

Broadcasting Services (Digital Terrestrial Television Broadcasting Services) Regulations, 2020

ARRANGEMENT OF SECTIONS

PART I

PRELIMINARY

Section

1. Title.
2. Interpretation.
3. Application.

PART II

DIGITAL TERRESTRIAL TELEVISION BROADCASTING SERVICES

4. General.
5. Supply of television receivers.
6. Rights and duties of broadcasters, multiplex operators and signal carriers.
7. Allocation of frequencies.
8. Licensing of digital television service.
9. Powers of the Authority.
10. Offences and penalties.

SCHEDULE: Digital Television Standards (470-694 MHz).

IT is hereby notified that the Minister of Information, Publicity and Broadcasting Services has, in terms of section 46 of the Broadcasting Services Act [*Chapter 12:06*], approved the following regulations made by the Broadcasting Authority of Zimbabwe Board:—

PART I

PRELIMINARY

Title

1. These regulations may be cited as the Broadcasting Services (Digital Terrestrial Television Broadcasting Services) Regulations, 2020.

Interpretation

2. In these regulations—

“Act” means the Broadcasting Services Act [*Chapter 12:06*];

“authority” means authority defined in terms of section 3 of the Act;

“analogue television broadcasting” means a television broadcasting service that utilises the analogue system of transmission;

“analogue television set” means a television set that does not have a digital tuner to the standards specified in these regulations;

“Broadcaster” means any person licensed to provide any class of broadcasting service;

“Digital television broadcasting” means a television broadcasting service that utilises the digital system of transmission;

“Digital television set” means a television set that has a digital tuner to the standards specified in these regulations;

“Head-end operator” means the entity that is responsible for aggregating the content of licensed broadcasters for distribution to the transmitter sites;

“HEVC” means High Efficiency Video Coding in accordance with ISO/IEC 23008-8;

“High Definition Television (HDTV)” means the television picture quality as defined in the MPEG 4 standard for High Profile @ Level 4.0;

“licensee” means a broadcasting service licensee or a signal carrier licensee;

“multiplex” means content aggregated to be carried on a single frequency to its capacity of the equivalents of six high definition channels;

“multiplexing” means aggregation of the content of licensed broadcasters for distribution to the transmission network;

(16) The receiver shall have the following buttons power, channel change, volume buttons must be separate.

(17) The receiver shall be provided with the following accessories English user manual, infra-red remote control, RCA (1.5m), Power Cable (1.5m), remote control batteries.

(18) The receiver shall have a warranty of 12 months.

(4) All television receivers shall comply with all DVB-T2 modes of operation.

(5) All television receivers shall be capable of decoding the HEVC/H265 ISO/IEC 23008-8: Conformance Specification for HEVC, MPEG-4 standard in accordance with ISO/IEC 14496-10 for image coding and ISO/IEC 14496-3 or TS102366 for sound coding using HE-AAC.

8. (1) The television receiver shall support the reception of the following picture resolutions:

- (a) 720x576i/25Hz;
- (b) 1280x720p/50Hz; and
- (c) 1920x1080i/25Hz

(2) The set-top-box shall support the PAL G video format.

(3) The television receiver shall be capable of handling both the 4:3 and 16:9 aspect ratios.

(4) The television receiver shall be capable of supporting teletext, subtitling, open and closed captioning, and the use of multiple languages.

(5) The television receiver shall support Electronic Programme Guide information for up to seven days including NOW and NEXT programmes.

(6) The television receiver shall automatically follow network parameter changes.

(7) The television receiver shall be capable of being upgraded through off-air and USB port software upgrade.

(8) The existence of FEFs and/or auxiliary streams shall not cause the receiver to malfunction.

(9) The television receiver shall provide reception quality information (both Status Check and Advanced Check) for a selected frequency.

(10) The television receiver power supply shall be 220V–240V 50Hz and 12V DC.

