Press Release

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KDDS(FM) in Seattle Amplifies Coverage, PPM Reach and Audience Share with MaxxCasting™ System

Broadcaster reports improved building penetration and improved coverage across graphically shadowed terrain, while receiving positive feedback from listeners and advertisers

CHICAGO, July 11, 2018 — KDDS(FM), a Bustos Media-owned station licensed to Elma, Washington and serving the Seattle region, has become the latest licensee of the patented MaxxCasting technology to increase its coverage-to-contour ratio immediately after going on air with the system. The KDDS MaxxCasting system deployment, which went live in late June, has solved the station's greatest coverage challenges associated with graphically shadowed terrain and poor building penetration.

The synchronized, single-frequency network (SFN) approach of MaxxCasting solves the coverage challenges of broadcasting across the hilly, disruptive terrain near Interstate 5, the main corridor that runs north and south through the region. The specific SFN architecture includes five nodes strategically positioned alongside the interstate to maximize signal penetration, with seamless transitions from one transmitter to the next as drivers move through the region.

"Like several other Seattle FM stations that broadcast from across the Puget Sound, KDDS was challenged by a ridge that almost completely shadowed Interstate 5 and the heavily populated neighborhoods just to the east," said Bill Hieatt, CTO, GeoBroadcast Solutions, the architects of MaxxCasting. "Listeners driving through the region are no longer changing stations due to interference and loss of signal, while businesses and residential neighborhoods that previously could not hear the station are receiving clean and consistent broadcasts."

In addition to eliminating multipath interference that once existed for KDDS across 70 percent of the market, MaxxCasting has also improved the station's ability to reach Nielsen Portable People Meters (PPM) across the region. PPMs are among the most important toolsets broadcasters have to measure audience exposure and listener numbers, which help stations such as KDDS establish advertising rates and attract new sponsors. The MaxxCasting solution utilizes proprietary watermarking and monitoring to optimize PPM decoding.

"FM coverage in the Seattle region is extremely challenging, and MaxxCasting has made an enormous difference in the neighborhoods that are most important to our business, as well as other areas that are deeply shadowed," said Amador Bustos, owner, president and CEO of Bustos Media Holdings, LLC. "We can also now visit businesses around the region and say, 'listen to our station with confidence' as we discuss potential advertising campaigns. We simply could not reach a majority of these businesses before. In addition to raising

our profile with advertisers with this system, listeners around the region have been remarking about how much of a difference they are hearing."

Bustos is also bullish about other local broadcasters using the system. "The beauty of MaxxCasting is that it's easy to connect multiple broadcasters to the system," he said. "We're aiming to be a trailblazer in how many broadcasters in a single market can use the system, with the goal of solving their similar signal coverage challenges."

The KDDS deployment is representative of MaxxCasting's success at improving the coverage-to-contour ratio for broadcasters in nearly any environment. To date, MaxxCasting deployments have been equally effective in urban, downtown environment in large cities such as Boston, Chicago and Milwaukee; and in regions with more mountainous and hilly terrain such as West Virginia and now Seattle. The KDDS project is unique because the area east of Interstate 5 quickly gives way to miles of rolling hills before reaching the larger Cougar Mountain.

"When you're 50 miles to the west and trying to broadcast over these ridges, a traditional configuration simply won't be effective," said Bert Goldman, the contract engineer in charge of the KDDS installation. "The RF runs very close to the earth's surface at that distance, which makes the line of sight nearly underground. MaxxCasting provides a system architecture with flexible parameters to meet virtually any terrain challenge."

The five SFN nodes in the KDDS MaxxCasting architecture are powered by GatesAir Flexiva FAX transmitters ranging from 99 Watts to 1 kW depending on local power needs. Each node incorporates patented Intraplex IP networking technology from GatesAir to simulcast and synchronize live program content, which ultimately contributes to a seamless transition from node to node as mobile audiences move through the market.

Unique antenna pattern designs control the extent of each node's coverage, including one site with a dual log antenna carefully positioned to maintain timing and delay in one particularly challenging area of the network.

In addition to vastly improving coverage-to-contour ratio, the patented MaxxCasting systems eliminate self-interference and signal degradation problems common with legacy booster systems. To outperform legacy systems, GBS uses highly accurate modeling software, drive testing and proprietary formulas to measure a variety of environmental factors that affect coverage. Calculations related to height above average terrain, distance and power ratio between nodes, and antenna patterns versus interference areas, are among those used to predict coverage improvements. These customized settings at once improve market penetration and eliminate interference between the nodes.

About GeoBroadcast Solutions

Founded in 2011, GeoBroadcast Solutions, LLC (GBS) offers innovative technologies and solutions that help radio broadcasters maximize their signals and grow their revenues. The patented, successfully-deployed MaxxCasting™ system expands the coverage area of an FM signal and allows geographic targeting and fencing of text advertising and messaging. ZoneCasting™, currently in the FCC approval process, allows the additional Geo-Targeting and Geo-Fencing of audio and graphical advertisements. These emerging technologies give broadcasters the tools to compete in the face of evolving internet and cellular message distribution. GBS partners with GatesAir for transmission and IP distribution equipment.

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