TECHNICAL SPECIFICATIONS

1. **ZoomerMedia** ("**ZML**") can accept delivery of programs on these tape formats: IMX, Digital Betacam, Beta SX, Beta SP, HDCAM. Tapes must be bulk erased or stripped before use.

2. For File based delivery of SD content, Video: Quicktime NTSC 29.97fps IMX 50mb/s 720x512; Audio: 2 Channel Stereo, Linear PCM (24Bit or 16Bit @ 48 kHz). CEA-608 (Line 21) Closed Captioning or without closed captioning.

3. For File based delivery of HD content: Video: Quicktime XDCAM-HD 50mb/s 1280 x 720 up to 1920 x 1080; CEA-708 Closed Captioning. Audio: 2 channel Stereo, Linear PCM (24Bit or 16Bit @ 48kHz).

4. For delivery of a Web Format Master: File must be either .mp4 or .mov; H264 encoded format; 29.97 FPS; Audio: AAC, 128 kbps stereo, 44100 Hz; Size: 1280 x 720p, Aspect Ratio 9:16 and file size cannot exceed 1GB.

5. Reference colour bars and tone at the head of each tape must be a true indication of the Program's chroma, video, pedestal & phase, and audio levels. At least 40 seconds of bars and tone is required.

6. Slates, including series and episode title/number, program length and audio information, must follow bars & tone at the head of each tape. A slate should last 10 seconds. Please include 10 seconds of black between the slate and program start.

7. All programs delivered must have leaders on them that conform to the following standard. Time Code has to be continuous Vertical Interval Time Code (VITC) throughout the tape

    00:58.00:00 Black and silence - *duration 00:00:30:00*

    00:58.30:00 Colour bars and tone start - *duration 00:01:00:00*

    00:59.30:00 Black and Silence - *duration 00:00:10:00*

    00:59.40:00 Slate - *duration 00:00:10:00*

    00:59:50:00 Black and Silence - *duration 00:00:10:00*

    01:00.00:00 Program start

    01:xx:xx:xx Minimum of 30 seconds of black at the tail of the program

8. Stereo programs must have a stereo mix on left and right audio channels. Split track audio is <u>will be rejected</u> (i.e.: music and f/x on channel 1, v/o on channel 2). Program audio for monaural programs should be on both audio tracks 1 & 2. Audio for Described Video should be on channels 3 and 4. Described Video must be mixed with program audio.

9. SMPTE 525/60 compensated vertical and linear time and control code (drop frame) time code must be present, continuous and uninterrupted from start of tape to 60 seconds after the end of the program. Time Code should be first generation on master videotape. Drop frame time code is the standard used at **ZoomerMedia** since it allows tape time to run perfectly in sync with real time.

10. Closed captions must be encoded on line 21 of the vertical blanking interval (VBI), Pop On captions are preferable, please refer to the CAB style guide http://www.cab-acr.ca/english/social/captioning/captioning.pdf . Closed captions must meet technical standards. The base of the captioning signal must rest between 0 and 2 IRE (digital or analog), and reach a level of 350 mV. In addition, the captions must decode correctly when using any of our benchmark decoders: EEG EN270600 (or higher), EEG EN470, Evertz 8074, Evertz 8084. Failure to decode correctly on any of these decoders will delay program acceptance.

11. No data or test signals shall be encoded on either field of vertical interval lines 7 through 22, inclusive without prior consent of **ZoomerMedia**. Permitted exceptions are vertical interval time code on lines 12 through 17 inclusive and line 21 field 1 which may be used for English language CC1 captions. Text and XDS data are not permitted without prior consent.

12. Videotape labels should include the series and episode title/number, program length, and information

pertaining to audio track assignment, noise reduction, recording standard (NTSC) and tape generation.

Paid Programs (e.g. Mosaic) should also include airdates where possible. Canadian Paid Programs (e.g. Mosaic) should include Production year, CANREC # and Episode number.

13.   Licensed program content length should not exceed 45:00 minutes in an hour, and 22:00 minutes in a half hour, unless otherwise specified in the Agreement.

Paid Program (e.g. Mosaic) content length should not exceed 57:00 min. in an hour and 28:30 min. in a half

hour, unless otherwise specified in the Agreement. Mosaic program refers to all paid airtime programming sponsored by Faith Groups and Broadcast Ministries.

