

example, data and video programming, but two-way voice and data operation are also being developed and used. Fixed services are generally exposed to a constant fixed interference environment characterized by the location of specific operations. We request comment on the need for interference immunity guidelines/standards for fixed terrestrial receivers in light of our changing approach to spectrum management, particularly with regard to licensing of frequencies on a geographic basis. We seek comment and information on the following questions concerning minimum interference immunity guidelines/standards for fixed terrestrial facilities:

- We recognize that in many cases, fixed terrestrial facilities, particularly those used for point-to-point operations, are designed for high reliability. Do existing design features for ensuring high reliability include measures for immunity to interference?
- We also recognize that certain terrestrial point-to-point and point-to-multipoint receivers are designed to accommodate a wide bandwidth (*e.g.* Cable Television Relay Stations that deliver 80 video channels or more.) The receivers of such systems, by design, have little interference immunity. Should immunity guidelines/standards apply to such receivers?
- Should fixed terrestrial receivers be subjected to less stringent minimum interference immunity performance requirements than receivers used with other types of services, given the lesser variation in operating environment conditions generally experienced in the course of fixed operation?
- If minimum interference immunity performance guidelines/standards would be appropriate for fixed terrestrial service receivers, what minimum parameter values should be specified and how would those minimums compare to the performance of existing equipment used with these services?

31. *Broadcast services*—The broadcast AM, FM, and television services operate much like fixed point-to-multipoint services, in that many consumer radios and television sets receive one-way communications from one or more fixed transmitter sites. However, the technical quality of service provided by different models of radio and television receivers varies to some extent, depending on the design of the device. These variations generally reflect manufacturers' perceptions of user demand balanced

against cost/pricing factors. For example, the research conducted in response to the low power FM radio proceeding indicated that lower cost FM receivers may provide more limited service capabilities. Generally, allowing manufacturers to determine the performance capabilities of broadcast receivers, including the performance of their tuning/signal acquisition sections, historically has yielded product models that provide satisfactory service for consumers at attractive price levels.

32. Recognizing the factors, we request comment on the desirability of developing minimum interference immunity performance specifications for broadcast receivers. In considering minimum immunity specifications for broadcast receivers, it is not our intent to reverse our longstanding practice of allowing the market to determine the performance of broadcast receivers, with the Commission stepping in only where obvious deficiencies appear that could disrupt the general reception of service. Rather, we believe that guidelines, applied on a voluntary basis, could perhaps lead to the marketing of product models with high interference immunity that consumers could purchase to meet their performance needs. Such models might be particularly desirable for consumers to receive quality services.

33. Recently, the Commission selected in-band-on-channel (IBOC) as the technological approach for terrestrial digital audio broadcasting and permitted AM and FM radio broadcasters to commence digital operations on an interim basis using the hybrid IBOC systems developed by iBiquity Digital Corporation. It is expected that hybrid analog and digital audio broadcasting will continue for at least a decade. In light of this, we ask the following questions about AM and FM receivers:

- What minimum interference immunity parameters should be established for analog and analog/digital (hybrid) AM and FM receivers?
- What would be the additional costs to consumers of radio receivers that would provide interference immunity based on such established guidelines?
- What protection, if any, should be afforded the millions of analog radio receivers now in use and available for sale?
- How should consumers be informed of differences in radio receiver immunity performance? Would a recognizable label or symbol on a receiver assist consumers in identifying equipment with improved performance?

34. We request comment on the following questions relating to the development and implementation of minimum interference immunity guidelines for broadcast television receivers:

- What minimum interference immunity parameter values should be specified for DTV broadcast receivers and how would those minimums compare to the performance of existing equipment used in this service?
- What would be the additional costs to consumers of DTV receivers that would provide interference immunity as specified in established guidelines?
- How should consumers be informed of differences in broadcast receiver interference immunity performance?

35. We also ask for comment on an approach that would provide a fast-track for the development and implementation of voluntary receiver performance standards for broadcast DTV receivers. Television broadcast industry representatives, including the National Association of Broadcasters (NAB), the Association for Maximum Service Television (MSTV), and Sinclair Broadcast Group, Inc. (Sinclair), have requested that we impose minimum performance thresholds on DTV receivers with respect to receiver sensitivity (noise figure and carrier-to-noise ratio), selectivity (co-channel and adjacent channel desired-to-undesired signal ratios), dynamic range, and multipath tolerance (adaptive equalizer performance). While we have denied these requests in the context of mandatory performance standards, and are herein dismissing a Petition for Reconsideration in this regard from Sinclair, we do believe that it is important that we continue to encourage manufacturers to provide adequate tuning capability for broadcast DTV signals, to monitor the performance of DTV receivers as they are introduced to the market, and to intervene if performance is found lacking in specific areas. We also believe that DTV receiver specifications may be useful in this effort as voluntary standards.

36. In this regard, we believe there could be benefit to an approach that would encourage the development of minimum performance guidelines for DTV receivers and enable manufacturers to market a special category of receivers that meet such guidelines. Under the approach we are suggesting, industry parties representing broadcasters, consumer electronics manufacturers, consumers, and others as appropriate, would identify the relevant DTV receiver performance parameters,