

"Why isn't WPR-FM in Stereo?"

Sometimes Wisconsin Public Radio listeners ask, "Why isn't my local FM station running in stereo?" WPR's practice of operating some FM stations in stereo, and others in mono, goes back many years.

A little known fact originating in the early days of FM broadcasting: when a mono FM station adds stereo to its signal, the signal-to-noise performance of the signal deteriorates, and the effective geographical coverage area of that station is reduced. Experience has shown that running stereo reduces a typical FM station's maximum possible range by a third.

If a listener in a fringe area has a stereo/mono selector switch on their receiver, switching to mono mode allows the radio to ignore the noisier stereo parts of the signal and reduces the noise. But the vast majority of modern radios do not have this capability, and will operate in stereo automatically if the stereo signal is present.

If you are interested in the technical details comparing FM mono and stereo modes, see the graph below from the NAB Engineering Handbook. Stereo mode is called "biphonic" in this document.

The signal-to-noise tradeoff is worthwhile for stations with stereo music programming - thus most FM stations run in stereo today. For example, the Wisconsin Public Radio FM stations that carry the News-Classical network operate in stereo at all times. But most programming on the Ideas Network is in mono and is best transmitted in mono mode.

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MONOPHONIC, BIPHONIC AND SCA SERVICES

TRANSMITTER: 10 kW ERP
1000 FT. HAAT
98 MHz

RECEIVER: DIPOLE ANTENNA
30 FT. AGL
10 dB NOISE FIGURE

