

# Tips for Getting Started with Alignment Scopes

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When designing the MetroLinq™, we knew a tool was needed to help align a 1° antenna beam. We examined several types of optical tools. After launching, we chose a right angle viewer that rotated, giving the installer flexibility. The 9x50 magnification allows for clarity on the longest links. Anyone who is familiar with scopes knows, optics always come with some inherent variability. We tried to make the scope as robust as possible by removing the need for constant calibration.

On an install a few weeks ago, our customer had a set of scopes for the alignment. However, we preferred to use our set as our installer is familiar with how his scopes align. In an effort to help others, we realized we needed to share what we've learned with our customers. We have completed several dozen alignments and have seen it all. With that in mind, here is what we know about our scopes:

1. If you have an existing link that is linked and optimized, you can simply attach your new scope to the units and find where the cross hairs are relative to the far side unit. If you have multiple

links, we suggest you try them all to get a better understanding of our scopes through practice.

2. If you are diving in without an existing link, we strongly suggest doing a relatively short link (50 ~100 meters) with movable tripods. Use the scope to start and align to the cross hairs\*. Once booted up, you should be linked and able to pass traffic. In the event the units do not link, you may need to adjust the alignment slightly. Once you have the link, maximize the RSSI by adjusting the alignment slightly in all directions. Once you have the signal optimized note the cross hair position relative to the far unit. Due to reflections, this position may or may not be accurate. To ensure reflections are not playing a role, move one unit back by 1m and repeat the process. You can also move the unit vertically by 1m if it is easier. If the cross hair position remains consistent between both alignments, you most likely are not seeing reflections. If you are seeing results shift significantly you should repeat the move by 1m until you can get consistent results.

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Once you have your baseline understanding from previous steps, you are ready to try a long link! A few notes going forward:

- If your cross hairs are 50cm below the unit at the short link the position will not aim 50cm low at the longer distance. You don't need to use trigonometry, but make sure you understand the base line measurements are relative.

- Your longer links may see a variance in the alignment if reflections are present. If possible, try moving 1m. And preferably, make sure you have the ability to make small adjustments as needed.

If you have questions, contact support! We are here to help:  
[support@ignitenet.com](mailto:support@ignitenet.com)

\*Currently, there are two generations of scopes we offer. Our first generation tend to aim approximately 1° high. To compensate, we suggest aiming 1° below the far unit to start your alignment. An all-black mount will identify your scope as a first generation. The second generation units compensated for the 1° average allowing you to align the scope directly on the far unit. These second generation units have an all-white mount.

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