



## The Lenz interface 23151 and the iPhone

User of an iPhone or an iPod Touch can easily connect to an DCC model railroad with the Lenz interface 23151. This works also without a computer! You just need a Wi-Fi router, a network cable and the App TouchCab.

### Three easy steps...

1. Set up the Wi-Fi router with the ip address *192.168.0.1* and the SSID *xpressnet* .
2. Connect the Lenz interface with the Wi-Fi router and the Xpressnet of your DCC digital central unit.
3. Run the app TouchCab on the iPhone, choose the ip address *192.168.0.200* and start driving...

You will find a video on [www.spur-g-blog.de](http://www.spur-g-blog.de) ...

### Important notes

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It is dangerous to use an Wi-Fi network without encryption. If you do this it is on your own risk!

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Please write an email to [info@spur-g-blog.de](mailto:info@spur-g-blog.de) if you find a mistake or if you have a hint.

## Background information

If the three steps from page 1 work fine you can start using your iPhone, TouchCab, the Wi-Fi router and the Lenz interface 23151.

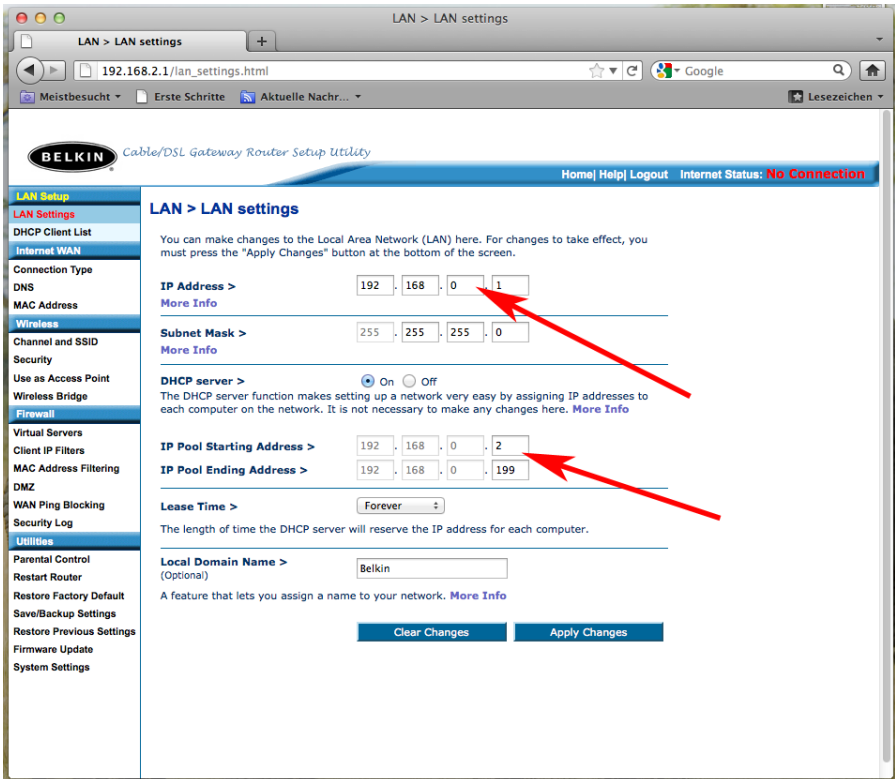
If something does not work, these background information should help you to figure out the problem.

The interface is only for DCC digital systems that support the Xpressnet bus from Lenz.

## Step 1: Wi-Fi installation

The easiest way is to buy a new Wi-Fi router for about 20 US \$. A friendly sales assistant will help you to set up the ip adress and the SSID. Then you can start immediately at home. Certainly you can install your Wi-Fi router by yourself. If this is your first time, you need the manual of your Wi-Fi vendor, because every Wi-Fi router uses a different installation method. You need to change the ip adress and the SSID of your wireless network.

