ABOV CodeGen32
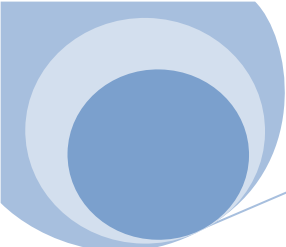## (Code Generator)
USER GUIDE

ABOV CodeGen32 (   )

@ ABOV   2013   .   ABOV

Release information

Version	Date	Change
V1.000.00	July 2016	First release

. ABOV   .

,   .

ABOV

.

.

ABOV

http://www.abov.co.kr

ABOV CodeGen32 (   )

1

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-

1.1

CodeGen32

1.1.1

CodeGen32

- MS-Windows NT
- MS-Windows 2000
- MS-Windows XP
- MS-Windows Vista
- MS-Windows7
- MS-Windows8
- MS-Windows10

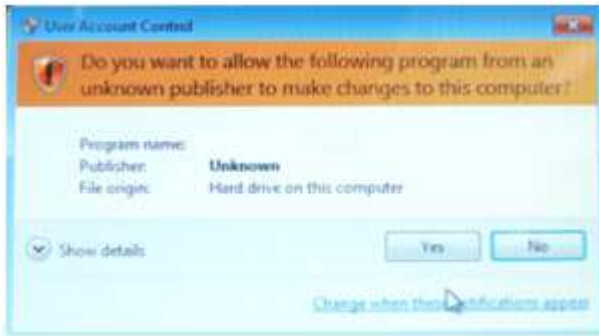100 MB

1.1.2

CodeGen32

- CPU

-

1.2

ABOV   CodeGen32   http://www.abov.co.kr
ABOV   CodeGen32   MCU   ABOV
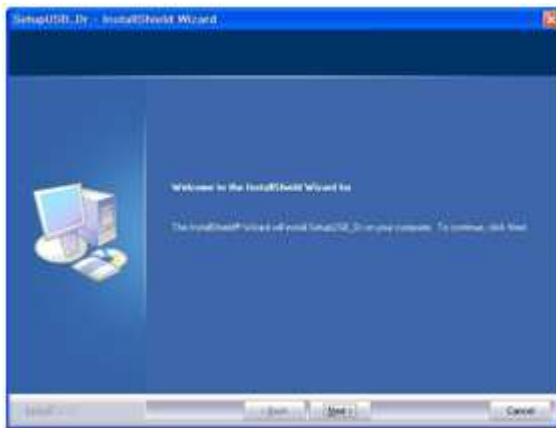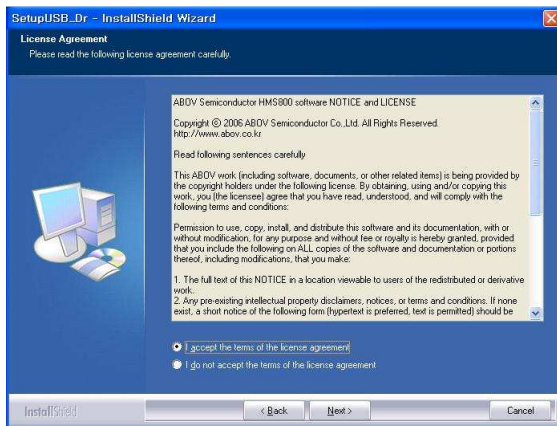   CodeGen32   CodeGen32   PC

1.2.1

"Yes"

"Next"
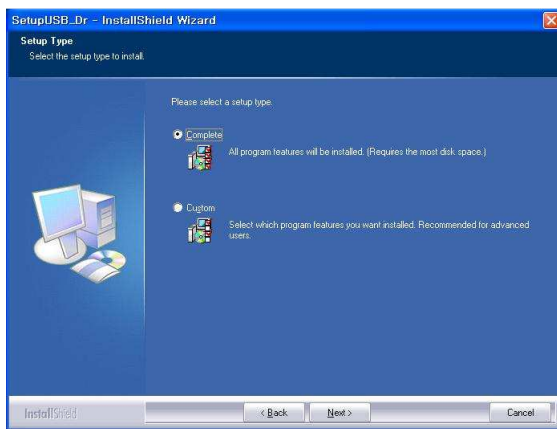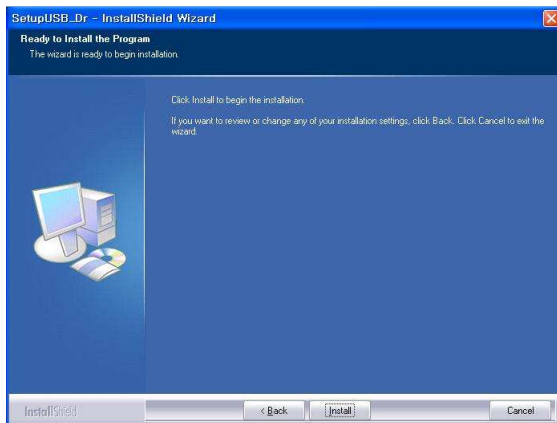

