

ARDUINO + SIM800L

- UPDATING CLOCK TO NTP VIA GPRS
- USING THE PHONEBOOK ON SIM CARD



THE GSM GATE OPENER

SIM800 clock

- ▶ **AT+CCLK?**

Get date/time from SIM800 clock

- ▶ **AT+CCLK= "YY/MM/DD,HH:MM:SS±ZZ"**

Set SIM800 clock (ZZ is time zone multiplied by 4)

SIM800

GPRS

- ▶ **AT+SAPBR=3,1,"CONTYPE","GPRS"**
GPRS request «declaration»
- ▶ **AT+SAPBR=3,1,"APN","WAP.TIM.IT"**
defining APN of the service provider
- ▶ **AT+SAPBR=1,1**
start GPRS data communication
- ▶ **AT+SAPBR=2,1**
verify GPRS communication
- ▶ **AT+SAPBR=0,1**
close GPRS communication

Sync SIM800 clock via SNTP

- ▶ **AT+CCLK= " 01/01/01,01:01:01±08**
Set SIM800 clock with a known date and Italy TZ (+2)
- ▶ **(WHILE GPRS IS ON)**
- ▶ **AT+CNTPCID=1**
activate «bearer 1»
- ▶ **AT+CNTP="TIME.INRIM.IT",8**
defining NTP server and timezone
- ▶ **AT+CNTP**
clock synchronization
- ▶ **AT+CCLK?**
If returning "01/01/01.." synchronization went wrong

Warnings

- ▶ **NO AUTOMATIC ADJUST FOR DAYLIGHT SAVING**

You need to manage in your sketch the need to adjust the clock

- ▶ **SYNCHRONIZATION MAY FAIL**

There is a non-zero possibility that SNTP sync fails: clock may be unchanged or set to 0.

SIM card phonebook

▶ **AT+CPBW=<index>,<ph_num>,,<name>**

Stores <ph_num> and <name> in the <index> phonebook position.

- using the first free location if <index> not indicated
- if only <index> in command, it delete content

▶ **AT+CPBR=<index>**

Returns data in <index> pos. in phonebook.

▶ **AT+CPBF=<text>**

Find recordings having <text> in number or name

Automatic caller recognition

▶ IF AT+CLIP...

Setting AT+CLIP=1, SIM800 notifies caller info on phone call or SMS income

▶ ... NOTIFICATION REPORTS EVEN THE NAME

“+CLIP” (incoming call notification) e “+CMTI” (incoming SMS notification) report both caller phone number and related name stored in phonebook.

Name is blank id caller is not in phonebook

Syncing SIM800 clock to NTP server

Managing phonebook on SIM card

// set clock to a known date

```
AT+CCLK="01/01/01,01:01:01+08"
```

//starting GPRS

```
AT+SAPBR=3,1,"Contype","GPRS"
```

```
AT+SAPBR=3,1,"APN","wap.tim.it"
```

```
AT+SAPBR=1,1
```

```
AT+SAPBR=2,1
```

// syncing clock to NTP

```
AT+CNTPCID=1
```

```
AT+CNTP="time.inrim.it",8
```

```
AT+CNTP
```

```
AT+SAPBR=0,1
```

// verify

```
AT+CCLK?
```

// storing in phonebook

```
AT+CPBW=,11223344,,Nome
```

// listing phonebook content

```
AT+CPBF
```

// caller control

Incoming "+CLIP" e "+CMTI"
report number and name