(11) Video Audio output shall be RCA and HDMI.

(12) The receiver shall have ISO 9001 Quality Certification.

(13) The receiver shall have Parental Guidance Support Programme Rating Control (ETSI 300468).

(14) The Receiver shall have USB socket for other media and PVR Function.

(15) The receiver shall have front display LED for STB status (time, channel number.

“MPEG 4 standard” means a joint technical committee of the International Organisation for Standardisation (ISO) and the International Electrotechnical Commission (IEC);

“National Head-end” means a facility where the channels of all licensed broadcasters are received, multiplexed for distribution to the transmission network;

“plan” means the digital television frequency allotment plan;

“Set-top-box” means a television receiver which is capable of converting the digital television signal to an analogue television signal to allow for continued use of existing analogue television sets;

“Signal Carrier” means Signal Carrier defined in terms of the Act;

“Standard Definition Television (SDTV)” means the television picture quality as defined in the MPEG 4 standard for Main Profile @ Level 3;

“supplier” means any person who engages in the distribution of television receivers whether free of charge or at a cost to the recipient;

“television receiver” means a digital television set or a set-top-box;

“terrestrial” means ground based or located on the earth’s surface; and

“transition period” means the period of six months after the switching on of a digital transmitter in any given area.

Application

3. These regulations shall apply to all terrestrial television broadcasting licensees, signal carrier licensees and to suppliers of television receivers.

PART II

DIGITAL TERRESTRIAL TELEVISION BROADCASTING SERVICES

General

4. (1) Every terrestrial television broadcasting licensees and every signal carrier licensee to which these regulations apply shall—

- (a) ensure that all television studios installed prior to the date of commencement of these regulations are capable of providing a digital signal of the format set out in these regulations;
- (b) ensure that all television studios installed after the date of commencement of these regulations are compliant with the standards set out in these regulations; and
- (c) comply with the relevant standards set out in the Schedule to these regulations.

(2) Any specific standard referred to in these regulations shall be available for inspection at the authority's premises.

(3) Any person who contravenes the provisions of this section shall be guilty of an offence and liable to a fine not exceeding level 12 or to imprisonment for a period not exceeding twenty years or to such fine and such imprisonment.

Supply of television receivers

5. (1) The following conditions shall apply to the supply of television receivers —

- (a) with effect from the date of commencement of these regulations the manufacture of or importation into Zimbabwe of analogue television transmitters is prohibited;
- (b) all suppliers of set top boxes shall be registered with the Authority;
- (c) suppliers of set top boxes shall supply to the public set top boxes that are in conformity with the receiver standards set out in these regulations and have been type approved by the Authority; and
- (d) suppliers of set top boxes shall provide the buyer with a written guarantee in respect of compliance with the minimum receiver specification, including transmission standards, and in the case of television sets the distinction between an analogue television set, an Integrated Digital Television set (IDTV) and a monitor;
- (e) with effect from two years of the date of commencement of these regulations the manufacture of or importation into Zimbabwe of analogue television sets is prohibited.

(5) The Broadcaster shall provide the Multiplex Operator with at least seven days of Electronic Programme Guide information, which should include NOW and NEXT programmes, in the format required by the Head End Operator for the generation of Electronic Programme Guide.

(6) The use of Multiple-language audio shall be provided as may be required in terms of any statute.

(7) The use of subtitling and captioning shall be supported and shall also be used as maybe required in terms of any statute.

(8) The use of a Station ID is mandatory.

4. Network Interfaces

All broadcast network interfaces, including those used inside studio facilities, shall support the High Definition picture format.

5. Multiplexing of Programmes

(1) The multiplexing of programmes shall be in accordance with ISO/IEC 13818-1.

