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## Simulsat-5B Installation Planning Guide

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With any major project, planning is paramount to ensure that the project moves forward and all concerned are aware of all aspects that pertain to the completion of the project. In this document ATCi outlines some of the key aspects of the Simulsat installation planning process.

During the project process ATCi will send to the customer a Service Request Form (SRF), which is a writable PDF form, to gather specific information about the project.

### Satellite List

The satellite list (sat list) is one of the most important items ATCi needs to complete drawings for the antenna site. With the sat list ATCi engineering determines the Simulsat satellite view arc. The view arc for a Simulsat-5B is 70° of satellite arc. Below is a typical sat list for the United States.

**91 °W, 103 °W, 121 °W, 123 °W, 125 °W, 127 °W, 129 °W, 131 °W, 133 °W, 135 °W**

### Antenna Site Planning

Once the antenna site has been established, potential obstructions need to be identified. ATCi's Engineering Dept. can help with this process. With data from the customer as to the heights of buildings, trees, tree lines and any other obstructions, ATCi will make a model of the site to ensure that all signals will be received. Although a site address will suffice, GPS coordinates are preferred.

### Site Survey

Often, for a new installation a site survey is needed to look for terrestrial interference (TI) issues, evaluate the antenna site and verify that the site fits the requirements for a Simulsat antenna. ATCi's field engineer will evaluate potential locations for the Simulsat for blockage from buildings or trees, and record RF readings on site to assess the presence of TI. This RF survey is not typically a full RF site analysis, just a snapshot that should identify any major TI issues. The field engineer can also provide antenna and conduit/fiber run placement recommendations.

Your ATCi sales representative can provide a quotation for a site survey.

### Configuration Drawing

Based on the sat list and site location ATCi will create a look angles document and a Simulsat configuration drawing for the site. This drawing depicts the size and dimensions of the reflector as it will be at the site, and how the antenna will be oriented relative to true north.



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## Foundation Plan

Once the sat list and location have been established, ATCi's Engineering Dept. will create a site-specific foundation plan. The foundation plan is very detailed and complete, however it is only a suggestion on how to build the foundation. It is frequently implemented as is, but local codes as directed by the local architect and/or professional engineer will supersede this drawing.

As part of the foundation plan there are two corner support pads that will need to be installed. Their placement is indicated on the foundation drawing. These pads are not structural, but the corner supports that are fastened to them help to keep the reflector stable during high winds and keep the antenna rigid over time.

The construction of the foundation and corner support pads is the responsibility of the customer.

## Cables and Junction Box

A cable bundle may be purchased with the new antenna. The bundle is forty cables, sixty-two feet long. These cables are RG-6 quad-shield with F-type connectors. All cables are labeled one through forty.

A junction box is also an option when choosing accessories. The junction box can come in fiberglass or stainless steel. Inside the junction box is a plate with forty F-type barrels. This pass-through serves as a test point and frequently marks the hand-off from ATCi to the customer's inter facility link (IFL).

ATCi will work with the customer on any cabling issue that may come up.

## Conduit

If purchased, ATCi will supply two inch flex conduit from the feedbox to the base of the antenna (or junction box). This flex conduit will hold forty RG-6 quad shield cables. When installing conduit from the base of the antenna to the headend several factors need to be taken into consideration. The size of cable, length of the conduit, the path the conduit takes, and how many sweeps (90° turns) are in the path. If the length of cable from the base of the antenna to the headend is nearing three hundred feet, fiber-optics should be considered. ATCi's Engineering Dept is available to assist in this process.

The customer is responsible for installing conduit.

## Heating System

ATCi can provide a reflector heating system for your Simulsat antenna. Speak with your ATCi Sales representative for information about reflector heating systems.



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### Crane/Bucket Truck

The Simulsat antenna arrives on a double-drop flatbed trailer. A minimum 15-ton hydraulic crane is needed to offload the antenna. If possible, the antenna should be placed near the assembly area. There are other items that need to be offloaded. Below is a picture of how the antenna arrives.

Many times it is desirable to offload the antenna and immediately begin the installation. While a 15-ton crane can be used to assemble the antenna, a 25-ton crane is needed to lift the assembled reflector onto the mount.

In some cases it will be necessary to have the crane operator visit the site to ensure that the crane size is correct. Many times it's not the weight of the item being lifted but the distance from the crane to the antenna mount that will determine the size of crane required. Please consult with your crane provider.

A bucket truck or man lift with an articulating telescopic boom lift capable of reaching 25'-30' vertical is required to access the antenna during installation and alignment.

Crane and bucket truck arrangements and costs are the customer's responsibility.



Simulsat-5B antenna on truck



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## Roof-Mounted Antenna

ATCi has successfully installed Simulsat antennas on roofs from a two story to very tall inner city buildings. This process does require coordination between the customer, the customer's architect and ATCi. The foundation drawing described above will be used by the architect to help design the load frame to support the antenna. ATCi will also provide wind loads and other drawings and information for this process. Below are examples of load frames.

All architectural drawings for the load frame are the customer's responsibility.





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## Conclusion

ATCi understands that a project of this magnitude in concert with already busy work schedules can be a challenge, but with careful planning and open communication between ATCi and all concerned your new Simulsat antenna installation will proceed smoothly.

Please contact your ATCi sales representative with any questions. We appreciate your business.