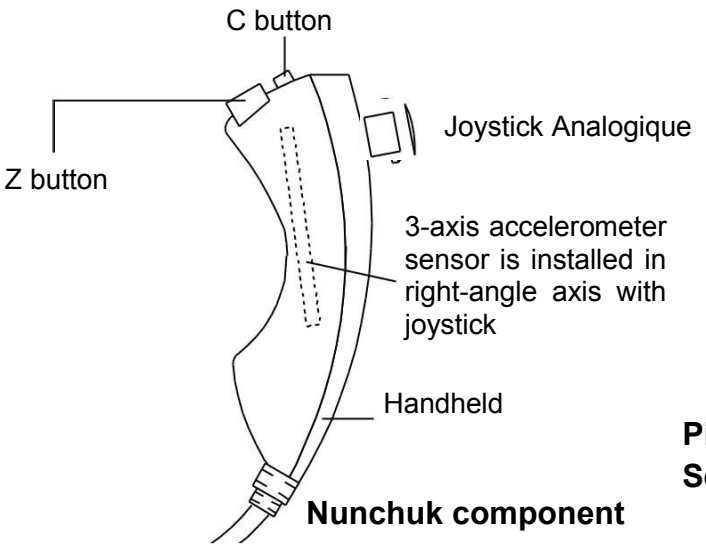
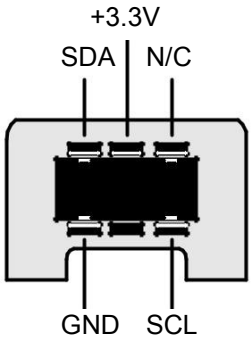
1. General information

Le Nunchuk Wii est équipé d'un accéléromètre 3 axes LIS3L02AL de la société ST Microelectronics. Il comporte aussi un convertisseur Analogique Numérique de 10 bits, un joystick 2 axes et 2 boutons poussoir.

La figure 1 montre les composants ainsi que l'attribution des broches.



Nunchuk component



Pin assignment of Nunchuk connector. See from front view.

