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# Log Management API

## API

- [BS2\\_GetLog](#): 가 .
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- [BS2\\_GetLogBlob](#): EventMask 가 .
- [BS2\\_GetFilteredLogSinceEventId](#): 가 .

```
typedef void (*OnLogReceived)(uint32_t deviceId, BS2Event* log);
```

### 1. OnLogReceived

## BS2Event

```
typedef struct {
    uint32_t id;
    uint32_t dateTime;
    uint32_t deviceId;
    union {
        char userID[BS2_USER_ID_SIZE];
        uint32_t uid;
        uint32_t doorID;
        uint32_t liftID;
        uint32_t zoneID;
        struct {
            uint32_t ioDeviceID;
            uint16_t port;
            int8_t value;
            uint8_t reserved[25];
        };
        struct {
            uint32_t zoneID;
            uint32_t doorID;
            uint32_t ioDeviceID;
        };
    };
};
```

```

        uint16_t port;
        uint8_t reserved[18];
    } alarm;
    struct {
        uint32_t zoneID;
        uint32_t doorID[4];
        uint8_t reserved[12];
    } interlock;
};
union {
    uint16_t code;
    struct {
        uint8_t subCode;
        uint8_t mainCode;
    };
};
uint8_t param;
#ifdef RENAME_IN_SDK_2_6_0
    BS2_BOOL image;          ///< 1 byte
#else
    // Supported DST from 2.6.0
    uint8_t image: 1;
    uint8_t isDST: 1;
    uint8_t half: 1;
    uint8_t hour: 4;
    uint8_t negative: 1;
#endif
} BS2Event;

```

1. *id*  
가 1 가 .
2. *dateTime*  
가 , UTC (sec) .
3. *deviceId*  
가 .
4. *userID*  
0 .
5. *uid*  
doorID , zoneID ,  
uid .  
uid, doorID, liftID, zoneID union .
6. *doorID*  
가 .
7. *liftID*  
가 .

8. *zoneID*

가

9. *ioDeviceID*

Door Input

Door Input

0

10. *port*

ioDeviceID port

11. *value*

ioDeviceID port value

BS2\_PORT\_VALUE\_UNKNOWN : -1

BS2\_PORT\_VALUE\_OPEN : 0

BS2\_PORT\_VALUE\_CLOSED : 1

BS2\_PORT\_VALUE\_SUPERVISED\_SHORT : 2

BS2\_PORT\_VALUE\_SUPERVISED\_OPEN : 3

12. *alarm.zoneID*13. *alarm.doorID*14. *interlock.zoneID*15. *interlock.doorID*16. *subCode*

