



The technical conditions for including the advertising spots in CT broadcasting

Releasing the technical conditions for advertisement spots is necessary for ensuring optimal quality to TV broadcasting, in accordance with valid standards, that has to fulfil the following specifications:

1. Recording in Digital Betacam or XDCam with kodek MPEG-2/IMX 50 or 30 Mbit/s (I-frame only, 422P@ML) for SD and MPEG-2 50 Mbit/s (Long GOP, 422P@HL) for Full HD (both formats are compatible with Sony XDCAM equipments).
2. Format should have been FULL HD (1920 x 1080i 25) or SD (720 x 576i 25), audio in coding 24 bit / 48 kHz.
3. Recorded video signal will be checked in PAL system in all cases (down-converted in case of HD) and has to fit CCIR international recommendations.
4. Audio signal has to be un-compressed, mono version audio signal has to be the same in both CH1 and CH2 tracks, always using DOLBY NR system. Modulations in CH1 and CH2 do not have to be in mutual opposition. Audio modulation can also be provided in stereo version under the condition that CH1=L, CH2=P. The stereo version can only be broadcasted at times when CT is Broadcasting stereo version audio signal.
5. The reference tone at frequency 1 kHz has to be recorded on level -18 dB_{FS} and music level does not have to exceed this reference value. Maximum values of talk measured by multipeak indicator may exceed the reference level up to +6dB with tolerance +3dB.
6. The time control code is recorded in TC track with synchronous VITC using.
7. The cassette start has to be provided with these signals:

0'00" - 0'10" PAL black

0'10" - 1'30" colour stripes PAL 100/0/75/0 and audio reference CH1 and CH2 audio channels signal 1 kHz on level -18 dB_{FS}

1'30" - 2'00" PAL black without sound

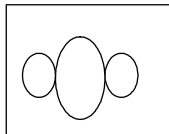
2'00" the first shot start

Before any other shot start at least 10" PAL colour stripes and the signal 1 kHz on level 0 dB (0,775 V) should be provided. Video and audio test's and next shot's levels have to correspond.

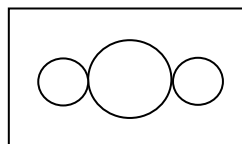
Each part of XDCam has to be marked as an individual "CLIP". In case of program part, the CLIP beginning has to be marked 5 frames (5f) before picture starting and the CLIP finishing 5 frames (5f) after picture ending.

8. All the synchronisation impulses, particularly horizontal H, burst and chrominance signal have to be in fixed time and phase relation.
9. The complete video signal level must not ever exceed the value 133%, i.e. 931 mV, and value -33%, i.e. -234 mV, compared to black colour level. No colour must exceed the limit signal values given. See also the figures and a chart.
10. The fall-outs of image, especially dropout and line pullouts must not affect the perception of viewer. Level of the interference signals as noise and hum must not be higher than -40 dB, i.e. 1% white colour level in luminance and chrominals channels.
11. Sharpness and image gradation have to correspond to professional colour TV signal points of view and it will be subjectively compared to any other high quality signal.
12. Only aspect ratio 16:9 Full Height Anamorphic (in SD format) or 16:9 Full HD are required. Any damages of shapes resulting from aspect ratio conversion will be avoided.

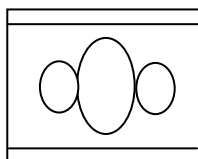
Picture of SD 16:9 Anamorphic



Picture of Full HD 16:9



Picture of wide-screen film of SD 16:9 Anamorphic



Picture of wide-screen film of Full HD 16:9

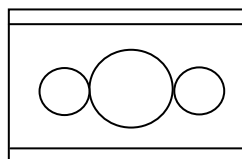
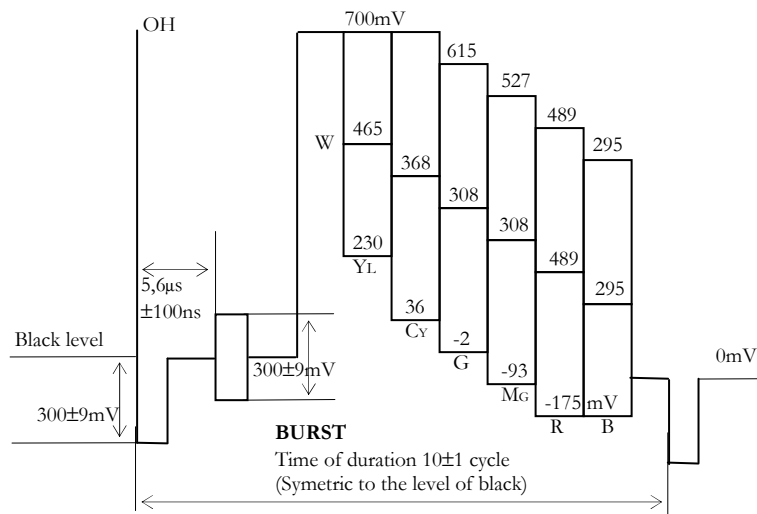




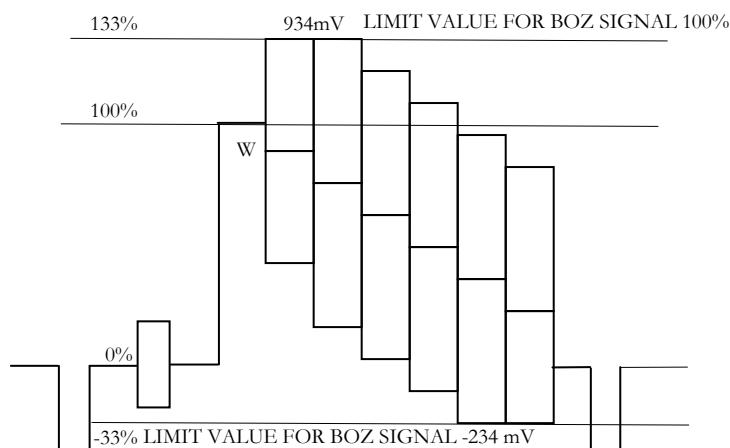
Table of colour stripes PAL 100/0/75/0 according to CCIR

Stripe colour	Lumination level (mV)	Chrominance			
		freq. swing (mV)	angle in degrees		
			line n	line n+1	
W white	700	0	*	*	
YL yellow	465	470	167.0	193.0	
CY azure	368	664	283.5	76.5	
G green	308	620	240.5	119.5	
MG crimson	217	620	60.5	299.5	
R red	157	664	103.5	256.5	
B blue	60	470	347.0	13.0	
SIB burst	0	300	135.0	225.0	

Complete signal PAL – colour stripes 100/0/75/0



Complete signal PAL .- coullour stripes 100/0/100/10 – limit values



Technical data base on CCIR No.624.

These conditions for technical conditions on Czech Television are valid as of November 1st, 2010.