The broadcasting frequency bands are pre-planned and internationally co-ordinated through the ITU to avoid mutually harmful interference between neighbouring countries. These bands are the Medium Wave (MW or MF), and VHF/FM bands for sound broadcasting and the VHF and UHF bands for television broadcasting. To allow for technological advances and to accommodate changing priorities of countries, the international plans are reviewed every 20 to 30 years. Provision is also made for modifications to the plans. Procedures are laid down by which frequency assignments can be modified or added to the existing plans. Affected countries have to be consulted and the ITU has to be notified of all such modifications or additions.

Any frequency plan must comply, not only with the criteria established by the ITU for preparing such plans, but specifically comply with the above mentioned Regional Agreements and the conventions, regulations and provisions of the ITU to which South Africa is a party. These are contained in the international treaties established by the ITU, adopted by the member countries and are legally binding in being recognised by the Act in the Republic of South Africa as provided for in section 30 (2) (a) of the Act.

4.4 Broadcasting Frequency Planning Principles

South Africa, as a signatory to the ITU Convention, and more particularly having acceded to the Regional Agreements concerning VHF-FM Sound broadcasting and VHF/UHF television broadcasting, is obliged to adhere to the planning principles agreed to in the planning conferences organised by the ITU to plan the broadcasting frequency bands.

The existing frequency plans for FM and TV have been developed on the basis of providing essentially a full range of public broadcasting services to the majority of the population. The South African frequency plans currently in use are based on internationally accepted practices similar to those adopted in Europe, Australia and Asia. The current levels of spectrum usage in South Africa are also consistent with international practice.

Frequencies are normally assigned to transmitting stations according to a uniform lattice in case of the VHF/FM and UHF television frequency bands. Frequencies are reused at a distance where there will be no harmful interference between transmitting stations operating on the same frequency or on adjacent frequencies. Techniques are used to increase frequency usage density, such as orthogonal polarisation and frequency off-set.

4.4.1 Interference as a Limiting Factor to Frequency Assignment

Issues that are important in frequency planning include definition of the area to be served by each broadcasting station, whether these areas may be or need to be served through the use of multiple frequencies or whether it is to be served by a single transmitter, and decisions about how much interference between services is tolerable, and the grade of service to be provided to the listeners or viewers within the area to be served. In the final instance, a frequency plan can consist of a number of combinations and permutations of frequencies and power levels for the same area, all of which may be technically acceptable. Also, it would be possible to have a smaller number of high power transmitters, or a larger number of low power transmitters, or any combination between these extremes, in any particular geographic area, dependent on the particular needs, and considering the topography in the area.

While it would be possible to avoid interference between broadcasters or transmitters by never using a frequency more than once nor using frequencies close to each other, this is unrealistic because very few services could be established in this scenario. Frequency re-use is therefore a standard feature of all frequency plans and is the essence of the efficient use of the frequency spectrum.

The plan attempts to manage the problem of interference and accommodate the maximum number of frequency assignments within a given area for a given amount of spectrum. The plan also takes account of the practical limits of coverage of stations imposed by factors such as the physics of radio wave propagation, limits of radiated power from the stations, and performance characteristics (selectivity and sensitivity) of typical receivers.

The engineering considerations of interference prediction and coverage assessment usually follow recommendations of the ITU. These recommendations draw on the pooled knowledge of experts world-wide, which is expressed in terms of guidelines, standards and parameters that have been established as providing proven practical and realistic results. The Authority therefore has to establish a policy of defining licence areas to be served, and to plan accordingly. Interference or signal strength complaints about reception from listeners or viewers outside of the licence area of the station are normally not considered.

This is generally known as an interference limited approach in assigning frequencies and determining the coverage area of a particular broadcasting station, as opposed to a noise limited approach (where the signal level is allowed to drop to below the ambient noise level). The latter is considered to be inefficient in the use of the frequency spectrum.

Due to current spectrum utilisation in some areas, particularly in the VHF/FM band, it has in certain cases been possible to receive broadcast transmissions in areas beyond the intended target area of transmitting stations, as broadcasts have been mostly noise limited.

