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Minimum Aviation System Performance Standards DGNSS Instrument Approach System: Special Category I (SCAT-I)

(Appendix F)

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F.1 Introduction

This appendix describes one method of implementing the differential message format described in Appendix A using a VHF data link which complies with the physical layer of the ISO stack protocol described in ICAO Document AMCP/3-DP-8B (Draft VHF Digital Link SARPS). The specific details of the data link are in accordance with the philosophy of promoted interoperability described in Section 1.5.2. The physical layer data link defined in this Appendix, along with the application layer found in Appendix A, constitutes the requirements for data transmission between the ground and airborne sub-systems.

In addition, Section F.5 contains additional SCAT-I system requirements that must be met if the VHF data link mentioned in this appendix is implemented.

F.2 Physical Layer

F.2.1 Message Encoding

Encoding of the data link message for transmission to the airborne sub-system follows the sequence shown in Figure F-1. The following definitions pertain to the message encoding described in this section:

symbol - a change in phase that represents 3 bits
word - 8 bit elements in the Reed-Solomon code
octet - 8 bit application layer element
symbol period - approximately 95.2 μs

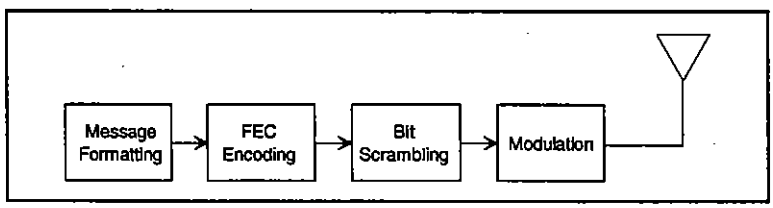

Figure F-1:
Message Encoding Block Diagram

F.2.1.1 Message Format

Formatting of the data link message consists of a demodulator training sequence followed by application data and Forward Error Correction (FEC) as shown in Table F-1.