

AMDS

AMDS – a data channel for DGNSS services

Data broadcasting via radio transmitters is well known in the FM radio band. The FM data channel RDS is used for transmitting traffic information or other data like DGNSS corrections. A similar data channel is available in the AM radio band called AMDS. Because of the success of FM in the last years in Western Europe AM radio lost a large number of the user community. But even today AM radio is needed to get a signal coverage over a total country.

The first tests of transmitting DGPS correction data via the AMDS data channel have been performed in the years 1994/95. Excellent test results encouraged the AMDS community to expand the tests outside Germany. With the AMDS/dGPS installation of two LW transmitters a country like France was covered with DGPS corrections.

The main disadvantage of AMDS was the unavailability of receiving hardware on the market. Prototypes were used for the tests. RDS technology has been developed for the mass market car traffic information and could easily be modified for DGPS applications. Even in times of S/A DGPS was still a small market.

In 1999 Bosch developed the AMDS/dGPS Box II, the first AMDS receiver which could be produced in higher quantity. Because of the improvements of the GPS system in the year 2000 (S/A was switched off) DGPS became less important and was reduced to a real niche market. This market was already covered by existing DGPS services like FM radio, GSM, IALA Beacons or geostationary satellites. Therefore the AMDS service had only been introduced outside Germany.

In times of Internet and GPRS there is no need for a AMDS/dGPS in Germany or Western/Central Europe. But AMDS is still a good alternative to cover a large area with DGNSS corrections or other data where the Internet, GSM or GPRS is not available today. The big advantage of AMDS is the use of existing infrastructure with large coverage, low installation and operating costs and the proven solution with excellent receiving characteristics in the field.



- DGNSS data Transmission via AM radio broadcasting without any effect to the original audio signal.
- Use of international standardized AMDS protocol (ITU-R BS.706-2, 1998).
- Possible data rate of 200 bit per second (net data rate 136 bit/sec).
- Easy installation at existing infrastructure – AM radio transmitters (LW/MW).
- Cost effective solution because of low installation and operating costs.
- Coverage of large areas due to high transmitting power and low frequency.
- Successfully tested in several European countries with DGPS.
- Availability of receiver technology.