Receiver Remote Control System Configuration

Table of contents

Requirements

Hardware	Suggestions	Software
Server	2GHz processor 2GB RAM	Ubuntu Linux Server 18.04 (Other Linux/Unix distributions can be used if the user knows how to adapt the instructions in this document to the particular distribution)
Desktop	- O/S 64 bits - Windows, Linux or Mac	- EMpower - MQTT Client
Receiver	Supported receiver, for example an **MTU-5C receiver**	Firmware v1.48.x or above

Server Setup

1. **Install Ubuntu Server 18.04**
   - During the installation process, you will be asked a few questions. Most of them you will have to answer according to your hardware and local language
   - You need to create a system user account to administer the server, this guide assumes the admin username is `phoenix`
   - Do not install any special packages
   - After the installation is complete, reboot the system

2. **Upgrade server software**
   - Login to the server as `phoenix (command prompt)`
   - System software upgrade
     ```
     $ sudo apt update; sudo apt upgrade -y
     ```

3. **Configure system for receiver remote control**
   - Install mosquitto MQTT message broker
     ```
     $ sudo apt install mosquitto
     ```

4. **Optionally, add users and passwords for MQTT connectivity**
   - A good guide can be found [here](#)

5. ***Ensure that your server/firewall accepts incoming connections on port 1883 (outside the scope of this document)***

Network setup

Provide a network connection between the receiver and the server. This connection can be local or it can go through the Internet. Make sure that the connection is not blocked by firewalls or other network control techniques. This is important when a third party network is used such as cell phone providers, in such case, make sure that the provider allows connectivity to all ports in all directions.

Consult the network/system administrator for help in determining the network details and to set up the required connections.

Configuring a receiver for remote network control

Open EMpower on the Prepare module and select the Receiver type

1. Use an Automatic Start Schedule, it is required for the remote network control feature
2. Configure the network by selecting the "NET" Channel
   2.1. Choose the Network Mode, select Auto (DHCP) for automatic configuration or use Static to configure connection parameters manually, namely the receiver's IP Address, Network Mask, Default Gateway, and Nameservers
3. Configure the parameters to access the Remote Control Server
   3.1. Enter the Server URL, examples: servername.com, or 192.168.1.77
   3.2. Optionally enter the Username and Password if you created user(s) for accessing the server in step 4 of the section Server Setup above
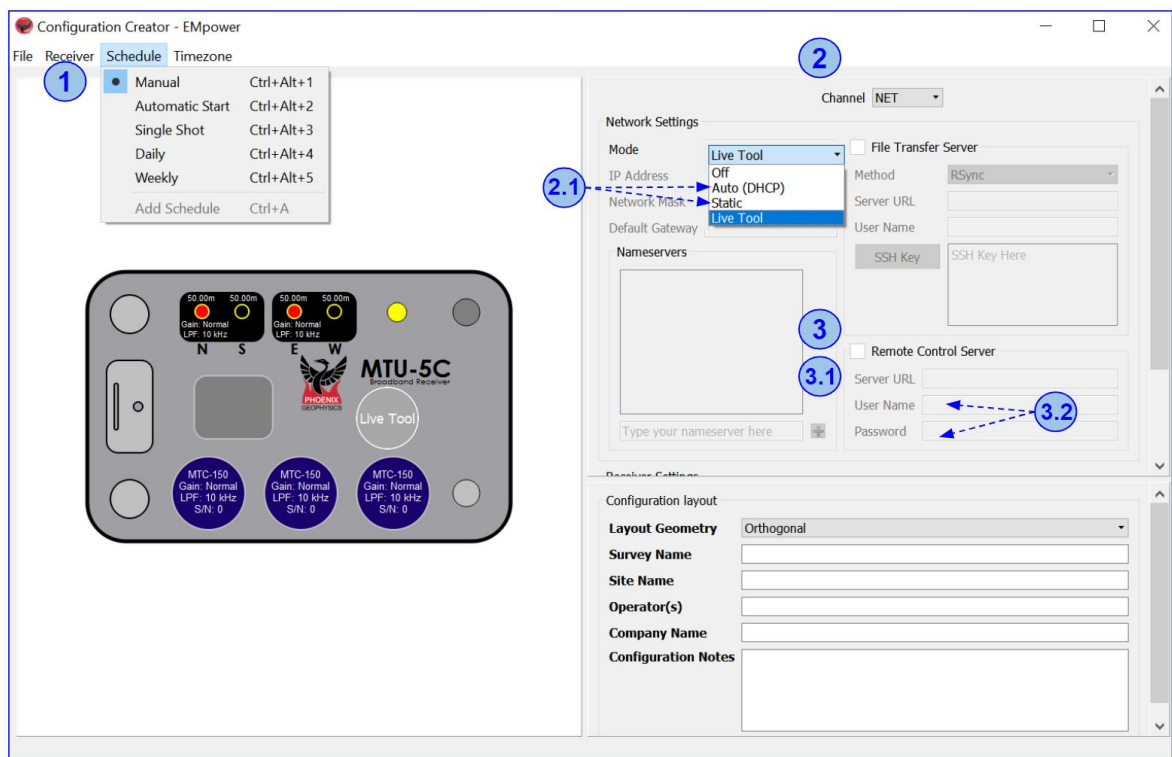
Configure the normal recording details (gains, filters, etc) and Save the configuration file to SD card

Note

When you send a remote configuration command to a receiver, this configuration is stored in the server until the receiver connects to retrieve the configuration. The receiver then retrieves the configuration and deletes it from the server.

Be aware that if a receiver loses connectivity or is powered off, and a configuration is sent to the receiver in that period, this configuration will await to be retrieved.

If you have a receiver that has been powered off for maintenance or it lost connectivity for a long period, we recommend that you send to the server the latest configuration you want this receiver to have. This will prevent old configurations in the server from changing the configuration of the receiver when it connects back to the network.

Once a receiver comes back online, you can ensure that the receiver has the desired configuration by either checking the configuration on the receiver screen, if you happen to be at the location of the receiver, or by reviewing the configuration reported in the time series being uploaded to the server.