As more frequency assignments are made and new broadcasters come on the air, services will no longer be noise limited but will become interference limited. This means that although the prime target area of the transmitting station will continue to receive satisfactory coverage, people in areas outside the target area who in the past were able to receive transmissions, will no longer be able to do so due to increased spectrum usage and the consequent increase in interference levels. This issue becomes more relevant in the context of digital broadcasting, the signal degradation where one is able to view a picture that is not clear is no longer applicable. The viewer outside the recommended signal level would not be able to receive.

Some broadcasting signal distributors are making use of re-broadcasting techniques (RBR) to provide programme feeds to transmitting stations. In this process a signal is received from an adjacent transmitting station and re-transmitted to the intended target area. The Authority did not use any criteria to protect such links from any interference in the compilation of this plan. When necessary, more use will have to be made of either telecommunications links or satellite facilities to provide programme feeds to transmitting stations where interference on RBR has become a problem.

In drawing up the Frequency Plan, priority was given to maximising the number of broadcasting frequencies available for assignment to broadcast services. Consequently, no protection against harmful interference can be given to radio frequency output signals on home equipment such as video cassette recorders (VCR's), satellite receivers, integrated receiver decoders (IRD's) etc. operating in the broadcasting services frequency bands.

In countries with a tradition of public broadcasting, systematic planning methods have been applied on the basis that public services should be widely accessible to all of the population. This planned approach is the one adopted by the ITU generally and in particular for planning of broadcasting services in Africa.

This is the approach that has been used for broadcasting frequency planning in South Africa, and which the Authority intends to continue applying (in compliance with ITU methods).

The Frequency Plan is to be treated as a living document and as a vehicle to assist the Authority to facilitate the development of a broadcasting system which is responsive to the changing technical and social environment, and which will enable the Authority to achieve the primary objects of section 2 of the EC Act. The Authority will at all times keep the latest frequency plan on its website (www.icasa.org.za) for easy access by the public.

4.5 Factors Restricting the Frequency Plan

A number of factors place restrictions on the Frequency Plan, being:

- frequencies occupied by existing broadcasters;
- the need to co-ordinate broadcasting frequencies with South Africa's neighbours; and
- demographic and topographic conditions.

Although broadcasters operating services before the promulgation of the EC Act, are guaranteed continued use of their frequency assignments as a result of the so-called "grandfather" clauses of the EC Act, section 31 (4) of the Act gives the Authority the ability to amend a radio frequency spectrum licence, as follows:

(a) to implement a change in the radio frequency plan;

(b) in the interest of orderly radio frequency spectrum management;

(c) to effect the migration of licensees in accordance with a revised radio frequency plan or the transition from analogue to digital broadcasting;

(d) if requested by the licensee concerned to the extent that the request is fair and does not prejudice other licensees; or

(e) with the agreement of the licensee."

Furthermore, international agreements and ITU Radio Regulations require that all medium and high power frequency assignments are co-ordinated with neighbouring territories so as not to cause trans-border interference. This requires that any addition of a new frequency or relocation of a frequency of a medium or high power broadcasting station situated within approximately 400 km from the border of any of South Africa's neighbours (Namibia, Botswana, Zimbabwe, Swaziland, Mozambique or Lesotho) would require extensive bilateral negotiations.

4.6 Coverage Area and Service Contour Levels

ITU provides the following definitions:

- Coverage Area[4]

The coverage area is defined by the ITU as the area within which the wanted field strength is equal to or exceeds the usable field strength defined for specified reception conditions and for an envisaged percentage of covered receiving locations.

EC Act provides the following definition:

- Licence Area[5]

The licence area is defined in the EC Act and it reads as follows: "the geographical area specified in a licence". If a licence area is not specified in a broadcasting service licence, then the technical parameters specified in the licence conditions will be used in the licence area calculations.

