Content of ITU-R Recommendations on CD-ROM, March 1999 Edition
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BO Series : Broadcasting-satellite service (sound and television)

Number	*Title*	*Date in force*
BO.566-3	**Terminology relating to the use of space communication techniques for broadcasting**	**01.06.90**
BO.600-1	**Standardized set of test conditions and measurement procedures for the subjective and objective determination of protection ratios for television in the terrestrial broadcasting and the broadcasting-satellite services**	**01.07.86**
BO.650-2	**Standards for conventional television systems for satellite broadcasting in the channels defined by Appendix 30 of the Radio Regulations**	**08.03.92**
BO.651	**Digital PCM coding for the emission of high-quality sound signals in satellite broadcasting (15 kHz nominal bandwidth)**	**01.07.86**
BO.652-1	**Reference patterns for earth-station and satellite antennas for the broadcasting-satellite service in the 12 GHz band and for the associated feeder links in the 14 GHz and 17 GHz bands**	**08.03.92**
BO.712-1	**High-quality sound/data standards for the broadcasting-satellite service in the 12 GHz band**	**08.03.92**
BO.786	**MUSEsystem for HDTV broadcasting-satellite services**	**08.03.92**
BO.787	**MAC/packet based system for HDTV broadcasting-satellite services**	**08.03.92**
BO.788-1	**Coding rate for virtually transparent studio quality HDTV emissions in the broadcasting-satellite service**	**16.11.93**
BO.789-2	**Service for digital sound broadcasting to vehicular, portable and fixed receivers for broadcasting-satellite service (sound) in the frequency range 1 400-2 700 MHz**	**20.10.95**
BO.790	**Characteristics of receiving equipment and calculation of receiver figure-of-merit (G/T) for the broadcasting-satellite service**	**08.03.92**
BO.791	**Choice of polarization for the broadcasting-satellite service**	**08.03.92**
BO.792	**Interference protection ratios for the broadcasting-satellite service (television) in the 12 GHz band**	**08.03.92**

BO.793	**Partitioning of noise between feeder links for the broadcasting-satellite service (BSS) and BSS down links**	**08.03.92**
BO.794	**Techniques for minimizing the impact on the overall BSS system performance due to rain along the feeder-link path**	**08.03.92**
BO.795	**Techniques for alleviating mutual interference between feeder links to the BSS**	**08.03.92**
BO.1130-1	**System for digital sound broadcasting to vehicular, portable and fixed receivers for broadcasting service satellite (sound) bands in the frequency range 1 400-2 700 MHz**	**20.10.95**
BO.1211	**Digital multi-programme emission systems for television, sound and data services for satellites operating in the 11/12 GHz frequency range**	**20.10.95**
BO.1212	**Calculation of total interference between geostationary-satellite networks in the broadcasting-satellite service**	**20.10.95**
BO.1213	**Reference receiving earth station antenna patterns for replanning purposes to be used in the revision of the WARC-77 BSS plans for Regions 1 and 3**	**20.10.95**
BO.1293	**Protection masks and associated calculation methods for interference into broadcast satellite systems involving digital emissions**	**24.10.97**
BO.1294	**Common functional requirements for the reception of digital multiprogramme television emissions by satellites operating in the 11/12 GHz frequency range**	**24.10.97**
BO.1295	**Reference transmit Earth station antenna off-axis e.i.r.p. patterns for planning purposes to be used in the revision of the Appendix 30A (Orb-88) Plans of the Radio Regulations at 14 GHz and 17 GHz in Regions 1 and 3**	**24.10.97**
BO.1296	**Reference receive space station antenna patterns for planning purposes to be used for elliptical beams in the revision of the Appendix 30A (Orb-88) Plans of the Radio Regulations at 14 GHz and 17 GHz in Regions 1 and 3**	**24.10.97**
BO.1297	**Protection ratios to be used for planning purposes in the revision of the Appendices 30 (Orb-85) and 30A (Orb-88) Plans of the Radio Regulations in Regions 1 and 3**	**24.10.97**
BO.1373	**Use of BSS assignments for FSS transmissions**	**30.11.98**
BO.1383	**Introduction of the broadcasting-satellite service (sound) in the same frequency bands as used by mobile aeronautical telemetry systems in the frequency range 1-3 GHz**	**14.12.98**

Total number of BO Recommendations = 27

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BR Series : Sound and television recording

Number	*Title*	*Date in force*
BR.265-8	**Standards for the international exchange of programmes on film for television use**	**24.10.97**
BR.407-4	**International exchange of sound programmes recorded in analogue form**	**01.06.90**
BR.408-6	**Standards of sound recording on magnetic tape for the international exchange of programmes**	**08.03.92**
BR.469-6	**Analogue composite television tape recording. Standards for the international exchange of television programmes on magnetic tape**	**08.03.92**
BR.602-3	**Exchange of television recordings for programme evaluation**	**16.11.93**
BR.648	**Digital recording of audio signals**	**01.07.86**
BR.649-1	**Measuring methods for analogue audio tape recordings**	**08.03.92**
BR.657-2	**Digital television tape recording. Standards for the international exchange of television programmes on magnetic tape**	**08.03.92**
BR.713-1	**Recording of high definition television (HDTV) images on film**	**24.10.97**
BR.714-1	**International exchange of programmes electronically produced by means of high-definition television**	**16.11.93**
BR.715	**International exchange of ENG recordings**	**01.06.90**
BR.777-2	**International exchange of digital audio recordings**	**20.10.95**
BR.778-1	**Analogue component television tape recording. Standards for the international exchange of television programmes on magnetic tapes**	**16.11.93**
BR.779-1	**Operating practices for digital television recording**	**24.10.97**
BR.780	**Time and control code standards for the international exchange of television programmes on magnetic tapes**	**08.03.92**
BR.785	**The release of programmes in a multimedia environment**	**08.03.92**

