



Recommendation ITU-R F.1777-3
(02/2022)

**System characteristic of television outside
broadcast, electronic news gathering and
electronic field production in the fixed
service for use in sharing studies**

F Series
Fixed service



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Foreword

The role of the Radiocommunication Sector is to ensure the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including satellite services, and carry out studies without limit of frequency range on the basis of which Recommendations are adopted.

The regulatory and policy functions of the Radiocommunication Sector are performed by World and Regional Radiocommunication Conferences and Radiocommunication Assemblies supported by Study Groups.

Policy on Intellectual Property Right (IPR)

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Series of ITU-R Recommendations

(Also available online at <http://www.itu.int/publ/R-REC/en>)

Series	Title
BO	Satellite delivery
BR	Recording for production, archival and play-out; film for television
BS	Broadcasting service (sound)
BT	Broadcasting service (television)
F	Fixed service
M	Mobile, radiodetermination, amateur and related satellite services
P	Radiowave propagation
RA	Radio astronomy
RS	Remote sensing systems
S	Fixed-satellite service
SA	Space applications and meteorology
SF	Frequency sharing and coordination between fixed-satellite and fixed service systems
SM	Spectrum management
SNG	Satellite news gathering
TF	Time signals and frequency standards emissions
V	Vocabulary and related subjects

Note: This ITU-R Recommendation was approved in English under the procedure detailed in Resolution ITU-R 1.

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RECOMMENDATION ITU-R F.1777-3*

System characteristic of television outside broadcast, electronic news gathering and electronic field production in the fixed service for use in sharing studies

(Question ITU-R 252/5)

(2007-2015-2018-2022)

Scope

This Recommendation, dealing with system characteristics of television outside broadcast (TVOB), electronic news gathering (ENG) and electronic field production (EFP) in the fixed service for use in sharing studies contains the typical system parameters and operational requirements for these broadcast auxiliary services (BAS)¹, which are required for sharing studies between the analogue and digital BAS in the fixed service and other radiocommunication services.

Keywords

Electronic news gathering (ENG), system characteristics

Abbreviations

BAS	Broadcast auxiliary services
BER	Bit error ratio
COFDM	Coded orthogonal frequency division multiplex
EFP	Electronic field production
e.i.r.p.	Equivalent isotropically radiated power
FEC	Forward error correction
FM	Frequency modulation
FS	Fixed service
FWS	Fixed wireless systems
HDTV	High Definition TV
MIMO	Multiple-input multiple-output
P-P	Point-to-point
QAM	Quadrature amplitude modulation
QPSK	Quaternary phase shift keying
SISO	Single-input single-output
TVOB	Television outside broadcast
UHDTV	Ultra High Definition TV

* This Recommendation should be brought to the attention of Radiocommunication Study Group 6.

¹ The term “BAS” also known as services ancillary to broadcasting (SAB) is defined in Report ITU-R BT.2069.

The ITU Radiocommunication Assembly,

considering

- a) that some administrations operate extensive terrestrial broadcast auxiliary services (BAS) under fixed service (FS) allocations;
- b) that administrations who operate analogue terrestrial BAS under FS allocations are likely to continue for a reasonable amount of time into the future;
- c) that some administrations are migrating from analogue to digital terrestrial BAS under FS allocations;
- d) that many administrations are likely to operate both terrestrial analogue and digital electronic news gathering (ENG) and television outside broadcast (TVOB) equipment under FS allocations for a reasonable amount of time in the future;
- e) that the frequency bands used for these BAS including TVOB, ENG and electronic field production (EFP) are, in many cases, shared by the FS and other services;
- f) that system characteristics for BAS including TVOB, ENG and EFP are different from those of typical fixed wireless systems (FWSs) as originally found in Recommendation ITU-R F.758;
- g) that it is desirable to identify the system parameters and operational characteristics for BAS applications including TVOB, ENG and EFP for efficient sharing studies with other services,

recognizing

that Resolution ITU-R 59 resolves to carry out studies on availability of frequency bands for worldwide and/or regional harmonization and conditions for their use by terrestrial electronic news gathering systems,

noting

- a) Recommendation ITU-R F.758 – *System parameters and considerations in the development of criteria for sharing or compatibility between digital fixed wireless systems in the fixed service and systems in other services and other sources of interference*;
- b) Recommendation ITU-R M.1824 – *System characteristics of television outside broadcast, electronic news gathering and electronic field production in the mobile service for use in sharing studies*;
- c) Report ITU-R BT.2069 – *Tuning ranges and operational characteristics of terrestrial electronic news gathering (ENG), television outside broadcast (TVOB) and electronic field production (EFP) systems*, provides specifications on TVOB, ENG and EFP;
- d) that as digital terrestrial BAS is the more sensitive service, successful sharing studies conducted with digital BAS assume that analogue BAS will be protected,

recommends

- 1 that the description of the user requirements and key characteristics of analogue and digital terrestrial BAS in Annexes 1 and 2 should be used by administrations seeking to operate these applications in the frequency bands allocated to the FS sharing with other services;
- 2 that the parameters described in Annex 2 should be used for sharing studies between digital BAS and other services;
- 3 that, for typical sharing considerations including development of criteria for these applications, the basic principles provided in Recommendation ITU-R F.758 should be used.