

The logo features a stylized red hand with fingers spread, holding a red square with a white 'G' inside. The text 'NEOGEO' is in blue, and 'CKET' is in blue, with the red hand and square acting as the letter 'P'.

NEOGEO PCKET
SYSTEM LIBRARY REFERENCE MANUAL

SNK CORPORATION
1998.10.29 REL 1.0

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PREFACE

Contents written in this reference manual is based on NEOGEO POCKET system program. Please be aware that there will be revisions with system program version updates.

The reference manual assumes development will be done using assembly language. If C language is to be used for development, please refer to the manual included in Toshiba's Development Software Package.

LINKING SYSTEM LIBRARY

Program sample involved in linking the system library “**SYSTEM.LIB**” is listed below.

LINK COMMAND FILE

Example: SAMPLE.LCF

```

-ga -la -o sample.abs
sample.rel
chr_data.rel
system.lib                ;library file name

MEMORY {
  io(RW)                  :org=0x0          len=0x100
  work(RW)                :org=0x4000       len=0x3000
  z80(RW)                 :org=0x7000       len=0x1000
  lcd(RW)                 :org=0x8000       len=0x4000
  user(RX)                :org=0x200000     len=0x200000
}                          ;library file name

SECTIONS {
  PROG
    org=0x200100:{
    sample.rel
    system.lib            ;library file name
    }>user
  ...

```

Example: SAMPLE.ASM

```

#include "system.inc"

extern large SYSTEM_CALL

;;Example 1 Changing CPU Clock Speed to 4
ldb rw3,VECT_CLOCKGEARSET ; changing clock speed
ldb rb3,0x04              ; clock speed is set to the lowest 0x04
ldb rc3,0xff              ; auto clock speed regeneration is OFF
calrSYSTEM_CALL           ; calling system call

```

SYSTEM PROGRAM VERSION USE CONDITIONS

There are routines only valid for use with the system program for color LCD. SUBROUTINE DEFINITIONS listed in the following pages is marked for color LCD system use only or use for both (monochrome and color).

Please check the OS_Version in system work to determine which system program is being run, monochrome or color. Please DO NOT use any subroutines valid for use only with color LCD environment if the system program on the hardware is the monochrome version.

Please refer to the OS_Version section in SYSTEM WORK REFERENCE MANUAL (rel 0.9 or later) for further information.

SUBROUTINE DEFINITIONS

monochrome		color	
------------	--	-------	--

Parameter }
Return value } dependent on the system call functionality
Destroys }

This is the system call to allow usage of system calls in a subroutine. (Please refer to the SYSTEM CALL REFERENCE MANUAL for details on system calls.)

monochrome	O	color	O
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Parameter }
Return value } none
Destroys }

This is the routine used for problems arising from the initial production of the system program. Sudden change or interruption in the main power supply (rapid cyclical removal and insertion of batteries, etc.) may result in the inability of the system to shutdown with the depression on the main power SW. This routine is a measure to correct this problem. Please call this routine at least once at startup.

monochrome	O	color	O
------------	---	-------	---

This is the subroutine to write to the flash memory. The functionality is the same as the system call VECT_FLASHWRITE.

monochrome	O	color	O
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Parameter }
Return value } This subroutine function is the same as the system call VECT_FLASHERS.
Destroys }

This is the subroutine to erase blocks of the flash memory. The operation is similar to system call VECT_FLASHERS. Unfortunately, there is a bug in the production version of the NEOGEO POCKET system program which does not allow the VECT_FLASHERS to properly erase blocks F16_B32, F16_B33, and F16_B34 in the 16 Mbit flash memory card. For this reason, please use this routine when the listed blocks need to be erased. Other blocks in the 16Mbit and blocks in the 4Mbit and 8 Mbit flash memory will be erased properly with the use of system call VECT_FLASHERS. Also the use of the system call operates quicker than this subroutine.

monochrome	O	color	O
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Parameter RB3.....interrupt level (0x00 ~ 0x05 or OR value with _INT_CLR_BIT*)
RC3.....interrupt number to be set (0x00 ~ 0x09)
Return value }
Destroys } Same as system call VECT_INTLVSET.

This is the subroutine to set the interrupt level for the interrupts (opened) public to the user. The operation is similar to the system call VECT_INTLVSET with the additional capacity to clear or retain the unprocessed interrupt request. To retain the request, set values 0x00 ~ 0x05 in register RB3. To clear the request, enter the result OR value of the interrupt level (0x00 ~0x05) with _INT_CLR_BIT.

* _INT_CLR_BIT is EQU defined in SYSTEM.INC.

monochrome	O	color	O
------------	---	-------	---

Parameters	RA3.....specify flash memory card address (0: 0x200000 / 1: 0x800000)								
Return value	RA3.....flash memory card capacity <table border="0" style="margin-left: 20px;"> <tr> <td style="font-size: 3em; vertical-align: middle;">{</td> <td>0x00: not flash memory card</td> </tr> <tr> <td></td> <td>0x04: 4 Mbit</td> </tr> <tr> <td></td> <td>0x08: 8 Mbit</td> </tr> <tr> <td></td> <td>0x10: 16 Mbit</td> </tr> </table>	{	0x00: not flash memory card		0x04: 4 Mbit		0x08: 8 Mbit		0x10: 16 Mbit
{	0x00: not flash memory card								
	0x04: 4 Mbit								
	0x08: 8 Mbit								
	0x10: 16 Mbit								
Destroys	none								

This subroutine determines the memory card capacity of the specified address.

This subroutine should be used during debug. When creating master program, the code calling this subroutine should be invalid.

If the POWER button is depressed while this subroutine is operating, the main power may go off.

REVISION HISTORY

rel 0.1	Initial release	1998/07/15
rel 0.2	ES1B version flash memory related subroutines added	1998/07/27
rel 0.8	Preface modified ES1B version flash memory related subroutines deleted "SYS_PATCH" added "SAMPLE.ASM" "sys_call.inc" "system.inc"	1998/08/20
rel 0.9	"WRITE_FLASH_RAM" added "CLR_FLASH_RAM" added "INT_LV_SET" added	1998/10/01
rel 1.0	"FLASH_M_READ" added System Program Version Use Condition section added Monochrome/color use valid/invalid marks added	1998/10/29