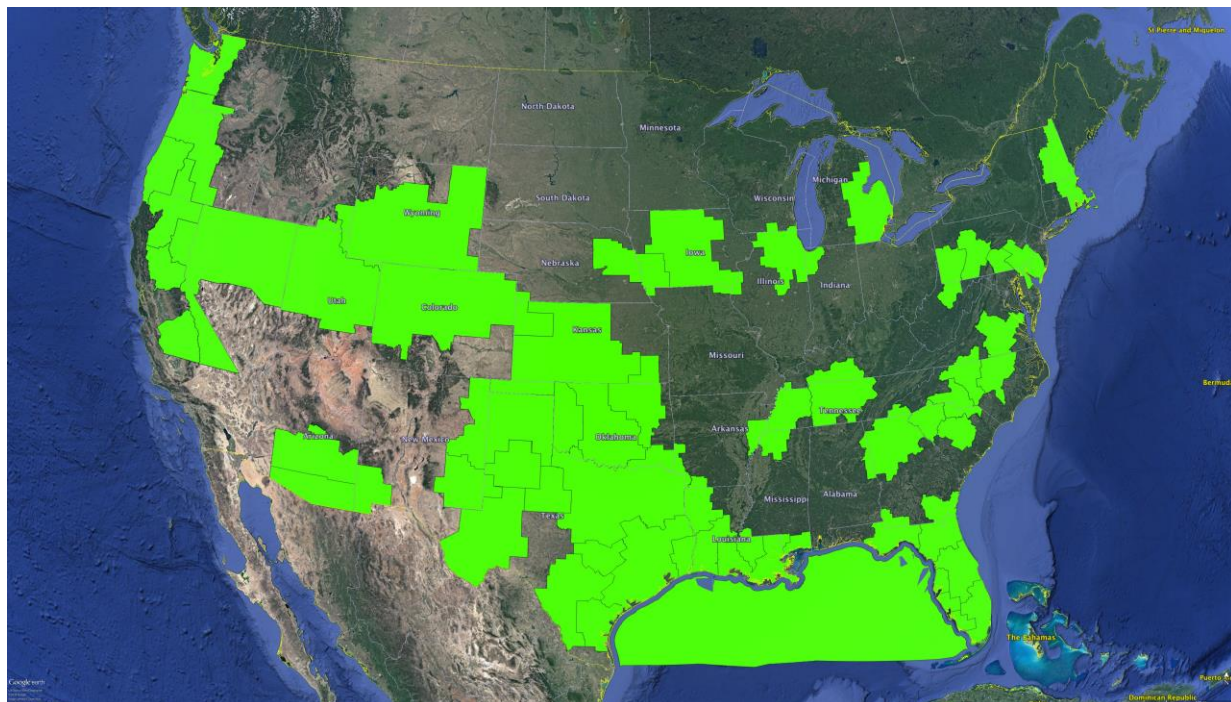


## Wireless Communications in MAS (928/960 MHz) Bands Suitable for Data Applications and Land Mobile Radio Available in 61 Basic Economic Areas in 42 States

Select Spectrum is offering **Multiple Address System (MAS) 928/959 MHz FCC licensed spectrum** across 704 licenses in 61 Basic Economic Areas (BEAs) in 42 states, covering much of the United States. Key markets covered include Chicago, Houston, and Philadelphia. These licenses also cover substantial portions of the Gulf Coast, Rocky Mountains, Mid-Atlantic, Great Plains, Pacific Northwest, Susquehanna Valley, and New England. Alaska, Hawaii and the Gulf of Mexico are also included. Together, these licenses cover a population of over 150 million.

