



## *Networking Guide for all Interactive Fitness Products*

*S3 Novo - U, R, Y Bikes*

*CyberCycle Bikes*

*HD – U, R,Y Bikes*



## Expresso S3 Novo/CyberCycle/HD and Security

The Expresso network architecture was carefully designed to be resistant to malware that might cause a problem for the rider's experience or interfere with the owner's business. Below, find some of the key security features that will keep your network and your experience safe.

### Software security

#### 1a. Alien DNA

Expresso Novo and CyberCycle bikes are based on the Red Hat Linux OS. They are not susceptible to the Windows-based viruses and malware that are the main source of network integrity problems.

#### 1b. Software purity

Expresso S3/CyberCycle/HD bikes have a software image that is carefully controlled and does not include modules, plug-ins or accessories that may cause a problem.

Every S3's/CyberCycle/HS software is built and tested in a secure environment. Every update is carefully tested before shipment.

Interactive Fitness guarantees that every S3 bike is virus-free when it leaves the factory.

### Wireless security

#### 2a. Strong encryption

Expresso bikes and the Expresso router only communicate using WPA/PSK or WPA2/AES encryption. Without the SSID and password, unauthorized devices may not eavesdrop or piggyback onto the wireless network.

**2b. Pre-programmed monogamy** Expresso bikes only communicate using WPA/PSK or WPA2/AES encryption. They are additionally programmed to only connect to an Expresso router. For

security reasons, they won't seek the best wireless connection like most WiFi devices do.

Expresso bikes will not connect to any other wireless network, encrypted or not.

### Internet security

#### 3a. Router firewall

The Expresso router is pre-programmed to:

- Isolate bike traffic from your network
- Provide added network security

An Expresso S3/CyberCycle with an Expresso router is essentially unreachable by the outside world.

#### 3b. Only one phone number

Expresso bikes are programmed to only call home to the servers at [www.expresso.net](http://www.expresso.net). The permitted IP addresses are hard-coded into the S3 bikes when they arrive at your site.

S3 bikes will never communicate with a local device on your network. They simply do not have the software to do so.

#### 3c. No incoming calls

Expresso S3/CyberCycle/HD bikes will not accept a communication initiated by an outside source from any location. All network communications must be initiated by the bike. (As noted all such communications go directly to Expresso servers and nowhere else.)

This prevents hackers from gaining access to the bikes over the network. They will not respond.

