

# User's Manual

Preparation day : 30/June/2009

Product Name : WIRELESS MODULE

Model Name : 1500#00-A  
(Model Number)

Revision hysteresis.

Date	Edition number	Revision content	Writer
30/July/2009	First version	First version publication	T.Ogawa

## On safety design

Though our company has paid close attention to quality, semi-conductive products can malfunction and fail.

Our company has gone to great lengths to create a safe product which does not cause any injury accidents, fire accidents, public harm, etc., and incorporated safety features such as fire prevention and malfunction prevention into our design.

## On exemption from obligatory matter

The company is not responsible for damages resulting from natural disaster, actions by a third person and other accidents, deliberate misuse or negligence by the customer, and damages due to abnormal use.

The company is not responsible for any incidental damage caused by our product (loss of business, loss of the business profit, loss and/or changes in memory content, etc. ).

The company is not responsible for all other damages caused through failure to abide by the description of this material.

The company is not responsible for damages resulting from connection with equipment or combination with the software for which we are not concerned with. Finally, our company is not responsible for damages resulting from error from this material.

## On equipment certification

Following matters may be punishable by law:

- If any modification is made to this product.
- If the silk printing on the product is removed.

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# 1 . Application range

## 1-1 Application

This specification is applied to the following.

Product Name : WIRELESS MODULE  
Model Name : 1500 # 00-A  
(Model Number)

## 1-2 Applicable with

Sony Computer Entertainment 『Playstation3』

1500 # 00-A is a radio module.

This is a transceiver module and requires it to be placed within an external input device to operate.

It must be used with model number 1500 # 00-B as a set.

## 1-3 Application standard

- Wireless Telegraphy Act Article 38 Section 2 - 1 - 19
- FCC Part15 Subpart C
- EN300 328

This module meets the CE mark requirements.

However, it is advised that the external input device be re-examined for compatibility after the module is mounted.

## 2 . General specification

### 2-1 Shape and dimension

Dimension : Approximately 30mm × 39mm × 12mm  
Mass : About 8 g

### 2-2 Operational temperature and humidity range ( In operation )

Temperature : 0 ~ +40  
Humidity : 20 ~ 25%RH  
(Assuming there is no dew condensation.)

### 2-3 Storage temperature and humidity range ( In storage )

Temperature : -25 ~ +60  
Humidity : 20 ~ 85%RH  
(Assuming there is no dew condensation.)

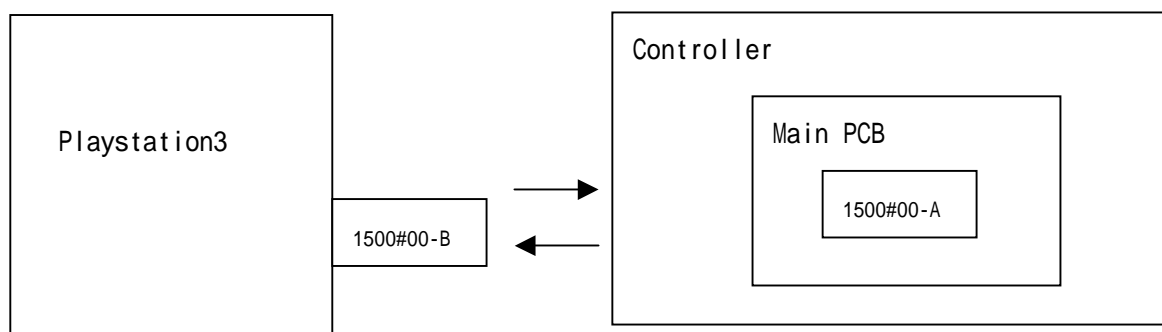
### 2-4 Function

This product is a radio module.

It is necessary to set an external controller and use with 1500#00-B as a set.

By setting the unit, the controller becomes operational with the Sony Computer Entertainment 『Playstation3』 .

### 2-5 System constitution



Set to an external controller.

## 2-6 Connection unit number

1500#00-B communicates one-to-one with 1500#00-A.

A maximum 7 sets of 1500 # 00-A and 1500 # 00-B, can be connected to one 『Playstation3』 .

Also, in the presence of multiple 『Playstation3』 , a maximum 25 sets of 1500#00-A and 1500 # 00-B can be connected simultaneously.

## 2-7 Power

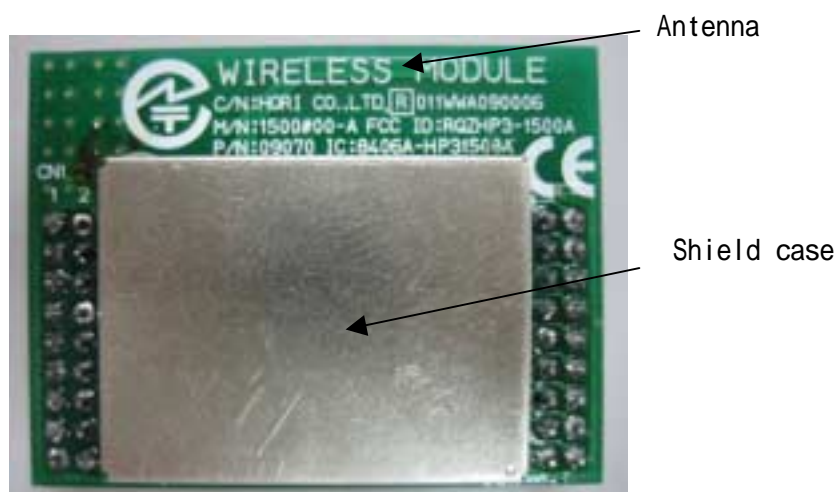
Input voltage : DC+1.8 ~ 3.3V ( Supplied from 2 batteries )

Consumption current : 5mA ( In normal operation )

## 2-8 Communication range

The communication range of the radio communication is within 10m.

