



Delivery specifications for stream spots.

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Talpa Network

Sales Traffic
Rietlandpark 333
1019 DW Amsterdam

E adtraffic@talpanetwork.com
T +31 20 800 72 75





1 GENERAL

This document covers the technical requirements for streaming content commissioned in High Definition (HD) which are to be distributed by Talpa TV. Talpa TV offers the option of electronic delivery by means of transferring computer files via the internet or to make use of the VAST protocol. Next to this document, the General Terms and Conditions and Sales Restrictions must be accepted by the supplier. If the requirements included in this document are not fulfilled, Talpa TV retains the right to refuse or adapt the received production.

2 STREAM SPOTS

A stream spot is an online commercial which can be transmitted before (pre-roll), during (mid-roll) or after (post-roll) a program.

2.1 VIDEO

2.1.1 SPECIFICATIONS FOR THE COMPUTER FILE

Content is accepted in one of the following formats:

Item	MXF	MP4
Length	≤30 seconds	≤30 seconds
Video codec	MPEG HD422 Long GOP	H.264
Video resolution	1920x1080 (1080i/25)	1920x1080 progressive scan
Video frame rate	25	25 or 50
Video bitrate	50 Mbit/sec	>10 Mbit/sec
Video aspect ratio	16F16	16F16
Audio codec	PCM	AAC
Audio resolution	48 kHz/24 bits	48 kHz/preferably 24 bits source material
Audio bitrate	Embedded in MXF file	320 kbps
Audio channels	Stereo or dual mono	Stereo or dual mono
Audio loudness	-23 LUFS	-23 LUFS

More information about audio can be found in section 2.2. For a detailed overview of the MXF format, please download the document 'Talpa TV delivery specifications for Commercials and Billboards' from the Talpa TV website. Talpa TV will create different bitrate and resolution variants for device compatibility.



2.1.2 PICTURE QUALITY

The picture must be well lit and reasonably but not artificially sharp. It needs to be free of excessive noise, grain and digital compression artefacts, flare, reflections, lens dirt, markings and obstructions, lens aberrations, black crushing and highlight compression. Hard clipping of highlights by legalisers shall not cause visible artefacts on screen. Movement needs to appear reasonably smooth and continuous, and must not give rise to distortions or break-up to moving objects, or cause large changes in resolution. There shall be no noticeable horizontal or vertical aliasing, for example jagged lines and field or frame rate fluctuations. Colour rendition, especially skin tones, must be consistent throughout and be a realistic representation of the scene portrayed, unless it is altered as an editorially essential visual effect. There shall be no visible contouring, quantisation noise or artefacts caused by digital processing. Noticeable spurious signals or artefacts, for example streaking, ringing, smear, echoes, overshoots, moiré, hum or cross-talk shall not be visible.

Electronically generated moving graphics and effects such as rollers, moves, wipes, fades and dissolves added to interlaced video in post-production must be generated as interlaced as well to prevent unacceptable judder.

2.1.3 PHOTSENSITIVE EPILEPSY

Flickering or intermittent images and certain types of regular patterns can cause problems for some viewers who have photosensitive epilepsy. The supplier must take precautions according to guideline ITU-R BT.1702 to avoid the production of images that fall into this category.

2.2 AUDIO

2.2.1 CHANNEL LAYOUT

The submission must occur in one of the following layouts:

- **MXF files**
Stereo audio in eight channels (four AES pairs, eight tracks)
1 = Left Stereo (Lo/Lt)
2 = Right Stereo (Ro/Rt)
3 = Mute
4 = Mute
5 = Mute
6 = Mute
7 = Mute
8 = Mute



- **MP4 files**

Stereo audio in two channels (one AES pair, two tracks)

1 = Left Stereo (Lo/Lt)

2 = Right Stereo (Ro/Rt)

Channels 1 and 2 form a stereo pair. In case of mono audio, the Left channel must be identical to the Right channel. Stereo program audio must be capable of mixing down to mono without causing any noticeable phase cancellation of essential audio information, dialogue in particular. Left and Right stereo can contain either a straightforward stereo mix (Lo/Ro) or a mix which is compatible with Dolby Surround/ProLogic and similar systems (Lt/Rt). The use of a Lo/Ro-mix is nevertheless strongly preferred. All audio channels must be in sync.

