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Chapter 1. Target Devices

The target devices supported by the CA78K0R are listed on the Website.

Please see this URL.

CubeSuite+ Product Page:

<http://www.renesas.com/cubesuite+>

Chapter 2. User's Manuals

Please read the following user's manuals together with this document.

Manual Name	Document Number
CubeSuite+ V1.02.00 RL78, 78K0R Coding Edition	R20UT0977EJ0100
CubeSuite+ V1.01.00 RL78, 78K0R Build Edition	R20UT0730EJ0100
CubeSuite+ V1.02.00 Message	R20UT0980EJ0100

Chapter 3. Key Word for Uninstallation

There are two ways to uninstall this product.

- Use the integrated uninstaller (uninstalls CubeSuite+)
- Use separate uninstaller (uninstalls this product only)

To use the separate uninstaller, select the following from the Control Panel:

- Add/Remove Programs (Windows XP)
- Programs and Features (Windows Vista, Windows 7)

Then select "CubeSuite+ CA78K0R V1.41".

Chapter 4. Changes

This chapter describes change from V1.40 to V1.41.

There is a possibility that the code is changed by the following.

4.1 Changes of CA78K0R

This section describes the changes in the compiler specifications.

4.1.1 Improved license key input

Processing no license key input is improved.

Chapter 5. Cautions

This section describes cautions for using CA78K0R V1.41.

5.1 Cautions for Assembler

5.1.1 Caution for the data flash area

1. The arranging method data to the data flash area is the following.

```
ex) R5F100LE
----assembler source-----
PUBLIC  data_flash

FLDAT   DSEG AT 0F1000H
data_flash: DB 11H, 22H, 33H, 44H

END
----directive-----
MEMORY DATFL (0F1000H, 1000H)
```

2. CA78K0R does not output the code corresponding to a data flash area.
Access by description by an assembler.
When C source describes, access as 8 bit data.

5.1.2 Caution for the External Bus Interface

It does not supported to the external memory of the device corresponding to an external bus interface.

When use by 8-bit bus mode, access by description by an assembler.

When C source describes, access as 8 bits data.

Moreover, access is impossible using a standard library.

5.1.3 Caution for ASM statements

In the following cases, it becomes E3405 error.

- (1) Make an external definition / an external reference declaration of the symbol besides CC78K0R management by "#asm" with C source,
- (2) When the symbol name length who did the external definition / the external reference is nine or more characters, generate OMF of unjust symbol information and it becomes an error.

```

-----source1.c-----
unsigned char uch_Tmp1;
unsigned char uch_Tmp2;
void func1( void )
{
;
}
-----source2.c-----
void func2( void )
{
#asm
    EXTRN _uch_Tmp1
    ?L1234567:
    MOV A,!_uch_Tmp1
    br !?L1234567
#endasm
}
void func3( void )
{
#asm
    EXTRN _uch_Tmp2
    MOV A,!_uch_Tmp2
#endasm
}
    
```

[Workarounds]

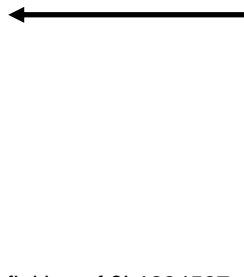
It is avoidable by one of the following measures.

- An external definition / an external reference declaration in an *asm* statement are made before a definition/reference of all symbol.
- The symbol name length in an *asm* sentence who does an external definition is made into eight or less characters.

```

-----source2.c-----
void func2( void )
{
#asm
    EXTRN _uch_Tmp1
    EXTRN _uch_Tmp2
    ?L1234567:
    MOV A, !_uch_Tmp1
    br !?L1234567
#endasm
}
void func3( void )
{
#asm
    ;EXTRN _uch_Tmp2
    MOV A, !_uch_Tmp2
#endasm
}
    
```

; It moves before the definition of ?L1234567



5.1.4 Caution for Relink function

By a relink function, when [Variable/Function Relocation Option] is enable, in the project of a flash area, a function is a callt function and may become an error by linker.
In this case, disable [Variable/Function Relocation Option]

Chapter 6. Restrictions

This section describes the restrictions for the CA78K0R.

6.1 Restrictions for the CA78K0R

None.

Chapter 7. Changes in User's Manual

This section describes errata in CubeSuite+ documentation. The same content is also contained in the Help file, and should be replaced by this content.

7.1 Modifications in Build

7.1.1 Added description about [Memory Model] category of the [Compile Options] tab

[Location] Page 182 → [Output object for flash]

[After addition] Select whether to output the object for flash.

This corresponds to the -zf option of the compiler.

If [Yes (-zf)] is selected

- **On the [Compiler Options] tab, in the [Startup] category, if the [Use standard startup] property is not set to [No], it is set to [Yes (for Flash area)].**
- **On the [Link Options] tab, in the [Device] category, set the [Set Flash start address] property to [No].**

7.1.2 Added description about [CRC Operation] category of the [Object Convert Options] tab

[Location] Page 221 → [Range of CRC]

[After addition] This property is displayed only when [Yes(-crc)] in the [Operate CRC] property is selected.

When "high-speed CRC" is chosen as the CRC operation type, refer to the user's manual of a device for the range of CRC operation.

[Location] Page 222 → [Type of CRC] → [Restriction]→ [High-speed-CRC]

[Before] Outputs the result of the high-speed CRC operation.

The initial value of CRC is 0H.

[After] **Outputs the result of the high-speed CRC operation.**

The CRC generator polynomial used complies with "X16 + X12 + X5 + 1" of CRC-16-CCITT .

- [Location]** Page 222 → [Initial value of CRC]
- [After addition]** This property is displayed only when [Yes(-crc)] in the [Operate CRC] property is selected and [General-purpose CRC] in the [Type of CRC] property is selected.
Set up the same value as the initial value of a CRCD register.
- [Location]** Page 547 → [Description]
- [Before]** - Specify the initial value for the operation for the initial value.
The range that can be specified for the initial value is 0H to 0FFFFH.
If "HIGH" is specified for the operation method, the specification of the initial value is omitted and it is assumed that "0H" has been specified.
- [After]** - **Specify the initial value for the operation for the initial value.**
The range that can be specified for the initial value is 0H to 0FFFFH.
If "HIGH" is specified for the operation method, the specification of the initial value is invalid.

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