



# Antenna Alignment Tool

## 3Z RF Aligner

Install Antennas Right the First Time. **No Go Backs!**



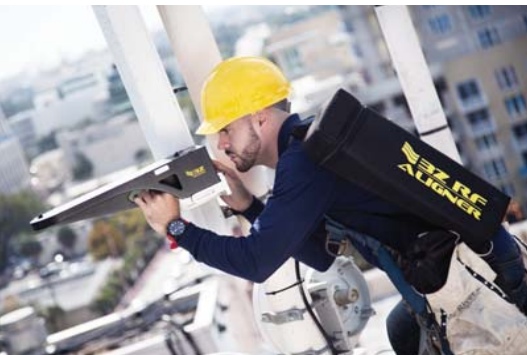
# Antenna **Alignment Tool**

**The 3Z RF Aligner is the world's leader Antenna Alignment Tool for both panel antennas and microwave systems. The 3Z RF Aligner reduces site re-visits and re-climbs by optimizing network performance**

The 3Z RF Aligner is the most compact GPS Antenna Alignment Tool in the industry. It incorporates GPS technology to calculate precise Azimuth, Tilt, Roll and AGL measurements for a multitude of directional antenna systems. Our universal antenna mounting system is used for quick antenna attachment and release. The 3Z RF Aligner is user friendly and easy to transport up any tower. Save all your antenna installation measurements for recordkeeping and reporting; easily accessible over USB.

## Tower **Crew**

Designed with the tower technician in mind, the 3Z RF Aligner easily attaches to virtually any directional antenna and comes with an easy to read 4.3" built-in color LCD display. Screenshots save measurements in seconds.



## Value Proposition

- Install antennas right the first time. No go-backs!
- Easy to read 4.3" built-in color LCD display
- Measure azimuth, tilt, roll and AGL in one step
- Microwave dish alignment mode
- Universal antenna clamp fits 99% of panel antennas
- Record field measurements instantly
- No post-processing software required
- Easy USB plug and play result retrieval
- Carrier approved closeouts



# 3Z RF Aligner at a Glance

## Components



1	• 4.3" TFT Touch Screen	User interface touch screen for viewing and saving measurements results
2	• Mounting Knob	Used to attach the 3Z RF Aligner to the antenna clamp
3	• Rubber Cover	Used to protect USB and charging ports from dust and moisture
4	• Mini USB Port	Used to retrieve saved measurement reports from the 3Z RF Aligner
5	• Charging Port	Used to charge the lithium ion battery in the 3Z RF Aligner
6	• Sighting Guides	Used together with the monopod to remotely verify antenna azimuth
7	• GPS Antennas	Used to display azimuth, LAT, LON, height, date and time
8	• On/Off Switch	Used to power on and off the 3Z RF Aligner. Blue light indicates unit is on
9	• Carrying Handle	Used to carry the 3Z RF Aligner
10	• Monopod Attachment Hole	Used to attach the monopod to the 3Z RF Aligner
11	• Carabiner Attachment	Used to attach a carabiner to the device in case unit is dropped

# Microwave Antenna **Alignment Tool**

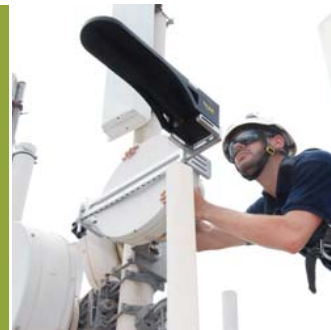
**The 3Z RF Aligner is used to calculate microwave path target data and also align the microwave path. The 3Z RF Aligner has a microwave antenna alignment mode designed to align microwave antennas regardless of the frequency band.**

Wherever microwave links exist, the path between antennas has always required accurate antenna alignment. This process requires highly trained tower crews to physically align the antennas as well as ground technicians and sophisticated, expensive, and complex test equipment to monitor the results. The process is now optimized and can now be accomplished with the 3Z RF Aligner by the tower crew without the need of additional ground technicians or additional equipment, or indeed, even the wave guides or radios installed.



## Value Proposition

- Install microwave dishes right the first time. No Go-Backs!
- No need for multiple test equipment, only one unit is needed
- Calculates target azimuth and tilt for the user
- Frequency agnostic - works with all frequency bands
- Record field measurements instantly
- No post processing software required



Using GPS Technology the 3Z RF Aligner is a complete test solution designed to quickly and accurately optimize the transmission path between two microwave antennas. Completely outfitted with everything needed to align a microwave link, the link alignment process is completed without the need of radios, multiple test sets, ground technicians, on site AC power, cell phones, or additional two-way radios. Save all your microwave antenna alignment measurements for recordkeeping, easily accessible over USB.