가 가

|            |                                            |      |             |
|------------|--------------------------------------------|------|-------------|
|            |                                            |      |             |
| Verify     | BS2_SUB_EVENT_VERIFY_ID_PIN                | 0x01 | PIN         |
|            | BS2_SUB_EVENT_VERIFY_ID_FINGER             | 0x02 |             |
|            | BS2_SUB_EVENT_VERIFY_ID_FINGER_PIN         | 0x03 | PIN         |
|            | BS2_SUB_EVENT_VERIFY_ID_FACE               | 0x04 |             |
|            | BS2_SUB_EVENT_VERIFY_ID_FACE_PIN           | 0x05 | PIN         |
|            | BS2_SUB_EVENT_VERIFY_CARD                  | 0x06 |             |
|            | BS2_SUB_EVENT_VERIFY_CARD_PIN              | 0x07 | PIN         |
|            | BS2_SUB_EVENT_VERIFY_CARD_FINGER           | 0x08 |             |
|            | BS2_SUB_EVENT_VERIFY_CARD_FINGER_PIN       | 0x09 | , , PIN     |
|            | BS2_SUB_EVENT_VERIFY_CARD_FACE             | 0x0A |             |
|            | BS2_SUB_EVENT_VERIFY_CARD_FACE_PIN         | 0x0B | , , PIN     |
|            | BS2_SUB_EVENT_VERIFY_AOC                   | 0x0C | AOC         |
|            | BS2_SUB_EVENT_VERIFY_AOC_PIN               | 0x0D | AOC PIN     |
|            | BS2_SUB_EVENT_VERIFY_AOC_FINGER            | 0x0E | AOC         |
|            | BS2_SUB_EVENT_VERIFY_AOC_FINGER_PIN        | 0x0F | AOC , , PIN |
| Identify   | BS2_SUB_EVENT_IDENTIFY_FINGER              | 0x01 |             |
|            | BS2_SUB_EVENT_IDENTIFY_FINGER_PIN          | 0x02 | PIN         |
|            | BS2_SUB_EVENT_IDENTIFY_FACE                | 0x03 |             |
|            | BS2_SUB_EVENT_IDENTIFY_FACE_PIN            | 0x04 | PIN         |
| Auth       | BS2_SUB_EVENT_DUAL_AUTH_FAIL_TIMEOUT       | 0x01 | ( 2 )       |
|            | BS2_SUB_EVENT_DUAL_AUTH_FAIL_ACCESS_GROUP  | 0x02 | 2           |
| Credential | BS2_SUB_EVENT_CREDENTIAL_ID                | 0x01 |             |
|            | BS2_SUB_EVENT_CREDENTIAL_CARD              | 0x02 |             |
|            | BS2_SUB_EVENT_CREDENTIAL_PIN               | 0x03 | PIN         |
|            | BS2_SUB_EVENT_CREDENTIAL_FINGER            | 0x04 |             |
|            | BS2_SUB_EVENT_CREDENTIAL_FACE              | 0x05 |             |
|            | BS2_SUB_EVENT_CREDENTIAL_AOC_PIN           | 0x06 | AOC PIN     |
|            | BS2_SUB_EVENT_CREDENTIAL_AOC_FINGER        | 0x07 | AOC         |
| Auth       | BS2_SUB_EVENT_AUTH_FAIL_INVALID_AUTH_MODE  | 0x01 |             |
|            | BS2_SUB_EVENT_AUTH_FAIL_INVALID_CREDENTIAL | 0x02 |             |
|            | BS2_SUB_EVENT_AUTH_FAIL_TIMEOUT            | 0x03 |             |

|        |                                          |      |           |
|--------|------------------------------------------|------|-----------|
|        |                                          |      |           |
| Access | BS2_SUB_EVENT_ACCESS_DENIED_ACCESS_GROUP | 0x01 |           |
|        | BS2_SUB_EVENT_ACCESS_DENIED_DISABLED     | 0x02 |           |
|        | BS2_SUB_EVENT_ACCESS_DENIED_EXPIRED      | 0x03 |           |
|        | BS2_SUB_EVENT_ACCESS_DENIED_ON_BLACKLIST | 0x04 |           |
|        | BS2_SUB_EVENT_ACCESS_DENIED_APB          | 0x05 | APB       |
|        | BS2_SUB_EVENT_ACCESS_DENIED_TIMED_APB    | 0x06 | Timed APB |
|        | BS2_SUB_EVENT_ACCESS_DENIED_FORCED_LOCK  | 0x07 |           |
| APB    | BS2_SUB_EVENT_ZONE_HARD_APB              | 0x01 | APB       |
|        | BS2_SUB_EVENT_ZONE_SOFT_APB              | 0x02 | APB       |

### 17. mainCode

|      |                                   |        |             |
|------|-----------------------------------|--------|-------------|
|      |                                   |        |             |
| Auth | BS2_EVENT_VERIFY_SUCCESS          | 0x1000 | 1:1         |
|      | BS2_EVENT_VERIFY_FAIL             | 0x1100 | 1:1         |
|      | BS2_EVENT_VERIFY_DURESS           | 0x1200 | 1:1         |
|      | BS2_EVENT_IDENTIFY_SUCCESS        | 0x1300 | 1:N         |
|      | BS2_EVENT_IDENTIFY_FAIL           | 0x1400 | 1:N         |
|      | BS2_EVENT_IDENTIFY_DURESS         | 0x1500 | 1:N         |
|      | BS2_EVENT_DUAL_AUTH_SUCCESS       | 0x1600 | (2 )        |
|      | BS2_EVENT_DUAL_AUTH_FAIL          | 0x1700 | (2 )        |
|      | BS2_EVENT_AUTH_FAILED             | 0x1800 |             |
|      | BS2_EVENT_ACCESS_DENIED           | 0x1900 | 가 APB       |
|      | BS2_EVENT_FAKE_FINGER_DETECTED    | 0x1A00 |             |
| User | BS2_EVENT_USER_ENROLL_SUCCESS     | 0x2000 |             |
|      | BS2_EVENT_USER_ENROLL_FAIL        | 0x2100 |             |
|      | BS2_EVENT_USER_UPDATE_SUCCESS     | 0x2200 |             |
|      | BS2_EVENT_USER_UPDATE_FAIL        | 0x2300 |             |
|      | BS2_EVENT_USER_DELETE_SUCCESS     | 0x2400 |             |
|      | BS2_EVENT_USER_DELETE_FAIL        | 0x2500 |             |
|      | BS2_EVENT_USER_DELETE_ALL_SUCCESS | 0x2600 |             |
|      | BS2_EVENT_USER_ISSUE_AOC_SUCCESS  | 0x2700 | Access card |

