Revolution SDK

KBD Library Supplemental Manual

Version 1.0.1

2009/07/13

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Revision History

Version	Revision Date	Description
1.0.1	2009/07/13	Standardized notation of <i>Revolution SDK</i> (Japanese version only) and revised <i>model number</i> to <i>part number</i> . Section 2.1: Changed title to Part Numbers for Supported Keyboards; revised names of markets; revised text. Figure 4.2.2: Revised position and size.
1.0.0	2009/07/02	Section 2.1: Added country code examples to the tables; changed <i>model number</i> to part number and corrected part numbers; added types of keyboards. Section 2.2: Recommended Country Codes for Each System Region is new.
0.0.4	2009/05/13	Section 2.1: Corrected the note about purchasing a keyboard for a country other than your own; revised the company name for Logitech. Section 4.1: Revised table headings; revised wording in note. Added text related to trademarks.
0.0.3	2009/04/28	Changed USB Keyboard Library to KBD Library. Section 4.2: Added explanation of keys. Made major changes to chapter structure. • Changed Supported Keyboards to one chapter. • Divided Differences in Keys into Special Keys and Nonexistent Keys. • Changed Differentiating Keyboards to Determining with Device ID. • Changed Differences in Keys to HID Code. • Changed Key Codes to Keyboard Layout. • Changed the location of Key Allocation Design Examples. • Changed Key Assignments Considering Special Keys to Special Key Allocation. • Changed Text Input to Text Input When Using a Text Input Assistance Tool.
0.0.2	2009/04/14	Revised spacing before and after half-width characters. Section 1.4.1: Revised errors. Section 1.6: Revised wording. Section 3.1: Deleted some text. Section 4.2: Deleted indentation.
0.0.1	2009/04/08	Deleted spaces in headings. Changed location of line returns. Changed bullet styles. Changed detailed wording. • Changed full-width symbols into half-width symbols. • Corrected varying notation for <i>kudasai</i> , <i>shimukechi</i> , and <i>tadashi</i> . (Japanese version only) • Inserted a half-width space between full-width and half-width characters. Section 1.1: Changed wording related to the reference manual. Section 1.6: Changed wording. Changed <i>can not</i> to <i>cases when can not</i> . Section 3.1: Added an example. Section 3.2: Changed the screen image location. Sections 4.1 and 4.2: Changed the page orientation to landscape.
0.0.0	2009/04/07	Initial version.

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1 Overview

1.1 Purpose of This Document

The KBD library (USB Keyboard library) has features to access a USB keyboard connected to a USB port. The use of the KBD library is described in the Introduction section of the KBD Library Function Reference Manual. This document is a supplement to the Function Reference Manual and explains cautions regarding differences in keyboard models and regions.

1.2 Content of This Document

This document describes the following content.

- Differences in and cautions for keyboard models for which operations have been verified by Nintendo
- · Keyboard layouts for different regions
- Examples of keyboard model differences and examples of deliberate key assignments

1.3 Audience for This Document

This document targets application developers who use USB keyboards.

2 Supported Keyboards

2.1 Part Numbers for Supported Keyboards

Currently, the following keyboard part numbers are supported by the KBD library. When you use the KBD library, refer to this table for the part number, keyboard layout language, and KBD library KBDCountryCode that correspond to the region.

Note: You may not be able to purchase a keyboard for a region other than yours, even over the Internet. If you have difficulty getting a keyboard for a region, please email support@NOA.com. We will provide contact information for Logitech (*Logicool* in Japan) customer service.

• Logitech International S.A.: "Cordless Keyboard for Wii"

Table 2-1 Cordless Keyboard for Wii Part Numbers

Part Number	Layout Language	Region	KBDCountryCode
920-000935	UK English	UK	KBD_CC_UNITED_KINGDOM
920-000936	French	France	KBD_CC_FRENCH
920-000937	German	Germany	KBD_CC_GERMAN
920-000938	Italian	Italy	KBD_CC_ITALIAN
920-000939	Spanish	Spain	KBD_CC_SPANISH
920-000934	US English	USA	KBD_CC_UNITED_STATES
920-000942	US International	Holland	KBD_CC_INTERNATIONAL
920-001456	US English	Canada	KBD_CC_UNITED_STATES
920-000951	UK English	Asia Pacific (Australia/New Zealand)	KBD_CC_UNITED_KINGDOM
920-001384	American Spanish	Latin America	KBD_CC_LATIN_AMERICAN
920-001364	Canadian French	Canada	KBD_CC_CANADIAN_FR
920-000941	Japanese	Japan	KBD_CC_JAPANESE

