

UniFinger SFM3500 Series

Firmware Revision Notes

Version 1.7



Revision Notes

Firmware Version 1.7

Build Number 06110800

2006-11-13

- Standard template format, as defined in ISO 19794-2, is supported.
- The default parameter of Fast Mode is changed to “Automatic”. In this mode, Fast Mode setting will be automatically adjusted according to the number of enrolled templates.
- UW, UR, UC and UL commands are added. Authentication mode can be specified per use basis. When it is AUTH_BYPASS, authentication will succeed without verifying fingerprint inputs. On the other hand, if it is AUTH_REJECT, authentication will fail regardless of matching result.
- WME, RME, and CME commands are added. The maximum number of entrance per day can be limited by these commands.
- ABL, DBL, RBL and CBL commands are added. When a user ID is added to the blacklist, authentication will always fail.

Firmware Version 1.6.4

Build Number 06080800

2006-08-18

- This firmware revision is to clear a potential instability issue of SFM3510-FC and SFM3550-TC with firmware 1.6 or later that may happen in a software reset or repeated fingerprint scanning with a high number of enrollments. Though this is a rare case to happen, it is recommended to update the firmware for SFM3510-FC and SFM3550-TC with firmware 1.6.x.
- The default parameter of Security Level was changed to “Automatic Normal”. At this level, the FAR is automatically adjusted to maintain 0.01% (1/10,000) irrespective of the number of enrollments.

Firmware Version 1.6.3

Build Number 06052600

2006-06-05

- This firmware revision was made according to the firmware revision made for SFM3000 series modules. For SFM3000 series modules, a bug was observed that some modules with RAMSWAY SDRAM manufactured between April and May 2006 might hang when Free Scan mode is on. This bug has not been observed for SFM3500 series modules. However, this new firmware gets rid of any potential possibility.

Firmware Version 1.6.2 **Build Number 060501600** 2006-5-22

- The following bugs are fixed.
 - **SFM3520-OP** The module does not work correctly when Free Scan parameter is changed after reset.
 - **SFM3020-OP** The sensor returns TRY_AGAIN error when Lighting Condition parameter is set to Indoor.

Firmware Version 1.6.1 **Build Number 06040700** 2006-4-10

- The following bug is fixed.
 - **SFM3500-FL** In some modules, the sensor cannot detect fingerprint inputs.

Firmware Version 1.6 **Build Number 06031900** 2006-3-23

- WSL and RSL commands are added. Security level can be assigned per user basis for 1:1 matching. The minimum security level is lowered to 1/1,000 for 1:1 matching.
- To make use of the reserved field of log records, CL command is added.
- To provide real-time monitoring, CCL and RCL commands are added.
- In Normal mode, 1:N matching algorithm gets much faster without any performance degradation. The new algorithm is about two times faster than older versions. Since new Normal mode is faster than old Fast mode 1 for FL, FC and TC2 models, fast mode settings for these three models are adjusted accordingly. New Fast mode 1 is

equivalent to old Fast mode 2, new Fast mode 2 to old Fast mode 3, and so on. The Fast modes for OP and TC models haven't been changed.

- Automatic security levels are added. In these modes, the module changes the security level for 1:N matching automatically according to the number of enrolled templates.
- **SFM3500-FL and SFM3520-OP** By tuning the sensor driver, the authentication performance is enhanced especially for dry fingers.
- The following bugs are fixed.
 - It takes long time to process DT command when DELETE_MULTIPLE_ID option is given.
 - When two commands are sent to the module simultaneously both from host and aux ports, response packets can be delivered to the wrong port.
 - **SFM3510-FC** The heating mode does not work properly with some sensors.

Firmware Version 1.5

Build Number 05111100

2005-11-11

- ETX and RTX commands are added.
- ADD_CHECKSUM option is added to ST command.
- DELETE_ONLY_ONE and DELETE_MULTIPLE_ID options are added to DT command.
- RS command is added.
- System Started output event added.
- Watchdog system parameter is added.
- The default value of Lighting Condition parameter is changed to Outdoor.
- The default value of Free Scan Delay parameter is changed to 1 second.
- LM, UM and MP commands are added.
- The following bugs are fixed.

- Encryption mode does not work correctly.
- EIX command does not return the image quality.
- **SFM3550-TC** RI and SI commands return rotated images in Freescan mode.
- **SFM3550-TC** In rare occasions, CS(Calibrate Sensor) command fails.

