

NRSC IMPLEMENTATION INFORMATION FOR AM BROADCASTERS

In late April 1989, the Federal Communications Commission announced that mandatory compliance with National Radio Systems Committee (NRSC) broadcast standards will be required of all AM broadcast stations by June 30, 1990. Specifically, AM stations must conform to a more stringent emission limitation, as is to be amended to Section 73.44 of the Rules. This reduction of permissible occupied bandwidth will essentially limit stations to a 20 kHz total occupied RF bandwidth (10 kHz audio). Nationwide compliance with NRSC guidelines will reduce interference and provide the standardization necessary for receiver manufacturers to produce higher quality AM radios.

The primary way to meet the new regulation is to install the equipment necessary to implement the first NRSC standard, known as NRSC-1. This is the audio preemphasis/stopband standard that was released in early 1987 and has been incorporated by over 1000 stations to date. With NRSC-1 in place, it is likely that the new FCC RF emission requirements will be met with flying colors, provided the transmission system is well-maintained, not overmodulated, and transmitter protection clippers are not used as active processing to provide additional signal loudness. NRSC-1 implementation involves modifying the station audio processor by installing a kit to provide uniform high frequency boost (preemphasis) and a sharp 10 kHz audio low pass filter.

Beginning on June 30, 1994, AM stations will be also required to have a means to prove compliance with the emission limitation by measuring occupied RF bandwidth directly. This is in line with the requirements of the second standard, known as NRSC-2, which describes the measurement techniques to use. NRSC-2 is only a measurement standard, and no additional transmission equipment or filters are required to implement it.

To provide further background, the following information is enclosed: (1) An EIA Industry Advisory memo to radio receiver manufacturers describing the FCC action, (2) the text of the actual FCC Report and Order, including specific Rule amendments, (3) an information sheet listing sources of NRSC-1 conversion equipment and NRSC-2 measurement devices, and (4) a few press clips from industry trade publications describing the new requirements.

The NRSC-1 and NRSC-2 standards themselves have been incorporated into NAB's **Technical Standards** publication, and copies can be obtained from NAB Services Department using the supplied order form or by calling (800) 368-5644. The special noise test signal described in the standards is included on the **NAB Broadcast and Audio System Test CD** (compact disc), also available from NAB Services (order form enclosed).

For further technical information on the NRSC standards/FCC AM emission requirements, call NAB Science & Technology at (202) 429-5346.