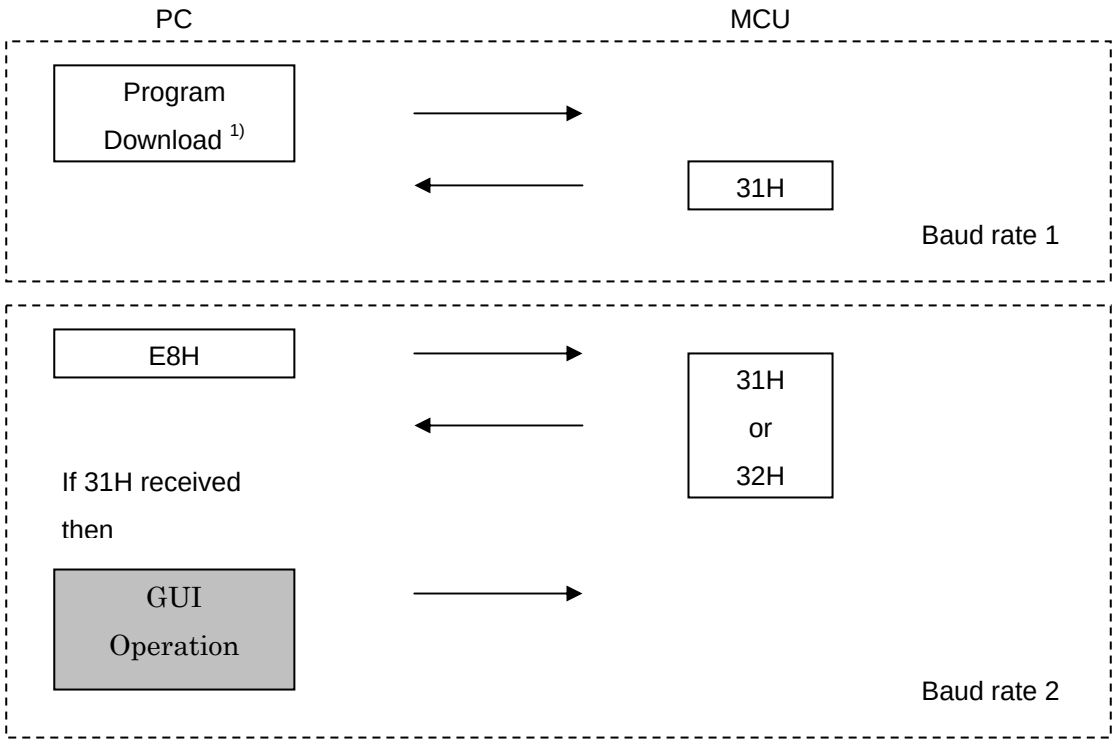
FM3 Flash MCU Programmer Communication Specification