BR.1214	**Studio recording of sound-broadcasting programmes on magnetic tape for release on multi-programme digital channels**	**20.10.95**
BR.1215	**Handling and storage of television and sound recordings on magnetic tape**	**20.10.95**
BR.1216	**Recording of television programmes on magnetic tape in the case when several programmes are broadcast in the same digital multiplex**	**20.10.95**
BR.1218	**Recording of teletext on future digital recorder for consumer use**	**20.10.95**
BR.1219	**Handling and storage of cinematographic film recording**	**20.10.95**
BR.1220	**Requirements for the generation, recording and presentation of HDTV programmes intended for release in the "electronic cinema"**	**20.10.95**
BR.1287	**Broadcasting of programmes on film with multichannel sound**	**24.10.97**
BR.1290	**Use of television disk recording in broadcasters' operations**	**24.10.97**
BR.1292	**Engineering guidelines for television post-production**	**24.10.97**
BR.1351	**Requirements for the application of digital technology to audio archiving systems for radio broadcasting**	**10.02.98**
BR.1352	**File format for the exchange of audio programme materials on information technology media**	**10.02.98**
BR.1353	**Recording of data in the user bits of the longitudinal time code**	**10.02.98**
BR.1354	**Transfer of film programmes to video tape for programme exchange and for preservation of endangered films**	**10.02.98**
BR.1355	**Viewing conditions for evaluating television display from telecine reproduction**	**10.02.98**
BR.1356	**User requirements for application of compression in television production**	**10.02.98**
BR.1357	**Use of wrappers and metadata in television production**	**10.02.98**
BR.1374	**Scanned area dimensions from 16 mm and 35 mm cinematographic film used in television**	**30.11.98**
BR.1375	**High-definition television (HDTV) recording**	**20.11.98**
BR.1376	**Compression families to be used in networked television production**	**30.11.98**

BR.1384	**Parameters for international exchange of multi-channel sound recordings**	**14.12.98**
BR.1385	**Exchange of sound programmes on recordable compact discs (CD-R)**	**14.12.98**

Total number of BR Recommendations = 37

Content of ITU-R Recommendations on CD-ROM, March 1999 Edition
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BS Series : Broadcasting service (sound)

Number	*Title*	*Date in force*
BS.48-2	**Choice of frequency for sound-broadcasting in the Tropical Zone**	**01.07.86**
BS.80-3	**Transmitting antennas in HF broadcasting**	**01.06.90**
BS.139-3	**Transmitting antennas for sound broadcasting in the Tropical Zone**	**01.06.90**
BS.215-2	**Maximum transmitter powers for broadcasting in the Tropical Zone**	**01.07.82**
BS.216-2	**Protection ratio for sound broadcasting in the Tropical Zone**	**01.07.82**
BS.411-4	**Fading allowances in HF broadcasting**	**01.06.90**
BS.415-2	**Minimum performance specifications for low-cost sound-broadcasting receivers**	**01.07.86**
BS.450-2	**Transmission standards for FM sound broadcasting at VHF**	**20.10.95**
BS.467	**Technical characteristics to be checked for frequency-modulation stereophonic broadcasting. Pilot-tone system**	**01.07.70**
BS.468-4	**Measurement of audio-frequency noise voltage level in sound broadcasting**	**01.07.86**
BS.498-2	**Ionospheric cross-modulation in the LF and MF broadcasting bands**	**01.06.90**
BS.559-2	**Objective measurement of radio-frequency protection ratios in LF, MF and HF broadcasting**	**01.06.90**
BS.560-4	**Radio-frequency protection ratios in LF, MF, and HF broadcasting**	**24.10.97**
BS.561-2	**Definitions of radiation in LF, MF and HF broadcasting bands**	**01.07.86**
BS.562-3	**Subjective assessment of sound quality**	**01.06.90**
BS.597-1	**Channel spacing for sound broadcasting in band 7 (HF)**	**01.07.86**
BS.598-1	**Factors influencing the limits of amplitude-modulation sound-broadcasting coverage in band 6 (MF)**	**01.06.90**

BS.599	**Directivity of antennas for the reception of sound broadcasting in band 8 (VHF)**	**01.07.82**
BS.638	**Terms and definitions used in frequency planning for sound broadcasting**	**01.07.86**
BS.639	**Necessary bandwidth of emission in LF, MF and HF broadcasting**	**01.07.86**
BS.640-3	**Single sideband (SSB) system for HF broadcasting**	**24.10.97**
BS.641	**Determination of radio-frequency protection ratios for frequency-modulated sound broadcasting**	**01.07.86**
BS.642-1	**Limiters for high-quality sound-programme signals**	**01.06.90**
BS.643-2	**System for automatic tuning and other applications in FM radio receivers for use with the pilot-tone system**	**20.10.95**
BS.644-1	**Audio quality parameters for the performance of a high-quality sound-programme transmission chain**	**01.06.90**
BS.645-2	**Test signals and metering to be used on international sound-programme connections**	**08.03.92**
BS.646-1	**Source encoding for digital sound signals in broadcasting studios**	**08.03.92**
BS.647-2	**A digital audio interface for broadcasting studios**	**08.03.92**
BS.702-1	**Synchronization and multiple frequency use per programme in HF broadcasting**	**08.03.92**
BS.703	**Characteristics of AM sound broadcasting reference receivers for planning purposes**	**01.06.90**
BS.704	**Characteristics of FM sound broadcasting reference receivers for planning purposes**	**01.06.90**
BS.705-1	**HF transmitting and receiving antennas characteristics and diagrams**	**20.10.95**
BS.706-2	**Data system in monophonic AM sound broadcasting (AMDS)**	**10.02.98**
BS.708	**Determination of the electro-acoustical properties of studio monitor headphones**	**01.06.90**
BS.773	**Radio-frequency protection ratios required by FM sound broadcasting in the band between 87.5 MHz and 108 MHz against interference from D/SECAM television transmissions**	**08.03.92**

