INTERNATIONAL TELECOMMUNICATION UNION

CCITT

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

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TELEGRAPH AND MOBILE SERVICES
OPERATIONS AND QUALITY OF SERVICE

SERVICE PROVISIONS FOR AERONAUTICAL PASSENGER COMMUNICATIONS SUPPORTED BY MOBILE-SATELLITE SYSTEMS

Recommendation F.113

Geneva, 1992

FOREWORD

The CCITT (the International Telegraph and Telephone Consultative Committee) is a permanent organ of the International Telecommunication Union (ITU). CCITT is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The Plenary Assembly of CCITT which meets every four years, establishes the topics for study and approves Recommendations prepared by its Study Groups. The approval of Recommendations by the members of CCITT between Plenary Assemblies is covered by the procedure laid down in CCITT Resolution No. 2 (Melbourne, 1988).

Recommendation F.113 was prepared by Study Group I and was approved under the Resolution No. 2 procedure on the 4th of August 1992.

CCITT NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized private operating agency.

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SERVICE PROVISIONS FOR AERONAUTICAL PASSENGER COMMUNICATIONS SUPPORTED BY MOBILE-SATELLITE SYSTEMS

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1 Introduction

1.1 *Scope*

1.1.1 This Recommendation makes provision for the operational and Quality of Service requirements for both air-to-ground and ground-to-air aeronautical passenger communications mobile-satellite services. This Recommendation follows the principles laid down in Recommendation F.111.

1.1.2 Operation in the AMS(R)S[1)] band must meet the standards established by the International Civil Aviation Organization (ICAO). This includes the technical specifications, preemptive and priority functions, as defined in ICAO Annex 10, Aeronautical Telecommunications.

1.1.3 This Recommendation only covers aeronautical passenger communications. Other service and operational provisions are not covered by this Recommendation.

1.1.4 Aeronautical passengers communications (APC), a form of communications, unrelated to safety and regularity of flight or the aircraft operating agency, which is at the disposal of the passenger and crew of an aircraft in flight status (see Note) on a controlled basis subject to flight safety requirements. Aeronautical passenger communications is one form of public correspondence.

Note – An aircraft may be considered to be in flight status, while on the ground waiting for departure, while taxiing for take-off, while flying, while taxiing following landing, and while waiting for passengers to leave the aircraft.

2 System description

2.1 An aeronautical mobile-satellite system provides two-way voice and data communication with aircraft operating within the field-of-view of a satellite.

An aeronautical mobile-satellite system comprises of three basic elements:

– *Aircraft earth stations (AES)* – Transmitting and receiving stations located on the aircraft capable of communicating with the satellite and interfacing with terminals within the aircraft.

– *Aeronautical ground earth stations (GES)* – Fixed terrestrial transmitting and receiving stations communicating with the satellite and interfacing with terrestrial public and private telecommunication networks. For the purpose of this Recommendation the acronym GES will be used to denote an aeronautical ground earth station to avoid confusion over identical acronyms, although it is recognized that *Radio Regulation* 77 defines this as an aeronautical earth station (see Note).

Note – Fixed terrestrial transmitting and receiving stations jointly providing a combination of maritime, land and aeronautical mobile services are commonly referred to as land earth stations (LES) in the INMARSAT system.

– *Satellite* – Providing communication between AESs and GESs.

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1) AMS(R)S Aeronautical mobile-satellite (route) service.

2.2 The system may support:

i) aeronautical passenger communications (APC);

ii) aeronautical administrative communications (AAC);

iii) aeronautical operational control (AOC) communications; and

iv) air traffic services (ATS) communications.

2.3 Terrestrial networks that may be interconnected with aeronautical mobile satellite systems are:

– public telephone, telex, packet switched and circuit switched data networks;

– dedicated private networks for aeronautical telecommunication services.

3 Service description

3.1 Aeronautical passenger communications support the following services:

– telephone;

– telex;

– packet switched data transmission;

– circuit switched data transmission;

– facsimile.

Administrations may provide one or more of these services.

4 Air-to-ground calls

4.1 *General*

4.1.1 Fully automatic service operation should be employed, where practicable, for all services.

4.1.2 The AES and the GES provide preemptive and priority functions for the control of air-to-ground calls, in accordance with the International Civil Aviation Organization (ICAO) standards and recommended practices and the ITU Radio Regulations.

4.1.3 Provision shall be made for the collection of information relevant to billing and international accounting functions.

4.1.4 When a credit card system is employed, the relevant details of the credit card must also be recorded for validity check purposes.

4.1.5 Procedures for call establishment should be in accordance with CCITT Recommendations, e.g. Recommendations E.216, F.126 and X.350 are applicable in respect to the INMARSAT-aeronautical system.

4.2 *Telephone service*

4.2.1 The service requirements and interworking procedures with the telephone service as defined in Recommendation E.105, are for further study.

4.3 *Telex service*

4.3.1 The service requirements and interworking procedures with the telex service as defined in Recommendation F.60, are for further study.

4.4 *Data transmission services*

4.4.1 *Packet switched data transmission services*

The service attributes, facilities, numbering and selection procedures are for further study.

4.4.2 *Circuit switched data transmission services*

The service attributes, facilities, numbering and selection procedures are for further study.

5 Ground-to-air calls

5.1 *General*

5.1.1 The unique aircraft number identification is standardized by ICAO. A unique AES mobile number based upon this aircraft identification number should be used regardless of the types of service provided, on the radio link between the ground and aircraft.

5.1.2 The AES and GES provide preemptive and priority functions for the control of ground-to-air calls, in accordance with ICAO standards and recommended practices and the ITU Radio Regulations.

5.1.3 Numbering plans and call selection procedures should be in accordance with CCITT Recommendations, e.g. Recommendations E.215, F.125 and X.121, applicable to the INMARSAT-aeronautical system.

5.1.4 Non-automatic operation for ground-to-air communication is for further study.

5.2 *Telephone service*

5.2.1 The service requirements are for further study.

5.3 *Telex service*

5.3.1 The service requirements are for further study.

5.4 *Data transmission services*

5.4.1 *Packet switched data transmission services*

5.4.1.1 The service requirements are for further study.

5.4.2 *Circuit switched data transmission services*

5.4.2.1 The service requirements are for further study.