

EION BYTES

The official solution update of EION Wireless



Four (4) Essential Steps for Successful Wireless Links Deployments

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WISP in Africa

Successful Wireless network deployments require proper link budget planning, bench testing, pre-configuration, and staging of each wireless link. Failure to perform these steps may lead to unwanted and expensive delays in deployment. We have seen many situations where the tower crew says: "These radios are bad; no matter what we do, they won't link up, and they won't pass the traffic!" This is because the radios were not pre-configured and bench tested.

To avoid these headaches and to ensure the most efficient installation for your tower crew and your team members, we highly recommend following these steps:

- Have every wireless path designed and optimized by a skilled RF professional.
- Get all wireless links preconfigured to your network requirements. Label each wireless radio and its accessories properly for ease of deployment.
- Have each wireless link thoroughly bench tested and make sure all RF and throughput tests are passed.





SI in Malaysia



Bank in Africa

For a seamless deployment, follow these guidelines:

- 1** **Wireless Path Design and Link Budget:** We recommend using professional software such as EDX Signal Pro or Pathloss 5.0 to account for terrain, diffraction, reflections, and multipath impact on the Wireless path. There are also some simplified online path calculators. These are good for basic estimations like Rx level, line-of-sight verification, and annual path availability.
- 2** **Pre-Configuration** can be performed in your office/lab by connecting your laptop to the radio's management port. You don't want to leave this task to the tower crew, which is a big mistake. You need to know your configuration parameters for each radio unit, i.e. frequency pairs, Tx power, channel width, IP address, gateway, VLAN configuration, time server settings, SNMP settings etc. Reference the user manual to be able to apply and understand your planned configuration. If you are setting up multiple radio units with similar parameters, save the configuration file and upload it to another unit to speed up your work.
- 3** **Proper Labeling** of your equipment is key to successful equipment installation and future maintenance. Create labels with the site ID and IP address for each unit. Also, place a copy on each box so that your tower crew recognizes the right equipment for each site. The tower crew will access the radio unit management via a specified IP address on the label for alignment or troubleshooting purposes.
- 4** **Bench Testing** is necessary to ensure you have all the parts needed for installation and to document that the Wireless link performs as per your expectations. A test kit with attenuators is recommended for the bench test.

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