Firmware Version 1.4.5 **Build Number 05100600** 2005-10-06

- **SFM3510-FC, SFM3520-OP and SFM3550-TC** The sensor driver is updated to accommodate the changes in the revised hardware. These changes are only applied to Rev. G or later versions of hardware.
- **SFM3550-TC** The sensor driver is updated to enhance sensitivity to dry fingers.

Firmware Version 1.4 **Build Number 05070800** 2005-07-08

- Broadcast Packet Protocol is changed from 13 bytes to 15 bytes.
- In network mode, the modules only respond to 15 byte network packets.
- Fast Mode system parameter is added. In Fast Mode, 1:N matching time is 2 ~ 7 times faster than normal mode with little degradation of authentication performance.
- Lighting Condition system parameter is added for SFM3520-OP.
- Sensor heating mode is added for SFM3510-FC.
- Firmware version starts with 'B'.
- Extended Wiegand protocol is added. It supports up to 64 bit Wiegand formats. For this protocol, WWX, WRX, WGX, WSX, WFW, WFR, WPW, and WPR commands are added.
- Duress finger is supported.
- Tamper switch input is supported.
- UG command is added.

- LTX command is added.
- ST command returns the quality score of scanned image.
- The following bugs are fixed.
 - When enroll mode is one time(0x30) and CHECK_FINGER option is given, existing templates of same ID are replaced with new one.
 - CHECK_FINGER option is not applied to EIX command.
 - **SFM3510-FC** In two times II and two templates II modes, ES command fails with BUSY error code.

Firmware Version 1.3.1

Build Number 05060100

2005-06-01

- Freescan Delay system parameter is added.
- The following bugs are fixed.
 - When enroll mode is two times II or two templates II, ADD_NEW option does not work.
 - When an input port is set to NO_ACTION, IG command does not work.
 - After a broadcast packet is processed, normal packet protocol – 13 byte packet without network ID – is not handled properly.

Firmware Version 1.3

Build Number 05042900

2005-04-29

- Broadcast Packet Protocol is added.
- ID command is added for Broadcast Packet Protocol.
- CHECK_FINGER and CHECK_FINGER_AUTO_ID options are added for enroll commands. With these options, if a finger is already enrolled, EXIST_FINGER error will be returned.
- Block index and block size parameters are added to LT command.

- Minimum security level is changed to 1/10,000.
- The following bugs are fixed.
 - When a corrupted template is received in enrollment or verification, the module cannot finish the matching process.

Firmware Version 1.2.1

Build Number 05021400

2005-02-14

- The following bugs are fixed.
 - ST command does not return the scanned template.
 - When Encryption Mode is on and Template Size is not a multiple of 32, the encrypted templates might be corrupted. It is fixed so that Template Size will be adjusted to a multiple of 32 when Encryption mode is on.
- As a result of fine-tuning the indexing scheme, identification time is improved between heterogeneous templates captured by optical sensors and semiconductor sensors.

Firmware Version 1.2

Build Number 05011800

2005-01-18

- Time for template extraction and matching is greatly reduced as a result of improving fingerprint authentication algorithm and optimizing it for DSP processor.
- Rotation system parameter is added.
- TemplateSize system parameter is added.
- Enroll command (ES, EW, ESA, EWA, EI) returns image quality score.
- Unused trailing area of templates returned by RT command is filled with 0 instead of garbage.
- SI, ST, KS command can initiate required output port.
- The following bugs are fixed.
 - Communication via auxiliary port loses some packets.

- RT command cannot return the latest fingerprint template when Param is NULL.
- First response command has wrong command ID field when FreeScan and AutoResponse is on
- EW, VW, DW command returns TIMEOUT error when Wiegand ID 0 is input.
- EI, VI, II command uses some portion of images transmitted previously when the size of image is smaller than expected.
- Above limited number of templates (10 templates) can be enrolled to the same user ID when ADD_NEW option is used and EnrollMode is 2 templates.
- **SFM3510-FC** TIMEOUT error doesn't occur when sensor is not connected.
- **SFM3520-OP** TIMEOUT error doesn't occur when sensor is not connected.

Firmware Version 1.1

Build Number 04120600

2004-12-06

- **SFM3510-FC** Firmware Version V1.1B
- **SFM3520-OP** Firmware Version V1.1C
- Abort Processing command is added.
- Abort Capturing command is added.
- Busy status is supported in SS command.
- Administrator functions are added.
- Wiegand mapping functions are added.
- Extended image transfer commands are added.

Firmware Version 1.0

Build Number 04102900

2004-10-29

- Created.
- **SFM3500-FL** Firmware Version V1.0A