BS.774-2	**Service requirements for digital sound broadcasting to vehicular, portable and fixed receivers using terrestrial transmitters in the VHF/UHF bands**	**20.10.95**
BS.775-1	**Multi-channel stereophonic sound system with and without accompanying picture**	**16.11.93**
BS.776	**Format for user data channel of the digital audio interface**	**08.03.92**
BS.1114-1	**Systems for terrestrial digital sound broadcasting to vehicular, portable and fixed receivers in the frequency range 30-3 000 MHz**	**20.10.95**
BS.1115	**Low bit-rate audio coding**	**16.11.93**
BS.1116-1	**Methods for the subjective assessment of small impairments in audio systems including multichannel sound systems**	**24.10.97**
BS.1195	**Transmitting antenna characteristics at VHF and UHF**	**20.10.95**
BS.1196	**Audio coding for digital terrestrial television broadcasting**	**20.10.95**
BS.1283	**Subjective assessment of sound quality - A guide to existing recommendations**	**24.10.97**
BS.1284	**Methods for the subjective assessment of sound quality – General requirements**	**24.10.97**
BS.1285	**Pre-selection methods for the subjective assessment of small impairments in audio systems**	**24.10.97**
BS.1286	**Methods for the subjective assessment of audio systems with accompanying picture**	**24.10.97**
BS.1348	**Service requirements for digital sound broadcasting to vehicular, portable and fixed receivers using terrestrial transmitters in the LF, MF and HF bands**	**10.02.98**
BS.1349	**Implementation of digital sound broadcasting to vehicular, portable and fixed receivers using terrestrial transmitters in the LF, MF and HF bands**	**10.02.98**

Total number of BS Recommendations = 49

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BT Series : Broadcasting service (television)

Number	*Title*	*Date in force*
BT.266-1	**Phase pre-correction of television transmitters**	**08.03.92**
BT.417-4	**Minimum field strengths for which protection may be sought in planning a television service**	**08.03.92**
BT.419-3	**Directivity and polarization discrimination of antennas in the reception of television broadcasting**	**08.03.92**
BT.470-6	**Conventional television systems**	**30.11.98**
BT.471-1	**Nomenclature and description of colour bar signals**	**01.07.86**
BT.472-3	**Video-frequency characteristics of a television system to be used for the international exchange of programmes between countries that have adopted 625-line colour or monochrome systems**	**01.06.90**
BT.500-9	**Methodology for the subjective assessment of the quality of television pictures**	**30.11.98**
BT.565	**Protection ratios for 625-line television against radionavigation transmitters operating in the shared bands between 582 and 606 MHz**	**01.07.78**
BT.601-5	**Studio encoding parameters of digital television for standard 4:3 and wide-screen 16:9 aspect ratios**	**20.10.95**
BT.653-3	**Teletext systems**	**10.02.98**
BT.654	**Subjective quality of television pictures in relation to the main impairments of the analogue composite television signal**	**01.07.86**
BT.655-5	**Radio-frequency protection ratios for am vestigial sideband terrestrial television systems interfered with by unwanted analogue vision signals and their associated sound signals**	**30.11.98**
BT.656-4	**Interfaces for digital component video signals in 525-line and 625-line television systems operating at the 4:2:2 level of Recommendation ITU-R BT.601 (Part A)**	**10.02.98**
BT.709-3	**Parameter values for the HDTV standards for production and international programme exchange**	**10.02.98**

BT.710-4	**Subjective assessment methods for image quality in high-definition television**	**30.11.98**
BT.711-1	**Synchronizing reference signals for the component digital studio**	**01.06.90**
BT.796	**Parameters for enhanced compatible coding systems based on 625-line PAL and SECAM television systems**	**08.03.92**
BT.797-1	**Parameters for 4:3 enhanced television systems that are NTSC-compatible**	**16.11.93**
BT.798-1	**Digital terrestrial television broadcasting in the VHF/UHF bands**	**16.11.93**
BT.799-3	**Interfaces for digital component video signals in 525-line and 625-line television systems operating at the 4:4:4 level of Recommendation ITU-R BT.601 (Part A)**	**10.02.98**
BT.800-2	**User requirements for the transmission through contribution and primary distribution networks of digital television signals defined according to the 4:2:2 standard of Recommendation ITU-R BT.601 (Part A)**	**20.10.95**
BT.801-1	**Test signals for digitally encoded colour television signals conforming with Recommendations ITU-R BT.601 (Part A) and ITU.R BT.656**	**20.10.95**
BT.802-1	**Test pictures and sequences for subjective assessments of digital codecs conveying signals produced according to Recommendation ITU-R BT.601**	**16.11.93**
BT.803	**The avoidance of interference generated by digital television studio equipment**	**08.03.92**
BT.804	**Characteristics of TV receivers essential for frequency planning with PAL/SECAM/NTSC television systems**	**08.03.92**
BT.805	**Assessment of impairment caused to television reception by a wind turbine**	**08.03.92**
BT.806	**Common channel raster for the distribution of D-MAC, D2-MAC and HD-MAC signals in collective antenna and cable distribution systems**	**08.03.92**
BT.807	**Reference model for data broadcasting**	**08.03.92**
BT.808	**The broadcasting of time and date information in coded form**	**08.03.92**
BT.809	**Programme delivery control (PDC) system for video recording**	**08.03.92**
BT.810	**Conditional-access broadcasting systems**	**08.03.92**

BT.811-1	**The subjective assessment of enhanced PAL and SECAM systems**	**16.11.93**
BT.812	**Subjective assessment of the quality of alphanumeric and graphic pictures in Teletext and similar services**	**08.03.92**
BT.813	**Methods for objective picture quality assessment in relation to impairments from digital coding of television signals**	**08.03.92**
BT.814-1	**Specifications and alignment procedures for setting of brightness and contrast of displays**	**16.11.93**
BT.815-1	**Specification of a signal for measurement of the contrast ratio of displays**	**16.11.93**
BT.1117-2	**Studio format parameters for enhanced 16:9 aspect ratio 625-line television systems (D- and D2-MAC, PALplus, enhanced SECAM)**	**24.10.97**
BT.1118-1	**Enhanced compatible widescreen television based on conventional television systems**	**24.10.97**
BT.1119-2	**Wide-screen signalling for broadcasting (Signalling for wide-screen and other enhanced television parameters)**	**10.02.98**
BT.1120-2	**Digital interfaces for 1 125/60 and 1 250/50 HDTV studio signals**	**30.11.98**
BT.1121-1	**User requirements for the transmission through contribution and primary distribution network of digital HDTV signals**	**20.10.95**
BT.1122-1	**User requirements for emission and secondary distribution systems for SDTV, HDTV and hierarchical coding schemes**	**20.10.95**
BT.1123	**Planning methods for 625-line terrestrial television in VHF/UHF bands**	**16.11.93**
BT.1124-2	**Reference signals for ghost cancelling in analogue television systems**	**10.02.98**
BT.1125	**Basic objectives for the planning and implementation of digital terrestrial television broadcasting systems**	**16.11.93**
BT.1126	**Data transmission protocols and transmission control scheme for data broadcasting systems using a data channel in satellite television broadcasting**	**16.11.93**
BT.1127	**Relative quality requirements of television broadcast systems**	**16.11.93**
BT.1128-2	**Subjective assessment of conventional television systems**	**24.10.97**
BT.1129-2	**Subjective assessment of standard definition digital television (SDTV) systems**	**10.02.98**

