

§ 73.1580

automatic transmission system operation, the amplitude of modulation of the carrier by the use of subaudible tones must not be higher than necessary to effect reliable and accurate data transmission and may not, in any case, exceed 6%.

(2) *FM stations.* The total modulation must not exceed 100 percent on peaks of frequent reoccurrence referenced to 75 kHz deviation. However, stations providing subsidiary communications services using subcarriers under provisions of § 73.319 concurrently with the broadcasting of stereophonic or monophonic programs may increase the peak modulation deviation as follows:

(i) The total peak modulation may be increased 0.5 percent for each 1.0 percent subcarrier injection modulation.

(ii) In no event may the modulation of the carrier exceed 110 percent (82.5 kHz peak deviation).

(3) *TV and Class A TV stations.* In no case shall the total modulation of the aural carrier exceed 100% on peaks of frequent recurrence, unless some other peak modulation level is specified in an instrument of authorization. For monophonic transmissions, 100% modulation is defined as ± 25 kHz.

(c) If a limiting or compression amplifier is employed to maintain modulation levels, precaution must be taken so as not to substantially alter the dynamic characteristics of programs.

[44 FR 58735, Oct. 11, 1979, as amended at 47 FR 13165, Mar. 29, 1982; 49 FR 14508, Apr. 12, 1984; 49 FR 15081, Apr. 17, 1984; 49 FR 27147, July 2, 1984; 49 FR 47610, Dec. 6, 1984; 49 FR 48312, Dec. 12, 1984; 51 FR 26251, July 22, 1986; 56 FR 64872, Dec. 12, 1991; 65 FR 30004, May 10, 2000]

§ 73.1580 Transmission system inspections.

Each AM, FM, TV and Class A TV station licensee or permittee must conduct periodic complete inspections of the transmitting system and all required monitors to ensure proper station operation.

[65 FR 30004, May 10, 2000]

§ 73.1590 Equipment performance measurements.

(a) The licensee of each AM, FM, TV and Class A TV station, except licens-

47 CFR Ch. I (10–1–23 Edition)

ees of Class D non-commercial educational FM stations authorized to operate with 10 watts or less output power, must make equipment performance measurements for each main transmitter as follows:

(1) Upon initial installation of a new or replacement main transmitter.

(2) Upon modification of an existing transmitter made under the provisions of § 73.1690, Modification of transmission systems, and specified therein.

(3) Installation of AM stereophonic transmission equipment pursuant to § 73.128.

(4) Installation of FM subcarrier or stereophonic transmission equipment pursuant to § 73.295, § 73.297, § 73.593 or § 73.597.

(5) Installation of TV stereophonic or subcarrier transmission equipment pursuant to §§ 73.669 and 73.1690.

(6) Annually, for AM stations, with not more than 14 months between measurements.

(7) When required by other provisions of the rules or the station license.

(b) Measurements for spurious and harmonic emissions must be made to show compliance with the transmission system requirements of § 73.44 for AM stations; § 73.317 for FM stations and § 73.687 for TV stations. Measurements must be made under all conditions of modulation expected to be encountered by the station whether transmitting monophonic or stereophonic programs and providing subsidiary communications services.

(c) TV visual equipment performance measurements must be made with the equipment adjusted for normal program operation at the transmitter antenna sampling port to yield the following information:

(1) Field strength or voltage of the lower side-band for a modulating frequency of 1.25 MHz or greater, (including 3.58 MHz for color), and of the upper side-band for a modulating frequency of 4.75 MHz or greater.

(2) Data showing that the waveform of the transmitted signal conforms to that specified by the standards for TV transmissions.

(3) Photographs of a test pattern taken from a receiver or monitor connected to the transmitter output.