14.   **ZoomerMedia** places a channel bug in the lower right corner of the screen. Producers must avoid using the lower right screen area for any graphics within the Program which could be potentially covered by the Station ID bug. This includes but is not limited to lower third graphics containing guest names, contact information, promotional information in the form of pop-ups or crawls and/or screen credits.

TECHNICAL SPECIFICATIONS FOR PROGRAM DELIVERY

Film to Tape Transfers

Digital master video transfer of the PICTURE. The negative from which the videotape master was manufactured must be free from splices and scratches, and fully panned and scanned if the PICTURE was produced in Cinemascope. See videotape requirements.

Videotape Submissions

A.   Type of recording stock

1.   **ZML** will accept SD programs on IMX, Digital Betacam, Beta SX, and Beta SP.

2.   HD will be accepted on HDCAM only. HDCAM SR IS NOT SUPPORTED AT THIS TIME

B.   Tape condition

1.   All tape shall be bulk erased before recording to ensure that all residual signals are 70 dB below the recorded level.

2.   The maximum average of dropouts (with a depth greater than 16 dB, and a width greater than 5 microsec.) acceptable is 10 per minute. No one minute tape segment shall contain more than 20 dropouts.

3.   The tape shall not contain any physical splices.

4.   The tape shall not contain any scratches that cause visible picture degradation.

5.   The tape shall not exhibit any binder breakdown (shedding).

6.   The tape shall not exhibit any cinches or windows.

7.   The tape shall not exhibit any edge damage or ripple.

8.   To prevent a stepped pack, the tape shall be rewound in one continuous pass, from the end of the tape (not the end of the program) to the beginning.

Please Note:

Any of the above problems may/will cause tapes to be not playable to air. If these tapes are supplied to Vision TV they are supplied at the full risk of the supplier. No refunds for unplayable tapes will be entertained.

C.   Video Specifications

1.   All material on tape must conform to either SMPTE Specification 259M in the case of Digital or SMPTE Specification RS170A for Analogue. The exact specification can be obtained from the SMPTE web site – www.smpte.org

2.   Reference colour bars shall be a true indication of the program's chroma, video, pedestal and phase.

At least :40 seconds of bars & tone is required.

    3.   HDTV is preferred to be 1080i/59.94 for NTSC down conversion.

D.   <u>Aspect Ratio</u>

    1.   SD submissions shot in 16:9 widescreen must be cropped or panned and scanned for 4:3.

    2.   HDCAM submissions must be 16:9 widescreen anamorphic.

E.   <u>Blanking</u>

    1.   Horizontal blanking shall be 10.9 micro-sec., plus or minus 0.2 micro-sec.

    2.   Vertical blanking shall be 20 lines where possible.

F.   <u>Closed Captioning</u>

    1.   Closed captions must meet technical standards. The base of the captioning signal must rest between 0 and 2 IRE (digital or analog), and reach a level of 350 mV. In addition, the captions must decode correctly when using any of our benchmark decoders: EEG EN270600 (or higher), EEG EN470, Evertz 8074, Evertz 8084. Failure to decode correctly on any of these decoders will delay program acceptance.

    2.   Closed captions must be encoded on line 21 of the vertical blanking interval, and displayed on the bottom of the screen.

G.   <u>Video Performance</u>

    1.   Signal to noise shall not be less than 40 dB (CCIR WTG) for multigenerational.

    2.   Moire and microphonics shall not be visible in the picture.

    3.   Excessive lag and bloom are unacceptable (except for special effects purposes).

H.   <u>Monochrome programs</u>

    1.   Recordings which are entirely monochrome shall contain colour burst signal during horizontal blanking and there shall be chroma (colour) information (subcarrier) in the program signal.

    2.   Recordings that are predominantly monochrome in content shall have the colour burst during the monochrome portion.

    3.   Due to the "flash" apparent on many receivers upon burst/noburst/burst transitions, the burst must be turned "on".

I.   <u>Recorded in impairments</u>

    1. Head switching (swapping) in active video shall not be permitted (unacceptable source material).

Audio Specifications

A.   <u>Levels</u>

    1. **ZML's** standard for digital audio level is 20 dBfs (full scale). The equivalent analog level is 0 VU, 1000 Hz in the NTSC analog standard. The analog peak value is +16dB.