Date: 2012/10/30

Version: V01L06,b1

Download Operation

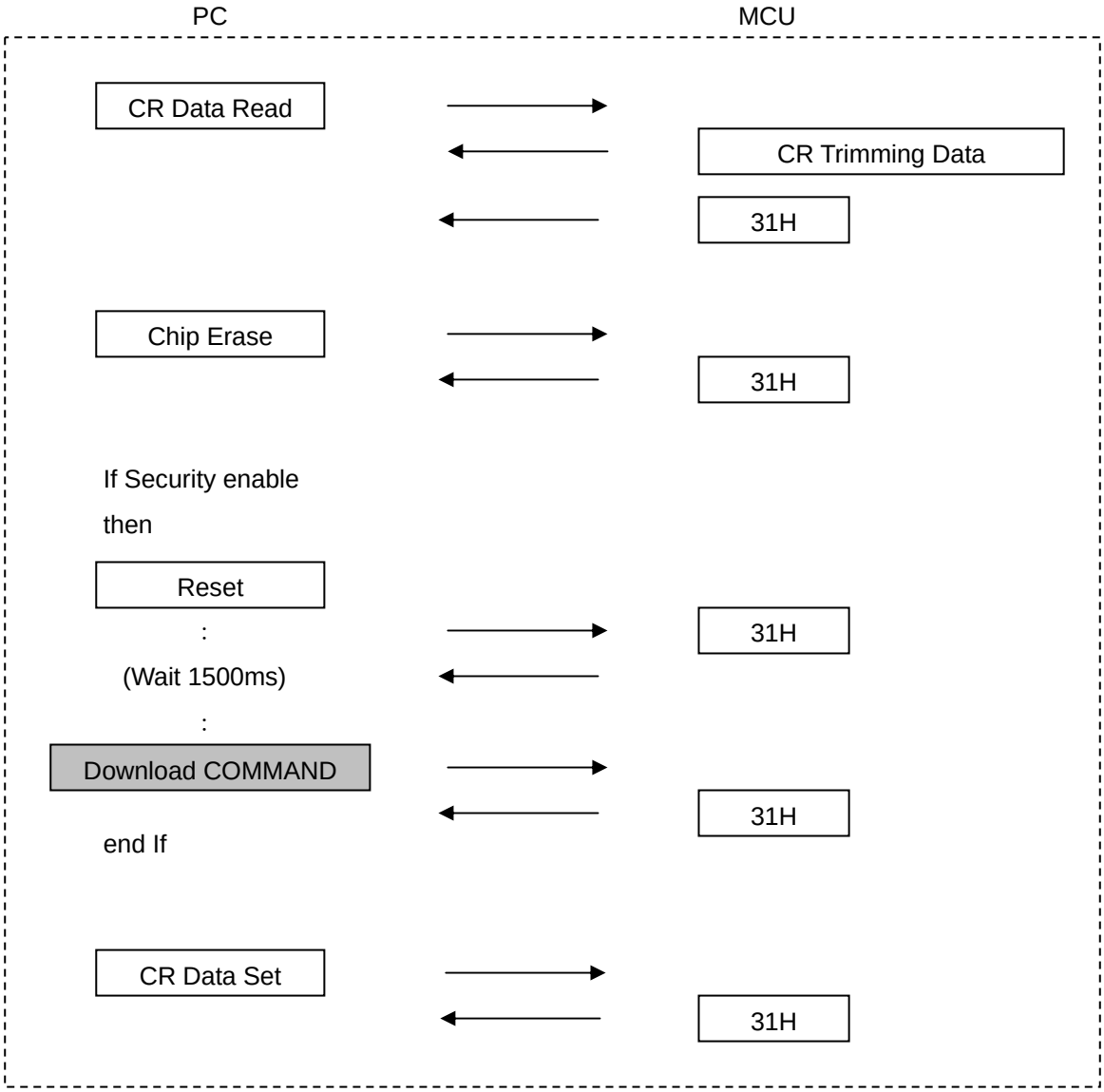


1) Please refer to serial programming specification.

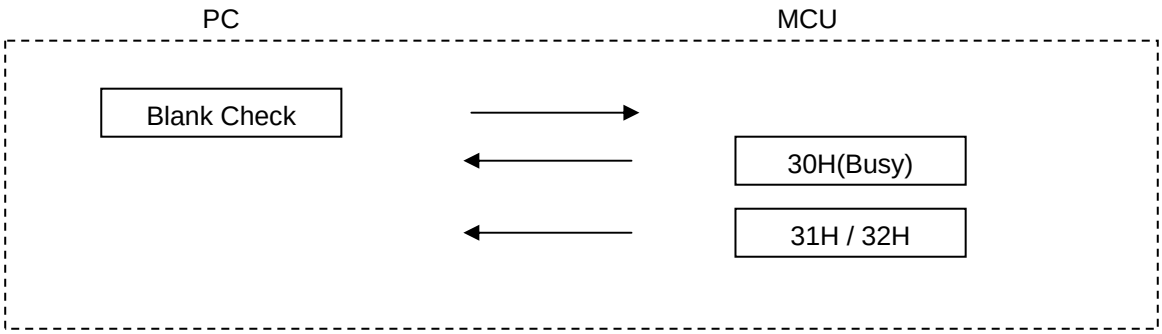
2) Baud rate1 applied serial programming specification.

3) Baud rate2 applied Download Program specification.