(2) The following channel multiplexes are established by the Authority:

- (a) Multiplex A corresponding to Network 3
- (b) Multiplex B corresponding to Network 4
- (c) Multiplex C corresponding to Network 5
- (d) Multiplex D corresponding to Network 6

6. Allocation of Multiplex Capacity to Licensees

The Authority allocates these multiplexes as follows:

- (a) Multiplex A—Public Broadcaster
- (b) Multiplex B—Other licensees
- (c) Multiplex C—Reserved
- (d) Multiplex D—Reserved

7. Receiver Standards for the fixed reception environment

(1) All television receivers shall be capable of turning to the UHF television band as specified in these regulations.

(2) All television receivers shall be capable of receiving television signals transmitted in compliance with the Terrestrial Transmission Standards set out in these regulations.

(3) All television receivers shall be able to de-multiplex the MPEG-2 Transport Stream (TS) in accordance with ISO/IEC 13818-1.

(3) The following operating modes are approved:

- Normal mode
- Input Mode B (Multiple PLP)

(4) The transmitter equipment and sites shall comply with the following technical parameters:

Transmitter power: as per Plan

Transmitter frequency: as per Plan

Frequency tolerance: 500 Hz

2 kHz < 100W pep

5 kHz < 1W pep (V)

10kHz<1W pep (U)

Level of spurious emissions: 60dBc, < 12mW for UHF.

Spectrum mask: non-critical

Antenna pattern: as per Plan

Transmitter site location: as per Plan within a 15km radius

3. Studio Standards

(1) For use in the studio and for other video productions, including international exchange of programmes, with the exception of historical material and breaking news, the 4:2:2 coding standard or better shall be used in accordance with ITU-R BT 601 or BT 709 for 625-line, 50 fields/s system, 16:9 aspect ratio and 13.5MHz or 74.25MHz sampling frequency respectively.

(2) All television studios shall deliver for transmission all picture formats at 4:2:0 sampling rate.

(3) All video signals shall be compressed to the MPEG-4 AVC/Part 10/H264 standard in accordance with ISO/IEC 14496-10 for image coding with the following video parameters:

AVC Profile	High
AVC Level	4.0
Frame Rate	25 or 50
Aspect Ratio	16:9

and ISO/IEC 14496-3 for sound coding using HE-AAC.

(4) The studio output signal to the Head-end shall be an MPEG-2 Transport Stream to ISO/IEC 13818-1.

(2) Any person who contravenes the provisions of this section shall be guilty of an offence and liable to a fine not exceeding level 12 or to imprisonment for a period not exceeding six months or to such fine and such imprisonment.

Rights and duties of broadcasters, multiplex operators and signal carriers

6. (1) Subject to section 5, the signal carrier shall ensure that the current services of the Public Broadcaster shall continue to be made available as analogue until the end of the transition period.

(2) The signal carrier shall ensure that all areas currently receiving analogue television services receive digital services by the end of the transition period and shall be received as digital services after the transition period.

(3) There shall be a National Head-end to be operated by the Signal Carrier as a Head-end Operator, where all television services shall be multiplexed for distribution to the transmission network.

(4) In operating the National Head-end the Head-end Operator shall generate Electronic Programme Guides which include NOW and NEXT programmes and programme information for at least seven days.

(5) The Head-end Operator shall employ statistical multiplexing at the National Head-end and shall provide the Authority with information relating to available programme capacity which does not result in overflow at the transmitter.

(6) Broadcasting licensees, the Head-end Operators and Signal Carrier licensees shall enter into relevant service level agreements in respect of signal availability, coverage, video and sound quality, and compliance with the standards set out in these regulations.

(7) The service level agreement referred to in subsection 6 may include compensation for failure to provide service by any party to the agreement.

Allocation of frequencies

7. (1) The Authority shall allocate television broadcasting frequencies to each multiplex.

(2) The Public Broadcaster shall be entitled to capacity equivalent to one multiplex for the provision of public broadcasting services.

(3) One multiplex shall be allocated to other broadcasters for the provision of commercial television broadcasting services.

(4) The fees payable in respect of each frequency shall be the sum of the fee chargeable per service whether the service is actually provided or not.