B.   <u>Cross-talk</u>

    1.   Video cross-talk in program audio shall be inaudible.

    2.   Cross-talk from the control track into any audio track shall not be greater than 50 dB.

C.   <u>Distortion</u>

    1. Distortion shall not be greater than 1.0% at operating level.

D.   <u>Dolby "C"</u>

    1. Dolby "C" encoded programs shall conform to standard Dolby procedures, and shall have box and cassette identified as Dolby "C" encoded, with a standard yellow Dolby label.

2. Dolby "C" encoded programs on Betacam SP format are preferred.

3. **ZML** will accept both mono and stereo Dolby C encoded programs.

E.   Audio Track Assignments

1.   Mono: put program audio for monaural programs on both audio tracks 1 & 2.

2.   Track 1: left channel for stereo programs or program audio for monaural programs.

3.   Track 2: right channel for stereo programs, or duplicate mono channel for monaural programs.

4.   Tracks 3 and 4 should be blank in both cases.

5.   Audio for Described Video must be placed on Tracks 3 and 4.

6.   Dolby Surround Pro Logic or Dolby Pro Logic II: Put matrix-encoded audio on audio tracks 1 & 2.

Timecode Specifications

1. Timecode shall be present and shall be SMPTE 525/60 vertical interval and linear compensated time and control code (drop frame).

2. Timecode shall be on the timecode track.

3. Timecode shall be first generation on the master videotape.

4. Recording levels for timecode, as measured on a VU meter, shall be 0.0 VU (+2 VU maximum).

5. Timecode shall be continuous Vertical Interval Time Code (VITC) from start of tape to 60 seconds after end of program.

6. If Linear Time Code (LTC) is present it must be identical to the existing VITC timecode.

Packaging

A.   Tape Elements

1. Ten (:10) seconds of Black Leader.

 Test: forty (:40) seconds minimum NTSC colour bars, with 1000 Hz tone at operating level of 0.0 VU (analogue) or –20 dBfs (digital).

2. Ten (:10) seconds visual slate containing the program name, production centre, and specific audio track information (i.e. stereo), program length and breaks. An attached cue sheet would also be acceptable.

B.   Shipping

1. Programs must be accompanied by commercial cue sheets, if applicable.

2. Paid Programs (e.g. Mosaic) must be accompanied by music cue sheets, if applicable.

Labeling

A.   The tape container labels shall contain the following information:

1. Master, Protection Master, or Dub.

2. Production company.

3. Program title/episode.

4. Program length (hours, minutes, seconds).

5. Recordings/Passes on tape.

6. Type of audio (stereo/mono) and Dolby encoding (if relevant).

7. Closed Captioned (if relevant).

8. Descriptive Video audio tracks (if relevant).

9. HDTV resolution/frame rate (if relevant).

ZOOMERMEDIA Break Structure

1/2-Hour Program

Total Program Content: 22 minutes

Story	*Segment Time*	Time Code
1st Segment	5:30 mins	IN: 10:00.00:00 OUT: 10:05.30:00
Tape Black :10 (Commercial Break)		
2nd Segment	5:30 mins	IN: 10:05.40:00 OUT: 10:11.10:00
Tape Black :10 (Commercial Break)		
3rd Segment	5:30 mins	IN: 10:11.20:00 OUT: 10:16.50:00
Tape Black :10 (Commercial Break)		
4th Segment (incl. closing credits)	5:30 mins	IN: 10:17.00:00 OUT: 10:22.30:00

Tape Length w/blacks: 22:30

Total Breaks: 3

Edit Note

A half hour program should come out at a length of 22:00 minutes once completed. This should include program material AND the bumpers (:03 - :05 sec. each) but this length does not include the 10 seconds black. Bumpers should be present at the exit of a segment and upon the re-entry into program material. The bumper itself should contain the title of the program, as either a still or moving image. Breaks should occur **approximately** every 5 1/2 minutes for a total of 3.   The exact points for breaks can be altered slightly if program content demands, as can the overall length **(within 30 seconds but do not exceed 22:30 minutes total).** The last break should precede the program's dramatic conclusion and go straight into credits if possible.

