#### **RECOMMENDATION ITU-R F.745\***

## ITU-R RECOMMENDATIONS FOR ANALOGUE RADIO-RELAY SYSTEMS

(1991)

The ITU Radiocommunication Assembly,

considering

- a) that the ITU-R has decided that numerous Recommendations dealing with various characteristics of analogue radio-relay systems will not be reprinted;
- b) that in some cases it may be necessary to refer to Recommendations for analogue radio-relay systems,

recommends

that Annex 1 to this Recommendation should be referred to for a list of ITU-R Recommendations dealing with analogue radio-relay systems, both reprinted and not reprinted.

#### ANNEX 1

# List of ITU-R Recommendations for analogue radio-relay systems\*\*

#### 1. Hypothetical reference circuit

Recommendation ITU-R F.390	Definitions of terms and references concerning hypothetical reference circuits and hypothetical reference digital paths for radio-relay systems
Recommendation 391 (Düsseldorf, 1990)	Hypothetical reference circuit for radio-relay systems for telephony using frequency-division multiplex with a capacity of 12 to 60 telephone channels
Recommendation ITU-R F.392	Hypothetical reference circuit for radio-relay systems for telephony using frequency-division multiplex with a capacity of more than 60 telephone channels

#### 2. Allowable noise power and availability

Recommendation ITU-R F.393	Allowable noise power in the hypothetical reference circuit for radio-relay systems for telephony using frequency-division multiplex
Recommendation 395-2 (Düsseldorf, 1990)	Noise in the radio portion of circuits to be established over real radio-relay links for FDM telephony
Recommendation ITU-R F.555	Permissible noise in the hypothetical reference circuit of radio-relay systems for television
Recommendation ITU-R F.557	Availability objective for radio-relay systems over a hypothetical reference circuit and a hypothetical reference digital path

<sup>\*</sup> Radiocommunication Study Group 9 made editorial amendments to this Recommendation in 2000 in accordance with Resolution ITU-R 44.

<sup>\*\*</sup> The texts which are accompanied by "(Düsseldorf, 1990)" will not be reprinted. Those who wish to have access to these texts should refer to CCIR Volume IX, Part 1 of the XVIIth Plenary Assembly (Düsseldorf, 1990). The texts with basic numbers only are printed in the latest version of ITU-R Volumes.

### 3. Radio-frequency channel arrangements

Recommendation ITU-R F.701	Radio-frequency channel arrangements for analogue and digital point-to-multipoint radio systems operating in frequency bands in the range 1.427 - 2.690 GHz (1.5, 1.8, 2.0, 2.2, 2.4 and 2.6 GHz)
Recommendation ITU-R F.283	Radio-frequency channel arrangements for low and medium capacity analogue or digital radio-relay systems operating in the 2 GHz band
Recommendation ITU-R F.382	Radio-frequency channel arrangements for radio-relay systems operating in the 2 and 4 GHz bands
Recommendation ITU-R F.383	Radio-frequency channel arrangements, for high capacity radio-relay systems operating in the lower 6 GHz band
Recommendation ITU-R F.384	Radio-frequency channel arrangements for medium and high capacity analogue or high capacity digital radio-relay systems operating in the upper 6 GHz band
Recommendation ITU-R F.385	Radio-frequency channel arrangements for radio-relay systems operating in the 7 GHz band
Recommendation ITU-R F.386	Radio-frequency channel arrangements for radio-relay systems operating in the 8 GHz band
Recommendation ITU-R F.387	Radio-frequency channel arrangements for radio-relay systems operating in the 11 GHz band
Recommendation ITU-R F.497	Radio-frequency channel arrangements for radio-relay systems operating in the 13 GHz frequency band
Recommendation ITU-R F.637	Radio-frequency channel arrangements for radio-relay systems operating in the 23 GHz band
Recommendation 389-2 (Düsseldorf, 1990)	Preferred characteristics of auxiliary radio-relay systems operating in the 2, 4, 6 or 11 GHz bands

