

Contents

一、	Communication format description.....	
	1. Data transmission.....	3
	2. Command receiving.....	3
二、	Specific Instructions.....	4
	2.1 Card operation.....	4
	2.2 Scan code data operation.....	4
	2.3 Command Receive.....	5

一、Communication format description

1. Data transmission (To PC)

STX (2 bytes)	Card Type(1 byte)	Command (1 byte)	Length(2 bytes)	Block (1 byte)	Data Content	LRC(BCC)(1 byte)
0x0201/0x0202	0x20/0x37(Only when reading the card)				Card number or Barcode reading data	FF^data's ASCII

1. STX: Scan 2D barcode start mark 0x0201, scan the IC card start mark 0x0202
2. 0x20: Type-A; 0x37: Type-B; this byte only exists when swiping the card.
3. Command: Command code, same as receiving
4. Length: The length of the data content, with the low bit in front and the high bit in the back (only 1 byte in PCD).
5. Block: the block number read (only exists when the block is read)
6. The data content format is card number or block content.
7. LRC check, check method is FF^data's ASCII. (No verification in PCD, implemented in S3)

Note: When sending a write command, if the write is successful, it will reply 02 02 06 06 06

When reading or writing fails, it will reply 02 02 15 15 15

2. Command Receiving (From PC)

STX (1 bytes)	Length(1 byte)	Command (1 byte)	Block(1 byte)	PW-Type(1 byte)	PassWord(A/B) (6 bytes)	Data(16 bytes)	LRC(1 byte)
0x68							ADD8

1. STX: 0x68
2. length: total length, including head and lrc
3. Command: specific operating instructions
4. block: block number for reading and writing (only exists in reading and writing instructions)
5. TYPE: Secret key type (1: A secret. 0: B secret. Only exists in read and write commands)
6. Password: A password or B password (the password corresponding to the sector, only exists in read and write commands)
7. Data: The data to be written (M1 card is 16 bytes, and only exists when writing)
8. LRC: the sum from STX to Type.

二、Specific Instructions

2.1 Card Operation

2.1.1 Data upload

Scan IC card data in real time, and upload it if there is card data.

(Note: Add the IC card departure monitoring function. After scanning the IC card once, you need to leave the venue and enter the venue to continue collecting card information.)

For example: If the card number is 623061 571022 788314

The reply format is: 0x0202+0x1200+0x20+0x38+623061 571022 788314+LRC

LRC=0xFF^0x36^0x32^0x33^0x30^0x36^0x31^0x35^0x37^0x31^0x30^0x32^0x32^0x37^0x38^0x38^0x33^0x31^0x34=0xFD.

CRC校验工具 异或校验工具

Hex Ascii

需要校验的数据: FF 36 32 33 30 36 31 35 37 31 30 32 32 37 38 38 33 31 34

输入的数据为16进制, 例如: 31 32 33 34

异或校验 19 Bytes

校验计算结果 (Hex) : FD

校验计算结果 (Dec) : 253

校验计算结果 (Oct) : 375

校验计算结果 (Bin) : 1111 1101

图 2.1

2.2 Scan code data operation

2.2.1 Data upload

The scanning mode can be continuous scanning, Auto sense scanning, and Manual trigger scanning. Upload in real time.

For example, the barcode data is 45678

The reply format is: 0x0201+0x0500+45678+LRC

LRC=0xFF^0x34^0x35^0x36^0x37^0x38=0xC7

CRC校验工具 异或校验工具

Hex Ascii

需要校验的数据:

输入的数据为16进制, 例如: 31 32 33 34

 6 Bytes

校验计算结果 (Hex):

校验计算结果 (Dec):

校验计算结果 (Oct):

校验计算结果 (Bin):

Online verification website: <http://www.metools.info/code/c48.html>

Note: The initial value FF needs to be added.

2.3 Instruction receiving

2.2.1 Specific Command

Command	Operation
0x1e	Initialize card A
0x1f	Initialize card B
0x20	Find A card
0x21	Set A card to idle state
0x22	read M1 card
0x23	Write M1 card
0x24	M1 card wallet function initialization (not implemented)
0x25	M1 card money increase (not implemented)
0x26	M1 card money reduction (not implemented)
0x27	M1 card reader wallet (not implemented)
0x28	Read M0 card (not tested)
0x29	Write M0 card (not tested)
0x2a	RTAS (reply to selected reply)
0x2b	Half-duplex mode switch
0x2c	detection mode

0x2d	test mode
0x2e	test terminated
0x30	Find B card
0x31	Set B card to idle state
0x32	Read B card
0x33	Write B card
0x38	Get A card UID
0x39	Get B card UID

Example 1: Read one M1 card;

Host computer instruction: 68 0C 22 03 01 FF FF FF FF FF FF 94

PCD reply: 02 02 20 10 22 01 12 12 44 55 00 00 00 00 00 00 00 00 00 00 00

Example 2: Get A card UID:

Host computer instructions: 68 04 38 A4

PCD reply: 02 02 20 04 89 40 59 43

Example 3: Write 2 M1 cards;

Write: PC command: 68 1c 23 02 01 ff ff ff ff ff ff 23 02 26 95 74 70 00 00 00 00 00 00 00 00 00 00 00 00 67

Read: 68 0c 22 01 01 ff ff ff ff ff ff 92

PCD reply: 02 02 20 10 22 01 23 02 26 95 74 70 00 00 00 00 00 00 00 00 00 00 003

Example 5: Obtain the card UID;

Host computer instructions: 68 04 38 A4

PCD reply: 02 02 20 38 04 89 40 59 43

That is, the UID is 89 40 59 43