ZOOMERMEDIA Break Structure		
1-Hour Program		
Total Program Content: 45 minutes		
Story	**Segment Time**	*Time Code*
1st Segment	7:30 mins	IN: 10:00:00:00 OUT: 10:07:30:00
Tape Black :10 (Commercial Break)		
2nd Segment	7:30 mins	IN: 10:07:40:00 OUT: 10:15:10:00
Tape Black :10 (Commercial Break)		
3rd Segment	7:30 mins	IN: 10:15:20:00 OUT: 10:22.50:00
Tape Black :10 (Commercial Break)		
4th Segment	7:30 mins	IN: 10:23.00:00 OUT: 10:30:30:00
Tape Black :10 (Commercial Break)		
5th Segment	7:30 mins	IN: 10:30:40:00 OUT: 10:38:10:00
Tape Black :10 (Commercial Break)		
6th Segment (incl. closing credits)	7:30 min	IN: 10:38:20:00 OUT: 10:45:50:00

Tape Length w/blacks: 45:50

Total Breaks: 5

Edit Note

A one-hour program should come out at a length of 45:00 minutes once completed. This should include program material AND the bumpers (:03 - :05 sec. each) but this length does not include the 10 seconds black. Bumpers should be present at the exit of a segment and upon the re-entry into program material. The bumper itself should contain the title of the program, as either a still or moving image. Breaks should occur **approximately** every 7½ minutes for a total of 5.   The exact points for breaks can be altered slightly if program content demands, as can the overall length **(within :30 seconds but do not exceed 45:30 minutes total).** The last break should precede the program's dramatic conclusion and go straight into credits if possible.

Independent Producer Promo specs

General Specifications

❑ Promos for Canadian programming can be produced to a duration of 15 or 30 seconds exactly.
❑ All promos and video material should not contain any titles, voice over or branding elements. These will be added at a later date, in-house, to ensure a cohesive look with ZoomerMedia Limited – Television Division's other programming.
❑ All audio elements should be delivered as an **OMF** file. Instructions for creating an **OMF** file through *Final Cut Pro* are below.
❑ SMPTE 525/60 compensated vertical interval and linear time and control code (drop frame) time code should be present and continuous from start of tape to 30 seconds after the end of the content.
❑ Video elements delivered on Hard Drive should be NTSC-DV/DVC-PRO QuickTime format video files (Do not include BITC – only to be included for video export to accompany OMF file).
❑ For any voice over to be included in the promos, please include a script referencing time code. The voice over will be added at a later date, in-house, to ensure a cohesive fit with ZoomerMedia Limited – Television Division's other programming.

Delivery

❑ Promos and promotional elements should be delivered no later than 14 days before the program begins airing.
❑ ZoomerMedia Limited – Television Division's formats of choice for delivery of non-linear promos and promotional element files are Hard Drive, or Digital Betacam, Beta SX and Beta SP, or data DVD (low quality set top DVDs or Blu Ray DVDs are not accepted) for linear promo formats.
❑ Videotape labels should include the program name, promo length and information pertaining to audio track assignment, noise reduction, recording standard (NTSC).
❑ Please send all promotional elements to the following address:
ZoomerMedia Limited – Television Division, Attn: Cassandra Rayman
64 Jefferson Avenue, Toronto, Ontario M6K 1Y4

ZoomerMedia Limited – Television Division hereby reserves the right to alter, edit or refuse to air any materials submitted.

OMF 2:
Bit depth: 24 or 16
Sample rate: 48K (if timeline contains some files at 44.1K, convert upon export to 48K)
Handles: 5 seconds minimum
Do not use rendered audio effects
Contains audio files only, no video
remove muted/inactive and unwanted audio clips from timeline
start timeline with tone at 09:59:10;00 for 40 seconds
first picture is at 10:00:00;00
must contain 2 pop at 09:59:58;00
reference tone: -20 dBfs
frame rate should be NTSC 29.97 drop frame
Video file:
NTSC DV/DVC PRO QuickTime file
Best Quality
720 x 480
Must have Burn-in Time code
frame rate should be NTSC 29.97 drop frame