"I accept the items of the license agreement"   "Next"

"Next"
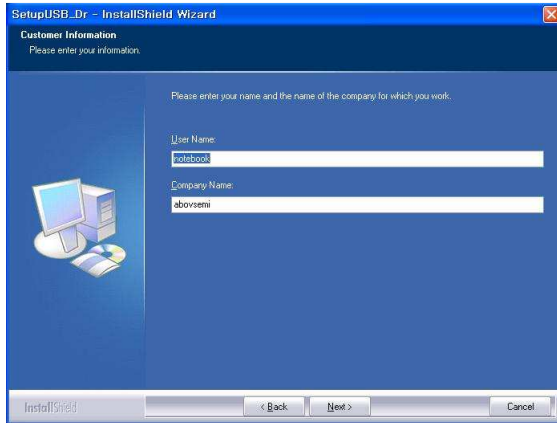
" **Complete**"   " **Next**"

" **Install**"

" **Finish**"

2 CodeGen32 32

- CodeGen32
- CodeGen32

2.1 CodeGen32

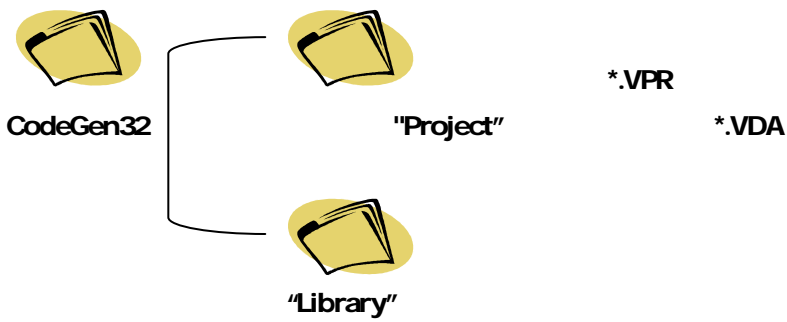CodeGen32   "   Project"   "   Project"   CodeGen32

CodeGen32   *.VPR   *.VDA

*.VPR

ABOV-CodeGen32-A3x V1.000.00 20160422

AC33M8128 MQFP 80

*.VDA

*Clock 1

*GPIO-A 1

*GPIO-B 1:

u02 000000....00000000

u03 000000....00000000

w00 040000....CA000000

*.VPR   *.VDA

CodeGen32   "Project"   *.VPR
                                                                      *.VDA

"Library"

2.2 CodeGen32

CodeGen32   " Library"   " Library"   CodeGen32

library

-

-

-

CodeGen32

Library

CodeGen32

"Project"

"Library"   Dev_A33M8128

KEIL

Dev_A33MA384

IAR

:

CooCox

:

3 CodeGen32

- CodeGen32
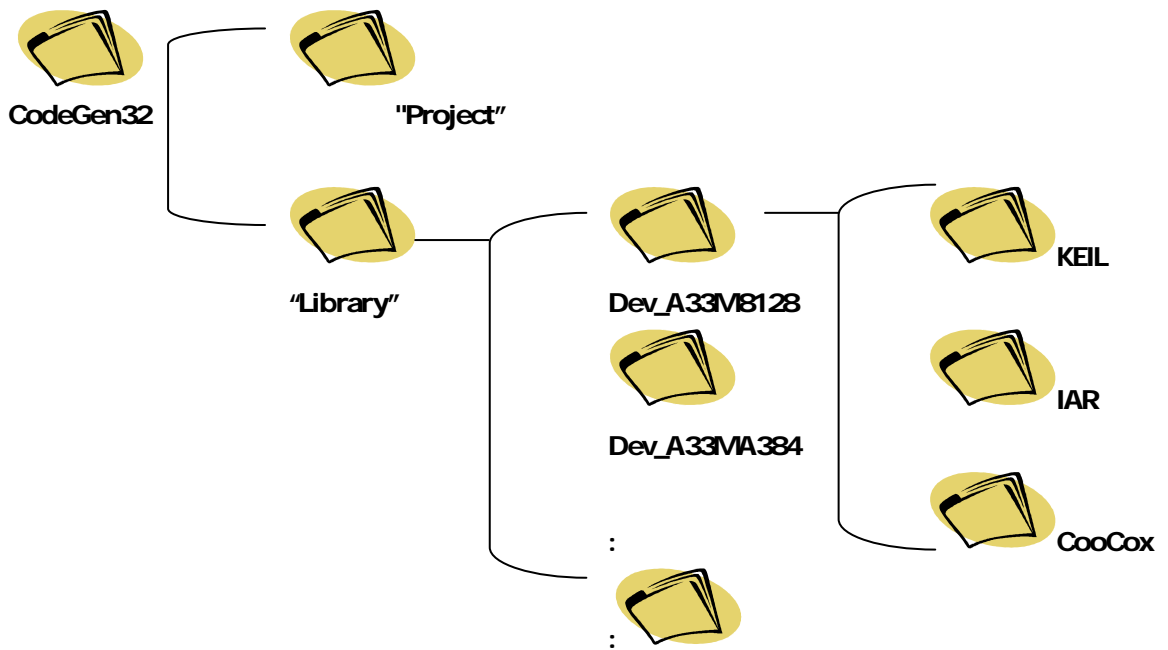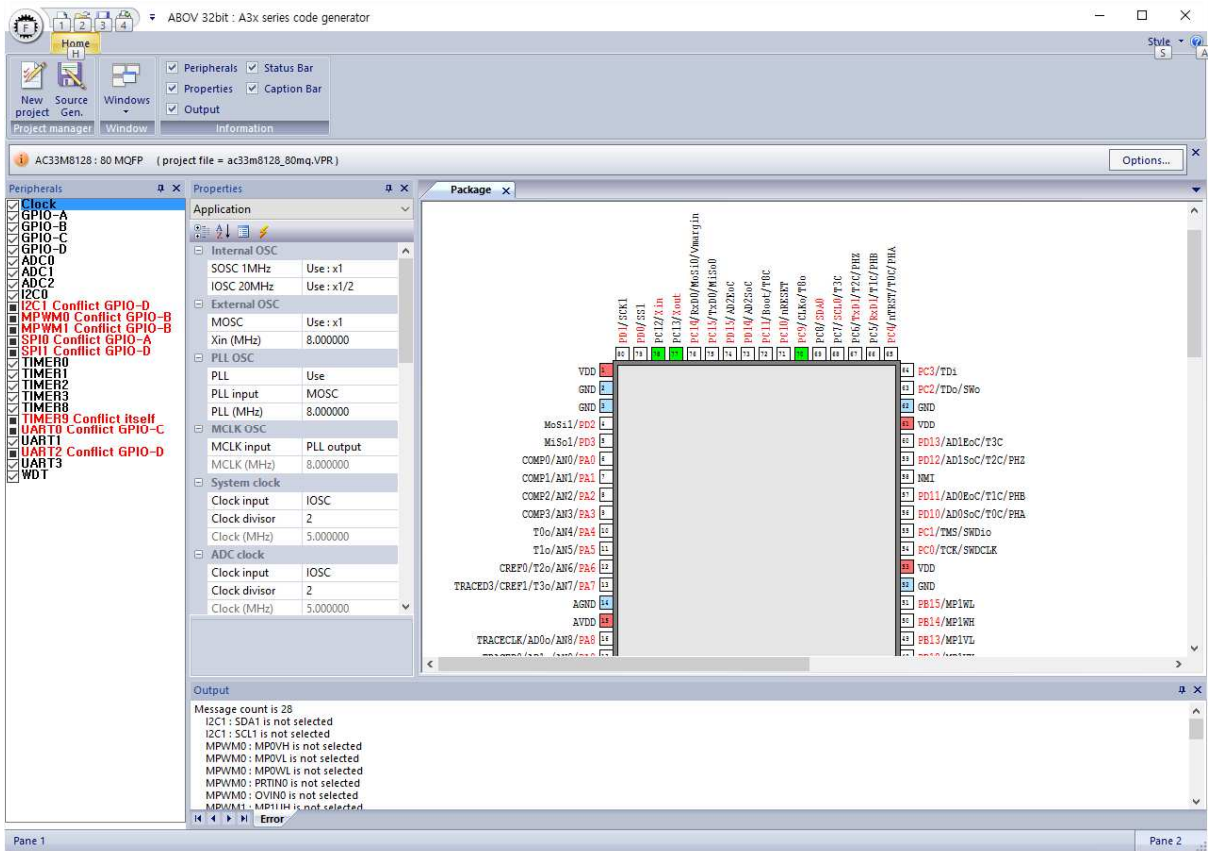-
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3.1 CodeGen32