Logitech International S.A.: "Classic Keyboard 200"

Table 2-2 Classic Keyboard 200 Part Numbers

Part Number	Layout Language	Region	KBDCountryCode
968019-0100	US International	Holland	KBD_CC_INTERNATIONAL
968019-0101	French	France	KBD_CC_FRENCH
968019-0102	German	Germany	KBD_CC_GERMAN
968019-0103	Italian	Italy	KBD_CC_ITALIAN
968019-0104	Spanish	Spain	KBD_CC_SPANISH
968019-0106	Swedish	Sweden	KBD_CC_SWEDISH
968019-0107	Danish	Holland	KBD_CC_DANISH
968019-0108	Norwegian	Norway	KBD_CC_NORWEGIAN
968019-0110	Portuguese	Portugal	KBD_CC_PORTUGUESE
968019-0115	Greek	Greece	KBD_CC_GREEK
968019-0120	UK English	UK	KBD_CC_UNITED_KINGDOM
968019-0403	US English	USA	KBD_CC_UNITED_STATES
968019-0215	French	Canada	KBD_CC_CANADIAN_FR
920-000090	US English	Singapore, New Zealand, Australia, Malaysia, India, Hong Kong	KBD_CC_UNITED_STATES
920-000216 (Model Number: iK- 21WH)	Japanese	Japan	KBD_CC_JAPANESE

Logitech International S.A.: "Access Keyboard 600"

Table 2-3 Access Keyboard 600 Part Numbers

Part Number	nber Layout Language Region		KBDCountryCode	
920-000025	Canadian French	Canada	KBD_CC_CANADIAN_FR	
920-000026	American Spanish	Latin America	KBD_CC_LATIN_AMERICAN	

2.2 Recommended Country Codes for Each System Region

When you use the Wii system menu to select a system region and language, a specific keyboard layout is defined. This also holds true when you use the KBD Library. We recommend using the following KBDCountryCode codes to specify a keyboard layout.

2.2.1 North American Region

Language	KBDCountryCode
English	KBD_CC_UNITED_STATES
French	KBD_CC_CANADIAN_FR
Spanish	KBD_CC_LATIN_AMERICAN

2.2.2 European Region

Language	KBDCountryCode
English	KBD_CC_UNITED_KINGDOM
French	KBD_CC_FRENCH
Spanish	KBD_CC_SPANISH
Italian	KBD_CC_ITALIAN
German	KBD_CC_GERMAN
Danish	KBD_CC_INTERNATIONAL

2.2.3 Japanese Region

Language	KBDCountryCode		
Japanese	KBD_CC_JAPANESE		

2.3 Identifying Devices Using ID Codes

A USB device can be identified by its PID (USB device product ID) and VID (USB device vendor ID). The KBD library currently has no method to get a PID or VID, however, so it cannot identify keyboards connected to the Wii console. The lower-level HID library uses the <code>HIDDevice</code> structure to get this information. Please e-mail your request for a copy of the HID Library to support@NOA.com.

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3 Differences in Keyboard Models

3.1 Cordless Keyboard for Wii

3.1.1 Special Keys

The Cordless Keyboard for Wii has special keys. For example, the OK key corresponds to the input received when the left ALT+ENTER keys on a normal keyboard are pressed.

The following is a list of the special keys.

Table 3-1 Special Cordless Keyboard for Wii Keys and Corresponding Key Codes

Special Key	Key Code	Comments
ОК	0xE2, 0x28	Corresponds to left ALT+ENTER on a normal keyboard
QUIT	0xE2, 0x2A	Corresponds to left ALT+BACKSPACE on a normal keyboard
Zoom Out	0x56	Corresponds to 1 on the numeric keypad
Zoom In	0x57	Corresponds to PLUS SIGN on the numeric keypad
C	0xE4, 0x50	Corresponds to right CTRL+LEFT ARROW on a normal keyboard
•	0xE4, 0x50	Corresponds to right CTRL+RIGHT ARROW on a normal keyboard

3.1.2 Nonexistent Keys

The following keys are not available on the Cordless Keyboard for Wii. You must not have specifications that require these keys. For more information, see the *Wii Programming Guidelines*.

