

USER REPORT

WZPX Powers Up with L-3

by **Dick Castanie**
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WZPX's transmitter is the most powerful in Michigan. Our five-million-watt facility is owned and run by Paxson Communications, serving the cities of Grand Rapids, Kalamazoo, Battle Creek, Muskegon, Jackson and Lansing.

I built the transmitter system in 1996 in a little town called Vermontville, Mich., and though it sits in the middle of a cornfield on the way to absolutely nowhere, I think it's a pretty interesting site. Run by an 850 kW generator the size of a mobile home, our five transmitters broadcast PAX network programming via an analog signal on Channel 43 and digital on Channel 44.

Our Comark (now Thales Broadcast) transmitters share a 1,000-foot Pirod tower with a 47-foot Andrew antenna sitting on top. A 15-inch waveguide delivers the signal to the antenna.

We put our first L-3 IOT (inductive output tube) in service about four years ago. Since we have the largest transmitter operated by Paxson, L-3 chose us as a test site for its tubes.

We replaced our other five tubes with L-3 IOTs in December 2003, and it was the first Christmas holiday that I haven't had to go out to the transmitter. It may be coincidence—but maybe not.

I've been most impressed by the internal construction of the L-3 IOT. Unlike other tubes, the L-3's grid doesn't sag, so

it doesn't seem to have the tendency to short from grid to cathode. It's as though L-3 engineers looked at the weaknesses of other products and found ways around them. I believe it's a superior design, probably because the company had the opportunity to look at what was on the market and improve it.

FEWER CROWBARS

Other tubes tend to crowbar a lot. It's a fairly common problem, but it seldom happens with the L-3 tube. In fact, it's happened only 15 times over four years of use—something like 40,000 hours—with the first L-3 IOT that I put in service. Competing tubes will crowbar that often within just one year.

Each transmitter is equipped with a crowbar assembly, because when the tube arcs, you have to stop it immediately. I have found L-3's thyratron tubes, which are incorporated into our crowbar assemblies, to be very stable. All our tubes have these thyratrons and they have enhanced the reliability of our equipment.

L-3's newer tubes also run at a lower filament voltage and require less idle current, so they seem to be softer on the electric bill. In these days of high energy costs, being able to run at lower current reduces power consumption. Our power bill averages \$20,000 each month, but with the L-3 tubes in the sockets, it dropped at least \$2,000 a month in electricity costs simply from the lower current demand.

Though our energy savings are undoubtedly the most important benefit we've seen from the L-3 tubes, their reli-

ability has helped the bottom line, too. About two-and-a-half years ago, we had a fire at the transmitter end of our operations and the only tube to come back on air after the fire was the L-3 tube. We were off the air for two days, came back at reduced power, and within two weeks were back to high-power broadcasting.

The support we get from L-3 has been excellent and the company's engineering staff is knowledgeable and helpful. The WZPX transmitter really has been my baby over the past eight years, and the quality of L-3's products and support has helped make our facility a model for the rest of the broadcast industry.

Incidentally, I created a Web site dedicated to the transmitter at www.paxmidwest.com. The site features photos of the facility—updated every 30 seconds—and readings that show the transmitter's power ratings. The site, which also provides broadcast engineers with details about transmitter and tower systems, gets about 1,000 hits a week. ■

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For more information, contact L-3 at 570-326-3561 or visit www.L-3com.com/edd.