### Piece of mind

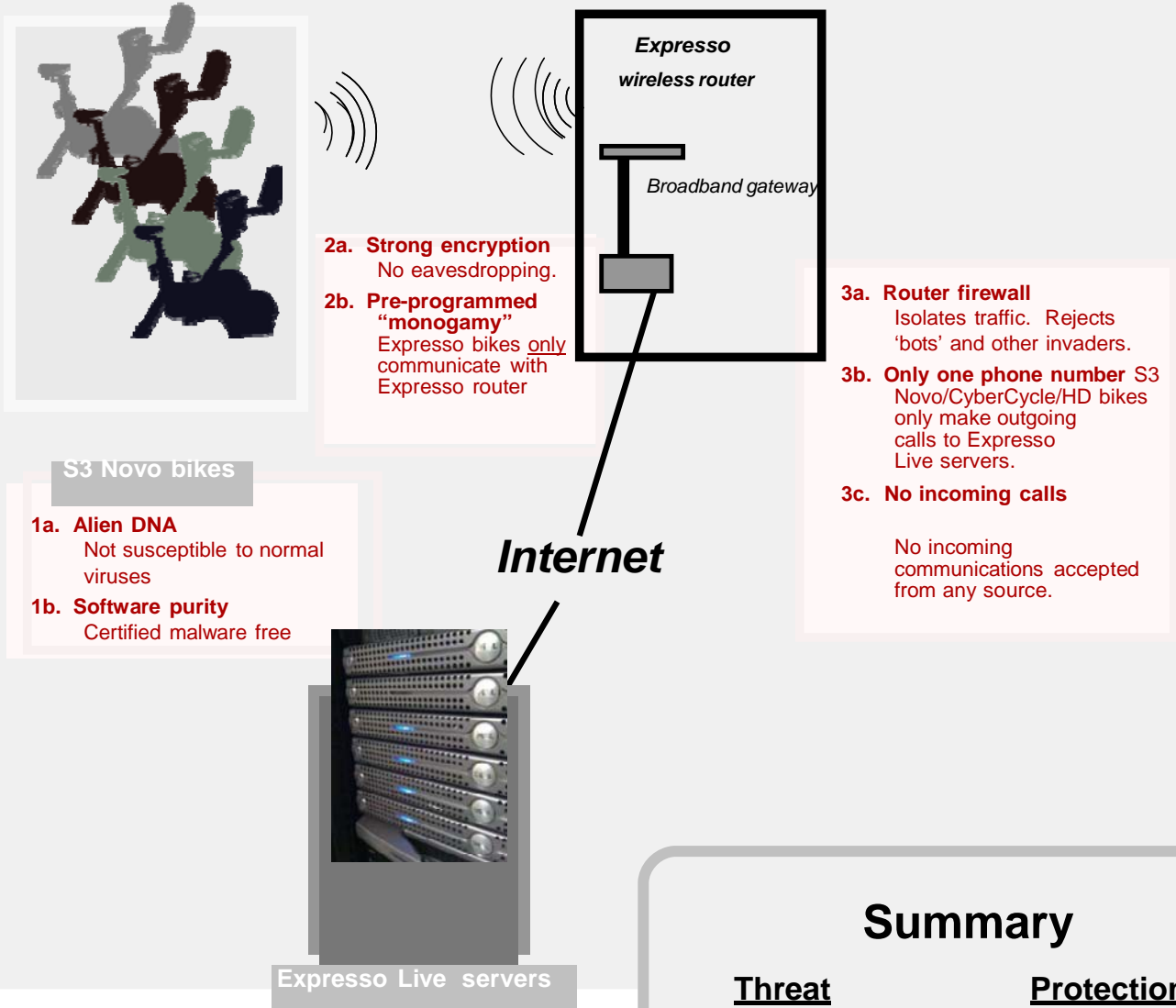
The Internet part of the Expresso experience – Expresso Live – is important to your users and to you. You and your members are missing at least half of the Expresso advantages without network connectivity and Expresso Live.

Interactive Fitness designed Expresso S3 Novo and CyberCycle bikes so that you need not be concerned about compromise to your network operation when you deliver the "Live" experience.

# Interactive Fitness

## Expresso S3 Novo/CyberCycle/HD and Security Protection at every level

### Wiring closet



### Summary

#### Threat

- Piggyback or eavesdrop WiFi
- Malware on bike (e.g. virus or Trojan Horse)
- Unauthorized access to your network from Internet

#### Protection

- Password-protection and strong encryption
- Certified software contents
- Only one "phone number"
- No incoming calls
- Expresso router only connects to Expresso bikes.  
*(Expresso bikes don't talk to outsiders.)*



## **Networking Setup Questionnaire**

***This Sheet should be turned into Interactive Fitness Tech Support for review prior to bike install. Please send to [support@ifholdings.com](mailto:support@ifholdings.com) .***

1. What is Customer's information?
  - Account Name:
  - Account Address:
  - Contact Name:
  - Contact Phone number:
  - Contact email:
  
2. Is the customer using Espresso router or their own wireless router?
  
3. Does customer have an IT contact?
  - Contact Name:
  - Contact Phone number:
  - Contact email:
  
4. Does customer use a firewall?
  - a. If yes then the following will need to be enabled for inbound and outbound traffic: Espresso.net on port 80.
  - b. What type of firewall protection is being used?
  
