LDF 5, LDF 5 ac

The LDF (Lite dish feed) is an outdoor wireless system with a built-in antenna, meant to be installed on satellite offset dish antennas.

Assembly

The device is compatible with standard offset dishes, commonly used for satellite television. The offset mount is universal at 40 mm diameter, and the LDF can easily be placed inside it. To attach the Ethernet cable to the LDF unit, follow these steps:

1. Assemble all components as shown in the illustration. If using pre-made cables, cut the rubber seal on one side, to put it onto the cable. Self crimped cables should be crimped after the seal is on the cable;
2. Connect Ethernet cable to Ethernet connector on LDF;
3. Attach Housing nut to LDF body by rotating clockwise;
4. Slide rubber seal into housing nut, then close the waterproof gland by turning compression nut clockwise.

Assembling on dish

Please ensure to mount the LDF unit on the offset mount in the proper position as shown in the picture to the right. Unit facing upwards to the dish.

The dish will act as a reflector, amplifying the signal. The final position of your assembly should be placed and installed on the pole or wall as shown on the picture to the left.
Mounting

The IP rating scale for this device is IP54.

The Device designed to use outdoors, please ensure that any cable openings are directed downwards. Use POE injector with Cat6 cable. Installation infrastructure (towers and masts), as well as the router itself, to be properly grounded.

Mounting and configuration of this device should be done by a qualified person.

Warning! This equipment should be installed and operated with a minimum distance of 28 cm between the device and your body. Operation of this equipment in the residential environment could cause radio interference.

Powering

The device accepts 10-28 V DC input from passive Power over Ethernet injectors. The device does not work with IEEE802.3af compliant 48 V power injectors. A PoE injector is included in the package.

Maximum power consumption:

- LDF 5, 6 W;
- LDF 5 ac, 8 W.

Connecting to a PoE Adapter:

1. Connect the Ethernet cable from the device to the PoE+DATA port of the PoE adapter;
2. Connect an Ethernet cable from your local network (LAN) to the PoE adapter;
3. Connect the power cord to the adapter, and then plug the power cord into a power outlet.

First steps

1. Connect an Ethernet cable to the Ethernet port, connect the other end of the Ethernet cable to a PoE injector. Plug the PoE injector into your PC or into your local network switch. Plug the power adapter into the PoE injector to start your device;
2. Set your computer IP configuration to automatic (DHCP);
3. Once connected to the network, open http://192.168.88.1 in your web browser to start configuration, since there is no password by default, you will be logged in automatically;
4. We recommend clicking the “Check for updates” button and updating your RouterOS software to the latest version to ensure the best performance and stability;
5. Choose your country, to apply country regulation settings and set up your password on the screen that loads.

Configuration

Once logged in, we recommend clicking the “Check for updates” button in the QuickSet menu, as updating your RouterOS software to the latest version ensures the best performance and stability. For wireless models, please make sure you have selected the country where the device will be used, to conform with local regulations.

RouterOS includes many configuration options in addition to what is described in this document. We suggest starting here to get yourself accustomed to the possibilities: http://mt.lv/help. In case IP connection is not available, the Winbox tool (http://mt.lv/winbox) can be used to connect to the MAC address of the device from the LAN side (all access is blocked from the Internet port by default).

For recovery purposes, it is possible to boot the device for reinstallation, see section Buttons and Jumpers.
Extension slots and ports

- Integrated wireless:
  - LDF 5, 5 GHz, 802.11a/n;
  - LDF 5 ac, 5 GHz, 802.11a/n/ac.
- One Ethernet port, supporting automatic cross/straight cable correction (Auto MDI/X), so you can use either straight or cross-over cables for connecting to other network devices.

Buttons and jumpers

The reset button has three functions:
- Hold this button during boot time until LED light starts flashing, release the button to reset RouterOS configuration (total 5 seconds);
- Keep holding for 5 more seconds, LED turns solid, release now to turn on CAP mode. The device will now look for a CAPsMAN server (total 10 seconds);
- Or keep holding the button for 5 more seconds until LED turns off, then release it to make the RouterBOARD look for Netinstall servers (total 15 seconds);

Regardless of the above option used, the system will load the backup RouterBOOT loader if the button is pressed before power is applied to the device. Useful for RouterBOOT debugging and recovery.

Safety Notice

Electric shock hazard. This equipment is to be serviced by trained personnel only.

Warning: Operation of this equipment in a residential environment could cause radio interference.

Specifications

For more information about this product, specifications, pictures, downloads and test results please visit our web page:
- LDF 5 - https://mikrotik.com/product/rblf_5nd
- LDF 5 ac - https://mikrotik.com/product/ldf_5_ac

MikroTik mobile app

Use the MikroTik smartphone app to configure your router in the field, or to apply the most basic initial settings for your MikroTik home access point:
1. Scan QR code and choose your preferred OS;
2. Install and open application;
3. By default, IP address and user name will be already entered;
4. Click Connect to establish a connection to your device through a wireless network;
5. Choose Quick setup and application will guide you through all basic configuration settings in a couple of easy steps;
6. An advanced menu is available to fully configure all necessary settings.

