2.4GHz RF GAMECUBE Wireless Controller Host Working Principle

1. It is a 2.4G RF product. It works at the frequency of ISM Band (2.4GHZ). There are up to 80 channels, and the frequency interval between each channel is 1M Hz.
2. Evenly Randomized Frequency Hopping Sequence method is implemented in the RF technology.
3. It works in "Master" Mode. We call it "Host."

The working procedures are:

a) When power on, the Host will do the frequency hopping according to a certain sequence, and then send the connection command.
b) If there is a Device response, the Host will judge whether it can be permitted to connect.
c) If it can be permitted to connect, then send the connection command to build up the connection.
d) The Host sends the request command to the Device to get the Axes and Buttons value.
e) The Device sends the Axes and Buttons value to the Host.
f) The Host will identify the data received and then do the data detection and data correction.
g) The Host will save the data received if there is no error.
h) The Host judges whether it is required to send Axes and Buttons value to GAMECUBE console.
i) If it is required, then send the saved data to GAMECUBE console.
j) The Host judges whether there is any Motor command and/or Motor value sent from GAMECUBE console.
k) If there is, then the Host will save the received Motor data.
l) The Host send Motor commands to the Device, and send the Motor value to the Device.
m) Repeat Step e) to Step l)

2.4GHz RF GAMECUBE Wireless Controller Device Working Principle

1. It is a 2.4G RF product. It works at the frequency of ISM Band (2.4GHZ). There are up to 80 channels, and the frequency interval between each channel is 1M Hz.
2. Evenly Randomized Frequency Hopping method is implemented in the RF technology.
3. It works in "Slave" Mode. We call it "Device."

The working procedures are:

n) When power on, the Device will search all of the channels, to see whether there is a Host.
o) If there is a Host, the Device will identity by the data received, to see whether it can be connected with the Host.
p) If it can connect to the Host, then the Device will respond to the Host.
q) The Host builds up the connection after receiving the response from the Device.
r) The Host sends the command request to the Device for getting the Axes and Buttons value.
s) The Device sends Axes and Button value to the Host.
t) The Host identifies the data received and does the error detection and the error correction.
u) The Host sends Motor commands to the Device.
v) The Device will handle the Motor behaviors by the Motor data value that sent from the Host.
w) Repeat from step e) to step i).