- Numeric keypad function keys (NUM LOCK, ENTER, HOME, END, PAGE UP, PAGE DOWN)
- INSERT
- PRINT SCREEN, SCROLL LOCK, PAUSE
- Right CTRL, right ALT
- Windows key, application key

4 Differences in Keyboard Layout by Region

4.1 HID Code

USB HID codes normally do not exist in devices. (A key in a specific position returns the same code regardless of what is printed on that key). However, there are some exceptions. The following diagram and table summarize the differences between these codes and a normal keyboard. However, be aware that exceptions not included here may occur.

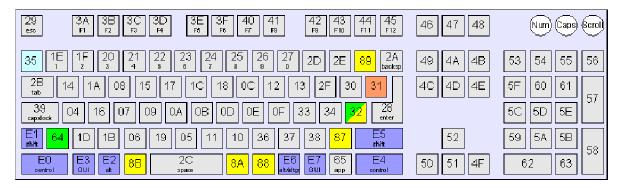


Table 4-1 HID Codes

Region	HID Codes Unique to Keyboards	HID Codes That Do Not Exist in Keyboards
USA	0x31 (backslash/vertical bar)	0x32, 0x64, 0x66-0xDF
EUR 0x32 (vicinity of the ENTER key, symbols vary) 0x64 (vicinity of the left SHIFT key, symbols vary)		0x31, 0x66-0xDF
Japan	0x32 (right bracket/right brace) 0x87 (backslash/underline/RO/dashed line) 0x88 (katakana/hiragana) 0x89 (yen sign/vertical bar) 0x8A (convert) 0x8A (do not convert) 0x94 (see notes below)	0x31 (see notes below) 0x64

Notes:

Depending on the model of the Japanese keyboard, code 0x31 may be used in place of code 0x32, and code 0x94 may be used in place of 0x35 (half-width/full-width/kanji, the light blue key above). In these cases, these keys are remapped to their expected values internally in the KBD Driver.

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- HID regulations define the 0x92 (katakana) and 0x93 (hiragana) codes, but keyboards that use these codes are not in the models for which operations have been confirmed. These HID codes can be obtained directly from the KBD library.
- HID modifier keys are shown in purple. These keys are assigned the above codes in the KBD library.

4.2 Keyboard Layout

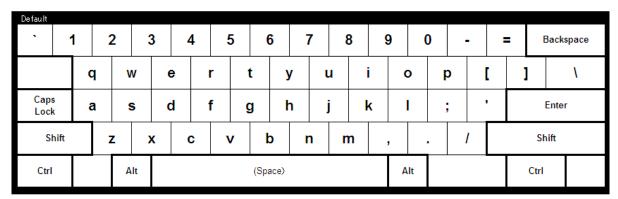
The key layout and part number by region for the Classic Keyboard 200 and Access Keyboard 600 are shown below.

Also, keys that are colored in the key layout diagrams are as follows.

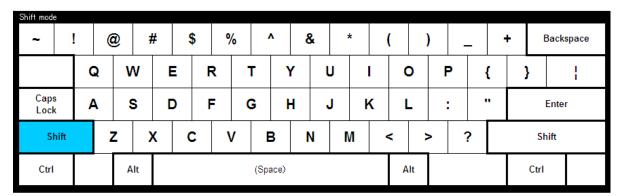
- Pink: Dead key. Keys to add phonetic symbols to characters. For example, press the dead key "^"
 and then "a" to input "â."
- Blue: Keys, such as the SHIFT or AltGr keys, that toggle uppercase and lowercase or symbols when pressed together with a character key.
- Yellow: "Half-width / Full-width" key. Switches the conversion mode.

4.2.1 USA

US English: Part No. 968019-0403



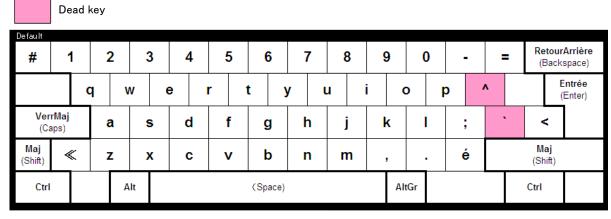
Note: Caps Lock toggles between lowercase and uppercase.



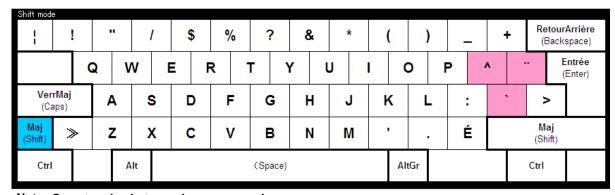
Note: Caps Lock toggles between lowercase and uppercase.