BT.1197-1	**Enhanced wide-screen PAL TV transmission system (the PALplus system)**	**10.02.98**
BT.1198	**Stereoscopic television based on R- and L-eye two channel signals**	**20.10.95**
BT.1199	**Use of bit-rate reduction in the HDTV studio environment**	**20.10.95**
BT.1200-1	**Target standard for digital video systems for the studio and for international programme exchange**	**10.02.98**
BT.1201	**Extremely high resolution imagery**	**20.10.95**
BT.1202	**Displays for future television systems**	**20.10.95**
BT.1203	**User requirements for generic bit-rate reduction coding of digital TV signals (SDTV, EDTV and HDTV) for an end-to-end television system**	**20.10.95**
BT.1204	**Measuring methods for digital video equipment with analogue input/output**	**20.10.95**
BT.1205	**User requirements for the quality of baseband SDTV and HDTV signals when transmitted by digital satellite news gathering (SNG)**	**20.10.95**
BT.1206	**Spectrum shaping limits for digital terrestrial television broadcasting**	**20.10.95**
BT.1207-1	**Data access methods for digital terrestrial television broadcasting**	**24.10.97**
BT.1208-1	**Video coding for digital terrestrial television broadcasting**	**24.10.97**
BT.1209-1	**Service multiplex methods for digital terrestrial television broadcasting**	**24.10.97**
BT.1210-1	**Test materials to be used in subjective assessment**	**24.10.97**
BT.1298	**Enhanced wide-screen NTSC TV transmission system**	**24.10.97**
BT.1299	**The basic elements of a worldwide common family of systems for digital terrestrial television broadcasting**	**24.10.97**
BT.1300	**Service multiplex, transport, and identification methods for digital terrestrial television broadcasting**	**24.10.97**
BT.1301	**Data services in digital terrestrial television broadcasting**	**24.10.97**
BT.1302	**Interfaces for digital component video signals in 525-line and 625-line television systems operating at the 4:2:2 level of Recommendation ITU-R BT.601 (Part B)**	**24.10.97**

BT.1303	**Interfaces for digital component video signals in 525-line and 625-line television systems operating at the 4:4:4 level of Recommendation ITU-R BT.601 (Part B)**	**24.10.97**
BT.1304	**Checksum for error detection and status information in interfaces conforming with Recommendations ITU-R BT.656 and ITU-R BT.799**	**24.10.97**
BT.1305	**Digital audio and auxiliary data as ancillary data signals in interfaces conforming to Recommendations ITU-R BT.656 and ITU-R BT.799**	**24.10.97**
BT.1306	**Error-correction, data framing, modulation and emission methods for digital terrestrial television broadcasting**	**24.10.97**
BT.1358	**Studio parameters of 625 and 525 line progressive scan television systems**	**10.02.98**
BT.1359-1	**Relative timing of sound and vision for broadcasting**	**30.11.98**
BT.1360	**Capture characteristics for high-definition images**	**10.02.98**
BT.1361	**Worldwide unified colorimetry and related characteristics of future television and imaging systems**	**10.02.98**
BT.1362	**Interfaces for digital component video signals in 525- and 625-line progressive scan television systems**	**10.02.98**
BT.1363-1	**Jitter specifications and methods for jitter measurements of bit-serial signals conforming to Recommendations ITU-R BT.656, BT.799 and BT.1120**	**30.11.98**
BT.1364	**Format of ancillary data signals carried in digital component studio interfaces**	**10.02.98**
BT.1365	**24-bit digital audio format as ancillary data signals in HDTV serial interfaces**	**10.02.98**
BT.1366	**Transmission of time code and control code in the ancillary data space of a digital television stream according to ITU-R BT.656, ITU-R BT.799 and ITU-R BT.1120**	**10.02.98**
BT.1367	**Serial digital fibre transmission system for signals conforming to ITU-R BT.656, ITU-R BT.799 and ITU-R BT.1120**	**10.02.98**
BT.1368-1	**Planning criteria for digital terrestrial television services in the VHF/UHF television bands**	**30.11.98**
BT.1369	**Basic principles for a worldwide common family of systems for the provision of interactive television services**	**10.02.98**

BT.1377	**Labelling of video and audio apparatus throughput (processing) delay**	**30.11.98**
BT.1378	**Basic requirements for multimedia-hypermedia broadcasting**	**30.11.98**
BT.1379	**Framing of wide-screen 16:9 and standard 4:3 aspect ratio productions to achieve a common production format during a transition period to wide-screen 16:9 production and broadcasting**	**30.11.98**
BT.1380	**Standards for bit rate reduction coding systems for SDTV**	**30.11.98**
BT.1381	**SDI-based transport interface for compressed television signals in networked television production based on Recommendations ITU-R BT.656 and ITU-R BT.1302**	**30.11.98**
BT.1382	**Assessment of the picture quality of multi-programme services**	**30.11.98**