ABOV A3x   CodeGen32

3.1.1

ABOV A3x   C
- ●   C
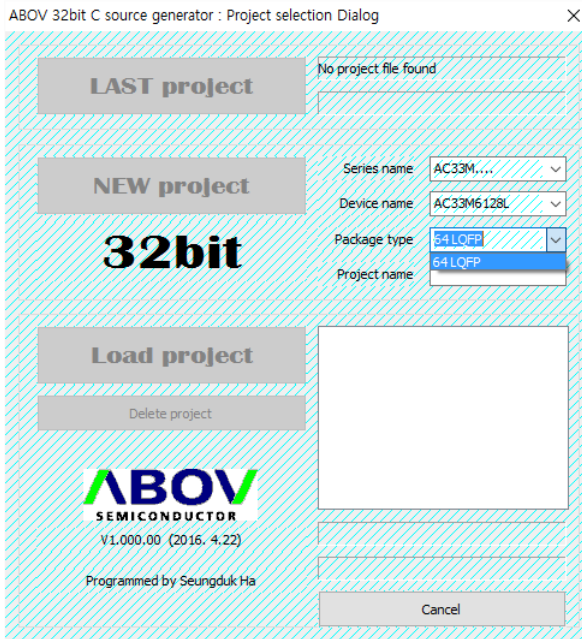- ● KEIL   2016
  - -   *.uvproj
  - -
  - -
  - -   C   "main.c" "init.c" "peri.c"
- ●   IAR CooCox
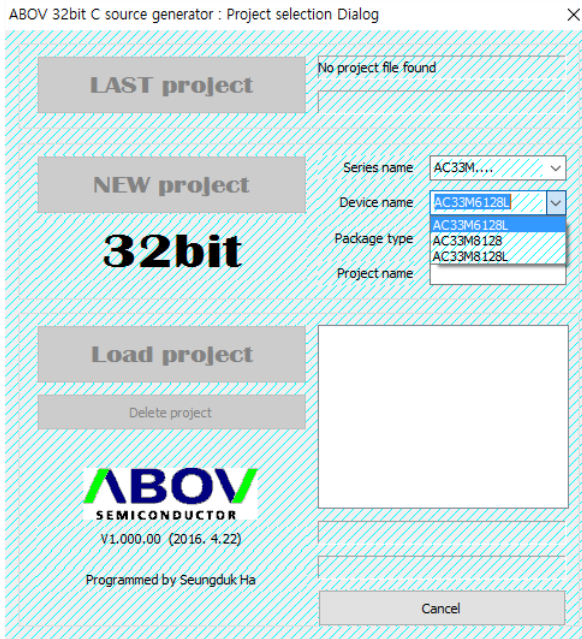- ● CodeGen32
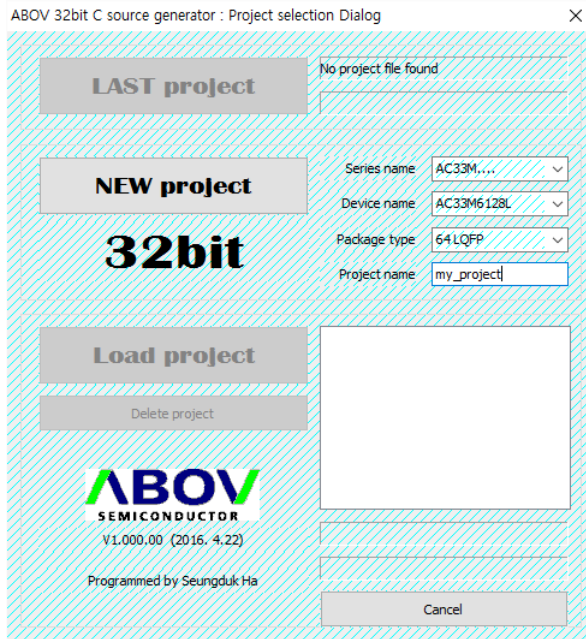- ●
- ●
- ●   CodeGen32