## 2-9 Appearance and name of each part



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## 3 . Usage

### 3-1 Connection method

The HP3-1500A is mounted on an external device as part of the controller .

From this point forward, the device will be referred to as controller with 1500#00-A mounted.

1500#00-B is connected with the USB port of the Playstation3 console.

1500#00-B communication indicator LED flashes on and off.

(Light will turn on and off every 250msec intervals.)

The controller with 1500#00-A mounted is supplied with power.

(DC+1.8V ~ 3.3V)

When controller with 1500#00-A mounted establishes communication the communication indicator LED on the 1500#00-B either stays lit or continues to flashes on and off.

(The flashing, in this case, occurs at every 100msec intervals.)

### 3-2 Pin layout

Pin No	Setting	Function	Note
1	Input	VSS	Power Ground ( 0V )
2	Input	VDD	Power Supply ( DC+1.8V ~ +3.3V )
3	Input	R2	Inside pull-down Normal : Low Active : Hi
4	Input	R1	Inside pull-down Normal : Low Active : Hi
5	Input	L2	Inside pull-down Normal : Low Active : Hi
6	Input	L1	Inside pull-down Normal : Low Active : Hi
7	Input	SELECT	Inside pull-down Normal : Low Active : Hi
8	Input	START	Inside pull-down Normal : Low Active : Hi
9	Input	-	It is not used.
10	Input	-	It is not used.
11	Output	-	It is not used.
12	Output	-	It is not used.
13	Input	-	It is not used.
14	Input	-	It is not used.
15	Input	-	It is not used.



16	Input	PROG	It is not used.
17	Input	-	It is not used.
18	Input	VSS	Power Ground (0V)
19	Input	RESET	Normal : Hi Active : Low
20	Input		Inside pull-down Normal : Low Active : Hi
21	Input		Inside pull-down Normal : Low Active : Hi
22	Input	×	Inside pull-down Normal : Low Active : Hi
23	Input	RIGHT	Inside pull-down Normal : Low Active : Hi
24	Input	UP	Inside pull-down Normal : Low Active : Hi
25	Input	LEFT	Inside pull-down Normal : Low Active : Hi
26	Input	DOWN	Inside pull-down Normal : Low Active : Hi
27	Output	CSN	It is not used.
28	Input	PS	Inside pull-down Normal : Low Active : Hi
29	Output	MISO	It is not used.
30	Input		Inside pull-down Normal : Low Active : Hi
31	Output	-	It is not used.
32	Output	MOSI	It is not used.
33	Output	SCK	It is not used.
34	Output	-	It is not used.
35	Input	BMO	Battery monitoring
36	Input	-	It is not used.

### 3-3 Sleep function

If below parts are not active for 3 minutes, the product will enter sleep mode.  
In the sleep mode, energy consumption will be minimized.

Pin No	Function	Pin No	Function
3	R2	22	×
4	R1	23	RIGHT
5	L2	24	UP
6	L1	25	LEFT
7	SELECT	26	DOWN
8	START	28	PS
20		30	
21			

If any of the above port becomes active, the controller will return from sleep mode.

## 4 . Radio specification

### 4-1 General specification

Parameter	Value/Note
Modulation system	GFSK
Spectrum diffusion process	Frequency hopping
Number of channels	25ch
Frequency range	2405MHz ~ 2477MHz
IC transmission output	0dBm[Max.]
Data rate	1Mbps[Max.]
Rock crystal vibrator frequency	16MHz
Operating voltage	DC+1.8V ~ 3.3V ( Supply from 2 batteries. )

### 4-2 Channel frequency

Channel	Frequency [MHz]
1	2405
2	2408
3	2411
4	2414
·	
·	
·	
·	
22	2468
23	2471
24	2474
25	2477

### 4-2 Antenna

Parameter	Value/Note
Type	Monopole antenna
Composition	Pattern antenna
Gain	-0.08 dBi [Max.]

## 5 . Precautions for each standard

### 5-1 FCC ClassB

**CAUTION:**

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### 5-2 FCC (15.19) /IC ( RSS-210 Low Power Device )

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

## 5-3 IC and FCC (Radio)

### RF exposure compliance

- 1) To comply with FCC/IC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.
- 2) This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## 6 . Requirements to end product

This module must be integrated only by OEM integrators under the following conditions.

(1) OEM integrator has to be aware not to provide information to the users regarding how to install or remove this module in the user ' s manual of the end product which integrate this module. Installation by end users is strictly prohibited.

### (2) Antenna

OEM integrator shall use this module without any modifications including antenna. If module integrator uses a unique antenna, the FCC certification is required for the end product.

OEM integrator must make sure that 20cm minimum separation is maintained between users and the antenna.

### (3) Co-location.

This module must not be co-located or operated in conjunction with any other antenna or transmitter. The module integrator shall obtain FCC approval for the end product, if the module is used for co-location operation.

### (4) Markings

To satisfy FCC/IC exterior labeling requirements, the following text must be placed on the exterior of the end product.

Contains Module FCC ID: RQZHP3-1500A, IC: 8406A-HP31500A  
Any similar wording that expresses the same meaning may be used.

### (5) Caution to user for modification

The following caution is expressed on the user ' s instruction manual.  
The changes or modifications not expressly approved by the party responsible for compliance could void the user ' s authority to operate the device.

(6) Compliance statement to FCC

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

(7) Compliance statement to IC

The following statement is expressed on the user 's instruction manual. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.