



Pre-Install Checklist for AM HD Radio Installations—Rev J

- 1. STL.** The STL output must be in AES format in order to interface with ePAL and the Dexstar exciter. If the STL is presently analog, as a minimum, an A/D converter (Lucid AD 9624 or equivalent) will be required in the package. If audio interconnect cabling is customer supplied, it must meet specifications for low capacitance, 110 ohm AES cable.
- 2. Audio Processing.** Existing legacy AM audio processors without AES inputs AND outputs at 44.1 kHz cannot continue to be used, even on the analog audio chain. Qualifying products for the analog chain include Optimod 9400, and the Omnia-5EX HD+AM, both of which are dual chain processors. Use of the Omnia 5EX HD+AM requires a user-supplied 12 dB pad if the analog output is used for bypass mode. Optional codec conditioning for the HD channel is available in the Neustar 4.0.
- 3. Transmitter Mod Kits.** The following kits are required, purchased separately, when modifying EXISTING analog Harris AM transmitters for IBOC. These kits are INCLUDED when purchasing a new transmitter and IBOC as a system.

3DX-50, 3DX-25	992-9511-606
DX-50, DX-25U, DX-15, DX-10	992-9511-781
DAX Series (all)	992-9511-782
- 4. Rack Space.** At least 12 RU (21") of additional rack space will be required:
 - ePAL (2RU)
 - Dexstar (4RU)
 - UPS (2 RU)
 - Audio Processor (2RU)
 - Modulation Monitor (2RU-typical)Rack must have rear rails in order to facilitate mounting the Dexstar, and should be 27" to 30" in depth. Harris offers optional racks, either unwired or pre-wired, which includes all interconnecting harnesses. The Harris rack is 31" deep. A wiring interface only (no rack) is also available, 992-9511-734.
- 5. Antenna.** Impedance sweeps of the antenna system, at the transmitter output connector, from 20 kHz below carrier to +20 kHz above carrier at 5 kHz intervals should be available for evaluation by the station's consultant or Harris Corporation prior to installation. Sideband VSWR better than 1.3:1 at 10 kHz, and 1.4:1 at 15 kHz is highly recommended for satisfactory IBOC performance, and proper phase rotation of the load impedance should be checked for optimal performance. Harris can supply phase rotation networks to help meet this requirement.
- 6. Test Equipment.** For customers who choose self-installation, a spectrum analyzer (Agilent ESA-L E4411B or better) will be required. The analyzer must be capable of 300 Hz resolution, and have a dynamic range of 90 dB. A suitable *analog* oscilloscope will also be required to observe the modulated carrier envelope.
- 7. Monitoring.** Wide-band AM modulation monitors cannot accurately display analog modulation with digital carriers on. A modulation monitor with optional 5 and 8 kHz lowpass filters is recommended. The Belar AMMA-2 fulfills this requirement. The AMMA-2 does NOT, however, demodulate the AM HD signal. Broadcast reference HD tuners are available through Harris from DaySequerra, Models M2 and M4.