
Portfolio Interrupt 60 Specification

May 1990

Atari Corporation
1196 Borregas Avenue
Sunnyvale, CA 94086

Portfolio Interrupt 60 Specifications was printed in the United States of America

Third Edition:

This document was produced with an Atari Mega 4 computer using Microsoft Write and an Atari SLM804 laser printer.

INT 60 SPECIFICATION (1.030 - 1.090)

1.0 AVAILABLE SERVICES

- 1.1 The following services are available in all release versions of the ROMS (release versions are 1.030, 1.040, 1.052, 1.07x, 1.09x, where x determines the language).

| <u>SERVICE</u> | <u>FUNCTION</u> |
|----------------|------------------------------|
| 00h | Get version number (of ROMs) |
| 01h | Line Editor |
| 02h | Get current application |
| 03h | Reserved for custom add-ins |
| . | . |
| 08h | Screen Save/Restore |
| 09h | Draw Box |
| . | . |
| 0Fh | Menu Handling |
| 10h | Box Area Calculation |
| . | . |
| 12h | Message windows |
| . | . |
| 14h | Error windows |

2.0 DETAILED DESCRIPTION OF SERVICES

2.1 GENERAL

- 2.1.1 Where co-ordinates are specified in 16 bit registers (eg. top right, bottom left), the upper byte is the y co-ordinate, and the lower byte is the x co-ordinate.
- 2.1.2 For all box drawing routines (including menus, help, etc.), if the box is larger than the physical screen size, characters will be displayed incorrectly.

2.2 Fn 00h Get version number

Parameters:

None.

Returns:

DS:DX Version number (zero terminated string)

2.3 Fn 01h Line Editor

Parameters:

DS:SI Pointer to editor control structure

Returns:

AX The character which caused termination

Description

Edits the line of text. The text can be in a box (or not), and text can be longer than screen width. Scroll margins exist at either end of the edit window. The control structure is as follows:-

| | | | |
|---------|----|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ep_targ | dw | ? | far ptr to string to be edited. Result edit is also placed here. All strings zero terminated. |
| ep_pos | dw | ? | initial position, in bytes, into the text on entry (starting at zero). |
| ep_max | dw | ? | max length of edited string. |
| ep_xpos | db | ? | screen xpos (starting at 0) |
| ep_ypos | db | ? | screen ypos (starting at 0) |
| ep_mode | db | ? | When set to 2 the string will be cleared as editing starts (eg. files load); If set to 0, the string is not cleared (eg. editing a worksheet cell) |
| ep_hit | dw | ? | Initial keypress to be processed before getting keypress from user. Typically used for preprocessing characters. |
| ep_tit | dw | ? | box title and prompt in the form: db 'TITLE',0,'PROMPT',0,0. |
| ep_exit | dw | ? | array of keycodes (see below) that allow exit from the editor. |
| ep_fn | dw | ? | address of the getkey routine. Routine should return a 16 bit keycode in AX |
| ep_wid | db | ? | Maximum box or screen width |
| ep_wind | db | ? | Set to 0FFh for no box, 0 for a single line box, 1 for a double line box. |
| ep_res | dw | ? | Reserved |
| ep_udel | dw | ? | address of the undelete routine. This routine is called every time a character is deleted. If not needed, use a dummy routine (ret far). DS:BX points to the deleted text. AH is 0 for the left delete and 1 for the right delete. Avoid changing segment registers. |

Notes:

1. The target buffer should be at least 'max'+1 bytes long to accomodate the zero terminator.
2. If a default string is required, put it in the target buffer, zero terminated.
3. The array of exit keys consists of 16 bit 'keys'. The top nibble is zero for the standard 256 characters, but for control characters like home, end, etc., it is set to 1.
4. KEYCODES: Normal ASCII characters represented as AL=ASCII code, AH=0, eg. 'A' is 0041h. Extended keycodes represented as AL=scan code, AH=1, eg. left arrow=0148h. Special (DIP specific) keycodes represented as AL=code, AL=2/3, eg. Before sending undeleted characters (always inserted, no ^ processing) send 0201h, and send 0202h at end of undelete characters.
5. If you specify a box, then 2 bytes is taken away from 'wid' when editing.
6. Similarly, if you give a prompt, this will reduce your play area as well.