The determination of a coverage area is governed by the following definitions of ITU:

- "The area within which the wanted field strength is equal to or exceeds the usable field strength defined for specified reception conditions and for an envisaged percentage of covered receiving locations."
- "Usable field strength is the minimum value of the field strength necessary to permit a desired reception quality, under specified receiving conditions, in the presence of natural or man-made noise and of interference, either in an existing or as determined by agreements or frequency plans."
- "Minimum usable field strength is the minimum value of the field strength necessary to permit a desired reception quality, under specified receiving conditions, in the presence of natural and man-made noise, but in the absence of interference from other transmitters."

[4] See Final Acts GE 06

[5] See EC Act 364 of 2006 (Definitions)

5 BROADCASTING FREQUENCY BANDS AND TECHNICAL PARAMETERS

The following broadcasting frequency bands are included in the South African broadcasting frequency plan:

Table 3: Broadcasting Frequency Bands

Broadcasting bands	Range	ITU plan
AM-MF (MW) audio broadcasting	535.5 – 1606.5 kHz	Geneva plan of 1975 for Africa, Europe and Asia
VHF/FM audio broadcasting	87.5 – 108 MHz	Geneva plan of 1984 for Africa and Europe
VHF television broadcasting	174 – 238 MHz 246 – 254 MHz	Geneva plan of 2006 in parts of Region 1 and 3
UHF television broadcasting	470 – 854 MHz	Geneva plan of 2006 in parts of Region 1 and 3

The HF broadcasting bands are coordinated by the ITU. The procedures are laid down in Article 12 of the Radio Regulations (RR12-1) and subsequent planning documents released by the Radio Communication Bureau. The procedure is based on the principle of equal rights of all countries to equitable access to these bands. As transmissions in the tropical Bands are intended for national coverage, the transmitter output power is restricted to 50 kW. Table 4 indicates the various allocations to the HF frequency spectrum sound broadcasting services available to South Africa.

Table 4: HF broadcasting frequency bands

HF (kHz)3900 – 4000	
5950 – 6200	13600 – 13800
7100 – 7300	15100 – 15600
9500 – 9900	17550 – 17900
11650 – 12050	21250 – 21850
	25670 – 26100
HF Tropical Band (kHz)	
2300 – 2498	3200 – 3400
4750 – 4995	5005 – 5060
HF single side band (kHz)	
5900 – 7300	13570 –13600
7300 – 7350	13800 – 13870
9400 – 9500	15600 – 15800
11600 – 11650	17480 – 17550
12050 – 12100	18900 – 19020

5.1 MF-AM Broadcasting Band

The MF AM broadcasting band lies between 530 and 1606,5 kHz, and is divided into 120 channels of 9 kHz bandwidth each. In South Africa, the first channel on 531 kHz is not used for MF broadcasting as the frequency band 526.5 – 535.5 kHz is allocated to mobile telecommunications service. Three of the MF channels have been designated as low power channels where the power may not exceed 1 kW. Currently medium to high power MF-AM transmitting sites are located at Meyerton, Springs, Roodepoort, Komga, Ga-Rankuwa and Klipheuwel. The local authority and environmental considerations often limit the establishment of high power MF stations due to the large infrastructure associated with such stations and its interference impact on electronic systems.

South Africa has 37 channels registered with the ITU; of these 11 are in use with powers between 10 kW and 100 kW. At the ITU Geneva '75 Conference for MF-AM planning, it was resolved in the Final Acts that the provisions and resolutions adopted for the benefit of member and non-member states shall not be applied to the Government of the Republic of South Africa. The Authority has already undertaken a process of including all the assignments in the Master Register of the ITU. The South African MF-AM plan includes low power frequencies assigned to Community Radio services. Low power for MW applies to 1 kW or lower powers.

5.2 VHF-FM Sound Broadcasting Band

In the VHF FM sound-broadcasting band between 87.5 MHz and 108 MHz there are 204 channels, each of 100 kHz bandwidth. These are grouped into 31 groups of 6 channels, plus additional 18 channels. The groups are distributed in a uniform lattice where each node point relates to a transmitting area. This means that at any one transmitting site in an area the ITU plan provides for 6 channels or frequencies to be available for assignment. In areas of greatest demand, 12 channels were assigned to one area by combining 2 lattice node points. In order to provide national FM coverage it was necessary to locate high power transmitting stations approximately 110 km apart.