5. Is this a Static IP address account?
  - This is only supported at the router level not bike level.
  - If at the router level what is the following information:  
  
Static IP:  
Subnet Mask:  
Gateway:  
DNS1:  
DNS2:
  
6. Is this a Proxy server account?
  - This is not supported on the Interactive Fitness products.

Continued on next page:

## **Networking Setup Questionnaire Continued**

### **Wireless**

1. What is the distance from router to the bike(s)?
  - Should be less than 50 feet.
2. If this is for a NOVO Product line and using non-Expresso router, is an SSID 13 character or less with no special characters?
3. If this is for a NOVO Product line and using non-Expresso router, is the password 13 character or less with no special characters?
4. Is there a clear view to bike(s)?
5. Are the bikes on the same floor as the router?
6. What is the reading from the WiFi detector (How many bars)?
7. Is there wireless TV at this site?
8. Are there any other wireless devices in this account?

### **Wired**

1. What is the distance from the bike(s) to the router?
2. Are there CAT5e connections near the bike(s)?

**Note: Customer is REQUIRED to supply their own CAT5e cables and install the cables up to and including the bike(s).**



## ***Network Exceptions***

1. The INTERACTIVE FITNESS Espresso bike or router will not connect to a proxy server.
2. The INTERACTIVE FITNESS Espresso bikes will not connect to Static IP addresses (direct connect).
3. Wireless connections use radio waves. Anything that can interfere with radio waves can also interfere with wireless connections and cause the signal to be interrupted or weakened. Some cordless telephones that operate within the frequency range of the bikes wireless network can cause interference. Distance from the access point may also affect the strength of the signal. Since a wireless network is a shared network, the number of people using it may result in slower connections. This is why IFH does not guarantee any wireless connections.
4. IFH routers are tested, qualified, and configured to ensure optimal network connections with the bikes. Other routers have not been qualified by IFH and may not perform as well.
5. IFH routers are configured to allow peer-to-peer traffic which is required to allow multiple bikes to see each other when in the same route.
6. IFH routers are verified to provide support for significant UDP traffic which is required by the bikes.
7. Configuring bikes for WPA/WPA2 Enterprise requires additional steps beyond what is provided by the on-bike configuration tools.
8. Firewall issues must be resolved on the customer network side and not on the bike.



## ***IFH Router Installation***


1. Connect your broadband modem to the router Internet port with the included Ethernet cable.
  - a. For wireless connections: For best performance, position your router close to the bikes. Do not exceed 50'.
  - b. For wired connections: Connect the CAT5e cables from the blue ports on the router directly to the control panel of each bike.
2. Connect the included power adapter to the router's power port and then plug it into the electrical outlet. The power LED on the router front panel will light up when the adapter is connected properly.

## Router Configuration for Espresso Bike

1. Connect to port number 4 of the router to the computer (PC), power on the router.
2. Make sure port number 4 is lit on the router.
3. Connect to the router using the **factor default IP address (if Linksys (Cisco) router IP Address is 192.168.1.1)** in the internet address bar and hit enter. Leave the user name blank and tab to password: **admin** hit enter.
4. Go to the Administration Manual and click on the Management tab. Change router password to **funfit** in the password field. Also re-enter **funfit** and press the save setting button.
5. Go to the setup manual, click on basic set up tab.
  - i. Domain name: **EspressoWorld**
  - ii. IP address: **172.16.240.1**
  - iii. Subnet Mask: **255.255.255.0**
  - iv. DHCP server: **On**
  - v. IP pool starting: **40**
  - vi. Maximum # of users: **200**
6. Press saves settings button and click on “Continue”
7. Now unplug the power to the router and wait 10 seconds, next in internet address bar enter <http://172.16.240.1> log in again with a **blank** username and **funfit** as the password.
8. Go to the wireless manual tab and click on the basic wireless setting tab change the following fields.
9. Network mode: **G-only**
10. SSID: **SparkWorld2 (capitalization is important)**
  - i. Standard Channel Field: **11**
  - ii. Broadcast SSID: **On**
11. Click Save settings button and click on “Continue”
12. Click on the “wireless security” tab and make the following changes
  - i. Security mode field: **WPA Personal**
  - ii. Encryption field: **TKIP**
  - iii. Pre-shared Key field: **funfit06**
13. Press “Save settings” button and click on “continue”



