Emulator – Z21

Introduction

This module can be used to connect the railroad model station with XpressNet interface to the PC or smartphone using one of USB or WiFi interfaces. Also this board supports the S88 feedback bus.

Features:

- USB interface using LI100 protocol the PC programs like Rocrail and TrainController.
- WiFi interface to connect adapter to the smartphone of PC. The adapter works as an emulator of command station Roco Z21.
- XpressNet 3.0 interface with configurable bus address.
- S88 bus support with new S88N connector and changeable baud rate. Bus can be switched off if command station has it is own feedback interface.
- Supplied from XpressNet bus. No external power is required.
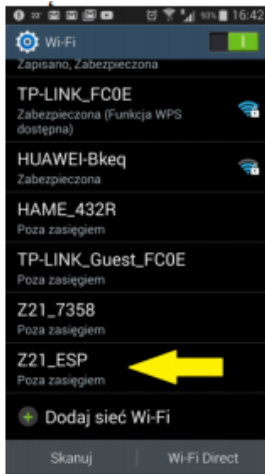- Simple firmware updating using USB interface and the special PC program.

Connection

WiFi

- Connect board to the Command station via XpressNet bus.
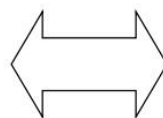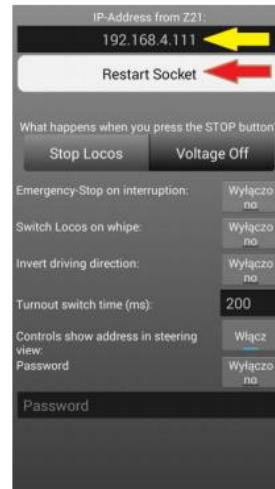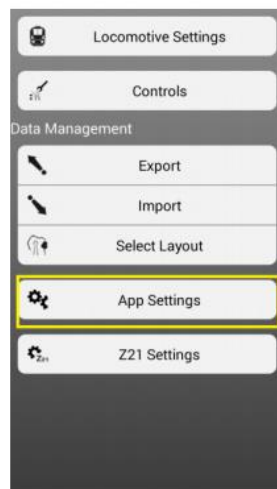
Booster

Adapter Z21
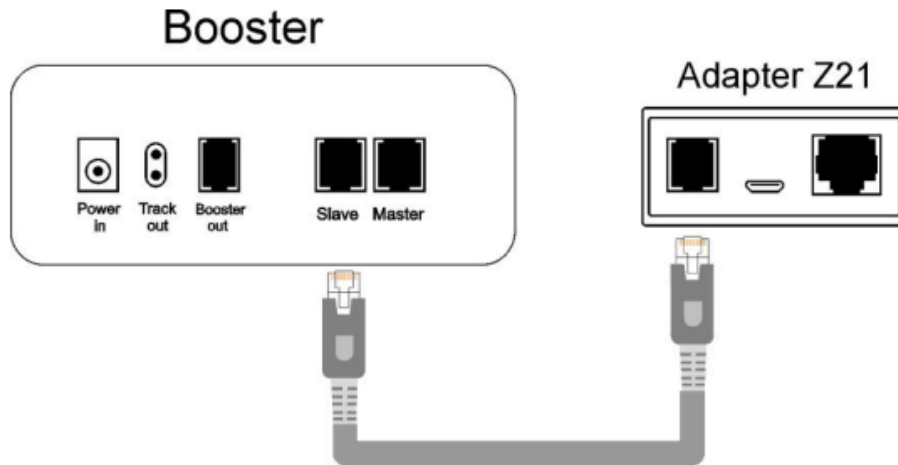
- Search for the WiFi networks on your smartphone or tablet and choose «Z21_ESP». Enter password «12345678».

- After successful connection to WiFi net the command station will be available on IP 192.168.4.111
- In the application Roco Z21 setup this address as a command station address (SETTINGS -> APP_SETTINGS -> IP-Address from Z21) and click «RESTART SOCKET»

Also there is a possibility to connect adapter directly to the home WiFi network. For this repeat the following steps:

- Connect to the adapter network Z21_ESP
- Go to the http://192.168.4.111 in the Internet brouser.
- In the opened page enter SSID and Password for your home WiFi network and click "Submit".
- After successful connection the field «Status» will be set to «Connected» and field IP will show the issued to the adapter IP address in the home network.
- There is a possibility to disable DHCP and enter the adapter IP manually.