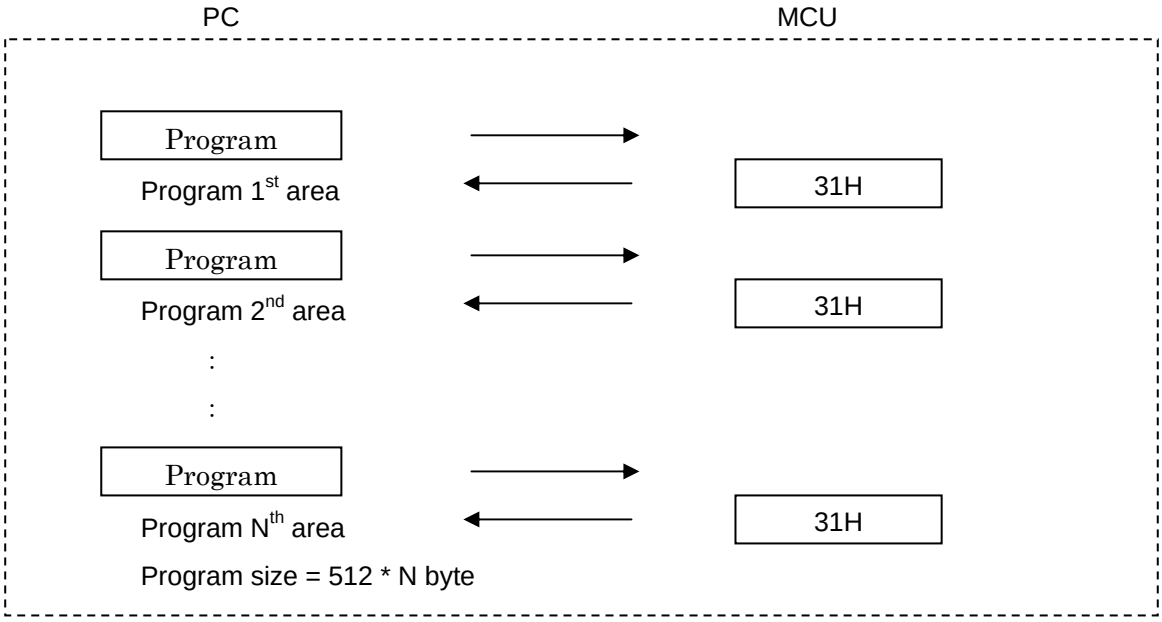
Erase Operation



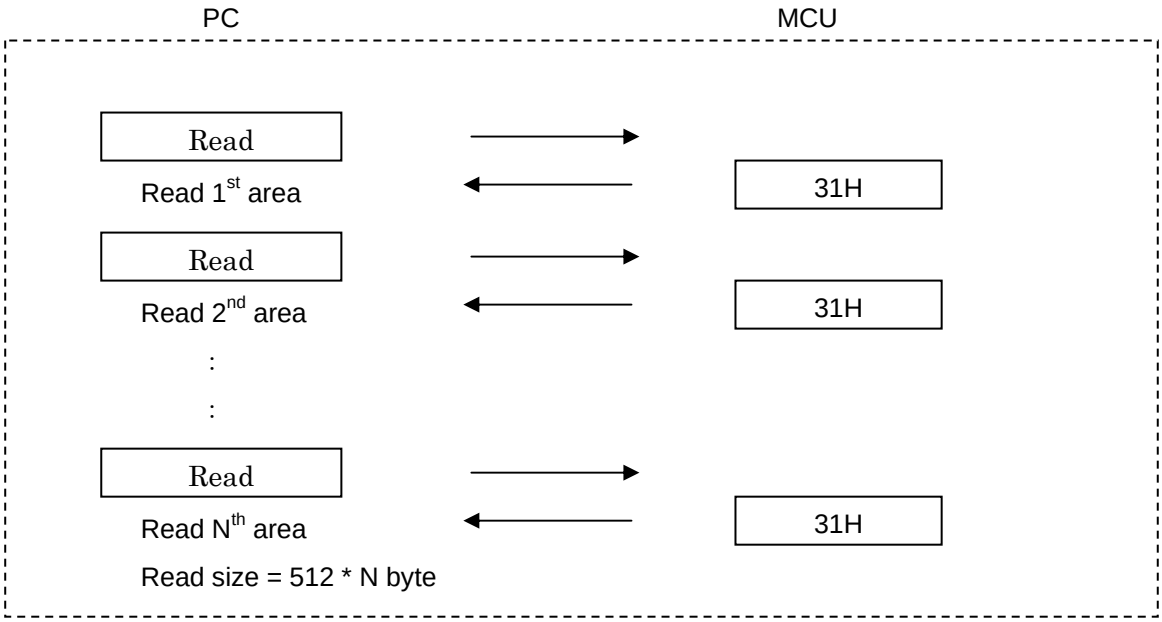
Blank Check Operation



Program & Verify Operation



Read & Compare / Copy Operation



Chip Erase Command

Byte	PC ---> MCU	MCU ---> PC
1	Erase command (38H)	-
2	Start Address A0-A7	-
3	Start Address A8-A15	-
4	Start Address A16-A23	-
5	Start Address A24-A31	-
6	-	Busy (30H)
7	-	End (31H) / Erase Error (34H)

CR Data Read Command

Byte	PC -→ MCU	MCU -→ PC
1	Security Check command (39H)	-
2	CR-Data Address A0-A7(Dummy)	-
3	CR-Data Address A8-A15(Dummy)	-
4	CR-Data Address A16-A23(Dummy)	-
5	CR-Data Address A24-A31(Dummy)	-
6	-	Busy (30H)
7	-	CR Trimming Data D0-D7
8	-	CR Trimming Data D8-D15
9	-	CR Trimming Data D16-D23
10	-	CR Trimming Data D24-D31
11	-	CR Mirror Data D0-D7
12	-	CR Mirror Data D8-D15
13		CR Mirror Data D16-D23
14		CR Mirror Data D24-D31
15	-	End (31H) / Error (34H)

CR Data Set Command

Byte	PC ---> MCU	MCU ---> PC
1	CR Data Set command (3AH)	-
2	CR Mirror Data D0-D7	-
3	CR Mirror Data D8-D15	-
4	CR Mirror Data D16-D23	-
5	CR Mirror Data D24-D31	-
6	-	Busy (30H)
7	-	OK (31H) / Error (32H)

Reset Command

Byte	PC ---> MCU	MCU ---> PC
1	Reset command (78H)	-
2	Dummy Data 1	-
3	Dummy Data 2	-
4	Dummy Data 3	-
5	Dummy Data 4	-
6	-	Busy (30H)
7	-	OK (31H) / Error (32H)

* MCU is reset after command response.