3.1.2

CodeGen32

CodeGen32

ABOV 32bit C source generator : Project selection Dialog   ✕

LAST project   No project file found

NEW project   Series name   AC33M,... ⌄
                                    Device name   AC33M6128L ⌄

32bit   Package type   AC33M6128L
                                                  AC33M8128
                                    Project name AC33M8128L

Load project

Delete project

ABOV
SEMICONDUCTOR

V1.000.00 (2016. 4.22)

Programmed by Seungduk Ha

                                    Cancel

ABOV 32bit C source generator : Project selection Dialog   ✕

LAST project   No project file found

NEW project   Series name   AC33M,... ⌄
                                    Device name   AC33M6128L ⌄

32bit   Package type   64 LQFP ⌄
                                                  64 LQFP
                                    Project name

Load project

Delete project

ABOV
SEMICONDUCTOR

V1.000.00 (2016. 4.22)

Programmed by Seungduk Ha

                                    Cancel

" New project"

CodeGen32

- **" LAST project"**
- **" New project"**
-

-

CodeGen32

3.2

3.3

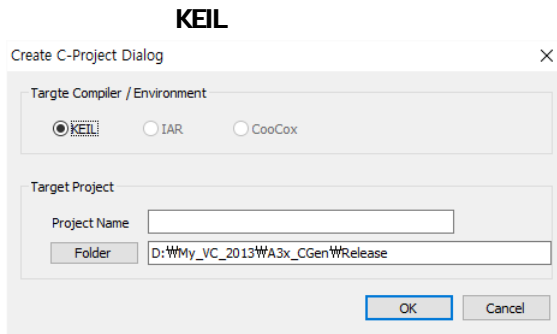CodeGen32   2

3.3.1   New project

LAST project   NEW project

3.3.2   Source Gen
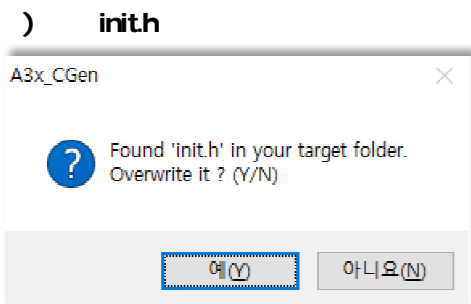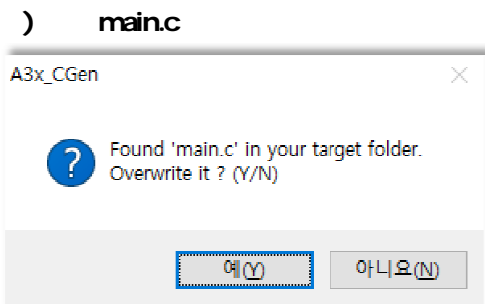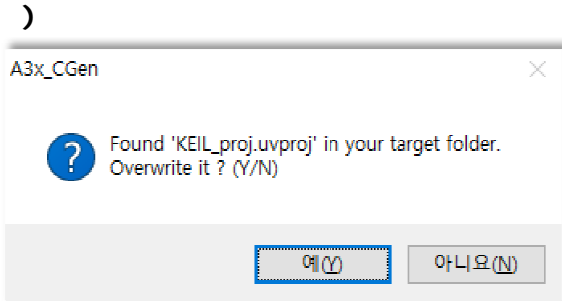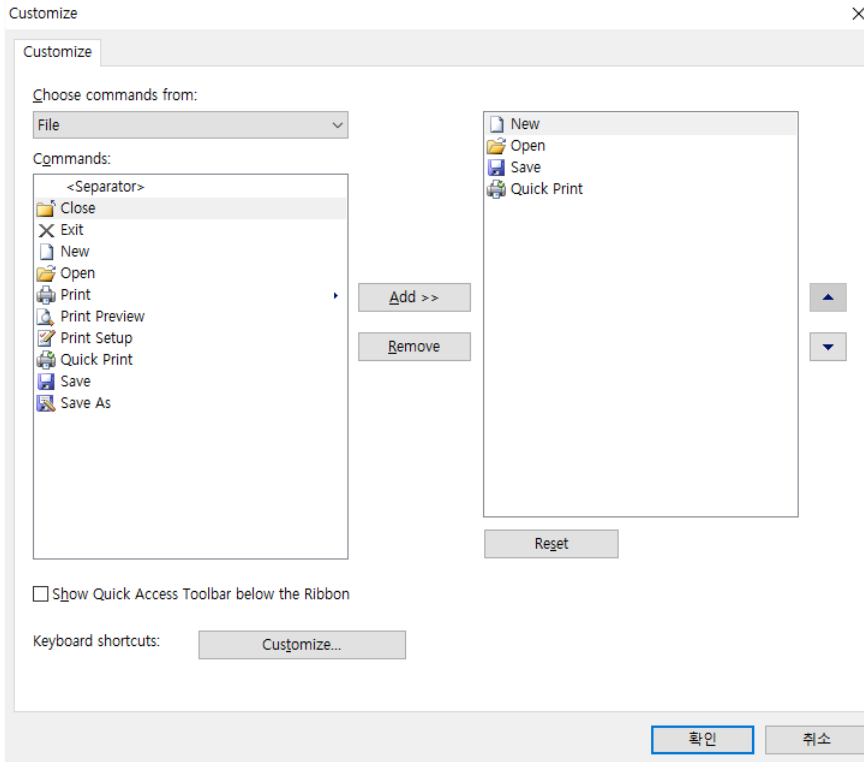
CodeGen32   **C**