## Expresso *NOVO Product Line Only* setup for non-Expresso router wireless connection

1. Enter CONFIGURATION MODE
  - Arrow down to TRY EXPRESSO and press OK (or press OK if not connected to the internet)
  - Press OK again
  - Press Menu (  ) (Blue key with Expresso Log to the left of the Ok button) and select manual mode and hit ok.
  - Type 7913
2. Screen should change and you are now in configuration mode.
3. Using the arrow keys select "Use Network".
4. Using arrows keys select "Wireless Connection".
5. Follow on screen instructions to select the available wireless connection.

**Note:** The following restrictions must be followed:


- SSID **MUST** be 13 characters or less, with no special characters.
- **MUST** have a Passphrase which is 13 characters or less.

**Special notes on router:**

- Must be set to WPA/PSK (TKIP) or WPA2 (AES)
  - SSID **MUST** be broadcasting
  - Bikes are using G band
6. Once connection has been added Press back key to return to the MAIN MENU.
  7. Select "Exit Configuration Mode"

**Note:** Once the wireless setting is completed **DO NOT** go back into "wireless Connection", this will show default of SparkWorld2.

## CyberCycle (NOVO) bike setup for non-Expresso router wireless connection

1. Enter CONFIGURATION MODE
  - Press OK at the Main Sign-on screen
  - Press 0 for more choices.
  - Press Menu (  ) (Blue key with Espresso Log to the left of the Ok button) and select manual mode and hit ok.
  - Type 7913
2. Screen should change and you are now in configuration mode.
3. Using the arrow keys select "Use Network".
4. Using arrows keys select "Wireless Connection".
5. Follow on screen instructions to select the available wireless connection.

**Note:** The following restrictions must be followed:


- SSID **MUST** be 13 characters or less, with no special characters.
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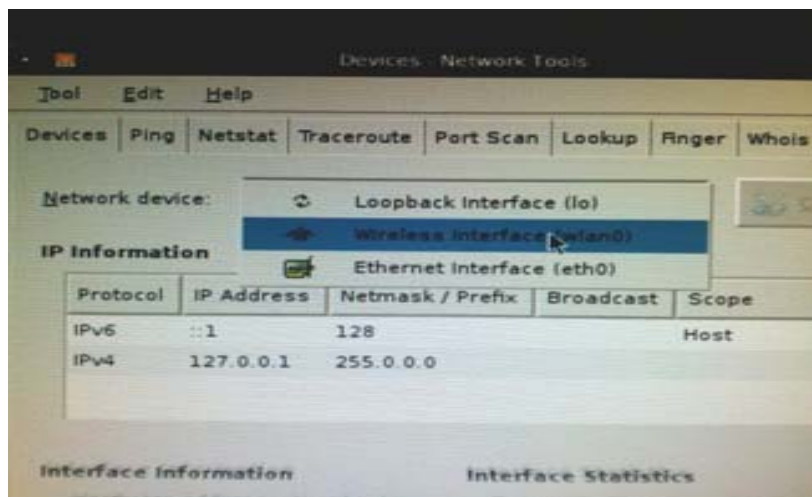
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**Note:** Once the wireless setting is completed **DO NOT** go back into "wireless Connection", this will show default of SparkWorld2.