4.2.2 Canada

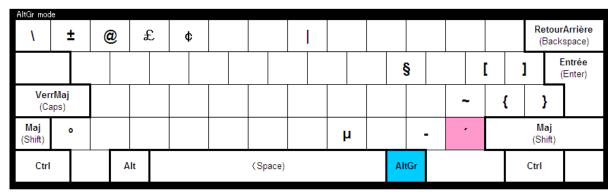
US French: Part No. 920-000025



Note: Caps toggles between lowercase and uppercase.



Note: Caps toggles between lowercase and uppercase.



Note: Caps has no effect when AltGr mode is active.

Characters That Are Input with Dead Keys

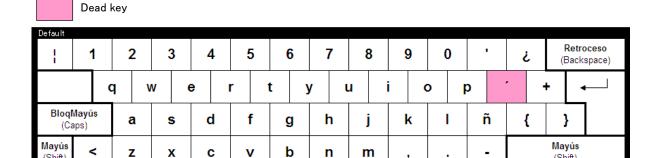
۸	â	(Â)	ê	(Ê)	û	(Û)	î	(Î)	ô	(Ô)		
•	à	(À)	è	(È)	ì	(Ì)	ò	(Ò)	ù	(Ù)		
	ä	(Ä)	ä	ζË\	ü	ďΝ	·	ďΝ	ä	(Ö)	ü	ſΫ\
		(~)	•	(=)	u	(0)		(1)	0	(0)	у	(1)

4.2.3 Latin America

(Shift)

Control

US Spanish: Part No. 920-000026



AltGr

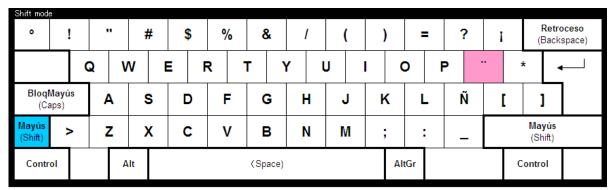
Note: Caps toggles between lowercase and uppercase.

Alt

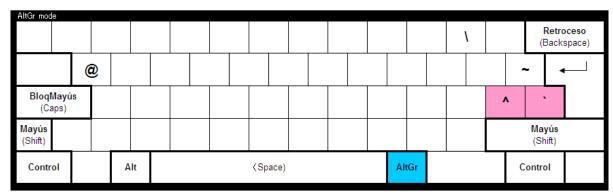
(Space)

(Shift)

Control



Note Caps toggles between lowercase and uppercase.



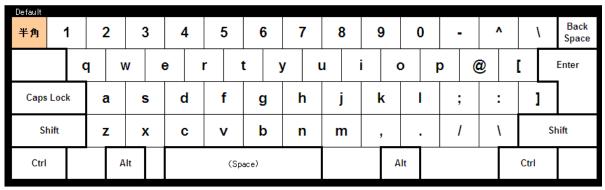
Note: Caps has no effect when AltGr mode is active.

Characters That Are Input with Dead Keys

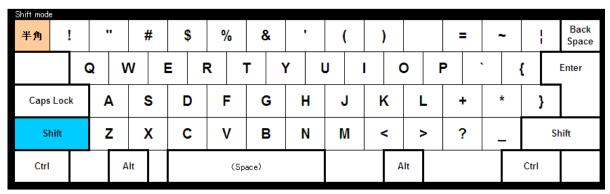
•	á	(Á)	é	(É)	í	(Í)	ó	(Ó)	ú	(Ú)	ý	(Ý)
	ä	(Ä)	ë	(Ë)	ü	(Ü)	ï	(Ï)	ö	(Ö)	ÿ	(Ÿ)
٨	â	(Â)	ê	(Ê)	û	(Û)	î	(Î)	ô	(Ô)		
•	à	(À)	è	(È)	ì	(Ì)	ò	(Ò)	ù	(Ù)		

4.2.4 Japan

JP Japan: Part No. 920-000216



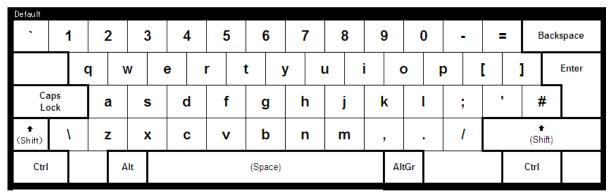
Note: Caps Lock toggles between lowercase and uppercase.