KEIL

Create C-Project Dialog

Targte Compiler / Environment

◉ KEIL   ○ IAR   ○ CooCox

Target Project

Project Name [   ]

[Folder] [D:₩My_VC_2013₩A3x_CGen₩Release]

[OK]   [Cancel]

CodeGen32
-

    init.h   **:**

    peri.h   **:**

-

    init.c   **:**

    main.c   **:**   **main(void)**

    peri.c   **:**

-     **KEIL project file**

    KEIL_proj.uvproj   **:**

        CodeGen32

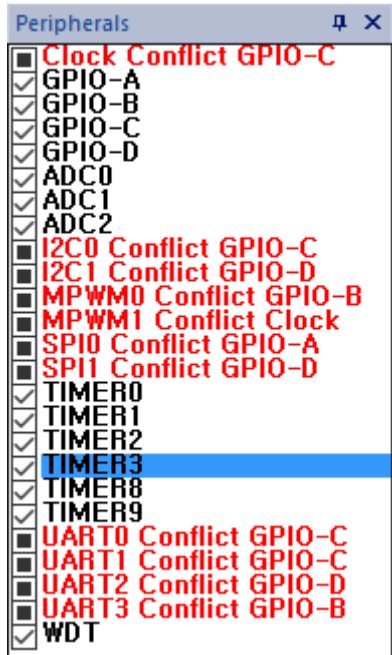-   **Driver files**

-     **Sample files**

-     **Documents**

CodeGen32

"Init.c", "peri.h", "peri.c"

)

)   main.c

)   init.h

3.3.3 Windows

3.3.4 Information

/

3.4

CodeGen32　3

3.4.1　Peripherals

3.4.2   Properties

CodeGen32

-
-
-
-

➢

66MHz   UART   9600bps   66MHz

9600bps   CodeGen32

9600bps   CodeGen32

9600.129bps @ 66MHz

CodeGen32

3.4.3   Output

```
Output                                                            ┌┤ ×
Message count is 36                                               ^
    Clock : Set Xin(PC12) as Analog port
    Clock : Select Xout(PC13) port
    I2C0 : SDA0 is not selected
    I2C0 : SCL0 is not selected
    I2C1 : SDA1 is not selected
    I2C1 : SCL1 is not selected                                   ✓
|◀ ◀ ▶ ▶|  Error
```

3.5

3.5.1

Pin color	Meaning
Red	It is a power source pin.
Blue	It is a ground pin.
White	Port, except power (Vcc, Gnd)
Green	It is associated pin with the selected peripheral.