Blank Check Command (h' FFFF check)

Byte	PC ---> MCU	MCU ---> PC
1	Blank check command (48H)	-
2	Start Address A0-A7	-
3	Start Address A8-A15	-
4	Start Address A16-A23	-
5	Start Address A24-A31	-
6	-	Busy (30H)
7	End Address A0-A7	-
8	End Address A8-A15	-
9	End Address A16-A23	-
10	End Address A24-A31	-
11	-	End (31H) / Blank check Error (34H)

* If data stored is not FFFFh than MCU return error address (4byte) and error data (4byte) after error code 34h.

Program Command

Byte	PC ---> MCU	MCU ---> PC
1	Write command (08H)	-
2	Start Address A0-A7	-
3	Start Address A8-A15	-
4	Start Address A16-A23	-
5	Start Address A24-A31	-
6	-	Busy (30H)
7	-	End (31H)
8	Write data 1	-
9	Write data 2	-
:	:	:
519	Write data 512	-
520	CRC 1	-
521	CRC 2	-
522	-	Busy (30H)
523	-	End (31H) / Write Error (34H) / CRC Error (35H)

* CRC : CCITT X.25 is applied (Generation polynomial is X^16+X^12+X^5+1).

* MCU return error address (4byte), correct data (4byte) and error data (4byte) after error code 34h.

Read Command

Byte	PC ---> MCU	MCU ---> PC
1	Read command (28H)	-
2	Start Address A0-A7	-
3	Start Address A8-A15	-
4	Start Address A16-A23	-
5	Start Address A24-A31	-
6	-	Busy (30H)
7	-	End (31H)
8	-	Read data 1
9	-	Read data 2
:	:	:
519	-	Read data 512
520	-	CRC 1
521	-	CRC 2
522	-	End (31H)

* CRC : CCITT X.25 is applied (Generation polynomial is X^16+X^12+X^5+1).