Although such a transmitting station may only have coverage radius of 30 - 50 km, interference from such a station can occur over hundreds of kilometres. In order to avoid mutual interference between stations operating on the same frequency, it is necessary for the signal from the wanted station to be between 37 dB and 45 dB higher (i.e. 5 000 and 30 000 times stronger) than the interfering signal. Hence a high power FM frequency assignment can only be reused at a distance of close to 500 km. On the other hand, low power (e.g. 1 watt) FM transmitters using the same frequency can be situated some 10 km apart (depending on the terrain and broadcasting antenna characteristics and site height) due to its limited area of coverage and interference impact.

Due to constraints in receiver design, an average domestic FM radio receiver cannot discriminate between frequencies less than three channels apart. This places a further limitation on the number of VHF/FM frequencies available for assignment in an area.

5.3 VHF TV Broadcasting Band

The VHF television broadcasting band is between 174 MHz and 238 MHz and between 246 and 254 MHz. It contains only 9 channels of 8 MHz bandwidth each. A uniform lattice with multiple channels (3) at each node cannot be formed and used to assign frequencies on a national basis. These channels have been assigned in groups of 3 only to metropolitan areas and, where possible, also to rural areas, using a method of "foremost priority".

In the past, there has been a prohibition of adding a NICAM (Near Instantaneously Compounded Audio Multiplex) carrier for digital stereo sound to TV channel 13 (246 – 254 MHz) due to its interference to the public trunked mobile radio communication services located at 254 MHz and higher. The problem is made more noticeable by the fact that channel 13 is used with a slightly offset vision carrier of 247.43 MHz rather than the standard 247.25 MHz. This was originally done to avoid interference from the residual vestigial colour sub-carrier to the international distress frequency on 243 MHz.

Modern television transmitters no longer produce any significant residual vestigial colour sub-carrier. A technical solution has been found to the interference problem to mobile trunking services. The solution is to move the vision frequency by 300 kHz down to 247.13 MHz and to apply the narrower PAL-B/G "roll-off" filtering instead of the wider PAL-I version. This solution has been tested and all concerned parties have accepted the results. The Authority's Council has approved the introduction of NICAM in channel 13 as described above. No feedback on the implementation has yet been received from television broadcasters and signal distributors.

5.4 UHF TV Broadcasting Band

The UHF television broadcasting band between 470 MHz and 854 MHz contains 48 channels, each of 8 MHz bandwidth, arranged into 12 groups of 4 channels. This means that 4 channels are available for assignment at any one transmitting site on a national basis. In areas of greatest demand 7 to 11 channels have been assigned by combining lattice node points or where both VHF and UHF channels have been assigned to a particular area.

5.5 Channel Numbering

Table 5: Channel numbering in VHF FM band (band II)