Licensing of digital television services

8. (1) The Public Broadcaster shall, for the purpose of the regulations be deemed licensed to provide all television services already licensed on the analogue platform prior to the date of commencement of these regulations, and shall apply for licences to bring into use the remaining capacity.

(2) The *de-facto* standard for all channels is High Definition.

Powers of the Authority

9. (1) Subject to the Act, the Authority shall have the power to order a broadcasting licensee, Signal Carrier licensee, Multiplex Operator, receiver supplier or any other person to whom these regulations apply to comply with these regulations.

(2) The Authority may determine which of the existing analogue television transmitters may continue to operate after the transition period taking into account compliance with International Telecommunication Union GE-06 Agreement.

(3) Subject to the law which may be in force, the Authority may direct any licensee to share its infrastructure with other licensees in circumstances where the Authority determines that such infrastructure cannot easily be duplicated or reproduced. However, such direction shall not waive the payment of reasonable access fees and shall be subject to technical limitations and security concerns.

(4) The Authority reserves the right to ensure that there is non-discriminatory access to facilities or to the supply of services by any persons to which these regulations apply.

Offences and penalties

10. Without prejudice to the power of the Authority to suspend or revoke any broadcasting or signal carrier licence; any Broadcasting Licensee, Signal Carrier Licensee, Head-end Operator, receiver supplier or any other person to which these regulations apply who

contravenes these regulations shall be guilty of an offence and liable to a fine not exceeding level 12 or to imprisonment not exceeding five years, or to both such fine and such imprisonment.

SCHEDULE (Section 4)

DIGITAL TERRESTRIAL TELEVISION STANDARDS (470-694 MHz)

1. Frequency bands

(1) Digital television services shall be provided in the UHF television band from 470 to 694 MHz in accordance with the International Telecommunication Union GE-06 Agreement.

2. Transmission Standard

(1) The digital television transmission standard shall be the Second Generation Digital Video Broadcasting (DVB-T2) standard to European Telecommunications Standard Institute (ETSI) EN302755 in an 8MHz channel.

The DVB-T2 operating mode, including the choice of system parameters shall be approved by the Authority.

(2) The system parameters shall be selected from the table below:

Modulation	FEC	Pilot Pattern	FFT size	Code rate*	Guard interval
QPSK or 16-QAM or 64-QAM or 256-QAM both rotated and non-rotated	LDPC +BCH 1/2, 3/5, 2/3, 3/4, 4/5, 5/6	PP1	2k	1/2, 3/5, 2/3, 3/4, 4/5, 5/6	1/32, 1/16, 1/8, 1/4
		PP2	4k	1/2, 3/5, 2/3, 3/4, 4/5, 5/6	1/32, 1/16, 1/8, 1/4
		PP3	8k	1/2, 3/5, 2/3, 3/4, 4/5, 5/6	1/128, 1/32, 1/16, 19/256, 1/8, 19/128, 1/4
		PP4	16k	1/2, 3/5, 2/3, 3/4, 4/5, 5/6	1/128, 1/32, 1/16, 19/256, 1/8, 19/128, 1/4
		PP5	32k	1/2, 3/5, 2/3, 3/4, 4/5, 5/6	1/128, 1/32, 1/16, 19/256, 1/8, 19/128
		PP6	8k extended	1/2, 3/5, 2/3, 3/4, 4/5, 5/6	1/128, 1/32, 1/16, 19/256, 1/8, 19/128, 1/4
		PP7	16k extended	1/2, 3/5, 2/3, 3/4, 4/5, 5/6	1/128, 1/32, 1/16, 19/256, 1/8, 19/128, 1/4
		PP8	32k extended	1/2, 3/5, 2/3, 3/4, 4/5, 5/6	1/128, 1/32, 1/16, 19/256, 1/8, 19/128

* For block sizes of 16,200 and 64,800 bits