TECH SPECS SLING TV

VIDEO & AUDIO REQUIREMENTS MEZZANINE FILES
For best viewing quality, HD is recommended; however, we are able to accept SD as well.

VIDEO -
HIGH DEFINITION PROGRESSIVE (HDp)
- Video Codec: AVC – H.264
- Bit-rate min: 20 Mbps
- Bit-rate mode: CBR
- GOP: 2 to 3 reference frames
- Resolution: 1920x1080
- Scanning: Same as source (progressive or interlaced)
- Frame Rate: Same as source (majority will be 23.98 or 29.97)
- Profile/Level: Main/4.1
- Chroma Format: 4:2:0
- Display Aspect Ratio: 16:9
- Closed Captioning: .scc files
- Container: MPEG2 Transport (.mpg extension)

VIDEO -
STANDARD DEFINITION (SDi)
- Video Codec: AVC – H.264
- Bit-rate min: 20 Mbps
- Bit-rate mode: CBR
- GOP: 2 to 3 reference frames
- Resolution: 640x360 (16:9) or 640x480 (4:3)
- Scanning: Same as source (progressive or interlaced)
- Frame Rate: Same as source (majority will be 23.98 or 29.97)
- Profile/Level: Main/4.1
- Chroma Format: 4:2:0
- Display Aspect Ratio: Same as source
- Closed Captioning: .scc files
- Container: MPEG2 Transport (.mpg extension)

AUDIO -
FORMAT TYPE A1: STEREO ENGLISH
PID-1/Track 1 English L/R
- Codecs: AC3 @348k*
- Sampling Rate: 48 kHz

* AC3 shall be in sync with video upon decode. Metadata generation must follow Dolby & industry practice.

* Dial norm must be provided or the default setting of -24 will be used.

ADDITIONAL REQUIREMENTS
- Max File Size: 300 MBs
- Video Length: 15 seconds, 30 seconds, or 60 seconds
- Although DISH can accept Program Stream (.mpg), mp4, .mov files, Mezzanine files are preferred to be in MPEG2 Transport.
- Mezzanine files should not be created from source files with lower bit-rates and resolutions. Contact DISH prior to sending test files if the "source" content does not match the SD or HD specifications, including minimum bit rate.

- NOTE: Do not include color bars or countdown slates at the beginning. The clip will be used exactly as received; no audio or video editing will be performed.
TECH SPECS SLING TV

VIDEO DELIVERY OPTIONS

INFORMATION FOR DELIVERY
Video ads can be served via approved third-party vendors or by delivering the mezzanine file directly to DISH. Files and 1x1 trackers must be in house no later than 3 business days prior to start date to allow for production, testing and review.

EXTREME REACH
Destination Folder: Sling TV

HIGHTAIL
Upload to: www.hightail.com/u/dishnyc

COMCAST AD DELIVERY
Contact: 855-858-1942, option 1

YANGAROO
Contact: 855-534-0607

QUESTIONS?
Contact: DAIAdOps@dish.com

Digital Delivery & Ad Copy Instructions

ADDRESSABLE, SLING DIRECT IO, AND SLING PROGRAMMATIC GUARANTEED DEADLINES
Including digital delivery of creative 3 Business Days Before Launch

<table>
<thead>
<tr>
<th>Must Arrive by COB</th>
<th>For Campaign Start On</th>
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<tbody>
<tr>
<td>Wednesday</td>
<td>Saturday/Sunday/Monday</td>
</tr>
<tr>
<td>Thursday</td>
<td>Tuesday</td>
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<td>Friday</td>
<td>Wednesday</td>
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<tr>
<td>Monday</td>
<td>Thursday</td>
</tr>
<tr>
<td>Tuesday</td>
<td>Friday</td>
</tr>
</tbody>
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*Contact your DISH Media representative for holiday deadlines.

VAST 2.0 -
- Video Length: 15 seconds, 30 seconds, or 60 seconds
- If more than one video length is being trafficked, these must be provided in separate VAST tags.
- Preferred container: mp4 is recommended, but we can also accept HLS, mov, webm, Flv and mpeg.
- Resolution: 1280x720
- Aspect Ratio: 16:9
- VPAID is not accepted at this time.
- 3rd party viewability measurement is not supported.
- All VAST tags and tracking pixels must be secured and start with https://

SLING PROGRAMMATIC PRIVATE AUCTIONS
DEAL ID REQUESTS

<table>
<thead>
<tr>
<th>Contextual and standard demo targeting</th>
<th>4 hours during EST business hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other audience targeting built on first party data</td>
<td>4 business days before the start date</td>
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