Total number of BT Recommendations = 90

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F Series : Fixed service

Number	*Title*	*Date in force*
F.106-1	**Voice-frequency telegraphy on radio circuits**	**01.07.70**
F.162-3	**Use of directional transmitting antennas in the fixed service operating in bands below about 30 MHz**	**08.03.92**
F.240-6	**Signal-to-interference protection ratios for various classes of emission in the fixed service below about 30 MHz**	**08.03.92**
F.246-3	**Frequency-shift keying**	**01.07.74**
F.268-1	**Interconnection at audio frequencies of radio-relay systems for telephony**	**01.07.70**
F.270-2	**Interconnection at video signal frequencies of radio-relay systems for television**	**01.07.78**
F.275-3	**Pre-emphasis characteristic for frequency modulation radio-relay systems for telephony using frequency-division multiplex**	**01.07.82**
F.276-2	**Frequency deviation and the sense of modulation for analogue radio-relay systems for television**	**01.07.74**
F.283-5	**Radio-frequency channel arrangements for low and medium capacity analogue or digital radio-relay systems operating in the 2 GHz band**	**01.06.90**
F.290-3	**Maintenance measurements on radio-relay systems for telephony using frequency-division multiplex**	**01.07.78**
F.302-3	**Limitation of interference from trans-horizon radio-relay systems**	**28.05.97**
F.305	**Stand-by arrangements for radio-relay systems for television and telephony**	**01.07.59**
F.306	**Procedure for the international connection of radio-relay systems with different characteristics**	**01.07.59**
F.338-2	**Bandwidth required at the output of a telegraph or telephone receiver**	**01.07.70**
F.339-6	**Bandwidths, signal-to-noise ratios and fading allowances in complete systems**	**01.07.86**

F.342-2	**Automatic error-correcting system for telegraph signals transmitted over radio circuits**	**01.07.70**
F.345	**Telegraph distortion**	**01.07.63**
F.347	**Classification of multi-channel radiotelegraph systems for long-range circuits operating at frequencies below about 30 MHz and the designation of the channels in these systems**	**01.07.63**
F.348-4	**Arrangement of channels in multi-channel single-sideband and independent-sideband transmitters for long-range circuits operating at frequencies below about 30 MHz**	**01.06.90**
F.349-4	**Frequency stability required for systems operating in the HF fixed service to make the use of automatic frequency control superfluous**	**01.07.86**
F.380-4	**Interconnection at baseband frequencies of radio-relay systems for telephony using frequency-division multiplex**	**01.07.86**
F.381-2	**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**	**01.07.70**
F.382-7	**Radio-frequency channel arrangements for radio-relay systems operating in the 2 and 4 GHz bands**	**30.09.97**
F.383-5	**Radio-frequency channel arrangements for high capacity radio-relay systems operating in the lower 6 GHz band**	**08.03.92**
F.384-6	**Radio-frequency channel arrangements for medium and high capacity analogue or digital radio-relay systems operating in the upper 6 GHz band**	**20.10.95**
F.385-6	**Radio-frequency channel arrangements for radio-relay systems operating in the 7 GHz band**	**16.11.93**
F.386-5	**Radio-frequency channel arrangements for medium and high capacity analogue or digital radio-relay systems operating in the 8 GHz band**	**30.09.97**
F.387-7	**Radio-frequency channel arrangements for radio-relay systems operating in the 11 GHz band**	**20.10.95**
F.388	**Radio-frequency channel arrangements for trans-horizon radio-relay systems**	**01.07.63**
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IS.847-1	**Determination of the coordination area of an earth station operating with a geostationary space station and using the same frequency band as a system in a terrestrial service**	**25.04.93**
IS.848-1	**Determination of the coordination area of a transmitting earth station using the same frequency band as receiving earth stations in bidirectionally allocated frequency bands**	**25.04.93**
IS.849-1	**Determination of the coordination area for earth stations operating with non-geostationary spacecraft in bands shared with terrestrial services**	**25.04.93**
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IS.851-1	**Sharing between the broadcasting service and the fixed and/or mobile services in the VHF and UHF bands**	**25.04.93**
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M.219-1	**Alarm signal for use on the maritime radiotelephony distress frequency of 2 182 kHz**	**01.07.66**
M.257-3	**Sequential Single Frequency selective-calling system for use in the maritime mobile service**	**20.10.95**
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S.1328	**Satellite system characteristics to be considered in frequency sharing analyses between GSO and non-GSO satellite systems in the FSS including feeder links for the mobile-satellite service**	**18.09.97**
S.1329	**Frequency sharing of the bands 19.7-20.2 GHz and 29.5-30.0 GHz between systems in the mobile-satellite service and systems in the fixed-satellite service**	**18.09.97**
S.1339	**Feasibility of sharing between spaceborne passive sensors of the Earth exploration-satellite service and inter-satellite links of geostationary-satellite networks in the range 50 to 65 GHz**	**24.10.97**
S.1340	**Sharing between feeder links for the mobile-satellite service and the aeronautical radionavigation service in the Earth-to-space direction in the band 15.4-15.7 GHz**	**24.10.97**
S.1341	**Sharing between feeder links for the mobile-satellite service and the aeronautical radionavigation service in the space-to-Earth direction in the band 15.4-15.7 GHz and the protection of the radio astronomy service in the band 15.35-15.4 GHz**	**24.10.97**
S.1342	**Method for determining coordination distances, in the 5 GHz band, between the international standard microwave landing system in the aeronautical radionavigation service and non-geostationary mobile satellite service stations providing feeder uplink services**	**24.10.97**

Total number of S Recommendations = 76

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SA Series : Space applications and meteorology

Number	*Title*	*Date in force*
SA.363-5	**Space operation systems. Frequencies, bandwidths and protection criteria**	**16.11.93**
SA.364-5	**Preferred frequencies and bandwidths for manned and unmanned near-Earth research satellites**	**08.03.92**
SA.509-2	**Generalized space research Earth station and radio astronomy antenna radiation pattern for use in interference calculations, including coordination procedures**	**10.02.98**
SA.510-2	**Feasibility of frequency sharing between the space research service and other services in bands near 14 and 15 GHz - Potential interference from data relay satellite systems**	**24.10.97**
SA.514-3	**Interference criteria for command and data transmission systems operating in the Earth exploration-satellite and meteorological-satellite services**	**24.10.97**
SA.515-3	**Frequency bands and bandwidths used for satellite passive sensing**	**26.06.97**
SA.516-1	**Feasibility of sharing between active sensors used on Earth exploration and meteorological satellites and the radiolocation service**	**16.11.93**
SA.577-5	**Preferred frequencies and necessary bandwidths for spaceborne active remote sensors**	**26.06.97**
SA.609-1	**Protection criteria for telecommunication links for manned and unmanned near-Earth research satellites**	**08.03.92**
SA.1012	**Preferred frequency bands for deep-space research in the 1-40 GHz range**	**16.11.93**
SA.1013	**Preferred frequency bands for deep-space research in the 40-120 GHz range**	**16.11.93**
SA.1014	**Telecommunication requirements for manned and unmanned deep-space research**	**16.11.93**
SA.1015	**Bandwidth requirements for deep-space research**	**16.11.93**
SA.1016	**Sharing considerations relating to deep-space research**	**16.11.93**