Operating system support

The device supports RouterOS software version 6. The specific factory-installed version number is indicated in the RouterOS menu /system resource. Other operating systems have not been tested.
Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, according to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used by following the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

20 cm minimum distance has to be maintained between the antenna and the occupational user and 28 cm to the general public. Under such configuration, the FCC radiation exposure limits set forth for a population/uncontrolled environment can be satisfied.

Antenna Installation. WARNING: It is the installer's responsibility to ensure that when using the authorized antennas in the United States (or where FCC rules apply); only those antennas certified with the product are used. The use of any antenna other than those certified with the product is expressly forbidden in accordance with FCC rules CFR47 part 15.204. The installer should configure the output power level of antennas, according to country regulations and per antenna type. Professional installation is required for equipment with connectors to ensure compliance with health and safety issues.

Approved antennas:

- Mikrotik Dual Polarity, Directional (9.0 dBi and 16.0), Short Backfire, Directional (21 dBi) and Parabolic Dish (24.5 dBi and 27.0 dBi)

OEM statement.

This module is intended for OEM installations only. As such the OEM integrator is responsible for ensuring that the end-user has no manual instructions to remove install or modify the module. This module is limited to installations in mobile or fixed applications. OEM integrators may utilize antennas of like an equal or lesser gain as appearing in the list in this document (reference 47 CFR, paragraph 15.204(c)(4) for further information on this topic. The MikroTik OEM RF Module complies with Part 15 of the FCC rules and regulations.

OEM Modules have been certified by the FCC for use with other products without any further certification (as per FCC section 2.1091). Separate approval is required for other operating configurations including portable configurations concerning to 47CFR paragraphs 2.1093 and different antenna configurations. The OEM is required to comply with all 47CFR labeling instructions and requirements for the finished products.

Changes or modifications not expressly approved by MikroTik could void the OEM authority to install or operate the equipment. OEMs must test their final product to comply with unintentional radiators (FCC section 15.107 and 15.109) before declaring compliance with their final product to Part 15 of the FCC Rules.
**WARNING:** the OEM must ensure that the FCC labeling requirements are met. This includes a visible labels on the outside of the OEM enclosure specifying the appropriate MikroTik OEM RF Module FCC identifier for this product as well as any other required FCC notices as presented below.

**LDF 5 - FCC ID:** TV7LHG5NDM  
**LDF 5 ac - FCC ID:** TV7LHG5ACD

This enclosed device complies with 47CFR paragraph 15 C of the FCC rules and regulations. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Labeling and text information should be of a size of type large enough to be readily legible, consistent with the dimensions of the equipment and the label.

**Industry Canada**

**CAN ICES-3 (A)/NMB-3(A)**

This device complies with Industry Canada's licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

**LDF 5 - IC:** 7442A-LHG5NDM  
**LDF 5 ac - IC:** 7442A-LHG5ACD

**LE-LAN device restriction:**

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Les dispositifs fonctionnant dans la bande de 5 150 a 5 250 MHz sont reserves uniquement pour une utilisation a l'interieur afin de reduire les risques de brouillage prejudiciable aux systemes de satellites mobiles utilisant les memes canaux.

Les utilisateurs devraient aussi etre avises, d'une part, que les utilisateurs de radars de haute puissance sont designes utilisateurs principaux (c.-a-d., qu'ils ont la priorite) des bandes de 5 250 a 5 350 MHz et de 5 650 a 5 850 MHz et, d'autre part, que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs de RL-EL.
**MPE statement**

This equipment complies with the EU radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body, unless specifically stated otherwise in page 1 of this document. In RouterOS you must specify your country, to make sure local wireless regulations are observed.

**Frequency bands terms of use**

<table>
<thead>
<tr>
<th>Frequency range (for applicable models)</th>
<th>Channels used</th>
<th>Maximum Output Power (EIRP)</th>
<th>Restriction</th>
</tr>
</thead>
<tbody>
<tr>
<td>5150-5250 MHz</td>
<td>1 - 13</td>
<td>20 dBm</td>
<td>Without any restriction to use in all EU Member States</td>
</tr>
<tr>
<td>5700 - 5850 MHz</td>
<td>26 - 48</td>
<td>20 dBm</td>
<td>Restricted to indoor use only</td>
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</tr>
<tr>
<td>5700 - 5850 MHz</td>
<td>100 - 140</td>
<td>27 dBm</td>
<td>Without any restriction to use in all EU Member States</td>
</tr>
</tbody>
</table>

* It is the customer’s responsibility to follow local country regulations, including operation within legal frequency channels, output power, cabling requirements, and Dynamic Frequency Selection (DFS) requirements. All Mikrotik radio devices must be professionally installed!

**Note.** Information contained here is subject to change. Please visit the product page on www.mikrotik.com for the most up to date version of this document.
Connect the power adapter to turn on the device. Open 192.168.88.1 in your web browser, to configure it. More information on http://mt.lv/help.