

Path Engineering

Terms and Conditions



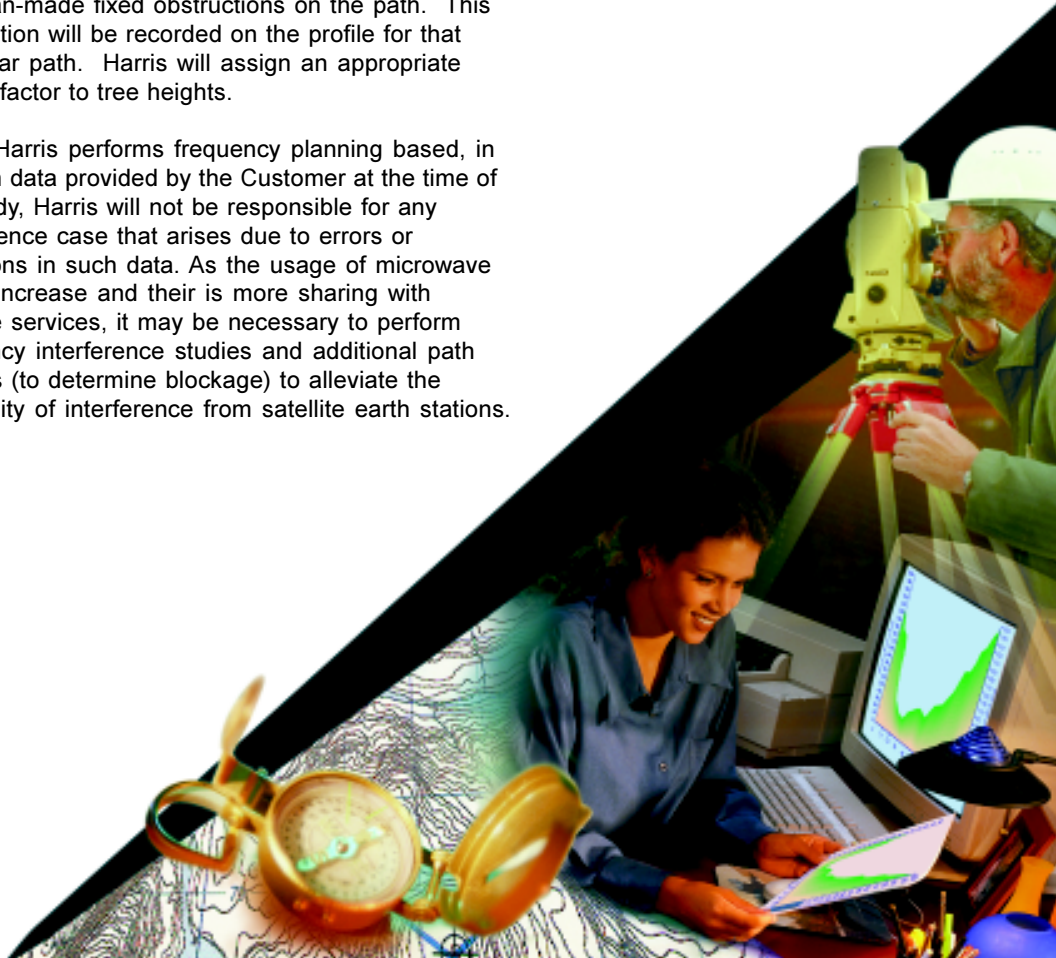
Path Engineering Services

Harris will perform radio path surveys and path calculations to determine the normal path loss and antenna heights as defined in TIA/EIA Standard RS-252-A.

When Harris performs reliability calculations or path studies (path profiles from mapping or digitized data only) based solely on information supplied by or on behalf of the Customer, these calculations and studies are provided solely for budgetary purposes and shall not be construed as or be used for an installable design.

When conducting a path survey, Harris will verify site coordinates and ground elevations, and record trees and man-made fixed obstructions on the path. This information will be recorded on the profile for that particular path. Harris will assign an appropriate growth factor to tree heights.