SA.1017	**Preferred method for calculating link performance in the space research service**	**16.11.93**
SA.1018	**Hypothetical reference system for systems comprising data relay satellites in the geostationary orbit and user spacecraft in low Earth-orbits**	**16.11.93**
SA.1019	**Preferred frequency bands and transmission directions for data relay satellite systems**	**16.11.93**
SA.1020	**Hypothetical reference system for the Earth exploration-satellite and meteorologial satellite services**	**16.11.93**
SA.1021	**Methodology for determining performance objectives for systems in the Earth exploration-satellite and meteorological-satellite services**	**16.11.93**
SA.1022	**Methodology for determining interference criteria for systems in the Earth exploration-satellite and meteorological-satellite services**	**16.11.93**
SA.1023	**Methodology for determining sharing and coordination criteria for systems in the Earth exploration-satellite and meteorological-satellite services**	**16.11.93**
SA.1024-1	**Necessary bandwidths and preferred frequency bands for data transmission from Earth exploration satellites (not including meteorological satellites)**	**26.06.97**
SA.1025-2	**Performance criteria for space-to-Earth data transmission systems operating in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit**	**26.06.97**
SA.1026-2	**Interference criteria for space-to-Earth data transmission systems operating in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit**	**26.06.97**
SA.1027-2	**Sharing and coordination criteria for space-to-Earth data transmission systems in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit**	**26.06.97**
SA.1028-1	**Performance criteria for satellite passive remote sensing**	**26.06.97**
SA.1029-1	**Interference criteria for satellite passive remote sensing**	**26.06.97**
SA.1030	**Telecommunication requirements of satellite systems for geodesy and geodynamics**	**16.11.93**
SA.1071	**Use of the 13.75 to 14.0 GHz band by the space science services and the fixed satellite service**	**16.11.93**

SA.1154	**Provisions to protect the space research (SR), space operations (SO) and Earth-exploration satellite services (EES) and to facilitate sharing with the mobile service in the 2 025-2 110 and 2 200-2 290 MHz bands**	**20.10.95**
SA.1155	**Protection criteria related to the operation of data relay satellite systems**	**20.10.95**
SA.1156	**Methods of calculating low-orbit satellite visibility statistics**	**20.10.95**
SA.1157	**Protection criteria for deep-space research**	**20.10.95**
SA.1158-1	**Sharing of the 1 675-1 710 MHz band between the meteorological-satellite service (space-to-Earth) and the mobile-satellite service (Earth-to-space)**	**26.06.97**
SA.1159-1	**Performance criteria for data dissemination and direct data readout systems in the Earth exploration-satellite service and meteorological-satellite services using satellites in geostationary orbit**	**26.06.97**
SA.1160-1	**Interference criteria for data dissemination and direct data readout systems in the Earth exploration-satellite and meteorological-satellite services using satellites in geostationary orbit**	**26.06.97**
SA.1161	**Sharing and coordination criteria for data dissemination and direct data readout systems in the meteorological-satellite service using satellites in geostationary orbit**	**20.10.95**
SA.1162-1	**Telecommunication requirements and performance criteria for service links in data collection and platform location systems in the Earth exploration- and meteorological-satellite services**	**26.06.97**
SA.1163-1	**Interference criteria for service links in data collection systems in the Earth exploration- and meteorological-satellite services**	**26.06.97**
SA.1164-1	**Sharing and coordination criteria for service links in data collection systems in the Earth exploration- and meteorological-satellite services**	**26.06.97**
SA.1165-1	**Technical characteristics and performance criteria for radiosonde systems in the meteorological aids service**	**26.06.97**
SA.1166-1	**Performance and interference criteria for active spaceborne sensors**	**26.06.97**
SA.1236	**Frequency sharing between space research service extra-vehicular activity (EVA) links and fixed and mobile service links in the 410-420 MHz band**	**18.02.97**

SA.1258	**Sharing of the frequency band 401-403 MHz between the meteorological satellite service, Earth exploration satellite service and meteorological aids service**	**26.06.97**
SA.1259	**Feasibility of sharing between spaceborne passive sensors and the fixed service from 50 to 60 GHz**	**26.06.97**
SA.1260	**Feasibility of sharing between active spaceborne sensors and other services in the vicinity of 410-470 MHz**	**26.06.97**
SA.1261	**Feasibility of sharing between spaceborne cloud radars and other services in the range of 92-95 GHz**	**26.06.97**
SA.1262	**Sharing and coordination criteria for meteorological aids in the 400.15-406 MHz and 1 668.4-1 700 MHz bands**	**26.06.97**
SA.1263	**Interference criteria for meteorological aids operated in the 400.15-406 MHz and 1 668.4-1 700 MHz bands**	**26.06.97**
SA.1264	**Frequency sharing between the meteorological aids service and the mobile-satellite service (Earth-to-space) in the 1 675-1 700 MHz band**	**26.06.97**
SA.1273	**Power flux-density levels from the space research, space operation and Earth exploration-satellite services at the surface of the Earth required to protect the fixed service in the bands 2 025-2 110 MHz and 2 200-2 290 MHz**	**24.10.97**
SA.1274	**Criteria for data relay satellite networks to facilitate sharing with systems in the fixed service in the bands 2 025-2 110 MHz and 2 200-2 290 MHz**	**24.10.97**
SA.1275	**Orbital locations of data relay satellites to be protected from the emissions of fixed service systems operating in the band 2 200-2 290 MHz**	**24.10.97**
SA.1276	**Orbital locations of data relay satellites to be protected from the emissions of fixed service systems operating in the band 25.25-27.5 GHz**	**24.10.97**
SA.1277	**Sharing in the 8 025-8 400 MHz frequency band between the Earth exploration-satellite service and the fixed, fixed-satellite, meteorological-satellite and mobile services in Regions 1, 2 and 3**	**24.10.97**
SA.1278	**Feasibility of sharing between the Earth exploration-satellite service (space-to-Earth) and the fixed, inter-satellite, and mobile services in the band 25.5-27.0 GHz**	**24.10.97**
SA.1279	**Spectrum sharing between spaceborne passive sensors and inter-satellite links in the range 50.2-59.3 GHz**	**24.10.97**