|                  |                                        |        |                            |
|------------------|----------------------------------------|--------|----------------------------|
|                  |                                        |        |                            |
| Device           | BS2_EVENT_DEVICE_SYSTEM_RESET          | 0x3000 |                            |
|                  | BS2_EVENT_DEVICE_SYSTEM_STARTED        | 0x3100 |                            |
|                  | BS2_EVENT_DEVICE_TIME_SET              | 0x3200 |                            |
|                  | BS2_EVENT_DEVICE_LINK_CONNECTED        | 0x3300 | LAN                        |
|                  | BS2_EVENT_DEVICE_LINK_DISCONNECTED     | 0x3400 | LAN                        |
|                  | BS2_EVENT_DEVICE_DHCP_SUCCESS          | 0x3500 | DHCP IP                    |
|                  | BS2_EVENT_DEVICE_ADMIN_MENU            | 0x3600 |                            |
|                  | BS2_EVENT_DEVICE_UI_LOCKED             | 0x3700 |                            |
|                  | BS2_EVENT_DEVICE_UI_UNLOCKED           | 0x3800 |                            |
|                  | BS2_EVENT_DEVICE_COMM_LOCKED           | 0x3900 | RS485                      |
|                  | BS2_EVENT_DEVICE_COMM_UNLOCKED         | 0x3A00 | RS485                      |
|                  | BS2_EVENT_DEVICE_TCP_CONNECTED         | 0x3B00 | TCP                        |
|                  | BS2_EVENT_DEVICE_TCP_DISCONNECTED      | 0x3C00 | TCP                        |
|                  | BS2_EVENT_DEVICE_RS485_CONNECTED       | 0x3D00 | RS485                      |
|                  | BS2_EVENT_DEVICE_RS485_DISCONNECTED    | 0x3E00 | RS485                      |
|                  | BS2_EVENT_DEVICE_INPUT_DETECTED        | 0x3F00 | 가                          |
|                  | BS2_EVENT_DEVICE_TAMPER_ON             | 0x4000 | 가                          |
|                  | BS2_EVENT_DEVICE_TAMPER_OFF            | 0x4100 | 가                          |
|                  | BS2_EVENT_DEVICE_EVENT_LOG_CLEARED     | 0x4200 |                            |
|                  | BS2_EVENT_DEVICE_FIRMWARE_UPGRADED     | 0x4300 | 가                          |
|                  | BS2_EVENT_DEVICE_RESOURCE_UPGRADED     | 0x4400 | 가                          |
|                  | BS2_EVENT_DEVICE_CONFIG_RESET          | 0x4500 | 가                          |
|                  | BS2_EVENT_DEVICE_DATABASE_RESET        | 0x4501 | 가                          |
|                  | BS2_EVENT_DEVICE_FACTORY_RESET         | 0x4502 |                            |
|                  | BS2_EVENT_DEVICE_CONFIG_RESET_EX       | 0x4503 | 가                          |
| Supervised Input | BS2_EVENT_SUPERVISED_INPUT_SHORT       | 0x4600 | Supervised Input ( )       |
|                  | BS2_EVENT_SUPERVISED_INPUT_OPEN        | 0x4700 | Supervised Input ( )       |
| Device-Ex        | BS2_EVENT_DEVICE_AC_FAIL               | 0x4800 | AC Power                   |
|                  | BS2_EVENT_DEVICE_AC_SUCCESS            | 0x4900 | AC Power                   |
| Door             | BS2_EVENT_DOOR_UNLOCKED                | 0x5000 |                            |
|                  | BS2_EVENT_DOOR_LOCKED                  | 0x5100 |                            |
|                  | BS2_EVENT_DOOR_OPENED                  | 0x5200 |                            |
|                  | BS2_EVENT_DOOR_CLOSED                  | 0x5300 |                            |
|                  | BS2_EVENT_DOOR_FORCED_OPEN             | 0x5400 |                            |
|                  | BS2_EVENT_DOOR_HELD_OPEN               | 0x5500 |                            |
|                  | BS2_EVENT_DOOR_FORCED_OPEN_ALARM       | 0x5600 | BS2_EVENT_DOOR_FORCED_OPEN |
|                  | BS2_EVENT_DOOR_FORCED_OPEN_ALARM_CLEAR | 0x5700 | BS2_EVENT_DOOR_FORCED_OPEN |
|                  | BS2_EVENT_DOOR_HELD_OPEN_ALARM         | 0x5800 | BS2_EVENT_DOOR_HELD_OPEN   |
|                  | BS2_EVENT_DOOR_HELD_OPEN_ALARM_CLEAR   | 0x5900 | BS2_EVENT_DOOR_HELD_OPEN   |
|                  | BS2_EVENT_DOOR_APB_ALARM               | 0x5A00 | APB                        |
|                  | BS2_EVENT_DOOR_APB_ALARM_CLEAR         | 0x5B00 | APB                        |
|                  | BS2_EVENT_DOOR_RELEASE                 | 0x5C00 |                            |
|                  | BS2_EVENT_DOOR_LOCK                    | 0x5D00 |                            |
|                  | BS2_EVENT_DOOR_UNLOCK                  | 0x5E00 |                            |

