# NRSC ADDRESSES RBDS EAS MESSAGES

At its meeting in Washington, DC, on July 10, 1995, the Radio Broadcast Data System (RBDS) Subcommittee of the National Radio Systems Committee formed a working group to further develop specifications for providing Emergency Alert System (EAS) messages via RBDS. The EAS Working Group will be working rapidly to develop these specifications so that manufacturers of EAS and RBDS/RDS equipment will have an opportunity to include RBDS/RDS EAS alerting capability as an option in their new equipment. The Working Group wants to complete its work before the wave of orders for EAS equipment that is anticipated prior to the FCC's July 1, 1996, deadline for installing new EAS gear. The Working Group believes that having this option available before these orders come in is important because it will likely be a decade or more before many broadcasters replace any new EAS gear that they purchase next year -- so the standards in place now will likely be the standards for at least another decade.

The FCC's EAS rules do not require broadcasters to use RBDS/RDS. The RBDS/RDS standard is a voluntary one that many stations are now using to transmit call letters, song titles, artist names, slogans, weather and traffic information, and more.

The RBDS/RDS signal is transmitted on the 57 kHz subcarrier in the FM baseband. Its basic clock frequency is obtained by dividing the transmitted subcarrier frequency by 48, so its data rate is 1,187.5 b/s. The RBDS/RDS data stream is organized into 104-bit groups of data. Each 104-bit group consists of 4, 26-bit blocks, and each of these 26-bit blocks contains 10 bits of error correction coding -- so there are 16 bits of actual information transmitted in each block, yielding a net data rate of 730 b/s.

The RBDS/RDS data stream is a continual flow of 104-bit groups. Currently, there are 13 group types defined and, at 1,187.5 b/s, there are 11.4 groups transmitted per second. The 13 group types include, among others, basic tuning and switching information,

radio paging, radiotext, and emergency warning system information. The types of groups transmitted vary from station to station depending on each station's priorities. For example, a station that is leasing out radio paging capacity on its RBDS/RDS subcarrier will generally be transmitting group 7 (radio paging) quite often, while a station that is not doing any radio paging will not be transmitting group 7.

Emergency warning information is transmitted using group type 9. This group is transmitted only during tests and actual emergencies, so it is generally used very infrequently. The EAS Working Group will be defining exactly what sort of information is transmitted in group type 9, and what sort of effects it can have. For example, it will be determining how the group 9 code can be used to "wake up" a "sleeping" receiver when an emergency alert message is transmitted. This feature would allow emergency alert messages to reach people who are not listening to the radio at the time of the alert.

RBDS gear that incorporates emergency alerting capability is already being marketed by Sage Alerting Systems. The specifications being developed by the EAS Working Group will be compatible with Sage's equipment.

## AM Station Helps FCC Track Interference

From a July 14, 1995, FCC news release:

Officials from the Telecommunications Division of the Colorado State Patrol contacted the FCC's Denver field office to complain about interference to one of their frequencies within a mile of an AM radio station. The interference was so severe that it caused many patrol officers to turn down their radios, resulting in missed calls from central dispatch. Working with a consulting engineer from the AM radio station, an agent from the FCC's Denver office identified the problem as an intermodulation product originating in a nearby paging company's transmitter. When the paging transmitter was turned off, the interference disappeared.