory” window indicates that your computer is connecting to the L113 Programming Kit. Please wait a few seconds.



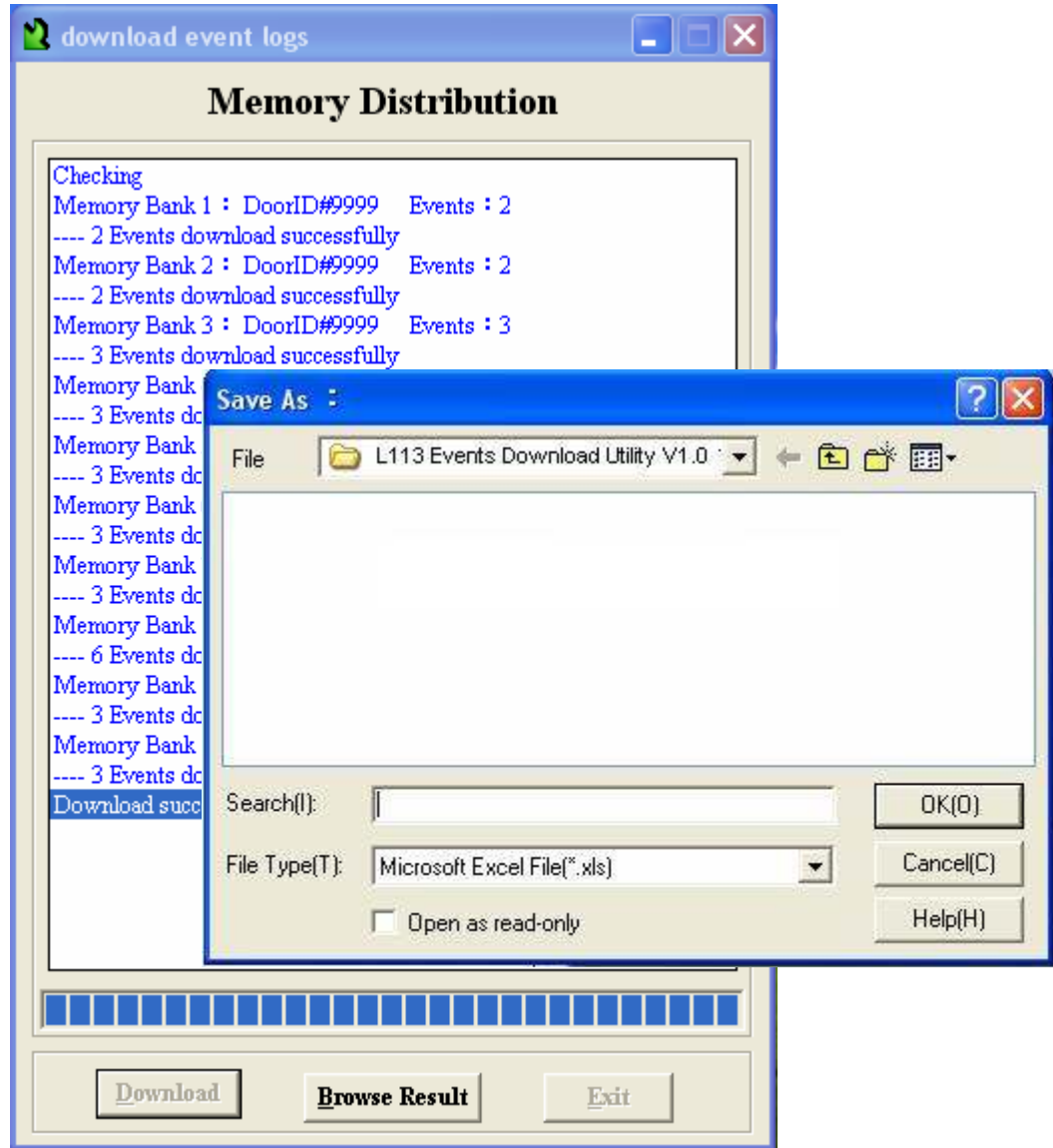
11. If you see “Fail” window appear, please consult the Troubleshooting Section. Then, click OK to re-try.



12. The Download event logs window appears, and you should see the information such as Databank, Doorlock ID, and Events Number, stored in the memory of the Programming Kit, as shown below.



13. To download event logs to your computer, please click Download.
14. Enter the name of the file (in excel file format) that you want to save the event logs under.



15. After each time you complete downloading of the events history from L113 programming kit, the events history stored in the programming kit will not be erased automatically. Events history stored in the databanks can only be erased in the "Erase databank" menu, please go back to Section 2.2 for details.
 Notes: When you every time download the event history from the programming kit to your PC, the program will look up the existing database record stored in your PC, only new recorded events will be downloaded to your PC.