3.5.2

'c'   'h'

TAB   4

4

- **CodeGen32 generating files**
- **CodeGen32 coping library**

4.1

CodeGen32

4.1.1   init.h

KEIL

) AC33M8128   init.h

```
//=====================================================
// Used ABOV Semiconductor code generator
// Device name : AC33M8128
//=====================================================
#include "AC33Mx128.h"
#include "system_AC33Mx128.h"
#include "aa_types.h"
#include "ac33mx128_adc.h"
#include "ac33mx128_afe.h"
#include "ac33mx128_dmac.h"
#include "ac33mx128_gpio.h"
#include "ac33mx128_i2c.h"
#include "ac33mx128_libcfg.h"
#include "ac33mx128_mpwm.h"
#include "ac33mx128_pcu.h"
#include "ac33mx128_pwr.h"
#include "ac33mx128_scu.h"
#include "ac33mx128_spi.h"
#include "ac33mx128_timer.h"
#include "ac33mx128_uart.h"
#include "ac33mx128_wdt.h"
#include "debug_frmwrk.h"
#include "slib.h"

#define _ADC
#define _AFE
#define _DMAC
#define _GPIO
#define _I2C
#define _MPWM
#define _SPI
#define _TIMER
#define _UART
#define _WDT

void init(void);
```

4.1.2   peri.h

CodeGen32

KEIL

) AC33M8128   peri.h

```
//=====================================================
// Used ABOV Semiconductor code generator
// Define initialize function of each peripherals
//=====================================================

void init_GPIO(void);
void GPIOA0_IRQHandler(void);
void GPIOCE_IRQHandler(void);
void init_clock(void);
void init_ADC_0(void);
void init_ADC_1(void);
void init_ADC_2(void);
void init_I2C_0(void);
void init_I2C_1(void);
void init_MPWM_0(void);
void init_MPWM_1(void);
void init_SPI_0(void);
void init_SPI_1(void);
void init_TIMER_0(void);
void init_TIMER_1(void);
void init_TIMER_2(void);
void init_TIMER_3(void);
void init_TIMER_8(void);
void init_TIMER_9(void);
void init_UART_0(void);
void init_UART_1(void);
void init_UART_2(void);
void init_UART_3(void);
void init_WDT(void);
```

4.2

CodeGen32

4.2.1   init.c

KEIL

) AC33M8128   init.c

```
//===================================================
// Used ABOV Semiconductor code generator
// Basic initialize function
//===================================================
#include "init.h"
#include "peri.h"

void init(void)
{
    init_GPIO();
    init_clock();
    init_ADC_0();
    init_ADC_1();
    init_ADC_2();
    init_I2C_0();
    init_I2C_1();
    init_MPWM_0();
    init_MPWM_1();
    init_SPI_0();
    init_SPI_1();
    init_TIMER_0();
    init_TIMER_1();
    init_TIMER_2();
    init_TIMER_3();
    init_TIMER_8();
    init_TIMER_9();
    init_UART_0();
    init_UART_1();
    init_UART_2();
    init_UART_3();
    init_WDT();
}
```

4.2.2   main.c

C   c   main

Main

- ●   c   main
- ●   MCU   main

CodeGen32   main.c

main.c   CodeGen32

) AC33M8128   main.c

```c
//=====================================================
// Used ABOV Semiconductor's code generator
// Device name : AC33M8128
//=====================================================
#include "init.h"

int main()
{
    WDT->CON = 0;    // disable watch-dog timer
    init();          // initialize selected peripherals here

    while(1) {
        // TOTO : Fill your code
    };
    return 0;
}
```

4.2.3   peri.c

KEIL

) AC33M8128   peri.c

```
//=====================================================
// Used ABOV Semiconductor code generator
// Initialize each peripherals
//=====================================================
#include "init.h"
#include "peri.h"

//-----------------------------------------------------
void init_GPIO(void)
{
    PORT_ACCESS_EN();

    // GPIO-A --------------
    SCU->PER1  |= 0x00000100;
    SCU->PCER1 |= 0x00000100;

    PCA->MR  = 0x50000000;
    PCA->CR  = 0x00000000;
    PCA->PCR = 0x00000001;
    PCA->DER = 0x00000000;
    PCA->IER = 0x00000004;
    PCA->ICR = 0x00000004;

    NVIC_SetPriority(GPIOA0_IRQn, ((0x01<<1)|0x01));
    NVIC_EnableIRQ(GPIOA0_IRQn);
    __enable_irq();

    // GPIO-B --------------
    SCU->PER1  |= 0x00000200;
    SCU->PCER1 |= 0x00000200;
```

4.3

CodeGen32

CodeGen32   **KEIL**

Core	2016-06-23 오전 9:33	
Doc	2016-06-23 오전 9:33	
Drivers	2016-06-23 오전 9:33	
Examples	2016-06-23 오전 9:33	
Flashloader	2016-06-23 오전 9:33	
Ini	2016-06-23 오전 9:33	
SVD	2016-06-23 오전 9:33	