SA.1280	**Selection of active spaceborne sensor emission characteristics to mitigate the potential for interference to terrestrial radars operating in frequency bands 1-10 GHz**	**24.10.97**
SA.1281	**Protection of stations in the radiolocation service from emissions from active spaceborne sensors in the band 13.4-13.75 GHz**	**24.10.97**
SA.1282	**Feasibility of sharing between wind profiler radars and active spaceborne sensors in the vicinity of 1 260 MHz**	**24.10.97**
SA.1344	**Preferred frequency bands and bandwidths for the transmission of space VLBI data**	**10.02.98**
SA.1345	**Methods for predicting radiation patterns of large antennas used for space research and radio astronomy**	**10.02.98**
SA.1346	**Sharing between the meteorological aids service and medicall implant communication systems (MICS) operating in the mobile service in the frequency band 401-406 MHz**	**10.02.98**
SA.1347	**Feasibility of sharing between radionavigation-satellite service receivers and the Earth exploration-satellite (active) and space research (active) services in the 1 215-1 260 MHz band**	**10.02.98**

Total number of SA Recommendations = 64

Content of ITU-R Recommendations on CD-ROM, March 1999 Edition Sorted by Series and Recommendation number

SF Series : Frequency sharing between the fixed-satellite service and the fixed service

Number	*Title*	*Date in force*
SF.355-4	**Frequency sharing between systems in the fixed-satellite service and radio-relay systems in the same frequency bands**	**08.03.92**
SF.356-4	**Maximum allowable values of interference from line-of-sight radio-relay systems in a telephone channel of a system in the fixed-satellite service employing frequency modulation, when the same frequency bands are shared by both systems**	**01.07.78**
SF.357-4	**Maximum allowable values of interference in a telephone channel of an analogue angle-modulated radio-relay system sharing the same frequency bands as systems in the fixed-satellite service**	**28.05.97**
SF.358-5	**Maximum permissible values of power flux-density at the surface of the Earth produced by satellites in the fixed-satellite service using the same frequency bands above 1 GHz as line-of-sight radio-relay systems**	**20.10.95**
SF.406-8	**Maximum equivalent isotropically radiated power of radio-relay system transmitters operating in the frequency bands shared with the fixed-satellite service**	**25.04.93**
SF.558-2	**Maximum allowable values of interference from terrestrial radio links to systems in the fixed-satellite service employing 8-bit PCM encoded telephony and sharing the same frequency bands**	**01.07.86**
SF.615-1	**Maximum allowable values of interference from the fixed-satellite service into terrestrial radio-relay systems which may form part of an ISDN and share the same frequency band below 15 GHz**	**28.05.97**
SF.674-1	**Power flux-density values to facilitate the application of Article 14 of the Radio Regulations for FSS in relation to the fixed-satellite service in the 11.7-12.2 GHz band in Region 2**	**28.05.97**
SF.675-3	**Calculation of the maximum power density (averaged over 4 kHz) of an angle-modulated carrier**	**16.11.93**
SF.765	**Intersection of radio-relay antenna beams with orbits used by space stations in the fixed-satellite service**	**08.03.92**
SF.766	**Methods for determining the effects of interference on the performance and the availability of terrestrial radio-relay systems and systems in the fixed-satellite service**	**08.03.92**

SF.1004	**Maximum equivalent isotropically radiated power transmitted towards the horizon by earth stations of the fixed-satellite service sharing frequency bands with the fixed service**	**25.04.93**
SF.1005	**Sharing between the fixed service and the fixed-satellite service with bidirectional usage in bands above 10 GHz currently unidirectionally allocated**	**25.04.93**
SF.1006	**Determination of the interference potential between earth stations of the fixed-satellite service and stations in the fixed service**	**25.04.93**
SF.1008-1	**Possible use by space stations in the fixed-satellite service of orbits slightly inclined with respect to the geostationary-satellite orbit in bands shared with the fixed service**	**20.10.95**
SF.1193	**Carrier-to-interference calculations between earth stations in the fixed-satellite service and radio-relay systems**	**20.10.95**
SF.1320	**Maximum allowable values of power flux-density at the surface of the Earth produced by non-geostationary satellites in the fixed-satellite service used in feeder links for the mobile-satellite service and sharing the same frequency bands with radio-relay systems**	**22.08.97**

Total number of SF Recommendations = 17

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SM Series : Spectrum management

Number	*Title*	*Date in force*
SM.182-4	**Automatic monitoring of occupancy of the radio-frequency spectrum**	**08.03.92**
SM.239-2	**Spurious emissions from sound and television broadcast receivers**	**01.07.78**
SM.326-7	**Determination and measurement of the power of amplitude-modulated radio transmitters**	**14.11.98**
SM.328-9	**Spectra and bandwidth of emissions**	**24.10.97**
SM.329-7	**Spurious emissions**	**01.07.97**
SM.331-4	**Noise and sensitivity of receivers**	**01.07.78**
SM.332-4	**Selectivity of receivers**	**01.07.78**
SM.337-4	**Frequency and distance separations**	**24.10.97**
SM.377-3	**Accuracy of frequency measurements at stations for international monitoring**	**16.11.93**
SM.378-6	**Field-strength measurements at monitoring stations**	**20.10.95**
SM.433-5	**Methods for the measurement of radio interference and the determination of tolerable levels of interference**	**08.03.92**
SM.443-2	**Bandwidth measurement at monitoring stations**	**20.10.95**
SM.575	**Protection of fixed monitoring stations against radio-frequency interference**	**01.07.82**
SM.667	**National spectrum management data**	**01.06.90**
SM.668-1	**Electronic exchange of information for spectrum management purposes**	**11.03.97**
SM.669-1	**Protection ratios for spectrum sharing investigations**	**16.11.93**
SM.852	**Sensitivity of radio receivers for class of emissions F3E**	**08.03.92**