A		B		C		D		E		F	
1	87.6	32	90.7	64	93.9	97	97.2	132	100.7	168	104.3
2	87.7	33	90.8	65	94.0	98	97.3	133	100.8	169	104.4
3	87.8	34	90.9	66	94.1	99	97.4	134	100.9	170	104.5
4	87.9	35	91.0	67	94.2	100	97.5	135	101.0	171	104.6
5	88.0	36	91.1	68	94.3	101	97.6	136	101.1	172	104.7
6	88.1	37	91.2	69	94.4	102	97.7	137	101.2	173	104.8
7	88.2	38	91.3	70	94.5	103	97.8	138	101.3	174	104.9
8	88.3	39	91.4	71	94.6	104	97.9	139	101.4	175	105.0
9	88.4	40	91.5	72	94.7	105	98.0	140	101.5	176	105.1
10	88.5	41	91.6	73	94.8	106	98.1	141	101.6	177	105.2
11	88.6	42	91.7	74	94.9	107	98.2	142	101.7	178	105.3
12	88.7	43	91.8	75	95.0	108	98.3	143	101.8	179	105.4
13	88.8	44	91.9	76	95.1	109	98.4	144	101.9	180	105.5
14	88.9	45	92.0	77	95.2	110	98.5	145	102.0	181	105.6
15	89.0	46	92.1	78	95.3	111	98.6	146	102.1	182	105.7
16	89.1	47	92.2	79	95.4	112	98.7	147	102.2	183	105.8
17	89.2	48	92.3	80	95.5	113	98.8	148	102.3	184	105.9
18	89.3	49	92.4	81	95.6	114	98.9	149	102.4	185	106.0
19	89.4	50	92.5	82	95.7	115	99.0	150	102.5	186	106.1
20	89.5	51	92.6	83	95.8	116	99.1	151	102.6	187	106.2
21	89.6	52	92.7	84	95.9	117	99.2	152	102.7	188	106.3
22	89.7	53	92.8	85	96.0	118	99.3	153	102.8	189	106.4
23	89.8	54	92.9	86	96.1	119	99.4	154	102.9	190	106.5
24	89.9	55	93.0	87	96.2	120	99.5	155	103.0	191	106.6
25	90.0	56	93.1	88	96.3	121	99.6	156	103.1	192	106.7
26	90.1	57	93.2	89	96.4	122	99.7	157	103.2	193	106.8

27	90.2	58	93.3	90	96.5	123	99.8	158	103.3	194	106.9
28	90.3	59	93.4	91	96.6	124	99.9	159	103.4	195	107.0
29	90.4	60	93.5	92	96.7	125	100.0	160	103.5	196	107.1
30	90.5	61	93.6	93	96.8	126	100.1	161	103.6	197	107.2
31	90.6	62	93.7	94	96.9	127	100.2	162	103.7	198	107.3
Additional channels:											
63	93.8	95	97.0	96	97.1	128	100.3	129	100.4	130	100.5
130	100.6	163	103.8	164	103.9	165	104.0	166	104.1	164	104.2
199	107.4	200	107.5	201	107.6	202	107.7	203	107.8	204	107.9

Table 6: Channel numbering in band III (174 – 238MHz and 246 – 254MHz)

Channel No.	Channel Limits (MHz)	Vision Carrier Frequency (MHz)
4	174 – 182	175.25
5	182 – 190	183.25
6	190 – 198	191.25
7	198 – 206	199.25
8	206 – 214	207.25
9	214 – 222	215.25
10	222 – 230	223.25
11	230 – 238	231.25
13	246 – 254	247.13[6]

[6] Refer to Section 3.4.3 for explanation to the non-standard vision carrier frequency of channel 13.

Table 7: Channel Numbering in Band IV/V (470 – 854MHz)

Channel No.	Channel Limits (MHz)	Vision Carrier Frequency (MHz)
21	470 – 478	471.25
22	478 - 486	479.25
23	486 – 494	487.25
24	494 – 502	495.25
25	502 – 510	503.25
26	510 – 518	511.12
27	518 – 526	519.25
28	526 – 534	527.25
29	534 – 542	535.25
30	542 – 550	543.25
31	550 – 558	551.25
32	558 – 566	559.25
33	566 – 574	567.25
34	574 – 582	575.25
35	582 – 590	583.25
36	590 – 598	591.25
37	598 – 606	599.25
38	606 – 614	607.25
39	616 – 622	615.25
40	622 – 630	623.25
41	630 – 638	631.25
42	638 – 646	639.25
43	646 – 654	647.25
44	654 – 662	655.25
45	662 – 670	663.25
46	670 – 678	671.25
47	678 – 686	679.25
48	686 – 694	687.25
49	694 – 702	695.25

50	702 – 710	703.25
51	710 – 718	711.25
52	718 – 726	719.25
53	726 – 734	727.25
54	734 – 742	735.25
55	742 – 750	743.25
56	750 – 758	751.25
57	758 – 766	759.25
58	766 – 774	767.25
59	774 – 782	775.25
60	782 – 790	783.25
61	790 – 798	791.25
62	798 – 806	799.25
63	806 – 814	807.25
64	814 – 822	815.25
65	822 – 830	823.25
66	830 – 838	831.25
67	838 – 846	839.25
68	846 – 854	847.25

5.6 Frequency Tolerances

For both VHF and UHF TV bands, the tolerance shall be 500 Hz. Table show frequency tolerances for audio broadcasting.