2.4 Fn 02h Get current application

Parameters:

DL Set to FFh (-1)

Returns:

AL Current application

where:

| | |
|------|--------------------|
| AL=0 | Not in application |
| 1 | Worksheet |
| 2 | Diary |
| 3 | Editor |
| 4 | Address Book |
| 5 | Calculator |
| 6 | Setup |
| 7 | Applications menu |

Description

Determines the current application. This would typically be done from an editor hook or TSR.

2.5 Fn 03h Reserved for custom add-ins

Please contact Atari directly

2.6 Fn 08h Screen Save/Restore

Parameters:

| | |
|-------|-------------------------------------------------|
| AL | Sub-service (0-3) |
| BH | Video page number |
| DS:SI | Buffer to store saved screen RAM |
| CX | Bottom right of screen area to save (inclusive) |
| DX | Top left of screen area to save (inclusive) |

Returns:

None.

Description

This function either saves or restores the screen area defined by CX and DX to the buffer pointed to by DS:SI. The sub-service are as follows:-

- 00 Save characters only
- 01 Save characters + attributes
- 02 Restore characters only
- 03 Restore characters + attributes

2.7 Fn 09h Draw Box

Parameters:

| | |
|----|-------------------------------------|
| AL | Type (0=single line, 1=double line) |
| BH | Video page number |
| CX | Bottom right of box |
| DX | Top left of box |

Returns:

None.

Description

This function draws a box at the specified location on the screen.

2.8 Fn 0Fh Menus

Parameters:

| | |
|-------------------------------------------|-------------------------------------------------|
| AL | Type (0=single line, 1=double line) |
| AL | Bits 3..7 max depth of menu (including borders) |
| BH | Video page number |
| CH | Last top line |
| CL | Last selected item |
| DX | Top left of box |
| DS:SI | Menu text (double terminated zero) |
| ES:DI | Defaults text (double terminated zero) |
| (if DI is FFFFh there is no default text) | |

Returns:

AX -1 for ESC pressed

OR

AH Top line
AL selected line

Description

Draws a menu at the location specified in DX. CH specifies the line that will appear at the top of the screen, and CL specifies the line that the cursor will be on (with respect to the menu text, not including the title). The first line of the menu text is the menu title and does not have a corresponding entry in the defaults text. If no title is required this can be set to zero (null string). If bits 3..7 of AL are 0 then the menu will not have depth checking. If a single line box is selected, the function will draw an empty box (with the title) and return. Otherwise the menu will be displayed, and once a selection has been made, the menu box becomes single line and control returns to the caller.

2.9 Fn 10h Box Area Calculation

Parameters:

| | |
|-------|----------------------------------------|
| DX | Top left of box |
| DS:SI | Menu text (double terminated zero) |
| ES:DI | Defaults text (double terminated zero) |

Returns:

| | |
|----|---------------------------------------------|
| AH | Number of items (including title) |
| AL | Number of items (including title) |
| BX | Number of bytes used (excluding attributes) |
| CX | Bottom right of box |

Description

Calculates the number of bytes needed to save the screen for a given menu. Note that the maximum width is assumed to be the maximum menu item + the maximum default. Also DX is destroyed by this call.

2.10 Fn 12h Message Windows

Parameters:

| | |
|-------|---------------------------------------|
| BH | Video page number |
| DX | Top left of box |
| DS:SI | Message text (double terminated zero) |

Returns:

None.

Description

Displays text at DS:SI on the screen in a double line box. First line of text is taken as the title. This service is used for the information messages, such as Loading, saving, etc.

2.10 Fn 14h Error Windows

Parameters:

BH Video page number
DX Top left of box
CX Must be set to non-zero value
DS:SI Error text (double terminated zero)

Returns:

None.

Description

Displays text at DS:SI on the screen in a double line box. There is no title. A beep is emitted and the function waits for a key to be pressed. The screen is then restored and then control is returned to the caller.