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SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Advanced Satellite Services (3)

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SATELLITE RADIO ADVANCED SERVICES/TECHNOLOGY

Abstract

Satellite radio is a service in North America which provides radio content (more than 150 channels with various types of music, news commentary, sports, traffic and weather) to subscribers, many of them in moving vehicles. This is done through a network of satellites and urban core terrestrial repeaters as well as by internet streaming. There are currently more than 32 subscribers in the United States and Canada. The details of the system and service have been described in IAC 2014. There are now efforts underway to provide advanced services using new technology. These are presented in the paper. One is the implementation of new satellites which will have greater flexibility in frequency and bandwidth selection permitting the use of higher order waveform modulation. More complex modulations allow increased transmission capacity for advanced services including personalization and additional audio channels. Also, an update will be provided on progress to reconfigure the current satellite system from a hybrid orbit constellation to an all geostationary orbit constellation. A second is the development of spot terrestrial repeaters which can be used in special instances where terrain or interference adversely affect local service availability. A third are advances in chipset technology used in the subscriber receivers and, lastly, the provision of improved internet/Wi-Fi interfaces so another transmission avenue is available for advances services to autonomous and interconnected vehicles.