Character Code Conversion Library

Publication date: December 2003

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About This Manual

This is the PS2 Programmer Tool Runtime Library libccc, version 1.1 of the *Character Code Conversion Library* manual.

Changes Since Last Release

- A description of the sceCccGetErxEntries() function was added.

Related Documentation

Note: The Developer Support Web site posts current developments regarding the Libraries and also provides notice of future documentation releases and upgrades.

Typographic Conventions

Certain Typographic Conventions are used throughout this manual to clarify the meaning of the text:

Convention	Meaning
`courier`	Indicates literal program code.
italic	Indicates names of arguments and structure members (in structure/function definitions only).
medium bold	Indicates data types and structure/function names (in structure/function definitions only).
blue	Indicates a hyperlink.

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Types

- sceCccJISCS
  JIS X 0213 character set, represented in 16 bits.
  Bit 15 gives the plane. Bits 8-14 give the row +0x20, bits 0-7 give the cell+0x20.

- sceCccSJISCS
  SJIS character set, represented in 16 bits.

- sceCccUCS2;
  Unicode character set, represented in 16 bits.

- sceCccUCS4;
  Unicode character set, represented in 32 bits.

- sceCccJISTF;
  JIS-encoded format
  0x00U is the terminator code.

- sceCccSJISTF;
  SJIS-encoded format
  0x00U is the terminator code.

- sceCccUTF8;
  Unicode 8-bit-encoded format
  0x00U is the terminator code.

- sceCccUTF16;
  Unicode 16-bit-encoded format
  0x0000U is the terminator code.

Functions

sceCccSetTable

Set UCS/JIS character code conversion table

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

void sceCccSetTable(

sceCccUCS2 const* *jis2ucs***,**	pointer to equivalence table (jis-ordered) for jis to ucs2 conversion
sceCccJISCS const* *ucs2jis);*	pointer to equivalence table (ucs2-ordered) for ucs2 to jis conversion

Description

Sets a table to be used for converting between JIS and UCS character codes.

Must always be set when coverting character strings.

Table size is 65,536 elements. UCS2 beyond this range is not supported.

Return value

0

sceCccStrlenUTF16

Count UTF16 characters

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccStrlenUTF16(

sceCccUTF16 const* *str);* UTF16 character string

Description

Counts characters contained in a string of UTF16 characters.

Return value

Number of characters

sceCccStrlenUTF8

Count UTF8 characters

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccStrlenUTF8(

sceCccUTF8 const* *str*); UTF8 character string

Description

Counts characters contained in a string of UTF8 characters.

Return value

Number of characters

sceCccStrlenSJIS

Count SJIS characters

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccStrlenSJIS(

sceCccSJISTF const* *str*); SJIS character string

Description

Counts characters contained in a string of SJIS characters.

Return value

Number of characters

sceCccDecodeUTF16

Decode one character from an encoded string

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

sceCccUCS4 sceCccDecodeUTF16(

sceCccUTF16 const** *str);* — Pointer to decode position. Advances one character after decoding.

Description

Obtains a UCS4 character code from a UTF16-encoded character string.

Return value

Character code

sceCccDecodeUTF8

Decode one character from an encoded string

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

sceCccUCS4 sceCccDecodeUTF8(

sceCccUTF8 const** *str***);**

Pointer to decode position. Advances one character after decoding.

Description

Obtains a UCS4 character code from a UTF8-encoded character string.

Return value

Character code

sceCccDecodeSJIS

Decode one character from an encoded string

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

sceCccJISCS sceCccDecodeSJIS(
 sceCccSJISTF const** *str*);

Pointer to decode position. Advances one character after decoding.

Description

Obtains a JIS character code from a SJIS-encoded character string.

Return value

Character code

sceCccEncodeUTF16

Encode character code

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

sceCccUCS4 sceCccEncodeUTF16(

sceCccUTF16 const** *str***);** Pointer to encode position. Advances one character after encoding.

Description

Encodes a UCS4 character code as UTF16.

Return value

Character code

sceCccEncodeUTF8

Encode character code

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

sceCccUCS4 sceCccEncodeUTF8(

sceCccUTF8 const** *str*); Pointer to encode position. Advances one character after encoding.

Description

Encodes a UCS4 character codes as UTF8.

Return value

Character code

sceCccEncodeSJIS

Encode character code

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

sceCccJISCS sceCccEncodeSJIS(

sceCccSJISTF const** *str***);** — Pointer to encode position. Advances one character after encoding.

Description

Encodes a JIS character code as SJIS.

Return value

Character code

sceCccUCStoJIS

Convert character code

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

sceCccJISCS sceCccUCStoJIS(

sceCccUCS4 *code*,	Character code
sceCccJISCS *chr*);	Character to output if conversion fails (default=0)

Description

Converts a UCS4 character code to a JIS character code.

Returns chr if conversion not possible.

Return value

Converted code

sceCccJIStoUCS

Convert character code

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

sceCccUCS4 sceCccJIStoUCS(

sceCccJISCS *code***,**	Character code
sceCccUCS4 *chr***);**	Character to output if conversion fails (default=0)

Description

Converts a JIS character code to a UCS4 character code.

Returns chr if conversion not possible.