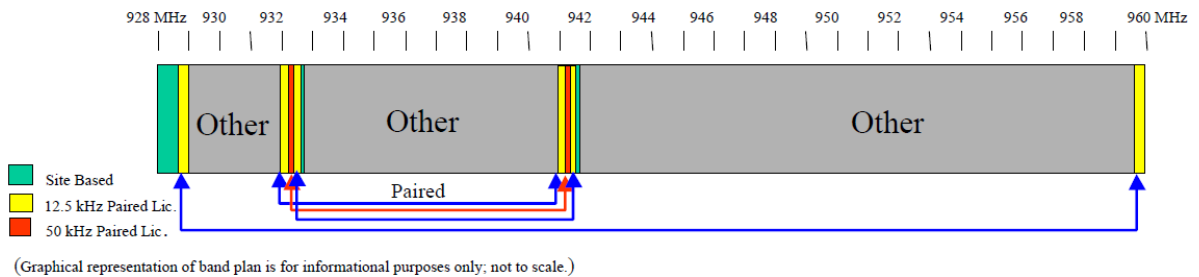
Available spectrum varies, between 25 and 325 kHz of bandwidth are available in each BEA. With adjacent channel blocks in all markets with multiple licenses, it is possible to combine and deploy sophisticated, high-bandwidth networks.

Available markets in this offering are shown in the map below. The licenses cover large portions of the United States with concentrations in the Gulf Coast, Plains States, and Rockies.



This offering consists of 704 licenses originating from auction 59. As many as 25 licenses are available in some markets, with each license having 12.5 kHz of bandwidth, over 22 million MHz POPs are available in the MAS offering.

928/959 MHz is one of 3 categories of MAS spectrum, the complete band plan is shown below:



The paired 2 x 12.5 kHz interleaved band plan allows a broad range of voice and data uses. Multiple adjacent channels may be combined for high bandwidth applications and multiple market areas may be combined to create superregional networks. 352 original licenses were issued and have since been disaggregated into separate upper (959-960 MHz) and lower (928-929 MHz) channels to form 704 12.5 kHz licenses. No network has been constructed for any of the licenses in this offering. These licenses have not met their substantial service requirements and a renewal application was filed with the FCC before the March 29<sup>th</sup>, 2016 expiration date.

MAS spectrum can be used for 1 or 2-way narrowband data or voice transmissions from fixed or mobile sites. The 12.5 kHz frequency assignment can be divided as needed into smaller channels. Alternatively, multiple licenses can be combined for up to 325 kHz in some markets, permitting simultaneous multipoint transmissions from several devices across the unified licenses, or within the same licenses or channel with time-delay duplex (TDD). Maximum base station power permitted is 1,000 Watts EIRP, while mobile units are limited to a maximum 50 watts EIRP. These rules provide good coverage in urban areas and long range in rural areas and in mountainous and forested areas. Base power and height are limited by an average 25-mile service contour and signal strength no greater than 40 dBµV/m at the service area boundary.

These licenses can support a wide variety of applications, including remote monitoring and control for critical infrastructure, public safety, and utility communications. Common uses include supervisory control and data acquisition (SCADA) systems, business pool, Oil & Gas production & transportation, and land mobile radio. Networks may employ point-to-point, and/or point-multipoint (tall site) architectures.

Equipment for the band is made by Full Spectrum [www.fullspectrumnet.com](http://www.fullspectrumnet.com), 4RF [www.4rf.com](http://www.4rf.com), XetaWave [www.xetawave.com](http://www.xetawave.com), GE Grid Solutions <http://www.gegridsolutions.com>, Alligator Communications [www.alligatorcom.com](http://www.alligatorcom.com), CalAmp <http://www.calamp.com> and Tait Communications [www.taitradio.com](http://www.taitradio.com). When multiple licenses are aggregated, the band is also compatible with a new IEEE wireless standard – 802.16s “GRIDMAN”. This high reliability standard is intended for use by utilities and other critical infrastructure operators.

All licenses cover their entire original assignments. These licenses have been disaggregated in accordance with FCC rules including §101.1323 of Title 47, Part 101. Basic information about the overall offering is shown below. For a list of call signs or other information, please contact Select Spectrum.

<u>Markets</u> (BEA)	<u>Largest</u> <u>Market</u> <u>POPs</u>	<u>Min</u> <u>kHz</u>	<u>Max</u> <u>kHz</u>	<u>Channel</u> <u>Blocks</u>	<u>Multiple</u> <u>Adjacent</u> <u>Channels</u>	<u>2016 POPs</u>	<u>2016 MHz POPs</u>
61	10,826,833	25	325	26	Yes	153,953,249	22,341,917

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