|      |                                        |        |                                    |
|------|----------------------------------------|--------|------------------------------------|
|      |                                        |        |                                    |
| Zone | BS2_EVENT_ZONE_APB_VIOLATION           | 0x6000 | APB                                |
|      | BS2_EVENT_ZONE_APB_ALARM               | 0x6100 | BS2_EVENT_ZONE_APB_VIOLATION       |
|      | BS2_EVENT_ZONE_APB_ALARM_CLEAR         | 0x6200 | BS2_EVENT_ZONE_APB_VIOLATION       |
|      | BS2_EVENT_ZONE_TIMED_APB_VIOLATION     | 0x6300 | TIMED APB                          |
|      | BS2_EVENT_ZONE_TIMED_APB_ALARM         | 0x6400 | BS2_EVENT_ZONE_TIMED_APB_VIOLATION |
|      | BS2_EVENT_ZONE_TIMED_APB_ALARM_CLEAR   | 0x6500 | BS2_EVENT_ZONE_TIMED_APB_VIOLATION |
|      | BS2_EVENT_ZONE_FIRE_ALARM_INPUT        | 0x6600 |                                    |
|      | BS2_EVENT_ZONE_FIRE_ALARM              | 0x6700 | BS2_EVENT_ZONE_FIRE_ALARM_INPUT    |
|      | BS2_EVENT_ZONE_FIRE_ALARM_CLEAR        | 0x6800 | BS2_EVENT_ZONE_FIRE_ALARM_INPUT    |
|      | BS2_EVENT_ZONE_FORCED_LOCK_VIOLATION   | 0x6900 |                                    |
|      | BS2_EVENT_ZONE_FORCED_LOCK_START       | 0x6A00 |                                    |
|      | BS2_EVENT_ZONE_FORCED_LOCK_END         | 0x6B00 |                                    |
|      | BS2_EVENT_ZONE_FORCED_UNLOCK_START     | 0x6C00 |                                    |
|      | BS2_EVENT_ZONE_FORCED_UNLOCK_END       | 0x6D00 |                                    |
|      | BS2_EVENT_ZONE_FORCED_LOCK_ALARM       | 0x6E00 |                                    |
|      | BS2_EVENT_ZONE_FORCED_LOCK_ALARM_CLEAR | 0x6F00 |                                    |

18. param

가 가 ,  
가 . 가 .

|              |                     |       |    |
|--------------|---------------------|-------|----|
|              |                     |       |    |
| BioStation 2 | BS2_TNA_UNSPECIFIED | (N/A) | 0  |
|              | BS2_TNA_KEY_1       | F1    | 1  |
|              | BS2_TNA_KEY_2       | F2    | 2  |
|              | BS2_TNA_KEY_3       | F3    | 3  |
|              | BS2_TNA_KEY_4       | F4    | 4  |
|              | BS2_TNA_KEY_5       | 1     | 5  |
|              | BS2_TNA_KEY_6       | 2     | 6  |
|              | BS2_TNA_KEY_7       | 3     | 7  |
|              | BS2_TNA_KEY_8       | 4     | 8  |
|              | BS2_TNA_KEY_9       | 5     | 9  |
|              | BS2_TNA_KEY_10      | 6     | 10 |
|              | BS2_TNA_KEY_11      | 7     | 11 |
|              | BS2_TNA_KEY_12      | 8     | 12 |
|              | BS2_TNA_KEY_13      | 9     | 13 |
|              | BS2_TNA_KEY_14      | Call  | 14 |
|              | BS2_TNA_KEY_15      | 0     | 15 |
|              | BS2_TNA_KEY_16      | Esc   | 16 |

