



# S3 Novo Network Security



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# Expresso S3 Novo 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 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 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 software is built and tested in a secure environment. Every update is carefully tested before shipment.

IFH 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 WPA2 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 WPA2 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 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 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.

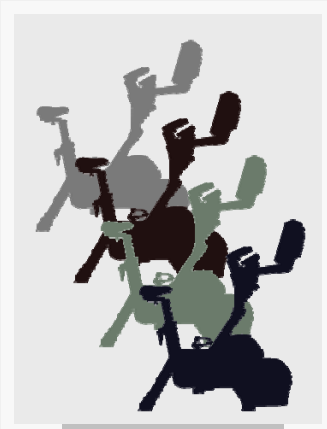
## Piece of mind

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.

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

# Expresso S3 Novo and Security

## Protection at every level



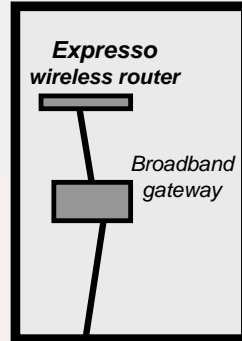
S3 Novo bikes

- 1a. **Alien DNA**  
Not susceptible to normal viruses
- 1b. **Software purity**  
Certified malware free

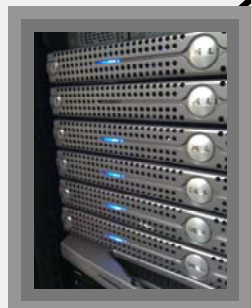
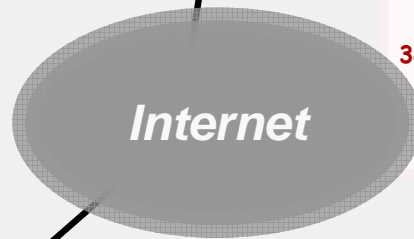


- 2a. **Strong encryption**  
No eavesdropping.
- 2b. **Pre-programmed "monogamy"**  
Expresso bikes only communicate with Expresso router

### Wiring closet



- 3a. **Router firewall**  
Isolates traffic. Rejects 'bots' and other invaders.
- 3b. **Only one phone number**  
S3 Novo bikes only make outgoing calls to Expresso Live servers.
- 3c. **No incoming calls**  
No incoming communications accepted from any source.



Expresso Live servers

## 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.)*