**Using GPS technology, the 3Z RF Aligner**  
**is a complete test solution**  
designed to quickly and accurately  
optimize the transmission path  
between two microwave antennas



# Antenna Alignment **Ground Inspections**

The **3Z RF Aligner** was designed by RF engineers. During site inspections, site troubleshooting and new site design, most RF Engineers carry a compass, GPS and a range finder. The **3Z RF Aligner** replaces all these devices, making field visits a breeze.

## Ensure Proper 4G Antenna **Integration and Performance**

When 4G antennas are installed, the 3Z RF Aligner helps the RF engineers ensure Antenna azimuth is within target specifications.

*Note: a magnetic compass cannot be used on most rooftops. The 3Z RF Aligner can be used anywhere a GPS signal is available*



### Value Proposition

- Verify proper antenna installation by tower crews
- Troubleshoot site performance issues, improve KPIs
- Properly identify antenna placement during new site design
- Replace your compass, range finder and GPS with one device

# Technical Specifications

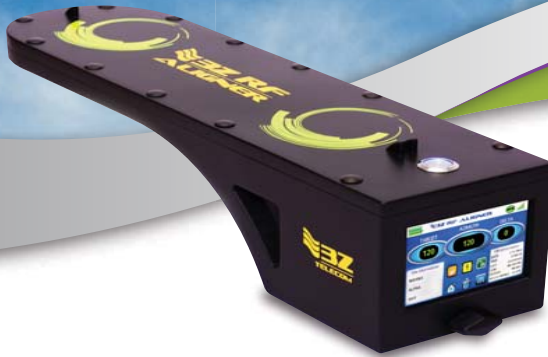
<b>3ZRFA Dimensions</b>		<b>Communications</b> Type: Mini-USB	
<b>Length:</b>	18.75" (47.6 cms)	<b>Memory</b>	Internal, 4GB
<b>Width:</b>	5.375" (13.6 cms)	<b>Environmental</b>	
<b>Height:</b>	4.5" (11.43 cms)	<b>Operating Temp</b>	-4 to 140°F (-20 to 60°C)
<b>Weight:</b>	3.675 lbs (1.66 kg)	<b>Storage Temp</b>	40 to 185°F (-40 to 85°C)
<b>Accuracy</b>		<b>Humidity</b>	95% Non-condensing
<b>Heading</b>	<0.75° RMS*	<b>Vibration</b>	IEC60945
<b>Tilt/Roll</b>	<0.5° RMS*	<b>EMC: FCC Part 15, Subpart B, CISPR22, CE</b>	
<b>Position:</b>	<1m RMS*	<b>On-Screen Data</b>	
<b>Altitude/Height:</b>	<2m RMS*	-Antenna:	
<b>LCD Display</b>		Site ID, Sector ID, Antenna ID, Azimuth, Tilt, Roll, Time, Date, Height, Datum, Lat/Lon.	
<b>Interface:</b>	Touch	-Microwave Dish:	
<b>Visibility:</b>	Backlighting	Path Name, Target Lat/Lon, Target Height, Target Azimuth, Target Tilt, Time, Date, Height, Datum, Lat/Lon.	
<b>Type:</b>	TFT WQVGA		
<b>Size:</b>	4.3"		
<b>Battery</b>			
<b>Internal Battery:</b>	Lithium-Ion		
<b>Operation Time:</b>	11 Hours		

\* Depends on multipath environment, # of satellites in view, satellite geometry & ionospheric activity.

## Our Commitment: Tech Support, Quality Control and Experience

At 3Z Telecom, we offer training, repair, yearly inspections, software support and field support. Our technical support team has a wide experience in all facets of the 3Z RF Aligner. New software release? no problem. Our dedicated team will guide you through this process.

When it comes to quality, the 3Z RF Aligner meets and exceeds the industry's most demanding manufacturing specs. We take pride in the quality of our product being the most dependable tool for Antenna Alignment Solutions. Being designed with the input of RF Engineers, Tower Construction Managers and Technicians and Cell Site Technicians, the 3Z RF Aligner is a state of the art, most compact and user friendly Antenna Alignment Tool in the market.



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