## JAL: SI4432 Interactive Viewer

last updated: nov 2014, Stef Mientki

## Introduction

This is a small program for interactive writing and reading the registers of the SI4432.

This program might be very valuable in finding some tricky bugs. As an example, I was running with a bad power supply and some instructions (e.g. setting Tx-Power to max, changing GPIO-settings) were hanging the SI4432 so that no reliable SPI communication was possible. Software reset doesn't work either, because you will write to the wrong register. With this program it was discovered very quick. One of the weird things you'll see in that situation is that reading of all the registers, the values are shifted.

You can program the registers with the textcontrol on the right side. You can either use

- short cut: just type the addresse of the register and the value to program, like "5A BB"
- official JAL code, by using the function call SI4432\_Write (), as shown in the picture below

The numbers are always interpreted as hex values, even if they are not preceded by "0x". JAL comment is allowed.

## Pressing F9 executes

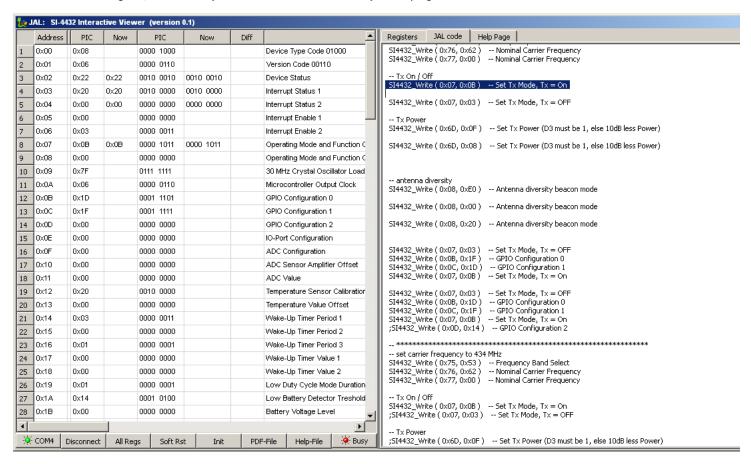
- the selected code, if there is a selection in the textcontrol
- the last block of code otherwise (last blok is determined by an empty line)

After the code is executed, a short delay and then the status registers are read from SI4432 and displayed in the column "Now".

The status registers used are:

var byte Regs [] = { 0x02, 0x03, 0x04, 0x07, 0x26, 0x28, 0x29, 0x36 }

0x36 is not a status register, but can easily be used to test the functionality of the program.



## **Buttons:**

Connect\Disconnect: toggle to connect or release the CommPort (so you can reprogram the device). Reconnecting genereates a reset op the PIC and if the PIC can communicate with the SI4432 also of this device.

All Regs: Get the current value of all registers

Soft Reset: Reset, if ShutDown pin is connected, a hardware reser is done, otherwise reset is done through register 0x07

Init: the Init procedure (which includes a soft reset) is called.

PDF-File: shows the AN440 regeister pdf file

Help-File: shows this file

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```
1455
              if RS232 <= 0x7F then
                 Value = serial_hw_data
SI4432_Write ( RS232, Value )
1456
1457
1458
              elsif RS232 == 0x80 then
  for count(Regs) using i loop
    serial_hw_write ( SI4432_Read ( Regs[i] ) )
1459
1460
1461
1462
                 end loop
1463
              elsif RS232 == 0x81 then
   SI4432_Dump_Registers ()
1464
1465
1466
              elsif RS232 == 0x82 then
1467
                 SI4432_Reset ()
SI4432_Dump_Registers ()
1468
1469
1470
1471
              elsif RS232 == 0x83 then
                 SI4432_Init_Interactive_Viewer ()
SI4432_Dump_Registers ()
1472
1473
1474
```