Official journal “Dz.U.” No. 148, item 1565, and of 2010 No. 3, item 20

REGULATION
OF THE NATIONAL BROADCASTING COUNCIL

of June 3, 2004,

CONCERNING PRINCIPLES OF ADVERTISING AND TELESHOPPING IN RADIO AND TELEVISION PROGRAM SERVICES

(official journal “Dz.U. of June 29, 2004)

Under Article 16 paragraph 4 of the Broadcasting Act of December 29, 1992 (official journal “Dz.U.” of 2001, No. 101, item 1114, as further amended), the following is hereby ordered:

§ 1. For the purposes of this Regulation "the Act" shall mean the Broadcasting Act of December 29, 1992.

§ 2. 1. The daily transmission time of the program service, as defined in Article 16 paragraphs 2 and 3 of the Act, shall cover a period of 24 hours counted as from 6^{00} a.m.

2. An hour of daily transmission time of the program service, as defined in the provisions referred to in subparagraph 1, shall be understood to be the clock hour.

3. If the program service is not broadcast during a full 24-hour period, the permitted daily amount of advertising and teleshopping shall be reduced accordingly.

4. If the program service is not broadcast during a full hour, the permitted hourly amount of advertising and teleshopping shall be reduced accordingly.

§ 3. Programs, advertisements, teleshopping and other broadcasts defined in the Act shall be accounted towards the total transmission time of a program service.

§ 4. 1. Advertising and teleshopping shall be separate from other items of the program service and distinguishable by optical or acoustic means at the beginning and at the end of advertising or teleshopping blocks.

2. The advertising block designation shall contain the word "*reklama*" (advertisement) or "*ogłoszenie*" (announcement).

3. The teleshopping block designation shall contain the word "*telesprzedaż*" (telesale) or "*telezakupy*" (teleshopping), unless teleshopping is broadcast jointly with advertisements within a block designated according to the provisions of subparagraphs 1 and 2.

4. The advertising and teleshopping block designations shall not be accounted towards the advertising and teleshopping transmission time.

§ 4a. 1. The loudness level of broadcast advertising and teleshopping shall not exceed the loudness level of preceding programs.

2. In order to meet the conditions referred to in subparagraph 1, the broadcaster shall compare the loudness level of programs broadcast within 20 seconds preceding the beginning of

advertising and teleshopping with the loudness level of each broadcast advertisement and teleshopping.

3. The measurement referred to in subparagraph 2 shall be taken in measuring conditions that correspond to the conditions of receipt of the broadcast program, using methods set forth in a schedule to the Regulation.

4. Loudness shall be measured using sound parameters and in technical conditions that correspond to the conditions of receipt of programs by the final recipient.

§ 5. The broadcaster shall take into consideration the nature of the program preceding and following the advertisements or teleshopping when making a decision regarding their transmission.

§ 6. The image or voice of persons who hosted news and current-affairs programs or children's programs in radio or television program services broadcast 3 months or less before the transmission of an advertisement may not be used in the said advertisement.

§ 7. 1. The broadcaster may not transfer to another party the right to make a decision concerning the broadcast of an advertisement or teleshopping in a manner legally binding for the broadcaster.

2. The broadcaster may not assign to one business operator or business group more than 35% of the annual advertising time for the advertisement of their goods and services.

§ 8. 1. The broadcaster shall keep records of daily and hourly transmission time of advertising and teleshopping.

2. The advertising and teleshopping records shall contain the following information:

1) name of the product or service,
2) name of the contracting entity,
3) date of broadcast,
4) time of broadcast and duration of the advertisement and teleshopping,
5) duration of the advertising and teleshopping block,
6) total duration of advertisements in a clock hour,
7) daily transmission time of the program service, advertising and teleshopping,
8) daily number and duration of broadcast teleshopping blocks.

3. The broadcaster shall retain the records, referred to in subparagraph 1, for a period of 1 year from the end of the calendar year in which the advertisement or teleshopping was broadcast.

§ 9. The Regulation of the National Broadcasting Council dated July 6, 2000 concerning the principles of advertising and teleshopping in the radio and television program services and detailed rules regulating the restraints on interruption of feature and television films for the purpose of transmitting advertisements or teleshopping (official journal “Dz.U.” No. 65, item 784, and of 2002, No. 188, item 1583) becomes null and void.

§ 10. This Regulation shall take effect on the date of its promulgation.

SCHEDULE TO REGULATION
OF THE NATIONAL BROADCASTING COUNCIL
OF DECEMBER 15, 2009 (ITEM 20).