2.2.2 LOUDNESS LEVEL

The loudness level of the content must comply with EBU R128-2014 and its supplement for short form content EBU R128-S1-2016, which includes the following specifications:

Program Loudness	-23.0 LUFS (± 0.5 LU)
Maximum True Peak Level	-1 dBTP
Maximum Momentary Loudness	No restriction
Maximum Short-Term Loudness	+5 LU
Maximum Loudness Range	No restriction

Limitations of the modulations are determined using the Maximum Short-Term Loudness parameter. Based on performance in practice, future versions of this delivery specification may be adjusted for options as well as permitted maximum values. The production company will be seriously blamed if mixing techniques are used or additional signals are added to the content which deliberately leads to manipulation of the loudness measurement.

2.2.3 AUDIO QUALITY

Sound must be recorded with appropriately placed microphones, giving minimum background noise. The audio shall have no peak level clipping and be free of spurious signals such as clicks, hum and any other avoidable distortion. The sound needs to be consistently mixed and edited. Speech must be acquired and mixed so that it is clear and easy to understand while listening on the same comfortable listening level and must not be louder than the average speech level of programs. Loudness levels must be appropriate to the scene portrayed, suitable for domestic listening situations. The audio must not show dynamic and/or frequency response artefacts as a result of the action of noise reduction or low bit rate coding. The timing difference between sound and vision shall not cause any perceptible error.



2.3 OTHER ASPECTS

2.3.1 FILE NAMING CONVENTION

The file name needs to be unique, representing the content and contains aspects such as the product name, version, as well as date of broadcasting, separated by an underscore (_).

File names must consist of the UTF-8 character set, using numbers (0-9), upper case letters (A-Z), lower case letters (a-z) and hyphens. Characters with diacritical marks such as é, è, ë or ö may not be used. Spaces are not permitted in file names and must be replaced by a hyphen (-). Text is not case sensitive. The maximum length of the entire file name is 100 characters. The (_) character is used exclusively as separator. The extension for the MXF file with the material must be “mxf”, for MP4 this is “mp4”.

Examples of file names would be:

mars_mars-delight_30_version-2_03-12-2015_HD.mxf

mars_mars-delight_30_version-2_03-12-2015_HD.mp4

2.3.2 SUBMISSION VIA INTERNET

The server to which computer files are submitted can be reached via the internet. The internet address of this server will be provided together with the access account information. The server uses the SSH File Transfer Protocol. Full support of this protocol, accessibility and proper functioning of the server cannot be guaranteed.



2.3.3 PROCEDURE TO REQUEST AN ACCESS ACCOUNT

In order to gain access to the Talpa TV server, an access account must be requested first via adtraffic@talpanetwork.com. The request must include the reason for the application, the company name and the name, e-mail address and phone number of the contact person. An e-mail will be sent to the contact within three business days, which will include the following information for the access account:

- User name/Password;
- Expiration date of the access account;
- The internet address of the broadcast server.

2.3.4 SUBMISSION VIA VAST

Commercial suppliers can make use of the VAST protocol (Video Ad Serving Template) which is supported by the IAB (Interactive Advertising Bureau). Talpa TV is VAST 2.0 compliant. VAST is a way to make commercials available in several formats. Instead of physical supply to the broadcaster, a file is available on a centralised server where to a client is redirected. The delivery takes place by means of a VAST URL which refers to an XML file with all required information, including the external location where the online commercial can be found. Extensive information is available on the IAB [website](#), the '[Digital Video Ad Serving Template](#)' in particular.

