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ABSTRACT

Unlicensed radio operation may interfere with regular broadcast reception and radio communication for safety services. In this bulletin, the Federal Communications Commission (FCC) advises teenagers not to violate the law, but to pursue their interest in radio broadcast by joining the Amateur Radio Service or qualifying for a commercial permit. Sources of additional information are provided. (SC)

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GENERAL

The Commission receives many letters from youthful radio enthusiasts inquiring how they can use a purchased kit or home-assembled equipment to "broadcast" voice and records to the immediate neighborhood without an FCC license.

Their interest is heightened by newspaper accounts of young people constructing and operating "pee-wee broadcast" stations to entertain playmates and neighbors within a very limited range. These reports reflect the enthusiasm and ingenuity of radio-minded youngsters. However, when these juvenile operations cause interference to regular radio communication (which most of them invariably do), it is necessary for the Commission to close them down. As a result, the young would-be broadcasters are indignant and their parents and other grown-ups in the neighborhood (except the ones whose normal broadcast reception was affected) are inclined to regard the FCC as a "killjoy."

The fact is that the Commission wants to encourage youthful interest in radio-- and affords opportunities to do so. However, junior broadcasting efforts not only can disrupt regular broadcast reception but also may interfere with other forms of radio communication, particularly aviation, police, fire and other services on which safety of life and property depend.

That is one reason broadcast service is limited to licensees who have the equipment and know-how to avoid causing interference. Broadcast licenses also are restricted to stations that can afford to program entire communities. In consequence, regular broadcast operation is costly, and an application for such an authorization is complicated and requires both engineering and legal advice in its preparation. In addition to the license needed by a broadcast station, the operator of the broadcast station transmitter must also hold an FCC permit.

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RULES

The Commission's rules (in Part 15 which deals with incidental and restricted radiation devices) do permit what are called "low-power communication devices" to be operated without a license in the AM broadcast and certain other bands; but under strict curbs to prevent interference to licensed radio services. These rules were established to enable individuals, for their personal convenience primarily, to use wireless telephones, phonograph oscillators, electronic "baby sitters," indoor communication systems, and to control garage-door openers, model airplanes, etc., provided the operation is extremely limited and does not interfere with regular radio communication services. These rules were not intended to cover "pee-wee" broadcasting.

The requirements are highly technical and involve a complicated formula which, in effect, limits radiation to less than 300 feet. This is not sufficient distance to cover a residential block or even a group of adjoining houses.

Keeping within such a small radius requires engineering knowledge that most young people do not possess. In the hands of the uninitiated, a slight lengthening of the antenna or modification of equipment can, unwittingly, cause radiation far in excess of the prescribed minimum. This excessive radiation is certain to collide with authorized transmissions in the congested radio lanes.

INTERFERENCE

Consequently, FCC field engineers are having mounting difficulty with objectionable interference caused by "home broadcast stations" operated by teen-agers. The field staff spends many manhours investigating complaints that juvenile broadcast efforts adversely affect regular radio services. There is increasing evidence that such activities cannot be pursued in the crowded AM broadcast band without causing trouble.

Many grown-ups, as well as children, do not seem to be aware that certification by the manufacturer or skilled technician is required before low-power communication devices can be used on the air. Consequently, sale by some mail order and retail stores of uncertified equipment can get an unsuspecting buyer in trouble and result in closing his operation. The Commission continues to seek the cooperation of makers, sellers and users to see that such apparatus is certified as meeting the technical requirements, thus preventing interference before it starts.

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Because unlicensed radio operation is a potential threat to vital radio communication, especially to the safety services, the Communications Act provides fines up to \$10,000 and a year's imprisonment, or both, for serious offenders. Radio transgressions by young people are due mostly to ignorance of the law in pursuing a commendable interest in radio. So, in warning unlicensed juveniles to cease interfering radio operations, the FCC field engineers explain the reason for so doing and cite opportunities for pursuing radio as a hobby, convenience or avocation through licensing in other radio services.

A boy or girl can further an aptitude for practical radio experience by qualifying in the Amateur Radio Service. There are no age limits in this service, which provides a means to communicate with fellow "hams" not only in this country but also abroad and, in so doing, to obtain knowledge of actual radio operation. Many persons prominent in electronics got their basic training in the amateur ranks. The six classes of licensees in this service range from "novices," some of whom haven't reached their teens, to "advanced class" seasoned old-timers. A fact sheet about the Amateur Radio Service will be furnished on request to the Commission's Washington office or to any of its field engineering offices.

AMATEUR
RADIO
SERVICE

Young people desiring to pursue the study of radio can write to the Government Printing Office, Washington, D. C. 20402, for lists of available Government publications dealing with electricity, radio, electronics and related subjects. The U. S. Office of Education, Washington, D. C. 20202, can advise about colleges offering radio and other special courses.

Those interested in operating radio transmitters for employment can start by qualifying for a restricted radio-telephone operator permit. No written examination is required and this grade is open to those as young as 14 years. This is a step toward three higher grades for radiotelephone or radiotelegraph commercial operators. The Commission's "Study Guide and Reference Material for Commercial Radio Operator Examinations" is sold by the Government Printing Office.

Except for the transmitter operator, the FCC does not license broadcast station personnel--announcers, disc jockeys, etc. The Bureau of Labor Statistics, Department of Labor, Washington, D. C. 20210, will advise about general employment opportunities in radio, electronics and other fields.