In order to facilitate, support editing, exchange, and emission of radio or television program it is necessary to provide an objective estimation of loudness in audio channel with a meter which meets requirements stipulated hereinafter developed based on ITU recommendations: ITU-R, BS.1770-1; *Algorithms to measure audio programme loudness and true-peak audio level* and ITU-R, BS.1771: *Requirements for loudness and true-peak indicating meters.*

Requirements for Loudness Measurement

Meters used for estimation of the total subjective loudness of a transmission, audio program, shall facilitate current measurement in a shorter measurement time and estimation of loudness of an audio material in a longer measurement time using the following, optional modes available to a user:

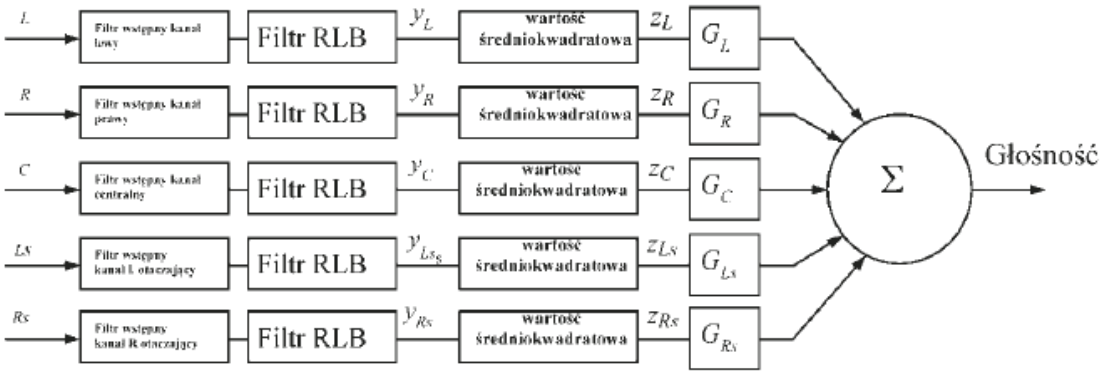
- Fast mode
- Integrating mode.

The integrating mode shall provide average readings for a repeatable, present T period. The measurement time shall be set manually or otherwise.
Reading of a meter measuring the same signal with reversed polarity shall not deviate from the previous reading by more than 0.5 loudness unit.
Loudness reading of a correctly operating meter shall amount to -3.00 LU if a sinusoidal input signal with the frequency of 1 kHz and the maximal, absolute level of 0 dBfs is provided to a left, central or right channel.
Loudness of a stereo o multichannel audio signal used for adjustment shall be displayed by a single meter as indicated by the algorithm illustrated by Figure 1.
As an exception, the measurement method cannot be used if the algorithm is inappropriate for estimation of loudness of tones such as singular sinusoidal signals. These are very rare occurrences in emission of programs.
With regard to method of visualization of measurements of loudness necessary to provide recommendations, it shall be possible to repeat comparisons of loudness measurements based on assumptions presented hereinafter integrated for measurement time of audio materials between 1 and 20 seconds.

Objective multichannel loudness measurement algorithm

Figure 1 shows a block diagram of a loudness measurement algorithm. It allows monitoring of programs containing from one to five audio channels. For input signals which has less than five channels, some inputs wound not be used. The low frequency effects channel (LFE) is not included in the recommended measurement methodology.

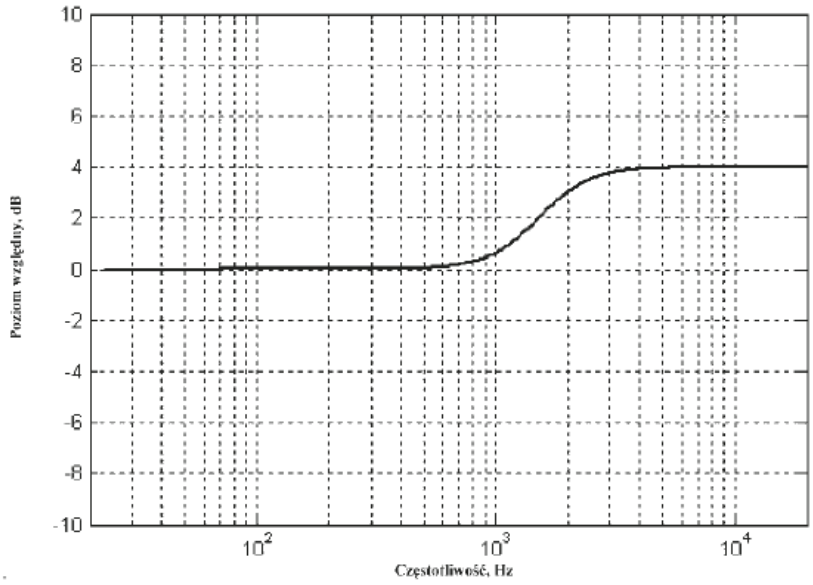
Figure 1. Block diagram of multichannel loudness measurement algorithm



Key:
Filtr wstępny kanał lewy – Pre-filter left channel
Filtr wstępny kanał prawy – Pre-filter right channel
Filtr wstępny kanał centrlany– Pre-filter central channel
Filtr wstępny kanał L otaczający – Pre-filter left surrounding channel
Filtr wstępny kanał R otaczający – Pre-filter right surrounding channel
Filtr RLB – RLB filter
Wartość średniokwadratowa – Mean square value
Głośność – Loudness

The first stage of the algorithm applies a pre-filtering of the signal as shown in Fig. 2. The pre-filtering prior to the next step, i.e., *Leq* measurement (RLB) accounts for the acoustic effects of the head, where the head is modeled as a rigid sphere.