When a spot is hosted by the buyer, the following specification should be taken into account:

- Mediafiles:
 - The XML must contain several mediafiles/renditions for all different device types (PC, mobile and tablet): low, medium, high and mezzanine;
 - The XML should at least contain a set mp4 H.264 files;
 - The smallest rendition should at least have a bitrate of 1500 kbps;
 - The loudness of the media should comply to R128 (-23 LUFS);
 - The media files cannot be changed during the campaign without consulting Talpa TV;
 - Duration of the files must match indicated length in the XML;
 - Besides bitrate specifications, all specifications under chapter 2.1 (video) and 2.2 (audio) apply;
- Tracking pixels:
 - The XML can contain standard IAB tracking pixels for vendors on our vendor list, this list can be requested via adtraffic@talpanetwork.com.

2.3.5 VAST THIRD PARTY MEDIA SERVER REQUIREMENTS

The media server shall support play-out for multiple devices such as mobile phones, tablets, desktops, game consoles, smart-TVs and other popular devices. The



formats shall support all connection types including 3G, 4G and Wi-Fi and support multiple bit rates and resolutions. Formats that support this must include byte-range requests and start of play-out before the entire file has downloaded (progressive download). The use of a major Content Delivery Network is recommended. For peak performance, a media server shall support a high number of simultaneous users, as is the case with live events in combination with an exclusive campaign. When supporting multiple operations, the available bandwidth and number of simultaneous connections should be increased proportionally. The service must also support a bandwidth in accordance with the expected number of connections and bitrates. The provider shall ensure that the stability of the platform is not compromised when the maximum number of connections or the maximum bandwidth is exceeded.

2.3.6 VPAID REQUIREMENTS

Talpa TV is VPAID 2.0 compliant. The VPAID ad can only be run on desktop. The following specification should be taken into account for VPAID:

- Mediafiles:
 - Javascript or HTML5, not Flash;
 - The XML must contain several mediafiles/renditions for all different device types (PC, mobile and tablet): low, medium, high and mezzanine;
 - The smallest rendition should at least have a bitrate of 1500 kbps;
 - The loudness of the media should comply to R128 (-23 LUFS);
 - The media files cannot be changed during the campaign without consulting Talpa TV;
 - Duration of the files must match indicated length in the XML;
 - Besides bitrate specifications, all specifications under chapter 2.1 (video) and 2.2 (audio) apply;
 - All assets and events must be served over HTTPS to prevent HTML5 mixed content warning.
- Tracking pixels:
 - The XML can contain standard IAB tracking pixels for vendors on our vendor list, this list can be requested via adtraffic@talpanetwork.com.

2.3.7 SPECIAL VIDEO FORMS AND FORMATS

For all other video forms (VR, 360, 4K, vertical) contact Ad Traffic via email: adtraffic@talpanetwork.com



3 QUICK REFERENCE GUIDE STREAM SPOTS

Item	MXF	MP4
Length	≤30 seconds	≤30 seconds
Video codec	MPEG HD422 Long GOP	H.264
Video resolution	1920x1080 (1080i/25)	1920x1080 progressive scan
Video framerate	25	25 or 50
Video bitrate	50 Mbit/sec	>10 Mbit/sec
Video aspect ratio	16F16	16F16
Audio codec	PCM	AAC
Audio resolution	48 kHz/24 bits	48 kHz/preferably 24 bits source material
Audio bitrate	Embedded in MXF file	320 kbps
Audio channels	Stereo or dual mono	Stereo or dual mono
Audio channel lay-out	1 = Left stereo (Lo/Lt) 2 = Right stereo (Ro/Rt) 3 = Mute 4 = Mute 5 = Mute 6 = Mute 7 = Mute 8 = Mute	1 = Left stereo (Lo/Lt) 2 = Right stereo (Ro/Rt)
Program Loudness	-23 LUFS (±0.5 LU)	-23 LUFS (±0.5 LU)
Maximum Signal Level	-1 dBTP	-1 dBTP
Maximum Momentary Loudness	No restriction	No restriction
Maximum Short-Term Loudness	+5 LU	+5 LU
Maximum Loudness Range	No restriction	No restriction