Return value

Converted code

sceCccUTF8toUTF16

Convert encoded character string

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccUTF8toUTF16(

sceCccUTF16* *dst*,	Output string
size_t *count*,	Output buffer size
sceCccUTF8 const* *str*);	Input string

Description

Converts a UTF8 string to a UTF16 string.

Return value

Number of characters after conversion.

sceCccUTF8toSJIS

Convert encoded character string

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccUTF8toSJIS(

sceCccSJISTF* *dst*,	Output string
size_t *count*,	Output buffer size
sceCccUTF8 const* *str*);	Input string

Description

Converts a UTF8 string to a SJIS-encoded string

Return value

Number of characters after conversion.

sceCccSJIStoUTF8

Convert encoded character string

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccSJIStoUTF8(

sceCccUTF8* *dst*,	Output string
size_t *count*,	Output buffer size
sceCccSJISTF const* *str*);	Input string

Description

Converts a SJIS-encoded string to a UTF8 string.

Return value

Number of characters after conversion.

sceCccSJIStoUTF16

Convert encoded character string

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccSJIStoUTF16(

sceCccUTF16* *dst*,	Output string
size_t *count*,	Output buffer size
sceCccSJISTF const* *str*);	Input string

Description

Converts a SJIS-encoded string to a UTF16 string.

Return value

Number of characters after conversion.

sceCccUTF16toUTF8

Convert encoded character string

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccUTF16toUTF8(

sceCccUTF8* *dst*,	Output string
size_t *count*,	Output buffer size
sceCccUTF16 const* *str*);	Input string

Description

Converts a UTF16 string to a UTF8 string.

Return value

Number of characters after conversion.

sceCccUTF16toSJIS

Convert encoded character string

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccUTF16toSJIS(

sceCccSJISTF* *dst*,	Output string
size_t *count*,	Output buffer size
sceCccUTF16 const* *str*);	Input string

Description

Converts a UTF16 string to a SJIS-encoded string.

Return value

Number of characters after conversion.

sceCccSetErrorCharSJIS

Set a replacement character for invalid data when converting strings

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

sceCccJISCS sceCccSetErrorCharSJIS(

sceCccJISCS *chr*); character

Description

Sets a character code to be used when conversion to a SJIS-encoded string fails.

Return value

Previously set code.

sceCccSetErrorCharUTF8

Set a replacement character for invalid data when converting strings

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

sceCccUCS4 sceCccSetErrorCharUTF8(

sceCccUCS4 *chr***);** character

Description

Sets a character code to be used when conversion to a UTF8 string fails.

Return value

Previously set code.

sceCccSetErrorCharUTF16

Set a replacement character for invalid data when converting strings

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

sceCccUCS4 sceCccSetErrorCharUTF16(

sceCccUCS4 *chr***);** character

Description

Sets a character code to be used when conversion to a UTF16 string fails.

Return value

Previously set code

sceCccIsValidUCS4

Validate character code

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccIsValidUCS4(

sceCccUCS4 *code***);** Character code

Description

Checks whether code is valid as UCS4.

Currently does not perform rigorous checking.

Return value

1=valid; 0=invalid

sceCccIsValidUCS2

Validate character code

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccIsValidUCS2(
sceCccUCS4 *code***);** Character code

Description

Checks whether code is valid as UCS2.

Currently does not perform rigorous checking.

Return value

1=valid; 0=invalid

sceCccIsValidJIS

Validate character code

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccIsValidJIS(

sceCccJISCS *code***);** Character code

Description

Checks whether code is valid as JIS.

Currently does not perform rigorous checking.

Return value

1=valid; 0=invalid

sceCccIsValidUTF8

Validate character code

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccIsValidUTF8(

sceCccUCS4 *code***);** Character code

Description

Checks whether code is a valid UTF8 character.

Currently does not perform rigorous checking.

Return value

1=valid; 0=invalid

sceCccIsValidUTF16

Validate character code

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccIsValidUTF16(

sceCccUCS4 *code***);** Character code

Description

Checks whether code is a valid UTF16 character.

Currently does not perform rigorous checking.

Return value

1=valid; 0=invalid

sceCccIsValidSJIS

Validate character code

Library	*Introduced*	*Documentation last modified*
libccc	1.0	July 6, 2001

Syntax

int sceCccIsValidSJIS(sceCccSJISTF code);

sceCccSJISTF *code***);** Character code

Description

Checks whether code is a valid SJIS character.

Currently does not perform rigorous checking.

Return value

1=valid; 0=invalid

sceCccGetErxEntries

Get library entries

Library	*Introduced*	*Documentation last modified*
libccc	1.1	December 19, 2003

Syntax

void *sceCccGetErxEntries(void);

Calling conditions

Cannot be called from an interrupt handler

Can be called from a thread

Multithread safe (does not depend on interrupt-disabled or enabled state)

Description

This function gets a pointer to the SceErxLibraryHeader structure which is needed to register the libccc library in liberx.

If the SceErxLibraryHeader structure returned by this function is passed to the sceErxRegisterLibraryEntries() function of liberx, the statically linked libccc library can be called from an ERX module (can be dynamically linked).

When this function is linked, the entire implementation of libccc will be linked via the library entry table of liberx.

In some cases, this may also increase the size of the program.

Return value

The entry library for libccc is returned.

See also

sceErxInit()