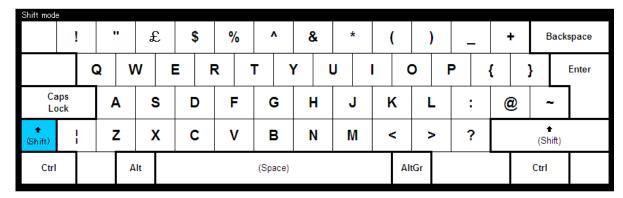
Note: Caps Lock toggles between lowercase and uppercase.

4.2.5 British English

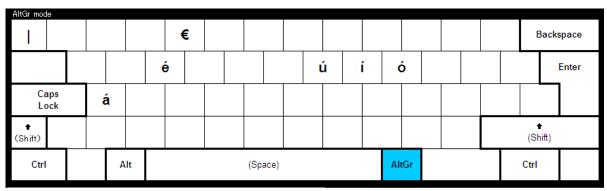
EU English: Part No. 968019-0103



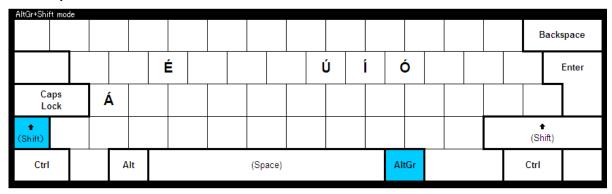
Note: Caps Lock toggles between lowercase and uppercase.



Note: Caps Lock toggles between lowercase and uppercase.



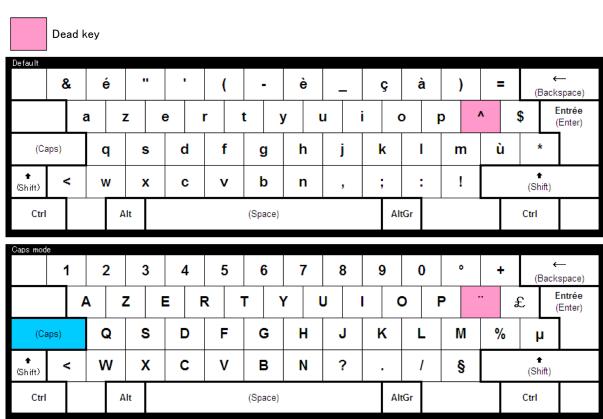
Note: Caps has no effect when AltGr mode is active.

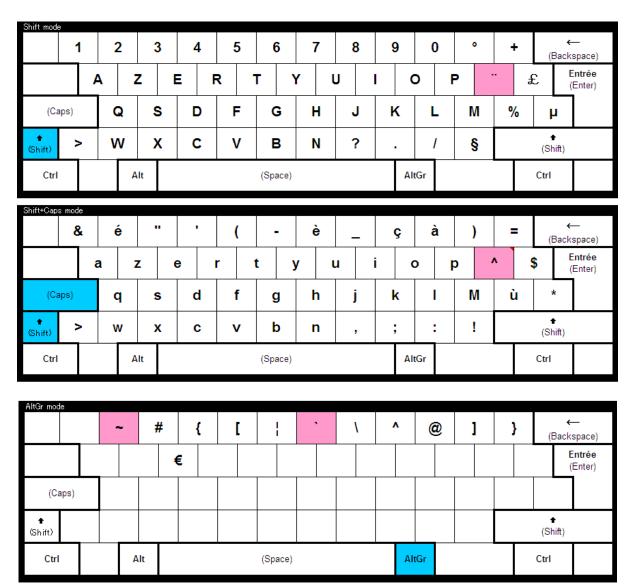


Note: Caps Lock toggles between lowercase and uppercase.

4.2.6 French

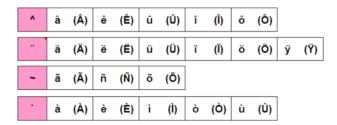
EU Français: Part No. 968019-0101





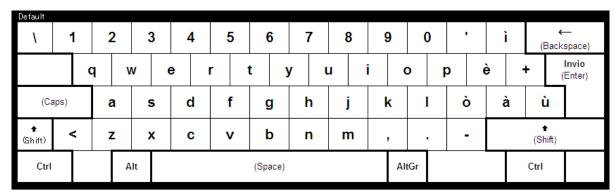
Note: Caps has no effect when AltGr mode is active.