Table 8: Frequency Tolerances for Sound Broadcasting

Frequency Band	Tolerance
535.5 kHz to 1606.5 kHz	±10 Hz
1606.5 kHz to 29.7 MHz	±10 Hz
87.5 MHz to 108 MHz	±2000 Hz

5.6 Minimum Usable Field Strength

The minimum usable field strength values to be used to calculate coverage, using the associated technical parameters, are referred to as the service contour values and are specified in Table 9

Table 9 Service Contour Values used a Basis in Determination of Coverage Area

MF	74 dBμV/m
FM Monophonic	60 dBμV/m
FM Stereophonic	66 dBμV/m
TV VHF(Band III)	55 dBμV/m
TV UHF(Band IV)	65 dBμV/m
TV UHF(Band V)	70 dBμV/m

5.6.1 Usable Coverage Area (Usable Field Strength)

The coverage can be calculated for each frequency, using the associated technical parameters, determining the effect of interfering transmitters and using the service contour values as defined in section 5.6.

The coverage calculation is based on a data terrain model and a specific prediction model. The prediction model must be applicable to the frequency band of operation. All interference from other transmitting stations must be taken into consideration whenever this calculation is performed. This calculation produces the usable (interference limited) service area.

The usable coverage area, as described in this section, must be used as the basis for all demographic calculations such as percentage population coverage figures.

5.7 Spurious Emission Power Levels

This is an emission on a frequency or frequencies outside the necessary bandwidth and which may be reduced without affecting the corresponding transmission of information. Spurious emission includes harmonic emission, parasitic emissions, intermodulation products and frequency conversion products but exclude out of band emissions. The maximum permitted levels of spurious emissions, in terms of the mean power level of any spurious component supplied by a transmitter to the antenna transmission line shall be as set out in table below:

Table 10: Spurious Emission Limits for Sound Broadcasting

Frequency Band	Spurious Emission Level
535.5 kHz to 1606.5 kHz	40 dB/50 mW
87.5 MHz to 108 MHz Transmitter output power > 25 W Transmitter output power < 25 W	 60 dB/1 mW 40 dB/25 μW

Table 11: Spurious Emission Power Levels for Television Broadcasting

Frequency band	Spurious Emission Level
174 – 254 MHz and 470 – 854 MHz • Tx o/p > 25 W • Tx o/p < 25 W	 • 60 dB/1 mW • 40 dB/25 μW

6 BROADCASTING FREQUENCY ASSIGNMENTS

6.1 Statistical information

The frequency plan in this document contains all the foregoing and the amendments and additional assignments referred to elsewhere in this document. Table 12

Table 13: Show statistical information on broadcasting frequency assignments.

Table 12: Statistical information of analogue audio broadcasting frequency assignments

SERVICE CATEGORY	MW	FM	SELF-HELP	TOTAL
Commercial	19	235	1	255
Community	19	367	0	386
Public	15	789	42	846
TOTAL	**53**	**1392**	**43**	**1488**

Table 13: Statistical information of analogue television broadcasting frequency assignments

SERVICE CATEGORY	VHF/UHF	SELF-HELP	Total
Commercial	299	268	567
Community	34	1	35
Public National	602	771	1373
DTT	471	0	471
TOTAL	1406	1040	2446

6.2 Assignments for Sound Broadcasting Services

This subsection covers the frequency assignments for the sound-broadcasting services as defined by the ITU, for the categories used in the RSA, viz. VHF/FM and MF/AM. The description of the categories, their frequency assignment tables and relevant definitions are given in the subsections to follow.

