

WGBH Upgrades PARALLAX® VHF DTV Band 1 Transmitter System to 47.8kW

SOUTHWICK, MA, May 25, 2021 – Hitachi Kokusai Electric COMARK LLC (hereinafter “COMARK”), a manufacturer and supplier of DTV transmitters, encoding systems, and associated field services for over 45 years, has announced that public media producer GBH has upgraded its VHF Band 1 PARALLAX® liquid cooled DTV transmitter for up to 47.8kW of power.

As part of the FCC repack, COMARK supplied GBH a PARALLAX® VHF band 1 liquid cooled transmitter on channel D5. This transmitter system was initially delivered as a three-cabinet system with four power amplifiers (PA’s) per cabinet (12 total) for operation at 6.2kW Transmitter Output Power (TPO).

In 2018, GBH purchased their transmitter system as “upgradeable,” allowing future power upgrades to accommodate an increase in the station’s Effective Radiated Power (ERP). PARALLAX® was designed to accommodate from 3 to 16 final power amplifiers per cabinet depending on the required TPO. Each VHF Band 1 liquid cooled PA is capable of 1.5kW. Upgradeable PARALLAX® transmitter cabinets (offered as an option) were pre-wired to facilitate quick upgrades with additional PA’s and PA combiners. The RF mask filter system was originally supplied with an anticipated power level of ~55kW TPO.

Fast forward a few years, GBH applied for and received authorization from the FCC to increase the station’s ERP from 6.7kW to 34kW to better serve their community of license. GBH ordered the system upgrade package from COMARK that included 24 additional amplifiers and the associated materials, providing TPO capability of up to 47.8kW. The new configuration of the GBH transmitter now uses 12 PA’s per cabinet or 36 PA’s total. After COMARK completed the transmitter upgrade, the final proof of performance was conducted at 31.4kW TPO. The GBH transmitter system offers plenty of additional headroom allowing GBH to run two of the three cabinets for maintenance periods.

“Planning is the key. We had a lot of very detailed customer discussions during the initial phases of this system,” says Joe Turbolski, VP of Sales and Marketing at COMARK. “GBH had a long-term plan for their post repack D5 allocation for this transmitter system. With PARALLAX®, we were able to offer both the technology and the architecture that GBH required to make this project successful.”

“When we originally ordered the COMARK PARALLAX® transmitter, our FCC engineering consultant informed us that there was a strong possibility we could be granted a future increase in effective radiated power up to 50Kw,” said GBH Transmitter Supervisor Jon Frank. “However, we had no idea precisely what that increased power figure would be. As result, we purchased the upgradeable cabinet option with our original transmitter. When we were granted a 34 Kw ERP, COMARK’s modular transmitter design allowed us to easily increase the transmitter’s power output in the field and to purchase only as many amplifier modules and combiners as we required.”

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About Hitachi Kokusai Electric Comark LLC:

For over 45 years COMARK has been synonymous with broadcast expertise and innovation. A trusted partner to the world's leading broadcasters, COMARK has pioneered many developments that have shaped the industry, leading innovation in IOT & MSDC-IOT technology, transistorized solid-state technology, Digital Adaptive Pre-correction (DAP), and also winning multiple Emmy® Awards; and gaining numerous patents in technologies that have become fundamental to broadcasting. COMARK is now building on this great heritage with the release of an entire new range of transmission products for terrestrial television broadcasting, and state-of-the-art products for scientific/industrial RF applications. With thousands of active COMARK transmission systems deployed worldwide and a global support presence, COMARK plans to continue to develop technologies for the future, with efficiency and performance initiatives for improving coverage and saving power.

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Information about products from Hitachi-Comark is
available at www.comarktv.com.

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