Characters That Are Input with Dead Keys



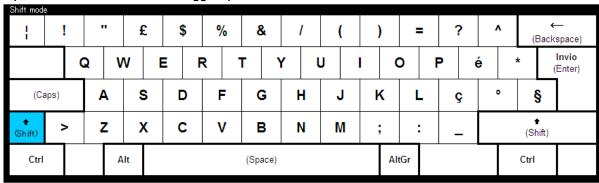
4.2.7 Italian

EU Italiano: Part No. 968019-0103



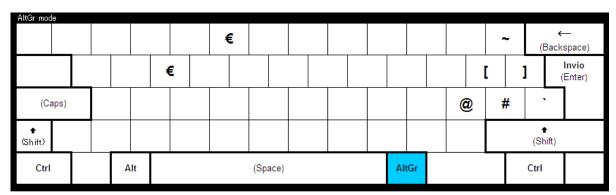
Note: Caps toggles between lowercase and uppercase.

(Accented characters are not toggled.)



Note: Caps toggles between lowercase and uppercase.

(Accented characters are not toggled.)

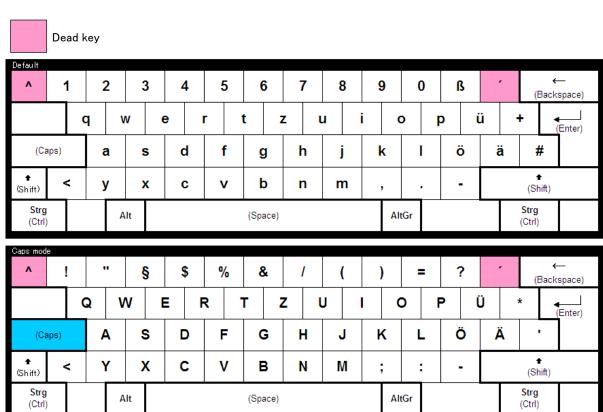


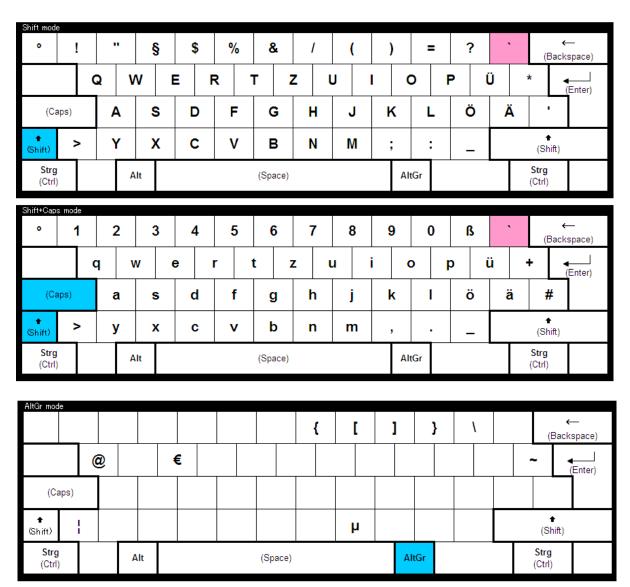
Note: Caps has no effect when AltGr mode is active.

AltGr+Shift mod											← (Back:	 space)
									{	}		Invio Enter)
(Caps)												
↑ (Shift)											↑ (Shift)	
Ctrl	·	А	lt		(Space)		AltGr			C	trl	

4.2.8 German

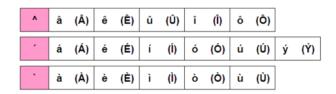
EU Deutsch: Part No. 968019-0102





Note: Caps has no effect when AltGr mode is active.

Characters That Are Input with Dead Keys



i

0

p

ñ

Retroceso

(Backspace)

Ç

Mayús

(Shift)

Control

(Enter)

4.2.9 Spanish

BloqMayús

(Caps)

<

Mayús

(Shift)

Control

EU Español: Part No. 968019-0104

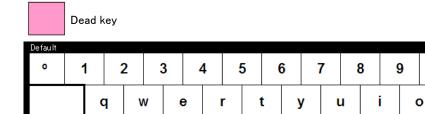
а

Z

Alt

s

X



d

C

f

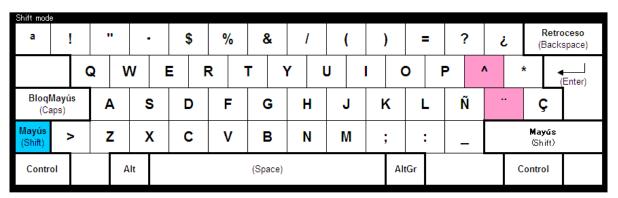
٧

g

b

(Space)