6.2.1 Assignments for sound VHF FM audio broadcasting

Frequency assignments for audio VHF FM broadcasting are given in Annexure A. It is based on the ITU Geneva Plan of 1984 (GE84).

6.2.2 Assignments for sound MF/AM audio broadcasting

Frequency assignments for audio MF/AM broadcasting are given in Annexure C. It is based on the ITU Geneva Plan of 1975 (GE75). Frequencies in South Africa are also assigned to theoretical stations, which are available for future use.

6.3 Television Broadcasting Services

Frequency assignments for VHF and UHF television broadcasting are given in Annexure E. It is based on the ITU Geneva Plan of 2006 (GE06).The plan incorporates two national Digital Terrestrial Television (DTT) frequency networks using DVB-T standard. It also incorporates two metropolitan DTT frequency networks planned for the use of DVB-H standard. Both standards were considered in the GE-06 plan. Annexure G shows national DTT networks. Annexure H shows metropolitan networks for both DVB-T and DVB-H.

Frequencies assigned to TV low power stations are invariably in the UHF band. Orthogonal polarisation, relative to that of high power stations, is used in order to increase frequency usage as a result of reduced interference levels with orthogonal polarisation. Orthogonal polarisation and frequency offset is also used between high power transmissions to decrease interference experienced and increase frequency use, in an analogue broadcasting environment.

6.3.1 Terrestrial Self- Help Stations Assignments

Self-help broadcasting relay transmitting stations are transmitting stations established, owned and operated by entities such as municipalities, farmers associations, business organisations and individuals. The purpose of a self-help station is to relay a programme service to an area where the programme service cannot easily be received through the regular transmissions, i.e. where the coverage is insufficient. Self-help broadcasting relay transmitting stations are extensions of the broadcaster's network and have been operating under the broadcaster's licence. The broadcasters involved are the SABC, e-tv and M-Net.

Self-help relay transmitting stations are used for both sound and television broadcasting. It is envisaged that the need for self-help stations will continue, with the purpose probably shifting from providing coverage to facilitating lower-cost communal reception. Frequency assignments for VHF FM self help stations are given in Annexure B. Frequency assignments for VHF and UHF television broadcasting are given in Annexure F.

6.3.2 Technical Standards and Transmission Characteristics Applicable to Digital Television Broadcasting Services

The technical standards and transmission characteristics for digital broadcasting will be in accordance with the GE-06 plan, which south Arica is a signatory. The implementation of digital broadcasting will be in accordance with the GE-06 plan and Transmission characteristics will be accordance with the provision of GE-06 plan.

6.4 Generic definition of terms used in the table of assignments

Station name

The station name is the internationally co-ordinated name of the transmitting station or area location. The name was decided upon using the following guidelines:

- In cases where the site is located in or near a city, major town or suburb, the respective name is used.

- In cases where it is not located near a city or town the name of a relevant hill, mountain or other well-known geographical feature is used.

- In some cases, a station name has been used but the station does not yet exist, neither is there any development at the site. The station name in those cases is a provisional name that is associated with a theoretical lattice node point.

Latitude and Longitude

This is the nominal co-ordinates of the station in degrees, minutes and seconds, south and east. In those cases where a site has not yet been developed i.e. where the frequency is assigned to a theoretical lattice point, the co-ordinates are those of the theoretical point.

Channel No. (Chan.)

Channel numbering is applicable to only Television frequency assignments. This is the number of the frequency channel, according to the ITU designation.

Frequency (Freq.)

For VHF/FM assignments, this is specified in megahertz (MHz). In the case of MF/AM, it is specified in kilohertz (kHz).

Vision frequency (Freq.)

Vision frequency is applicable to Television assignments in analogue format in the tables. It is the frequency of the vision carrier in megahertz (MHz): The sound-carrier frequency is not given. It is 6 MHz above the vision carrier in all cases in analogue broadcasting.

Offset

Offset is also applicable to only Television frequency assignments in analogue. It is the frequency offset from the nominal frequency given in the assignment plan to