Field Guide

by Mark Spalding

Saga Communications Selects BE FM 25T for Install

[DANVILLE, Illinois] When Saga Communications purchased WXTT(FM), Danville, IL, last August we knew we had a lot of engineering work ahead of us, and not much time in which to do it.

We had less than six weeks to overhaul the transmitter building and to totally re-gear the RF chain, including dismantling a neglected 20 kW transmitter and replacing it with a Broadcast Electronics FM 25T single-tube transmitter.

DOWN TO THE WALLS

The building itself is of block construction, but it had gaping holes in the walls, leaving transmission gear exposed to the outside elements. Box fans substituted for air conditioning and the electrical throughout was a mess.

We rented a portable building and wired up an auxiliary transmitter while we patched up all the holes in the building and reinforced the roof to protect against ice. We tore out all the electrical and ran new service in from the utility pole to bring the building up to code. We were able to leave the antennas up as they were, but we had our tower crew, Rhodes Tower Service, re-mount the coaxial lines with the proper mounting hardware, do a plumb and tension, and give the tower a "good going over."

With such a tight deadline, project crews had to be carefully timed, so that as the electricians were finishing up, the HVAC guys were coming in to do their part. At times, we had crews working around each other in order to squeeze as much out of daylight as possible.

AN EXPERIENCED TEAM

Fortunately, we have had some experience at fast turnaround projects like this, given that Saga Communications has grown to 77 AM and FM stations through similar acquisitions. We have assembled an excellent engineering team that can be counted on to get the work done, and an important part of that team is Broadcast Electronics.

BE worked with us every step of the way to ensure the transmitter was delivered on time, down to the hour. When we placed the order, we knew we would need the transmitter in three weeks. Just like clockwork, as soon as our electrical and HVAC crews finished and we were ready for the transmitter, within 30 minutes the truck was pulling up to unload the FM 25T and FX 50 exciter.

I was not let down after delivery, either. I was fairly confident BE technicians would have checked over the transmitter thoroughly before shipping it. Sure enough, it was ready to go out of the box. After putting in the required hardline and completing the AC wiring, we fired up the FM 25T. The transmitter was running at full power in no time – with no drifting, or any of the headaches typical of a new transmitter install. The output power was solid and steady.

DESIGNED FOR STABILITY

Overall, I like the straightforward design of the transmitter. BE T series transmitters are well-known for their folded half-wave cavity design, no plate blocking capacitors to malfunction and no sliding contacts to deal with. This adds to the stability of the transmitter, and my peace of mind knowing that this transmitter is going to sustain the usual run of power surges typical of our operating environments.

This is the first FM 25T I have installed, but I have worked in other Saga markets where a BE FM T series transmitter already existed. We have found success with these high-powered, single-tube transmitters in the Midwest because they have proven to be more forgiving of lightning hits and brownouts than solid-state transmitters. The tubes seem to handle extremes better.

There were other practical reasons why we chose this transmitter. We need to keep close monitor of our transmitter at all times, especially with the Illinois weather patterns and the transmitter site being in a remote location. The FM 25T transmitter has a standard remote control interface that is easy to understand. The first time I wired it to our Burk ARC-16 remote control, it worked perfectly – all the transmitter telemetry voltages matched up perfectly within the ranges of the Burk unit.

EASY MAINTENANCE

I also liked the way the FM 25T offered easy access to all major components. Power supplies and amplifiers were within easy reach and there was plenty of room inside the cavity so I did not have to stand on my head trying to get to a component!

Even after a few months on the air, the transmitter is still chugging along at WXTT, unaffected for the most part by the regular Illinois lightning storms and power glitches. This is good, because I am now getting ready to start work on another new Saga project, and we plan to install an FM 25T there as well.

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