19. image

SDK V2.5      1byte

- 가 (ture/false).
- SDK V2.6 1byte bit ,
- 가
- DST

|         |   |          |                      |
|---------|---|----------|----------------------|
|         |   |          |                      |
| SDK 2.5 | 8 | image    | 가 .                  |
| SDK 2.6 | 1 | image    | 가 .                  |
|         | 1 | isDST    | 가 DST                |
|         | 1 | half     | DST가 30 . 0 0 , 1 30 |
|         | 4 | hour     | . 1~12               |
|         | 1 | negative | 0 + , 1 -            |

BS2EventBlob

```
typedef struct {
    uint16_t eventMask;
    uint32_t id;
    BS2EventExtInfo info;
    union
    {
        BS2_USER_ID userID; // valid if eventMask has
        BS2_EVENT_MASK_USER_ID
        uint8_t cardID[BS2_CARD_DATA_SIZE]; // valid if eventMask has
        BS2_EVENT_MASK_CARD_ID
        BS2_D00R_ID doorID; // valid if eventMask has
        BS2_EVENT_MASK_DOOR_ID
        BS2_ZONE_ID zoneID; // valid if eventMask has
        BS2_EVENT_MASK_ZONE_ID
        BS2EventExtIoDevice ioDevice; // valid if eventMask has
        BS2_EVENT_MASK_IODEVICE
    };
    uint8_t tnaKey;
    uint32_t jobCode;
    uint16_t imageSize;
    uint8_t image[BS2_EVENT_MAX_IMAGE_SIZE];
    uint8_t reserved;
} BS2EventBlob;
```

1. eventMask  
Event mask . mask ID(User, card, door, zone) .

|   |                 |
|---|-----------------|
|   |                 |
| 0 |                 |
| 1 | BS2EventExtInfo |
| 2 | User ID         |

|       |                     |
|-------|---------------------|
|       |                     |
| 4     | Card ID             |
| 8     | Door ID             |
| 16    | Zone ID             |
| 32    | BS2EventExtIoDevice |
| 64    | Door ID             |
| 128   | Zone ID             |
| 256   | TNA Key             |
| 512   | Job Code            |
| 1024  | Image               |
| 65535 | ALL                 |

2. *id*

가1가.
3. *info*

BS2EventExtInfo.
4. *userID*

0.
5. *cardID*

cardcard0.
6. *doorID*

doordoor0.
7. *zoneID*

zonezone0.
8. *ioDevice*

Door InputDoor Input0.  
(BS2EventExtIoDevice)
9. *tnaKey*

가가,
10. *jobCode*

JobCode가, JobCodeJobCode.
11. *imageSize*

size.
12. *image*

가
13. *reserved*

.

BS2EventExtInfo

```
typedef struct {
    uint32_t dateTime;
    uint32_t deviceID;
    union {                                     ///< 2 bytes
        BS2_EVENT_CODE code;
        struct {
            uint8_t subCode;
            uint8_t mainCode;
        };
    };
    uint8_t reserved[2];
} BS2EventExtInfo;
```

1. *dateTime*  
가 , UTC (sec) .
2. *deviceID*  
가 .
3. *subCode*  
 . 가 가
4. *mainCode*  
 .
5. *reserved*  
 .

BS2EventExtIoDevice

```
typedef struct {
    uint32_t ioDeviceID;
    uint16_t port;
    uint8_t value;
    uint8_t reserved[1];
} BS2EventExtIoDevice;
```

1. *ioDeviceID*  
Door Input Door Input 0 .
2. *port*  
port number .
3. *value*

port

|    |                  |
|----|------------------|
|    |                  |
| -1 | UNKNOWN          |
| 0  | Open             |
| 1  | Closed           |
| 2  | Supervised Short |
| 3  | Supervised Open  |

4. *reserved*

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