## 4. Characteristics at radio, intermediate and baseband frequencies

Recommendation ITU-R F.699	Reference radiation patterns for line-of-sight radio-relay system antennas for use in coordination studies and interference assessment in the frequency range from 1 to about 40 GHz
Recommendation 306 (Düsseldorf, 1990)	Procedure for the international connection of radio-relay systems with different characteristics
Recommendation 268-1 (Düsseldorf, 1990)	Interconnection at audio frequencies of radio-relay systems for telephony
Recommendation 380-4 (Düsseldorf, 1990)	Interconnection at baseband frequencies of radio-relay systems for telephony using frequency-division multiplex
Recommendation 381-2 (Düsseldorf, 1990)	Conditions relating to line regulating and other pilots and to limits for the residues of signals outside the baseband in the interconnection of radio-relay and line systems for telephony
Recommendation 270-2 (Düsseldorf, 1990)	Interconnection at video signal frequencies of radio-relay systems for television
Recommendation 463-1 (Düsseldorf, 1990)	Limits for the residues of signals outside the baseband of radio-relay systems for television
Recommendation 402-2 (Düsseldorf, 1990)	The preferred characteristics of a single sound channel simultaneously transmitted with a television signal on an analogue radio-relay system
Recommendation 275-3 (Düsseldorf, 1990)	Pre-emphasis characteristic for frequency modulation radio-relay systems for telephony using frequency-division multiplex

Recommendation 404-2 (Düsseldorf, 1990)	Frequency deviation for analogue radio-relay systems for telephony using frequency-division multiplex
Recommendation 405-1 (Düsseldorf, 1990)	Pre-emphasis characteristics for frequency modulation radio-relay systems for television
Recommendation 276-2 (Düsseldorf, 1990)	Frequency deviation and the sense of modulation for analogue radio-relay systems for television
Recommendation 403-3 (Düsseldorf, 1990)	Intermediate frequency characteristics for the interconnection of analogue radio-relay systems

#### 5. Maintenance

Recommendation 290-3 (Düsseldorf, 1990)	Maintenance measurements on radio-relay systems for telephony using frequency-division multiplex
Recommendation 305 (Düsseldorf, 1990)	Stand-by arrangements for radio-relay systems for television and telephony
Recommendation 401-2 (Düsseldorf, 1990)	Frequencies and deviations of continuity pilots for frequency modulation radio-relay systems for television and telephony
Recommendation 444-3 (Düsseldorf, 1990)	Preferred characteristics for multi-line switching arrangements of analogue radio- relay systems
Recommendation 398-3 (Düsseldorf, 1990)	Measurements of noise in actual traffic over radio-relay systems for telephony using frequency-division multiplex
Recommendation 399-3 (Düsseldorf, 1990)	Measurement of noise using a continuous uniform spectrum signal on frequency-division multiplex telephony radio-relay systems
Recommendation 400-2 (Düsseldorf, 1990)	Service channels to be provided for the operation and maintenance of radio-relay systems

#### 6. Trans-horizon radio-relay systems

Recommendation 396-1 (Düsseldorf, 1990)	Hypothetical reference circuit for trans-horizon radio-relay systems for telephony using frequency-division multiplex
Recommendation 397-3 (Düsseldorf, 1990)	Allowable noise power in the hypothetical reference circuit of trans-horizon radio- relay systems for telephony using frequency-division multiplex
Recommendation 593 (Düsseldorf, 1990)	Noise in real circuits of multi-channel trans-horizon FM radio-relay systems of less than $2500~\mathrm{km}$
Recommendation ITU-R F.698	Preferred frequency bands for trans-horizon radio-relay systems
Recommendation 388 (Düsseldorf, 1990)	Radio-frequency channel arrangements for trans-horizon radio-relay systems
Recommendation ITU-R F.302	Limitation of interference from trans-horizon radio-relay systems

Note 1 – Some of the above Recommendations deal with digital as well as analogue radio-relay systems.

*Note 2* – Recommendations relating to frequency sharing between analogue radio-relay systems and space radiocommunication systems are not listed in this Annex.

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