Note: The adapter may work incorrectly if the subnet of the adapter net Z21_ESP will be the same as the home subnet. It means that at least one of the three first digits of the IP addresses should differ from each other.

Z21 Net-config

WiFi Direct AP

IP:	192.168.4.111
SSID:	Z21_ESP
Password:	12345678
Channel:	6

WiFi client

Status:	Connected
☐ DHCP	
IP:	192.168.0.33
Gateway:	192.168.0.1
Netmask:	255.255.255.0
SSID:	:
Password:	

Device configuration

XpressNet address:	26
S88 num of modules:	0
S88 clk period(us):	20

Отправить

USB

- Connect board to the Command station via XpressNet bus.
- Connect to PC via micro USB cable.
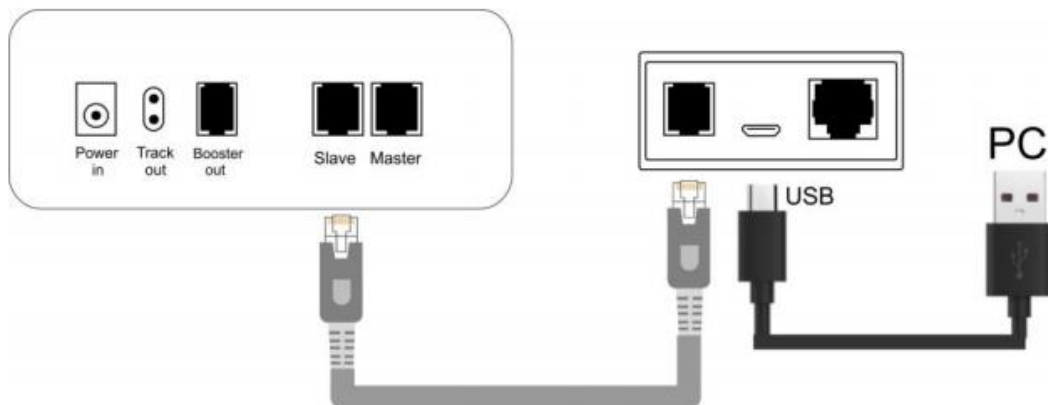
- Setup drivers for the Virtual COM Port. Available here: https://yadi.sk/d/pxf3HCOF3SQCRm
- The COM-Port number can be checked in Device Manager or "Device and Printers" menu in Windows.
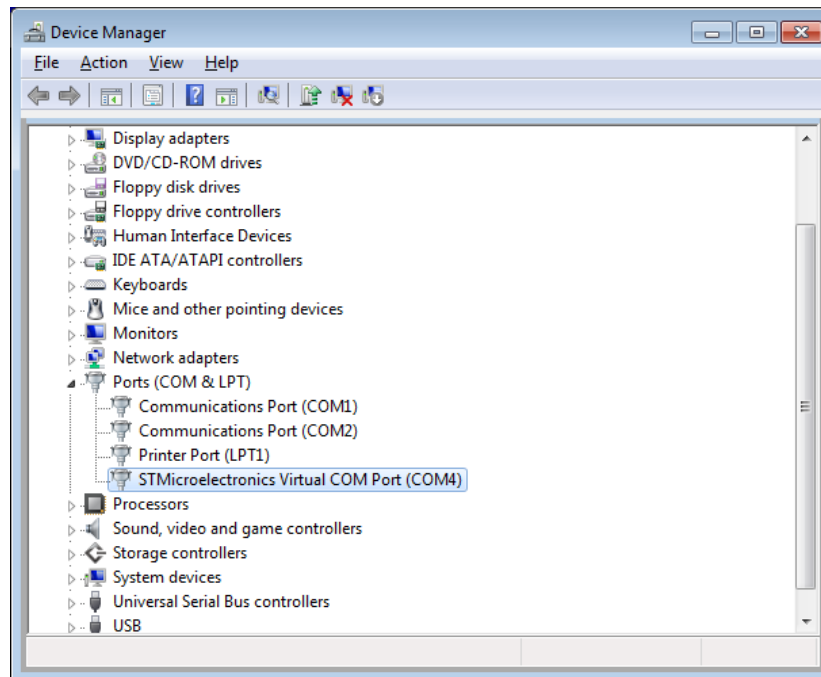
- Run the required train control PC program and configure the command station like: LI100 with the corresponding COM-Port number from the previous step.
- Connect to the command station and check that communication is established.