

Antenna Bandwidth and Requirements

The design of Lectrosonics wideband multicouplers and Venue receivers helps to deal with a changing RF spectrum, however, it also introduces the requirement for specific or more advanced antennas to provide maximum operating range. Simple whip antennas cut to a single frequency block are inexpensive and effective at covering a 50 to 75 MHz band, but will not provide adequate coverage for the entire range of a wideband antenna multicoupler or Venue receiver. Following are the antenna options available from Lectrosonics:

Lectrosonics Antennas:

Model	Type	Bandwidth MHz
A500RA (xx)	Right angle whip	25.6
ACOAXBNC(xx)	Coaxial	25.6
SNA600	Tunable dipole	100
ALP500	Log-periodic	450 - 850
ALP620	Log-periodic	450 - 850
ALP650 (w/ amp)	Log-periodic	537 - 767
ALP650L (w/ amp)	Log-periodic	470 - 692

In the table, (xx) with the whip and coaxial antennas refers to the specific frequency block that the antenna is precut to use. The SNA600 model is tunable to move the center frequency of its 100 MHz bandwidth up and down from 550 to 800 MHz.

The greater the mismatch of frequencies between the antenna and the receiver, the weaker the signal will be, and the shorter the maximum operating range of the wireless system. Experimentation and checking the range before the production starts is always a good idea, and is mandatory if the frequencies of the antenna and receiver do not match exactly. On many production sets, the short operating range that is needed may allow the use of a slightly mismatched whip antenna.

In general, using a whip antenna one block above or below the receiver range will provide adequate range, often with no noticeable difference from the correct antenna.

Use the RF level meter on the Venue receiver to check the received signal strength. Keep in mind that the signal level varies wildly as the system operates, so be sure to conduct a walk test through the area to identify locations where the signal drops to very low levels.

There are also many antennas made by other companies, which are easily found by searching for their web sites. Use search terms like "Log-periodic," "directional," "broadband," etc. A specialized type of omni-directional antenna is called a "discone." A DIY "hobby kit" instruction manual for building a discone is on this web site:



A500RA
(precut to block)



ACOAXBNC
(precut to block)



SNA600



ALP500

ALP620

ALP650