2. Directions des accéléromètres

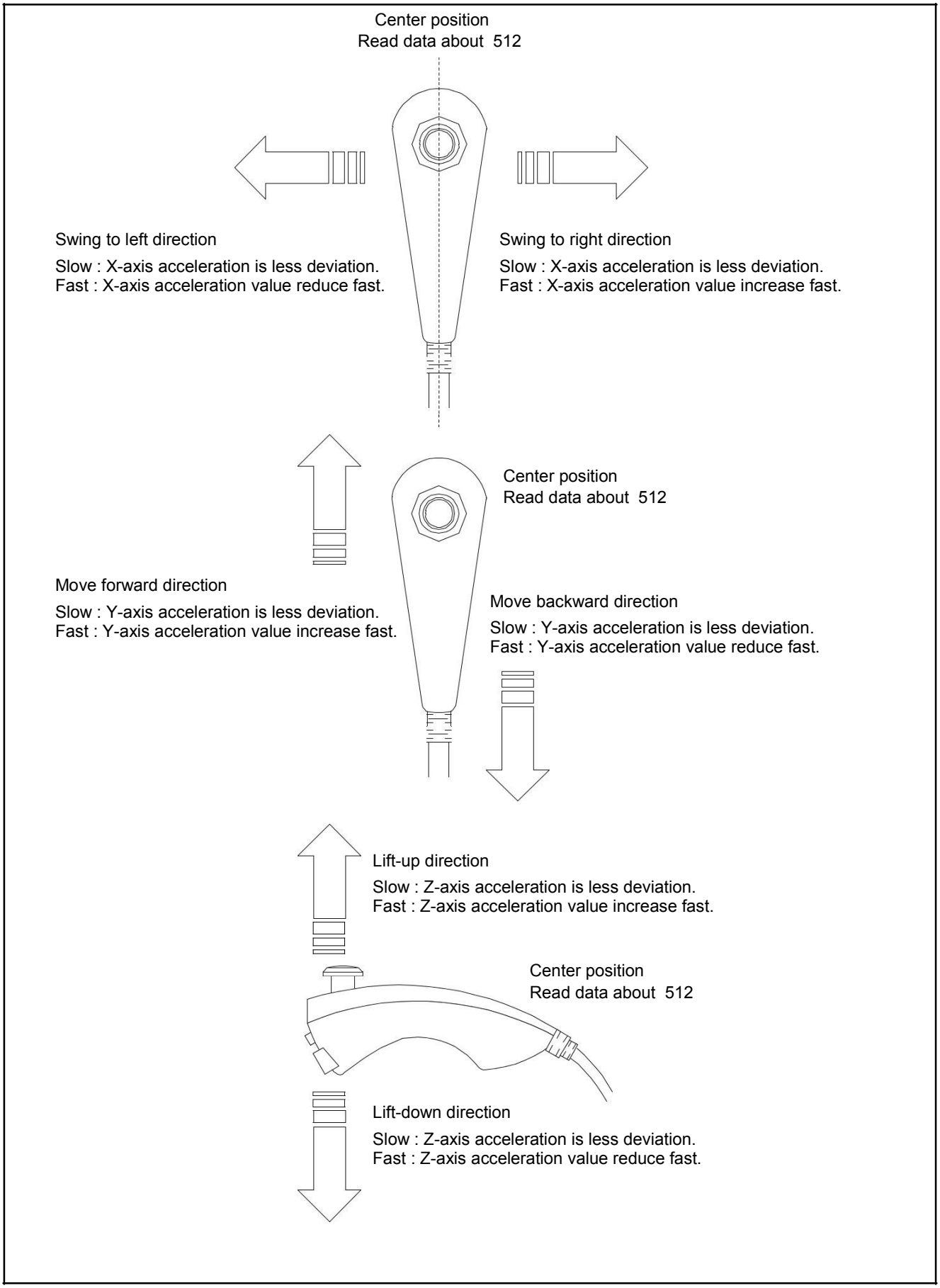


Figure 2 : Wii-Nunchuk physical operation

3. Protocol

Le Wii-Nunchuck est un équipement esclave du bus I2C. Son adresse préprogrammée est 0x52.

1	0	1	0	0	1	0	R/$\overline{W}$

Les données envoyées par le Wii-Nunchuk sont réparties sur 6 bits selon le tableau suivant.

Data byte receive								Address
Joystick X								0x00
Joystick Y								0x01
Accelerometer X (bit 9 to bit 2 for 10-bit resolution)								0x02
Accelerometer Y (bit 9 to bit 2 for 10-bit resolution)								0x03
Accelerometer Z (bit 9 to bit 2 for 10-bit resolution)								0x04
Accel. Z bit 1	Accel. Z bit 0	Accel. Y bit 1	Accel. Y bit 0	Accel. X bit 1	Accel. X bit 0	C-button	Z-button	0x05

Byte 0x00 : X-axis data of the joystick

Byte 0x01 : Y-axis data of the joystick

Byte 0x02 : X-axis data of the accelerometer sensor

Byte 0x03 : Y-axis data of the accellerometer sensor

Byte 0x04 : Z-axis data of the accellerometer sensor

Byte 0x05 : bit 0 as Z button status - 0 = pressed and 1 = release

bit 1 as C button status - 0 = pressed and 1 = release

bit 2 and 3 as 2 lower bit of X-axis data of the accelerometer sensor

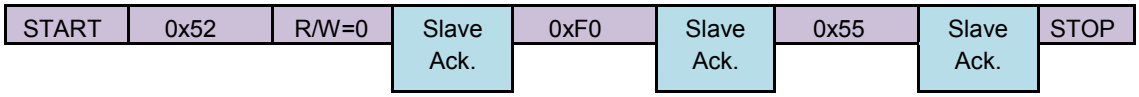
bit 4 and 5 as 2 lower bit of Y-axis data of the accelerometer sensor

bit 6 and 7 as 2 lower bit of Z-axis data of the accelerometer sensor

4. Programming

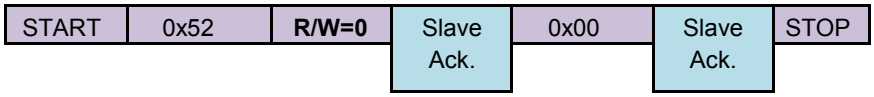
4.1 Initialize start Nunchuk command

Set the Nunchuk as ready after power-on. Write the command 0xF0 and 0x55 follows the slave ID byte 0x52 + R/W = 0 . Normally this command is written at once.



4.2 Conversion command (0x00)

Send this command to get all sensor data and store into the 6-byte register within Nunchuk controller. This must be execute before reading data from the Nunchuk.



4.3 Data read command

Send the slave ID for reading (0x52) and wait for the stream data 6-byte from the Nunchuk.