

Wireless Controller Wave Bird Specifications

Wave Bird: (Transmitter)

Operation section:

Operation system (Analogue-digital input) has same specifications as standard controller including layout and components to be used. As additional operation input, this new system has POWER_S switching).

Communication section:

This does not have receiving function but has operation data transmission function through an internal antenna (pattern antenna).

Display section:

There is a LED to show battery status.

Power supply section:

The system uses two AA alkaline batteries (boosted up to 2.9V using a DCDC converter)
Battery pack for AGB is also available.

Wireless receiver:

Wireless receiver section:

16 steps rotary switch for channel switching

Communication section:

Regarding communication with Wave Bird, the receiver has no transmission function but has operation data receiving function through an internal antenna (chip antenna)
For communication with a Gamecube, same as standard controller, SI interface is used.

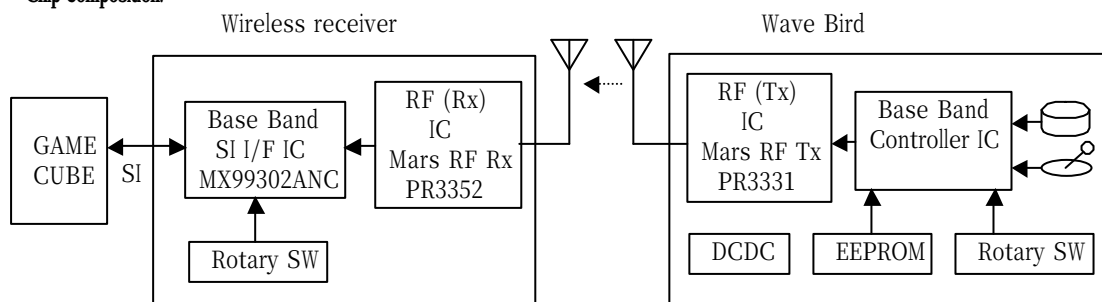
Display section:

Equipped with a green LED to let the user know the receiving status.

Power supply section:

3.3V that is provided in the Game cube side controller port shall be used. (5.0V shal be used.)

Chip composition:



Wave Bird side:

Base Band IC (Tx): Sampling of controller operation, generation of transmission data and control of RF-IC.
RF-IC (Tx): Data transmission
EEPROM: Configuration ROM for unique ID and operation specifications.
DCDC:
Rotary SW: For channel selection. (16 steps)

Wireless receiver side:

Base Band IC (Rx): Control of RF-IC, demodulation of received data and communication with a Game cube
RF-IC (Rx): Receiving data
Rotary SW: For channel selection (16 steps)

RF specifications:

Frequency band: 2400-2483.5MHz (ISM band)
Modulation system: FSK+DSSS (15 chips)
Transfer rate: 96Kbps (Payload 38.4Kbps)
Multiplex system: FDMA
Communication system: One-way communication
Number of channels: 32 channels (16 channels are used)
Channel width: 2.4MHz
Modulation frequency: +/-580KHz (percentage modulation 0.8)
Channel frequency: 1.44MHz (96K x 15)
Diffusion bandwidth (90%): 1.8MHz
Occupied bandwidth (99%): 2.4MHz
Output power: 0.1mW (-10dBm)
Communication range: 5m (Omnidirectional)
Ratency: no more than 4.0ms
Error correction, detection: BCH (31, 21), CRC16
Communication error rate: no more than 10e-4

Electrical specifications:

Wave Bird side:

Battery voltage: 1.7~3.3V (more than 2.25V required for boot)
Internal voltage: 2.9V
Current consumption Transmitting: 114.82mA
Waiting: 4.25mA
power down: 3.27mA
Over discharge protection: no more than 100uA
(Battery voltage is less than 1.7V)
Battery life (Continuous transmission) 100h (AA alkaline battery x2)
50h (AA manganese battery x2)

Wireless receiver side:

Voltage: 3.3V
Current consumption: 110mA

Compliance with various current regulations:

USA: FCC15.247 (For spread spectrum), FCC15.249 (Short range device)
Canada: RSS210 (FDD15.247 and FCC15.249 equivalent)