Read & Set RTC via Serial Port

1. Check chapter 1.3(Memory Space→ Register) of the DGUS Development Guide as bellow：

0x10-0x1A	R0-RA	11	Mapping of SD card config. register, read only
0x1F	RTC_COM_ADJ	1	0x5A: RTC data is rewritten through serial port, clear after RTC auto updating.
0x20	RTC_NOW	16	YY:MM:DD:WW:HH:MM:SS
Send serial command to modify current time, e.g.: A5 5A 0A 80 1F 5A 12 10 25 0412 00 01. (BCD Format) "04" means Thursday, it can be written as any day you choose.			
0x30-0x3F	Reserve	16	Undefined.

If you want read or write the RTC of LCM, you have to access the **register address 0x1F & 0x20**.

2. Check the chapter 2.2(Command Set) of the DGUS Development Guide as bellow：

Data	1	2	3	4	5
Definition	Frame Header	Data Length	Command	Data	CRC checksum of the command and data
Data Length	2	1	1	N	2
Description	Defined by R3 & RA in CONFIG.TXT	Data length, include command, data and checksum	0x80-0x84		Defined by R2 in CONFIG.TXT

Function	CMD	Data	Description
Access Register	0x80	ADR(0x00-0xFF)+Data_Pack	Write data in designated addresses in register.
	0x81	ADR(0x00-0xFF)+RD_LEN(0x00-0xFF)	Read data in designated addresses in register.
		ADR(0x00-0xFF)+RD_LEN+Data_Pack	Response of DGUS module.
Access Variable	0x82	ADR_H:L(0x0000-0x6FFF)+DATA0…DATAn	Write data in designated addresses in variable SRAM.
		ADR_H:L(0x0000-0x6FFF)+RD_LEN(0x00-0x	Read data in designated addresses in variable

Read data from register, command **0x81.**

Write data to register, command **0x80.**

3. Read RTC

For example：

Frame header=A5 5A

Read the current time of LCM

Send command：

5A A5 03 81 20 07

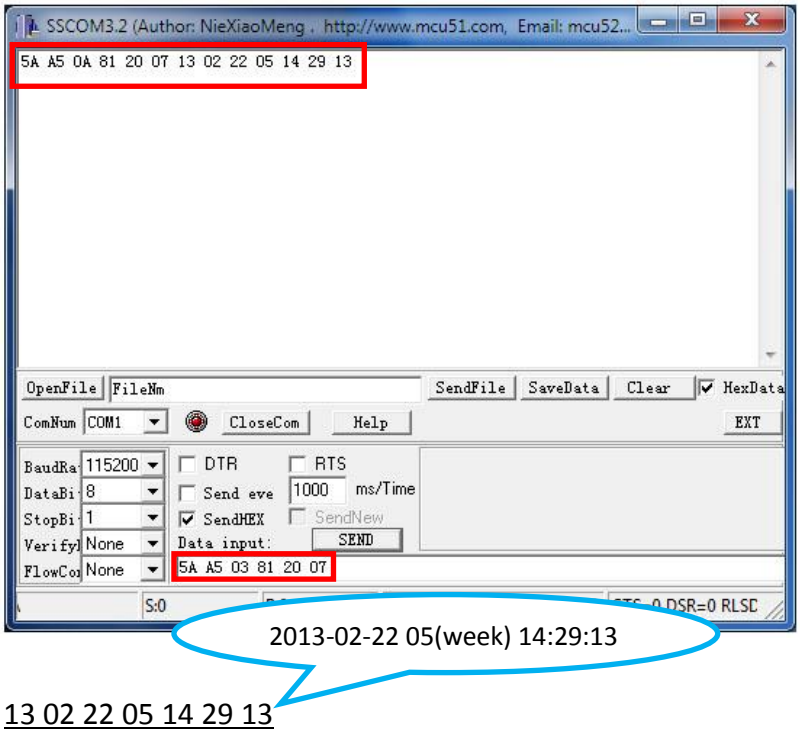
03----3 byte, data length from 81 to the end.

81----Command for reading register

20----Register 0x20

07----Length of time by byte

The LCM receives the command and will response the current time as below:



Response:

5A A5 0A 81 20 07 13 02 22 05 14 29 13

4. Set RTC

Set RTC, write 5A into register 0x1F first that means the RTC data is set through serial port.

For example：

Set the time to be 2013-02-20 04(week) 17:30:00

Send command：

A5 5A 0A 80 1F 5A 13 02 20 04 17 30 00

0A----10Byte, length of data from 80 to the end.

80---- Command for writing data from register

1F---- Register 0x1F

5A---- Like a flag to begin set RTC

13 02 20 04 17 30 00----New time