

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

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Renesas Electronics Corporation

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## M16C/62A Group

### Operation of D-A Converter

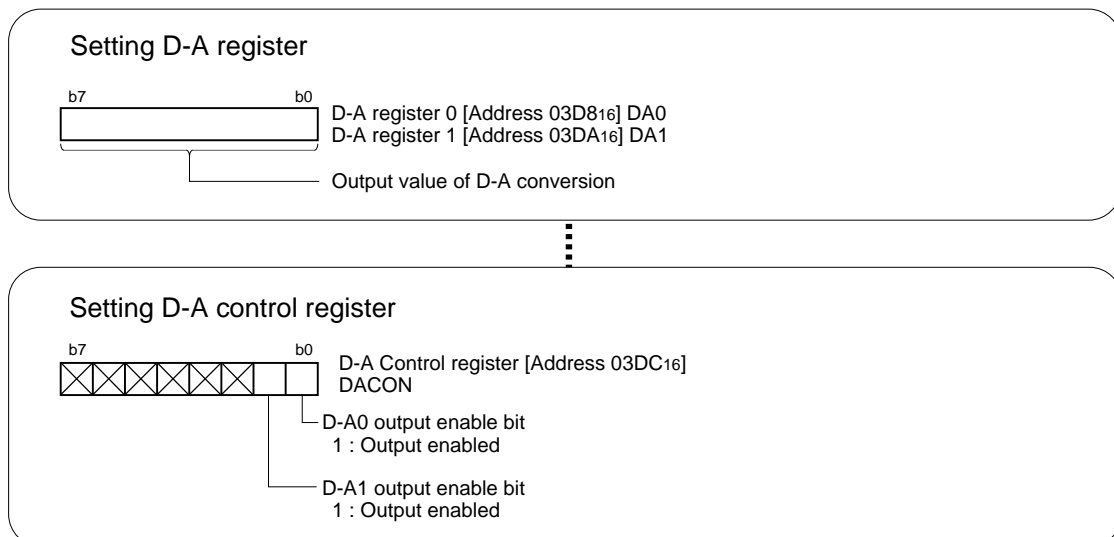
#### 1.0 Abstract

In repeat sweep 0 mode, choose functions from those listed in Table 1. Operations of the circled items are described below.

#### 2.0 Introduction

- Operation
- (1) Setting the A-D conversion start flag to "1" causes the A-D converter to start the conversion on voltage input to the AN<sub>0</sub> pin.
  - (2) After the A-D conversion on voltage input to the AN<sub>0</sub> pin is completed, the content of the successive comparison register (conversion result) is transmitted to A-D register 0.
  - (3) Every time the A-D converter carries out A-D conversion on a selected analog input pin, the A-D converter carries out A-D conversion on only one unselected pin, and then the A-D converter carries out A-D conversion from the AN<sub>0</sub> pin again. (See Figure 2.7.19.) The conversion result is transmitted to A-D register i every time conversion on a pin is completed. The A-D conversion interrupt request bit does not go to "1".
  - (4) The A-D converter continues operating until software goes the A-D conversion start flag to "0".

#### 3.0 Set-up procedure



### 4.0 Programming Code

```

;*****
;
; M16C/62A Program Collection
;
; FILE NAME : rjj05b0061_src.a30
; CPU       : M16C/62A Group
; FUNCTION  : Operation of D-A Converter
; HISTORY   : 2003.05.16  Ver 1.00
;
; Copyright(C)2003, Renesas Technology Corp.
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;
;*****
;*****
; Include
;*****
    .LIST      OFF          ;Stops outputting lines to the assembler list file
    .INCLUDE   sfr62a.inc   ;Reads the file that defined SFR
    .LIST      ON           ;Starts outputting lines to the assembler list file
;
;*****
; Symbol definition
;*****
ROM_TOP      .EQU      0F8000H ;Start address of ROM
FIXED_VECT_TOP .EQU    0FFFDCB ;Start address of fixed vector
;
;*****
; Program area
;*****
;=====
; Start up
;=====
    .SECTION   PROGRAM, CODE ;Declares section name and section type
    .ORG      ROM_TOP        ;Declares start address
RESET:
    MOV.B    #03H, prcr      ;Removes protect
                                ;Set processor mode registers 0 and 1
    MOV.B    #00000000B, pm0 ; Single-chip mode
    MOV.B    #00000000B, pm1 ; No expansion, No wait
                                ;Set system clock control registers 0 and 1
    MOV.B    #00001000B, cm0 ; Xcin-Xcout High
    MOV.B    #00100000B, cm1 ; Xin-Xout High, Main clock is No divison
    MOV.B    #00H, prcr      ;Protects all registers
;
;=====
; D-A Converter
;=====
    MOV.B    #0AAH, da0      ;Setting D-A register
                                ;(Output value of D-A conversion)
    MOV.B    #00000001B, dacon ;Setting D-A control register
;                                |+-----;D-A0 output enable bit (1:Output enabled)
;                                +-----;D-A1 output enable bit (0:Output disabled)
;
MAIN:
    JMP      MAIN
;

```

```

;=====
;      Dummy interrupt processing program
;=====
dummy:
    REIT
;
;*****
;      Setting of fixed vector
;*****
    .SECTION    F_VECT, ROMDATA
    .ORG        FIXED_VECT_TOP
;
    .LWORD     dummy    ;Undefined instruction interrupt vector
    .LWORD     dummy    ;Overflow (INT0 instruction) interrupt vector
    .LWORD     dummy    ;BRK instruction interrupt vector
    .LWORD     dummy    ;Address match interrupt vector
    .LWORD     dummy    ;Single-step interrupt vector
    .LWORD     dummy    ;Watchdog timer interrupt vector
    .LWORD     dummy    ;DBC interrupt vector
    .LWORD     dummy    ;NMI interrupt vector
    .LWORD     RESET    ;Sets reset vector
;
    .END

```

### 5.0 Reference

**Renesas Technology Corporation Semiconductor Home page**

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

### Technical Support

E-mail: [support\\_apl@renesas.com](mailto:support_apl@renesas.com)

### Data Sheet

M16C/62A group Rev. C.1

(Use the latest version on the Home page: <http://www.renesas.com/>)

### User's Manual

M16C/62A group Rev. 1.0

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