## **Custom Wireless Network Configurations for HD Bikes**

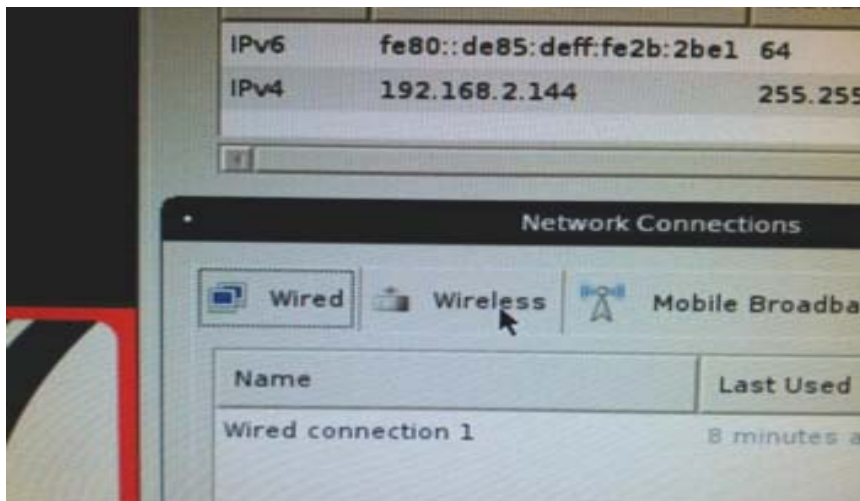
1. Enter CONFIGURATION MODE
  - Arrow down to TRY EXPRESSO and press OK (or press OK if not connected to the internet)
  - Press OK again
  - Press Menu (  ) (Blue key with Espresso Log to the left of the Ok button) and select manual mode and hit ok.
  - Type 7913
2. Screen should change and you are now in configuration mode.
3. Using the arrow keys select "Use Network".
4. Plug a USB hub into the USB port on the bike.
5. Connect the USB keyboard and USB mouse to the hub.
6. Press **A** on keyboard
7. Click on Network device and then select **Wireless Interface (wlan0)** from the pick list.



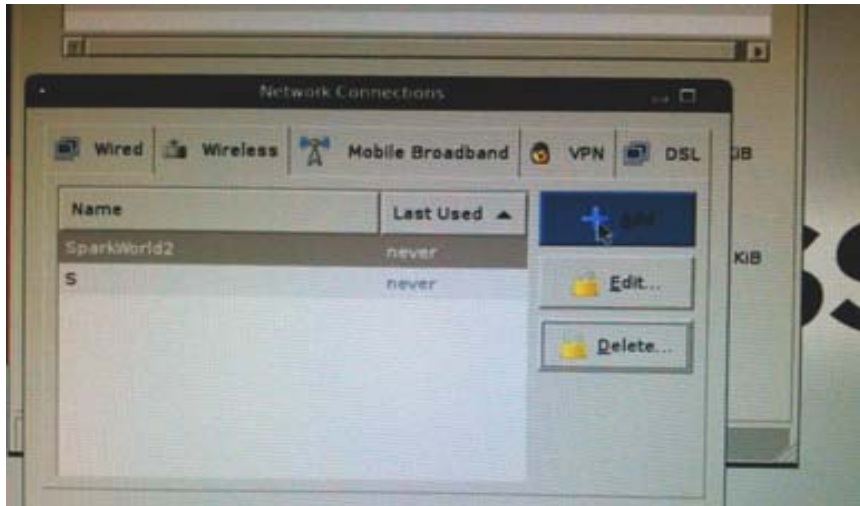
8. Click on the **Configure** box.



9. Select **Wireless** box in the Network Configurations popup.



10. Click on **Add (+)**.



11. Type in the Connection name and SSID fields. This example uses OpenNetwork1 for the SSID.

12. If you are connecting to a secured network please enter the wireless security information at the wireless security tab.

13. Click on **Save** when done.

14. Click on the **Close** button.

15. Click on the **X** in the upper right corner to close the configuration program.

**NOTE:** *Wireless connections use radio waves. Anything that can interfere with radio waves can also interfere with wireless connections and cause the signal to be interrupted or weakened. Some cordless telephones that operate within the frequency range of the bikes wireless network can cause interference. Distance from the access point may also affect the strength of the signal. Since a wireless network is a shared network, the number of people using it may result in slower connections. This is why IFH does not guarantee any wireless connections.*



**Contact Customer Service**

Phone number: 1-888-528-8589 x2

E- mail: [support@ifholdings.com](mailto:support@ifholdings.com)

**Customer Service Hours:**

6:00 AM – 4 PM (PST) Monday thru Friday

When contacting Interactive Fitness, please provide your facility name, contact person, name, phone number, and serial number.