Note: Caps Lock toggles between lowercase and uppercase.



h

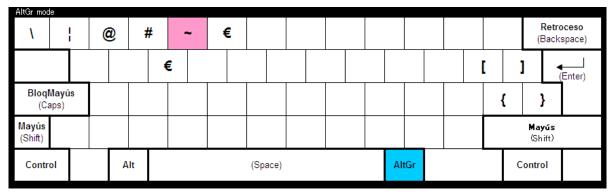
j

m

k

AltGr

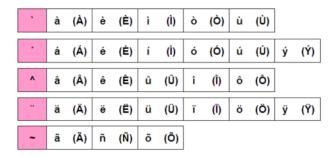
Note: Caps Lock toggles between lowercase and uppercase.



Note: AltGr = CTRL+ALT

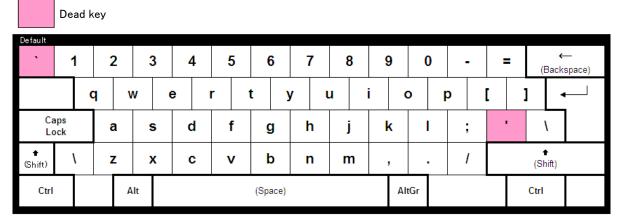
Note: Caps has no effect when AltGr mode is active.

Characters That Are Input with Dead Keys

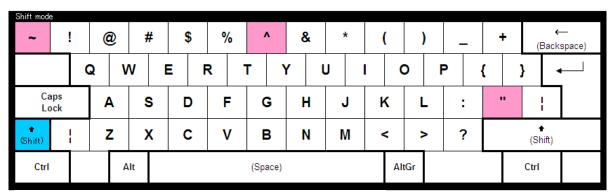


4.2.10 Dutch

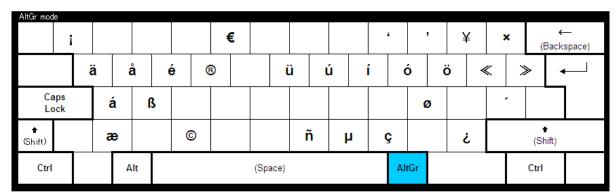
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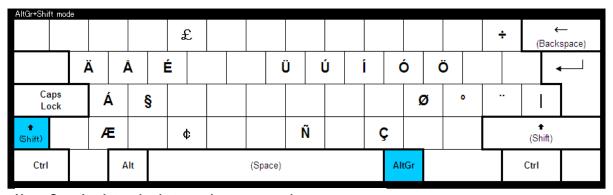
Note: Caps Lock toggles between lowercase and uppercase.



Note: Caps Lock toggles between lowercase and uppercase.



Note: Caps has no effect when AltGr mode is active.



Note: Caps Lock toggles between lowercase and uppercase.

Characters That Are Input with Dead Keys

•	à	(À)	è	(È)	ì	(Ì)	ò	(Ò)	ù	(Ù)				
•	á	(Á)	ç	(Ç)	é	(É)	í	(ĺ)	ó	(Ó)	ú	(Ú)	ý	(Ý)
~	ã	(Ã)	ñ	(Ñ)	õ	(Õ)								
^	â	(Â)	ê	(Ê)	û	(Û)	î	(Î)	ô	(Ô)				
	ä	(Ä)	ë	(Ë)	ü	(Ü)	ï	(Ï)	ö	(Ö)	ÿ	(Ÿ)		

5 Key Allocation Design Examples

5.1 Special Key Allocation

Special keys on the Cordless Keyboard for Wii are used as shown in the table below. For applications that use a keyboard, it is desirable to have a key allocation that considers both the wireless Wii keyboard and a normal keyboard layout.

Table 5-1 Special Cordless Keyboard for Wii Keys

Special Keys	Using the Tool
ОК	Confirm
QUIT	Stop, Cancel
Zoom Out	Reduce text, zoom out on the screen
Zoom In	Enlarge text, zoom in on the screen
c	Return, Previous page
>	Proceed, Next page

5.2 Text Input When Using a Text Input Assistance Tool

When using a text input assistance tool that performs conversion or predictions, such as ATOK or Zi, the following key layout is desirable.