The ip adress of your Wi-Fi router should be *192.168.0.1* and the SSID should be *xpressnet*. In addition you should turn on the DHCP service. You must not select a DHCP range for clients greater than 2 to 199. The ip adress is important for the network connection to the Lenz interface. The SSID is the name of your Wi-Fi network. You will see this name on your iPhone, when you search for new Wi-Fi networks in your area.



The screenshot shows a web browser window with the address bar displaying "192.168.2.1/lan\_settings.html". The page title is "LAN > LAN settings". The interface is for a Belkin Cable/DSL Gateway Router Setup Utility. On the left is a navigation menu with options like LAN Setup, LAN Settings, DHCP Client List, Internet WAN, Connection Type, DNS, MAC Address, Wireless, Channel and SSID, Security, Use as Access Point, Wireless Bridge, Firewall, Virtual Servers, Client IP Filters, MAC Address Filtering, DMZ, WAN Ping Blocking, Security Log, Utilities, Parental Control, Restart Router, Restore Factory Default, Save/Backup Settings, Restore Previous Settings, Firmware Update, and System Settings. The main content area is titled "LAN > LAN settings" and contains the following fields:

- IP Address >**: 192 . 168 . 0 . 1 (with a red arrow pointing to the last octet)
- Subnet Mask >**: 255 . 255 . 255 . 0
- DHCP server >**: ☒ On ☐ Off
- IP Pool Starting Address >**: 192 . 168 . 0 . 2
- IP Pool Ending Address >**: 192 . 168 . 0 . 199 (with a red arrow pointing to the last octet)
- Lease Time >**: Forever
- Local Domain Name >**: Belkin

At the bottom of the main content area are two buttons: "Clear Changes" and "Apply Changes".

This is an example for an Wi-Fi router. By this vendor you find the ip adress and the DHCP range on the same screen

Usually you can configure your Wi-Fi router also with your iPhone. A standalone computer is not necessary. You can open Safari and use the webserver of your Wi-Fi router.



Wireless > Channel and SSID

192.168.2.1/wireless\_chan.html

Meistbesucht Erste Schritte Aktuelle Nachr... Lesezeichen

**BELKIN** Cable/DSL Gateway Router Setup Utility

Home| Help| Logout Internet Status: **No Connection**

**Wireless > Channel and SSID**

To make changes to the wireless settings of the router, make the changes here. Click "Apply Changes" to save the settings. [More Info](#)

**Wireless Channel >** 11

**SSID >** xpressnet

**Wireless Mode >** 54G-Auto

**Broadcast SSID >** ☒ [More Info](#)

**Turbo Mode >** On

**Protected Mode >** On

**Clear Changes** **Apply Changes**

**LAN Setup**  
 LAN Settings  
 DHCP Client List  
**Internet WAN**  
 Connection Type  
 DNS  
 MAC Address  
**Wireless**  
**Channel and SSID**  
 Security  
 Use as Access Point  
 Wireless Bridge  
**Firewall**  
 Virtual Servers  
 Client IP Filters  
 MAC Address Filtering  
 DMZ  
 WAN Ping Blocking  
 Security Log  
**Utilities**  
 Parental Control  
 Restart Router  
 Restore Factory Default  
 Save/Backup Settings  
 Restore Previous Settings  
 Firmware Update  
 System Settings

The SSID is the name of your Wi-Fi network

Wi-Fi router or Wi-Fi access point?

Actually it does not matter. An access point provides a Wi-Fi network. In addition a Wi-Fi router can also connect to the internet. Even though a Wi-Fi router offers more services than an access point, Wi-Fi routers are usually cheaper. The reason is that



the manufacturers sell much more routers than access points.

It almost does not matter what kind of Wi-Fi standard your router supports. The iPhone can connect to all usual Wi-Fi standards. You do not need a really fast Wi-Fi network to control your model railroad. Please check the homepage of Apple to figure out if a special Wi-Fi standard is supported by the iPhone.

