

The chief purpose of this legislation is to give the Commission adequate authority to deal with increasingly acute interference problems arising from expanded usage of electrical and electronic devices which cause, or are capable of causing, harmful interference to radio reception. This would be accomplished by empowering the Commission to deal with the interference problem at its root source—the sale by some manufacturers of equipment and apparatus which do not comply with the Commission's rules. This new authority to require that equipment be properly designed to reduce radiation to specified and acceptable limits, and, where necessary, to specify operating frequencies before it is sold to the customer, is not only necessary and in the public interest, but also, will provide a more reasonable basis for dealing with interference problems than is now possible under the present scheme of regulation provided for in the Communications Act.

Presently, the Communications Act of 1934, as amended, particularly Section 301 thereof, prohibits the use of equipment or apparatus which causes interference to radio communications, while Section 303(f) empowers the Commission to prescribe regulations “. . . to prevent interference between stations.” However, the Commission has no specific rulemaking authority under the Act to require that before equipment or apparatus which radiates electromagnetic energy is put on the market, it must be properly designed to prevent harmful interference to radio reception. The defects of this scheme of regulation become more obvious with each passing year. Since the prohibition falls on the use of offending equipment, it means that the Commission, in trying to control interference, is confined in large measure to apprehending the users of equipment which interferes with radio communications, even though in most instances such users have purchased equipment on the assumption its operation would be legal without further suppression of spurious radiation. It also means that the Commission is reduced to an “after-the-fact” approach to preventing interference, for obviously, until the Commission has discovered interference (either through its Field Engineering Bureau or on the complaint of some user of radio equipment), there is no basis for proceeding against the offender.

When the Communications Act was adopted, interference problems were relatively small, both in number and complexity. But especially since World War II, with the explosively rapid growth experienced in the communications industry, there has been a corresponding increase both in the development of new uses for radio and in the number and type of devices capable of causing harmful interference. In many instances, those radiating devices lie outside the area conventionally associated with radio transmission and reception. They include such devices as electronic garage door openers and certain electronic toys, which, because of poor design or for other reasons, radiate radio frequency energy beyond that needed for their functions. They also include other devices, such as high-powered electronic heaters, diathermy machines, welders, and radio and television receivers, which radiate energy, either purposely or incidental to carrying out their primary functions.

The cumulative effect of all this excessive radiation (or “spectrum pollution,” as one writer has put it) is most apparent in large metropolitan areas. Especially in peak periods of operation of radiating devices, such areas are blanketed by a “radiation smog” which makes it increasingly difficult for many users of radio communications to obtain interference-free reception. To radio listeners and television viewers, this means the reception of distorted and garbled signals, or fluttering images, of a technical quality less than that possible when interference is under effective control. To those who use radio for industrial communications purposes, the cumulative effect of excessive radiation means increased disruption of communications services. In the really vital areas where radio is used for safety purposes, such as in air navigation control, this radiation problem becomes most acute. Here, it poses a genuine threat to safety of life. An important example of interference to radio communications occurred in December 1965 at the time of the Gemini 7 space flight. The U.S. Government went into court and obtained a temporary restraining order against a manufacturing company in Corpus Christi, Texas, on the grounds that certain equipment at the plant, including the ignition system of a winch truck used for lifting steel, was interfering with communications between a tracking station at Corpus Christi and the Gemini spacecraft. And finally to those users of radio whose operations must be conducted under conditions of relatively low background interference (such as the Commission's radio monitoring activities, the operation of military communications systems, or radio astronomy observations), high levels of excessive radiation constantly force such users to seek out new areas of low interference or to require that all devices used in a given area (such as a military post) be properly suppressed against radiation before use. Both of these latter-mentioned alternatives impose additional costs of operation on the Government itself.