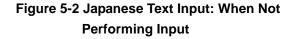
5.2.1 Japanese

Table 5-2 Key Layout for Japanese Text Input

		ATOK ON							
	ATOK OFF	When There Is No Input (When There Are	When There (When There Are Undete						
		No Undetermined Characters)	When Not in Normal Conversion Mode	When in Normal Conversion Mode					
Screenshot	Figure 5-1	Figure 5-2	Figure 5-3	Figure 5-4					
ALT+ENTER			OK						
ALT+BS	Stop								
ALT+ESC		Stop							

			ATOK ON							
	ATOK OFF	When There Is No Input (When There Are	When There (When There Are Under	e Is Input termined Characters)						
		No Undetermined Characters)	When Not in Normal Conversion Mode	When in Normal Conversion Mode						
Katakana Hiragana Romaji		Switching between	en Hiragana and Katakana	Hiragana and Katakana						
Half-width/Full-width	Switching between Eng (and ATOK OFF) and Kana (and ATOK ON)									
F4	Switch	d ATOK ON)								
UP/DOWN ARROW key	Move input	cursor position	Enter normal conversion mode (same as SPACEBAR)	Move conversion candidate selection						
RIGHT/LEFT ARROW key			Move "Prediction Candidate" selection	Shorten segment						
ENTER		e return Illowing line returns)	Input characters are confirmed as is	Segment confirmation						
SPACEBAR		it space at allow spaces to be	Enter normal	Move candidate selection to right (same as RIGHT ARROW key)						
SHIFT+ SPACEBAR		at allow spaces to be aput)	conversion mode	Move candidate selection to left (same as LEFT ARROW key)						
ESC		No response		Cancel conversion						

Figure 5-1 Japanese Text Input: ATOK OFF



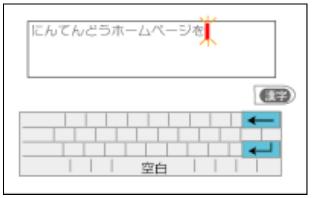




Figure 5-3 Japanese Text Input: When Not in Normal Conversion Mode

Figure 5-4 Japanese Text Input: When in Normal Conversion Mode





5.2.2 Non-Japanese Languages

Table 5-3 Key Layout for Non-Japanese Text Input

		Zi ON							
	Zi OFF	When Not Performing Input (Status in Which There Are No	When Perform (Status in Which The Candid	ere Are Prediction					
		Prediction Candidates)	When a Candidate Is Not Selected	When a Candidate Is Selected					
Screenshot	Figure 5-5	Figure 5-6	Figure 5-7	Figure 5-8					
ALT+ENTER		OK							
ALT+BS		Stop	р						
ALT+ESC		Stop	р						
Katakana Hiragana Romaji									
Half- width/Full- width									
F4	Switch between eZiText ON and eZiText OFF								
UP/DOWN ARROW key	Move input cu	rsor position	No respo	onse					
RIGHT/LEFT ARROW key			Move "Prediction Candidate" selection						
ENTER	Line Ro (only in modes allo		Input characters are confirmed as is (does not include gray completion portion)	Selected "Predication Candidate" is confirmed					
SPACEBAR	Input characters are Selecte								
SHIFT+ SPACEBAR	Input s (only in modes that allo		confirmed as is (does not include gray completion portion) + Space (added)	"Predication Candidate" is confirmed + Space (added)					
ESC	No response								

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Figure 5-5 Non-Japanese Text Input: Zi OFF

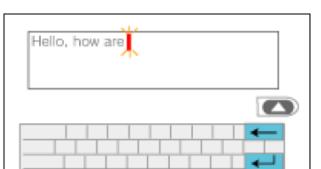


Figure 5-6 Non-Japanese Text Input: When Not Performing Input

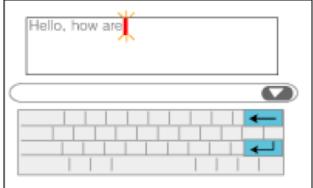


Figure 5-7 Non-Japanese Text Input: When a Candidate Is Not Selected

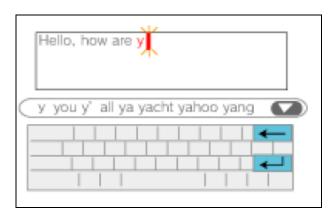
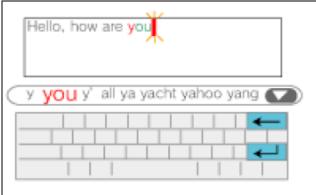


Figure 5-8 Non-Japanese Text Input: When a Candidate Is Selected



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