

UniFinger SFM3000 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.
- 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.
- The following bugs are fixed.
 - When the Security Level is set to “Automatic”(0x50 ~ 0x52), SR command returns a wrong value.
 - With ETX, EIX, VIX and IIX commands, Scan Success message is always returned even if Send Scan Success parameter is off.
 - After deleting a template with specified sub index, the next enrolled template of the same ID might be assigned a wrong sub index.

Firmware Version 1.6.2

Build Number 06052900 for OP

2006-06-02

Build Number 06052500 for Others

- The following bug is fixed.
 - Some modules with RAMSWAY SDRAM might hang when Free Scan mode is on. This problem can only happen in the modules manufactured between April and May 2006.

Firmware Version 1.6.1

Build Number 06051500

2006-05-22

- The following bugs are fixed.
 - **SFM3020-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

Build Number 06031900

2006-03-23

- 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.
- 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, OC 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.
- **SFM3000-FL and SFM3020-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 CHECK_FINGER option is given to ET command, the existing templates of the same ID are replaced wrongly.
 - **SFM3010-FC** The heating mode does not work properly with some sensors.

Firmware Version 1.5

Build Number 05111100

2005-11-11

- ETX, RTX, and LTX 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.
- 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.
- The following bugs are fixed.
 - Encryption mode does not work correctly.
 - EIX command does not return the image quality.
 - ESA command does not return the user ID and image quality.
 - The module hangs if multiple CA commands are received when processing another command.
 - **SFM3050-TC** RI and SI commands return rotated images in Freescan mode.
 - **SFM3050-TC** In rare occasions, CS(Calibrate Sensor) command fails.

Firmware Version 1.4.1 **Build Number 05083000** 2005-08-30

- **SFM3050-TC** The Sensor driver is updated to enhance sensitivity to dry fingers.

Firmware Version 1.4 **Build Number 05071100** 2005-07-11

- 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 SFM3020-OP and SFM3040-OC.
- Sensor heating mode is added for SFM3010-FC.
- Free Scan Delay system parameter is added.
- Firmware version starts with 'A'.
- Cancel command is added.
- UG command is added.
- DS command is added.
- User memory commands – ML, MW, and MR – are added.
- Administration level commands – AW, AR, and AC – are added.
- ESA, DSA, and DAA commands are added.
- Extended data transfer protocol is supported.
- EIX, IIX, VIX, SIX, and RIX commands are 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.

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.
 - **SFM3000-FL** If TIMEOUT is set to infinite, TIMEOUT error returns immediately.

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, 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.
 - 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
 - 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.
 - **SFM3010-FC** TIMEOUT error doesn't occur when sensor is not connected.
 - **SFM3020-OP** TIMEOUT error doesn't occur when sensor is not connected.

Firmware Version 1.0 **Build Number 04122700** 2004-12-27

- **SFM3050-TC** The sensor driver for UPEK's TouchChip sensors, including TCS1CD and TSC2CF, is updated to get more reliable image.

Firmware Version 1.0 **Build Number 04121300** 2004-12-13

- **SFM3040-OC** The sensor driver is updated to fix high power dissipation problem.

Firmware Version 1.0 **Build Number 04120200** 2004-12-02

- ASCII packet protocol is supported.
- Enroll mode 2 time II and 2 templates II are supported.
- The following bugs are fixed.
 - When enroll mode is 2 templates, ADD_NEW option of ES command is invalid.

Firmware Version 1.0 **Build Number 04102300** 2004-10-23

- Default GPIO configuration is modified. All input activation modes are changed from rising edge to active high.
- **SFM3020-OP, SFM3040-OC, SFM3040-OL** Optical sensor drivers are updated to improve finger detection performance. Detection sensitivity and robustness to external lightening condition is adjusted on each sensitivity level.
- **SFM3000-FL** The sensor driver is updated to overcome some rare situations that caused the module hang while capturing fingerprint images, in special cases when the sensor is AF-S2, and the module is started while a finger is pressed.

Firmware Version 1.0 **Build Number 04101500** 2004-10-15

- 4MB flash memory is supported.

Firmware Version 1.0 **Build Number 04101400** 2004-10-14

- **SFM3000-TC** UPEK's TouchChip sensor TCS2CF is supported.
- The following bugs are fixed.
 - When GPIO setting is cleared, some communication packets from module such as SCAN_SUCCESS are lost.

Firmware Version 1.0 **Build Number 04101300** 2004-10-13

- **SFM3000-FL** Calibrate Sensor (CS) command is supported.
- **SFM3000-TC** Fees Scan mode is supported.

Firmware Version 1.0 **Build Number 04092500** 2004-09-25

- Created.
- **SFM3000-PR, SFM3000-FL, SFM3000-TC** Firmware Version V1.0A
- **SFM3010-FC** Firmware Version V1.0B
- **SFM3020-OP** Firmware Version V1.0C
- **SFM3040-OC, SFM3040-OL** Firmware Version V1.0E