Figure 2. Response of the pre-filter used to account for the acoustic effects of the head



Key
Poziom względny - Relative level (dB)
Częstotliwość - Frequency (Hz)

The pre-filter shown in Figure 2 is defined by the filter shown in Figure 3 with the coefficients specified in Table 1.

Figure 3. Diagram of a 2nd order filter performing pre-filtering action

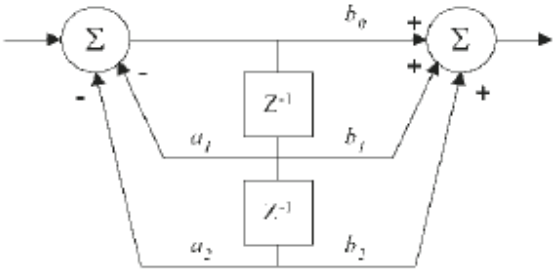
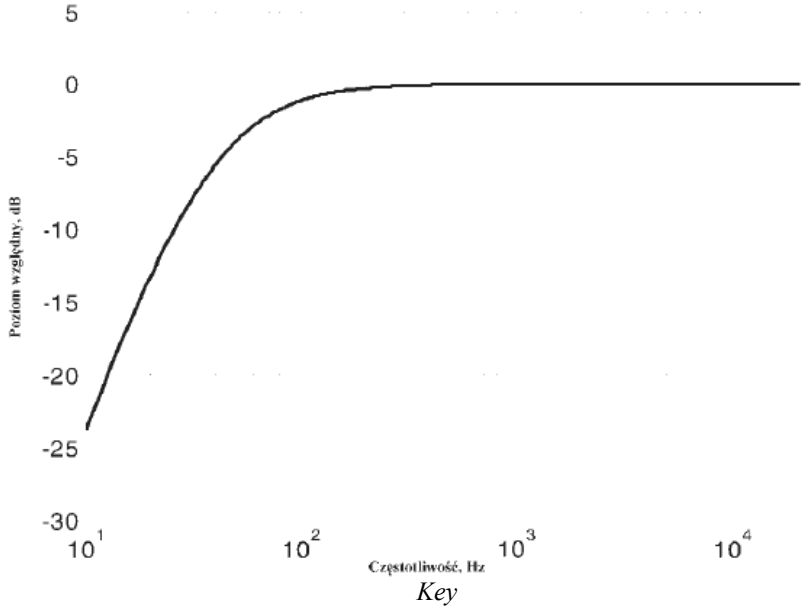


Table 1. Filter coefficients for the pre-filter to model a spherical head

-	-	b_0	1.53512485958697
a_1	−1.69065929318241	b_1	−2.69169618940638
a_2	0.73248077421585	b_2	1.19839281085285

The filter coefficients shown in Table 1 require single sampling rate of 48 kHz.
The second stage of the algorithm applies the RLB weighting curve, which consists of a simple high-pass filter as shown in Figure 4.

Figure 4. RLB weighting curve



Key
Poziom względny - Relative level (dB)
Częstotliwość - Frequency (Hz)

The RLB weighting curve is specified a filter as shown in Figure 3 with the coefficients specified in Table 2.

Table 2. Filter coefficients for the RLB weighting curve

-	-	B_0	1.0
a_1	−1.99004745483398	B_1	−2.0
a_2	0.99007225036621	B_2	1.0

The filter coefficients presented in Table 2 are for a sampling rate of 48 kHz.

With the pre-filter and the RLB filtering applied, the mean-square energy (z_j) in the measurement interval T is then measured for every audio channel using the following formula:

$$z_i = \sqrt{\frac{1}{T}\int_0^T y_i^{\,2}\,dt} \qquad (1)$$

where i = L, R, C, Ls or Rs and y_j is an input signal after pre-filter (taking into account acoustic effects of the head shape) and filtering based on the RLB weighting curve (taking into account non-linear hearing sensitivity to sound depending on its frequency).

Once the weighted mean-square level (z_j) has been calculated for each channel, the final step is to calculate the total loudness of an audio signal by summing obtained values for N channels using the following formula:

Loudness

$$\mathrm{LU} = -0.691 + 10\log_{10}\sum_{i}^{N} G_i \bullet z_i \ [\mathrm{dB_{LU}}]$$

where *i* indicates subsequent channels L, R, C, Ls, RS, and N is the total number of channels used in measures audio program. G_j is a loudness weighting coefficient separately determined for each channel. Table 3 shows values of G_j.

Table 3. Weighting coefficients for individual audio channels

Channel	**G_j weighting coefficient**
Left (G_L)	1.0 (0 dB)
Right (G_R)	1.0 (0 dB)
Central (G_C)	1.0 (0 dB)
Left surrounding (G_{LS})	1.41 (~ +1.5 dB)
Right surrounding (G_{RS})	1.41 (~ +1.5 dB)

Note:
LU (Loudness Unit) – a loudness measurement unit. Loudness meter shall be calibrated in loudness units [LU]. It is a loudness meter scale unit. Program loudness expressed in loudness units represents damping or amplification in decibels required to bring signal level to 0 LU. For example, program signal of -10 LU would required amplification of +10 dB to achieve reading of – 0 LU.