4. Setup an USB-Serial Converter on a PC

Driver Installation for WINDOWS 98 & ME

Follow the steps below to install Windows 98 or Windows ME driver of USB-Serial converter:

1. Power on your computer and make sure that the USB port is enabled and working properly.
2. Plug in the USB-Serial converter into the USB port and run the Add New Hardware Wizard to assist you in setting up the new device. Click "Next" to continue.
3. Insert the "L113 Event Logs Download Utility Installation CD" into the CD-ROM drive and click "Next" to continue and click to search driver from the CD-ROM drive x:\USB 1.1 TO RS232 Cable\Win98_Me (where x is your CD-ROM drive letter)
4. Windows will detect the driver and shows the USB to Serial Cable. Click "Next" to continue installation.
5. Click "Next" to continue and let Windows copy the required files to your hard disk.
6. When Windows finished installing the driver, click "Finish".
7. Go to the Device Manager and check the driver installation.

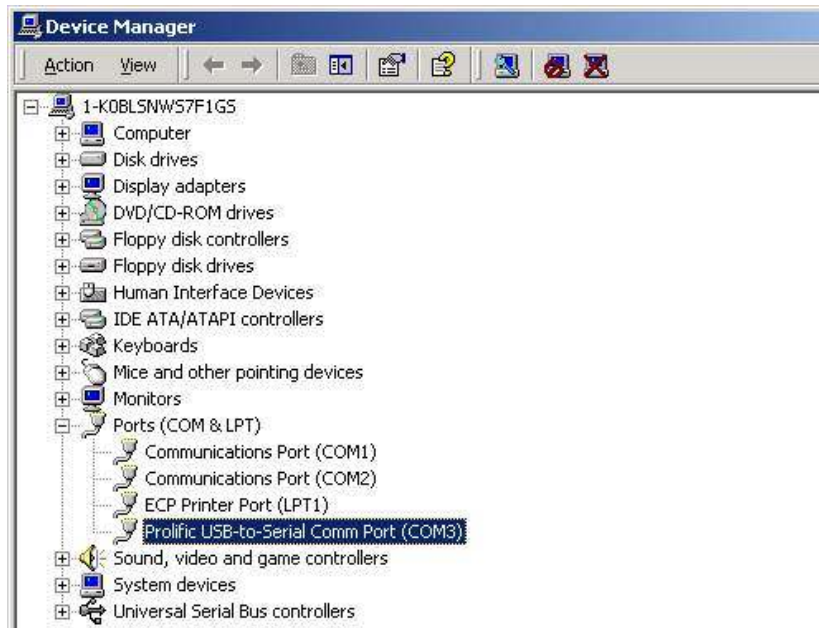
Driver Installation for WINDOWS 2000 & XP

Follow the steps below to install Windows 2000 or XP driver of USB-Serial Converter:

1. Power on your computer and make sure that the USB port is enabled and working properly.
2. Insert the "L113 Event Logs Download Utility Installation CD" into the CD-ROM drive.
3. Plug in the USB-Serial Converter into the USB port.
4. The "Welcome to the Found New Hardware Wizard" should appear to assist you in setting up the new device.
5. Select the option "**Search for a suitable driver for my device (recommended)**", and click "Next" to continue.
6. Windows should find the "Prolific USB-to-Serial Comm Port" driver. Otherwise you should find the driver under the "USB 1.1 TO RS232" directory under your version of Windows on the CD-ROM. For Windows 2000 users, the path of the driver is located in the directory x:\USB 1.1 TO RS232 Cable\Win2K. For Windows XP users, the path of the driver is located in the directory x:\USB 1.1 TO RS232 Cable\WINXP (where x is your CD-ROM drive letter).
7. You will probably see a message indicating that the driver has not passed Windows Logo testing. Press "Continue Anyway." This warning can be safely ignored.
8. Press "Finish" when prompted by Windows to complete the installation.
9. Go to the Device Manager and check the driver installation.

How to Check the Driver Installation

1. Go to the Device Manager:
Windows XP: Start -> Control Panel -> System -> Hardware -> Device Manager
Windows 2000: Start -> Settings -> Control Panel -> System -> Hardware -> Device Manager
Windows 98/ME: Start -> Settings -> Control Panel -> System Properties-> Device Manager
2. Click on the plus sign (+) next to "Ports."
3. If the device is installed properly, you will see "Prolific USB-to-Serial Comm Port. (COMx)" or "USB to Serial Port (COMx)" (Win98). Note that x is the number of the COM port (typically 1-8) assigned to the adapter.



The driver is installed properly, but the device is not working

First check to see that the Software application is set to the correct COM port number. To determine the COM port number assigned to the adapter, check the Device Manager (see above).

It is also possible that the COM port number assigned is too high. Sometimes a device won't work with the USB-to-Serial converter even though everything appears to have installed correctly because some computers will only scan a limited number of COM ports.

For instance, it is possible that a computer has a limitation of scanning the first four COM ports. If the adapter is installed on COM5, a device with such a limitation will not work until the COM port is reassigned to COM1 - COM4.

Windows XP, 2000, ME, and 98 include a function that allows you to reassign the COM port.

Under Windows 98SE, you can change the COM Port via setcom.exe software which is located in the folder of x:\USB 1.1 TO RS232 Cable. (where x is your CD-ROM drive letter)

Under Windows Me