Many phone companies offer Wi-Fi routers to their customers. The Spur-G-Blog does not recommend to use these routers for your model railroad! If you make a mistake by the configuration you may not be able to do calls or make an internet connection. This kind of risk is not worth to save a couple of bucks. So it is better to use an extra Wi-Fi router. Maybe you still have an old one somewhere?

On the other hand your „phone“ Wi-Fi-router is usually not beside your model railroad layout. It is no fun to install a network cable between the „phone router“ and the model railroad layout.

### Attention!

Your „railroad“ Wi-Fi router **must be not** connected to the internet! If you connect your Wi-Fi router to the internet you must use a state-of-the-art encryption on your wireless network.

You should ask an expert or a computer user with experience to turn on and use the encryption of your Wi-Fi router.

Without an internet connection you can use your Wi-Fi router without encryption. In this case everybody can connect to your wireless network. Maybe someone would like to annoy you and is pressing always the „stop“-button of TouchCab. Then you have to turn on the encryption...

If you have installed your Wi-Fi router with the SSID *xpressnet* and without encryption you have to connect your iPhone with the Wi-Fi router. Select the iPhone settings. There is a button for your Wi-Fi settings. Press it. After a couple of seconds you should see the „xpressnet“ Wi-Fi on the iPhone. Just select this network and then you can start...



Choose the Wi-Fi option in the iPhone settings. Select afterwards the „xpressnet“ network...

## **Step 2: Connect the Lenz interface 23151**

You can use the Lenz interface with every DCC system that is supporting the Xpressnet-Bus. You find an Xpressnet cable in the box of the Lenz interface. Connect the cable to the interface. Connect the other end of cable to your Xpressnet bus. A red LED should glow on the interface. (The xpressnet bus is supplying the interface with power.)

You also need a computer network cable. Lenz does not deliver this cable. Take the network cable and connect the Wi-Fi router with the interface. Many Wi-Fi manufacturer deliver a network cable with their products. If not you have to buy a computer network cable somewhere.

Afterwards your hardware should work fine. Be careful: You can put the xpressnet cable in the network socket. But the xpressnet cable does not have all necessary wires. The xpressnet plug is smaller than the network plug.

### Step 3: Run TouchCab

Download TouchCab from Apples Appstore. First you should load „TouchCab free“ for testing.

You can Buy TouchCab 1.6 for about 8 US \$. Unfortunately 1.6 does not support turnouts with the Lenz interface. But if you buy TouchCab you are helping Jens Vesterdahl, the developer behind this software, to add turnouts to the next version. In a couple of weeks should be released TouchCab 1.7 (with turnout control for the Lenz interface).

Take care that the hardware works fine (step 1 and step 2) and that the iPhone is connected to the wireless network with the name „Xpressnet“.

Touch the icon of TouchCab and run the app. At the first start you have to choose the ip address of the interface if the BONJOUR network service of Apple does not find the interface. Select 192.168.0.200. Now TouchCab is going to remember this ip address in future and you should not be asked again.

Afterwards you will see the control panel. Choose a locomotive and start driving...

You can use TouchCab not only on the iPhone but also on an iPodTouch or an iPad. But the iPad is too heavy to be carried around...



At first start you have to choose the ip address of the interface





Please read the homepage of TouchCab to figure out what kind of devices are supported.

The Lenz interface 23151 supports up to eight devices!

„TouchCab free“ is just available in English. „TouchCab“ supports English, Danish, Swedish, German, French and Spanish.

## Links

<a href="http://www.digital-plus.de">www.digital-plus.de</a>	On the homepage of the company Lenz are many information about their DCC products.
<a href="http://www.touchcab.com">www.touchcab.com</a>	The app TouchCab is accurately described on this site. You also find information about the differences of the versions and what kind of hardware is supported.
<a href="http://www.apple.com">www.apple.com</a>	Apple provides information about the iPhone, iPod Touch and the iPad.
<a href="http://www.spur-g-blog.de">www.spur-g-blog.de</a>	This instruction is written by the Spur-G-Blog. The Spur-G-Blog is writing about new products and appointments for model garden railroad fans. This blog is in German.

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