When Harris performs frequency planning based, in part, on data provided by the Customer at the time of the study, Harris will not be responsible for any interference case that arises due to errors or omissions in such data. As the usage of microwave bands increase and their is more sharing with satellite services, it may be necessary to perform frequency interference studies and additional path surveys (to determine blockage) to alleviate the possibility of interference from satellite earth stations.



Warranty of Path Engineering Services

Harris warrants that the installed radio communication path will conform to Customer's multipath performance reliability objectives when Harris has performed the path survey, recommended the path design, and Harris has implemented such recommendations. This warranty is for a period of two years from the date of the survey or one year from the date of installation of the microwave path, whichever expires first. All Harris field activities and path propagation analysis will utilize current hardware, software, and engineering practice and judgment with the goal of meeting normal Path Loss, as defined in TIA/EIA Standard RS-252-A.

Harris is not responsible for paths that it does not survey, nor for changes in path design beyond those specifically allowed in the path survey report or in writing after the field survey is completed, including but not limited to:

- Any change in path design;
- Any movement in site locations;
- Any building or other structure built on-path after date of survey;
- Any disturbance of the terrain which may cause blockage or reflection;
- Any additional frequency interference source;
- Any change of available antenna mounting space on tower;

Any one or more of the above changes will nullify this warranty, and the Customer shall in such case bear the total cost of determining that such change was the cause.

Harris will not be responsible for degraded path performance when such degradation is due to such anomalous propagation conditions as:

- Long-term loss of fade margin due to antenna decoupling misalignment caused by widely-varying k-factor changes;
- Long-term loss of fade margin due to Atmospheric Boundary Layering ("ABL") causing wavefront defocusing (beam spreading), signal entrapment (blackout fading), ducting, and other such occurrence.
- Excessive rain outage rates beyond the published Crane and/or chart data used in the calculation;
- Degradation resulting from certain types of multipath interference attributed to unidentifiable off-path terrain features or structures;

- Any other technological or atmospheric condition not foreseeable through the exercise of prudent engineering knowledge and judgment.

Additionally, Harris will not be responsible for degraded path performance when:

- Non-Harris radio equipment is installed on a surveyed path;
- Harris radio equipment is not installed by Harris;
- Existing antenna and waveguide system is used without test and inspection performed by Harris.

Harris designs the microwave path based upon best engineering practices and standards common to the industry, and it selects a transmission configuration based upon the most economical method for meeting the path performance objectives. When path loss or reliability objectives are not achieved, exclusive of anomalous propagation or path changes as described above, then Customer's sole remedy, and Harris' exclusive liability in connection with path engineering, shall be that Harris will provide incremental labor and material to optimize the antenna system beyond what would have been required during initial installation.

Where anomalous propagation is suspected in an installed microwave path, Harris will work with the Customer to obtain reasonable evidence that such condition exists. The total retroactive costs for such study shall be the responsibility of the Customer with Harris providing in-office engineering support. The cost of relocating towers, antennas, passive reflectors or other measures required to remedy this type of problem shall solely be the responsibility of the Customer.

Limitations

The foregoing warranties are in lieu of all other warranties whether oral, written, expressed, implied, or statutory. In particular, **THE IMPLIED WARRANTIES OF FITNESS FOR PARTICULAR PURPOSE AND MERCHANTABILITY ARE HEREBY DISCLAIMED** and shall not be applicable, either from Harris or any other equipment or software manufacturer. Harris' warranty obligations and Customer's remedies thereunder are solely and exclusively as stated herein. **IN NO CASE SHALL HARRIS BE LIABLE FOR INDIRECT KINDS OF DAMAGES, INCLUDING BUT NOT LIMITED TO SPECIAL, INCIDENTAL, AND CONSEQUENTIAL DAMAGES, OR LOSS OF CAPITAL, REVENUE, OR PROFITS.** In no event shall Harris' liability to customer, or any party claiming through Customer, be in excess of the actual sales price paid by Customer for any service supplied to Customer by Harris.