SM.853-1	**Necessary bandwidth**	**24.10.97**
SM.854	**Direction finding at monitoring stations of signals below 30 MHz**	**08.03.92**
SM.855-1	**Multi-service telecommunication systems**	**24.10.97**
SM.856-1	**New spectrally efficient techniques and systems**	**11.03.97**
SM.1045-1	**Frequency tolerance of transmitters**	**01.07.97**
SM.1046-1	**Definition of spectrum use and efficiency of a radio system**	**24.10.97**
SM.1047	**National spectrum management**	**16.11.93**
SM.1048	**Design guidelines for a basic automated spectrum management system (BASMS)**	**16.11.93**
SM.1049-1	**A method of spectrum management to be used for aiding frequency assignment for terrestrial services in border areas**	**20.10.95**
SM.1050	**Tasks of a monitoring service**	**16.11.93**
SM.1051-2	**Priority of identifying and eliminating harmful interference in the band 406-406.1 MHz**	**01.07.97**
SM.1052	**Automatic identification of radio stations**	**16.11.93**
SM.1053	**Methods of improving HF direction-finding accuracy at fixed stations**	**16.11.93**
SM.1054	**Monitoring of radio emissions from spacecraft at monitoring stations**	**16.11.93**
SM.1055	**The use of spread spectrum techniques**	**16.11.93**
SM.1056	**Limitation of radiation from industrial, scientific and medical (ISM) equipment**	**16.11.93**
SM.1131	**Factors to consider in allocating spectrum on a worldwide basis**	**20.10.95**
SM.1132	**General principles and methods for sharing between radio services**	**20.10.95**
SM.1133	**Spectrum utilization of broadly defined services**	**20.10.95**
SM.1134	**Intermodulation interference calculations in the land-mobile service**	**20.10.95**
SM.1135	**SINPO and SINPFEMO codes**	**20.10.95**

SM.1138	**Determination of necessary bandwidths including examples for their calculation and associated examples for the designation of emissions**	**20.10.95**
SM.1139	**International monitoring system**	**20.10.95**
SM.1235	**Performance functions for digital modulation systems in an interference environment**	**11.03.97**
SM.1265	**Alternative allocation methods**	**01.07.97**
SM.1266	**Adaptive MF/HF systems**	**01.07.97**
SM.1267	**Collection and publication of monitoring data to assist frequency assignment for geostationary satellite systems**	**01.07.97**
SM.1268	**Method of measuring the maximum frequency deviation of FM broadcast emissions at monitoring stations**	**01.07.97**
SM.1269	**Classification of direction finding bearings**	**01.07.97**
SM.1270	**Additional information for monitoring purposes related to classification and designation of emission**	**01.07.97**
SM.1271	**Efficient spectrum utilization using probabilistic methods**	**24.10.97**
SM.1370	**Design guidelines for developing advanced automated spectrum management systems (ASMS)**	**18.02.98**

Total number of SM Recommendations = 49

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SNG Series : Satellite news gathering

Number	*Title*	*Date in force*
SNG.722-1	**Uniform technical standards (analogue) for Satellite News Gathering (SNG)**	**08.03.92**
SNG.770-1	**Uniform operational procedures for Satellite News Gathering (SNG)**	**16.11.93**
SNG.771-1	**Auxiliary coordination satellite circuits for SNG terminals**	**25.04.93**
SNG.1007-1	**Uniform technical standards (digital) for Satellite News Gathering (SNG)**	**20.10.95**
SNG.1070	**An automatic transmitter identification system (ATIS) for analogue-modulation transmissions for Satellite News Gathering and outside broadcasts**	**16.11.93**
SNG.1152	**Use of digital transmission techniques for Satellite News Gathering (SNG) (sound)**	**20.10.95**

Total number of SNG Recommendations = 6

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TF Series : Time signals and frequency standards emissions

Number	*Title*	*Date in force*
TF.374-4	**Standard-frequency and time-signal emissions**	**10.02.98**
TF.457-2	**Use of the modified Julian date by the standard-frequency and time-signal services**	**24.10.97**
TF.458-3	**International comparisons of atomic time scales**	**10.02.98**
TF.460-5	**Standard-frequency and time-signal emissions**	**24.10.97**
TF.486-2	**Use of UTC frequency as reference in standard frequency and time signal emissions**	**10.02.98**
TF.535-2	**Use of the term UTC**	**10.02.98**
TF.536-1	**Time-scale notations**	**10.02.98**
TF.538-3	**Measures for random instabilities in frequency and time (phase)**	**16.11.93**
TF.582-2	**Time and frequency reference signal dissemination and coordination using satellite methods**	**10.02.98**
TF.583-4	**Time codes**	**26.06.97**
TF.686-1	**Glossary**	**24.10.97**
TF.767-1	**Use of the Global Positioning System (GPS) and the Global Navigation Satellite System (GLONASS) for high-accuracy time transfer**	**10.02.98**
TF.768-3	**Standard frequencies and time signals**	**26.06.97**
TF.1010-1	**Relativistic effects in a coordinate time system in the vicinity of the Earth**	**24.10.97**
TF.1011-1	**Systems, techniques and services for time and frequency transfer**	**24.10.97**
TF.1153-1	**The operational use of two-way satellite time and frequency transfer employing PN codes**	**26.06.97**

Total number of TF Recommendations = 16

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V Series : Vocabulary and related subjects

Number	*Title*	*Date in force*
V.430-3	**Use of the international system of units (SI)**	**01.06.90**
V.431-6	**Nomenclature of the frequency and wavelength bands used in telecommunications**	**25.04.93**
V.461-5	**Graphical symbols and rules for the preparation of documentation in telecommunications**	**25.04.93**
V.573-3	**Radiocommunication vocabulary**	**01.06.90**
V.574-3	**Use of the decibel and the neper in telecommunications**	**01.06.90**
V.607-2	**Terms and symbols for information quantities in telecommunications**	**01.06.90**
V.608-2	**Letter symbols for telecommunications**	**25.04.93**
V.662-2	**Terms and definitions**	**25.04.93**
V.663-1	**Use of certain terms linked with physical quantities**	**01.06.90**
V.664	**Adoption of the CCITT Specification and Description Language (SDL)**	**01.07.86**
V.665-1	**Traffic intensity unit**	**01.06.90**
V.666-2	**Abbreviations and initials used in telecommunications**	**25.04.93**

Total number of V Recommendations = 12