



Technical Specifications – Commercial Copy

Scandinavian Region

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**Please send ALL advertising material for
Discovery Denmark/Norway/Sweden feeds
to the following contact/address:**

Att: John Shern

Integrated Communications Planning (ICP)

**Discovery Networks Europe
Discovery House
Chiswick Park, Building 2
566 Chiswick High
London W4 5YB**

**England
DNE Contact Tel: +44-208-811 4333/4337**

**Important: All commercial material must be
delivered three (3) working days before
Transmission.**

**Any requests for changes to the above timelines
must be agreed in advance with local Planning
teams in Copenhagen, Stockholm and Oslo.**

Discovery Networks Nordic Feeds (Denmark, Norway and Sweden - **3 separate feeds**) are transmitted via an automated server system. Whilst it is possible to transmit both Beta SP and Digital Betacam, commercial material is ideally supplied on Digital Betacam, dubbed where possible directly from the final edit master.

Format Guidelines

For best audio and video performance please supply material that conforms to the following specifications:

Description	Digital Betacam	Beta SP*
Alignment reference	Sony ZRP	Sony CR5 2BPS
Signal timing	625/50 (PAL)	
Output levels and timing	Aligned Sony DVW500P (or equivalent) should produce a CCIR 656 270Mbit/s signal which when converted to analogue produces PAL signal conforming to EBU specification.	According to EBU specification for component recording of PAL signals
Aspect ratio	4:3 or 16:9	4:3 or 16:9
Audio reference level	-18dBfs (Headroom 18dB), PPM4*	+4dBu, PPM5
Audio alignment reference		Sony CR8 1BPS
Peak audio level	Reference +8dB (-10dBfs)	Not to exceed +8dBu, PPM6 (Dolby C noise reduction system)
Audio pre-emphasis	None	
Audio tracks	A1 & A3 left, A2 & A4 right	A1 & A3 left, A2 & A4 right

* The preferred delivery format is Digital Betacam

** All PPM measurements in this document refer to an IEC 268-10 IIA compliant PPM meter

Audio Levels

The Audio level measurement standard used by Discovery Networks Europe is PPM conforming to IEC 268-10 IIA (the standard UK / BBC PPM meter). When submitting material to Discovery Networks Europe, audio should conform to the following standards.

	Reference Level	Max Peak Level
UK PPM (IEC 268-10 IIA)	4	6
EBU PPM	'test'	+8
-dBfs	-18	-10

If neither type of specified PPM meters are available, the -dBfs scale should be used to evaluate audio program levels.

Video Levels and Gamut

Video reference signals and program material must conform to EBU Technical Recommendation R103-2000. When viewed on a Waveform monitor, luminance and chrominance components of the video must fall within the following limits

Luminance	-1% and +103%
Chrominance	-5% and +105%

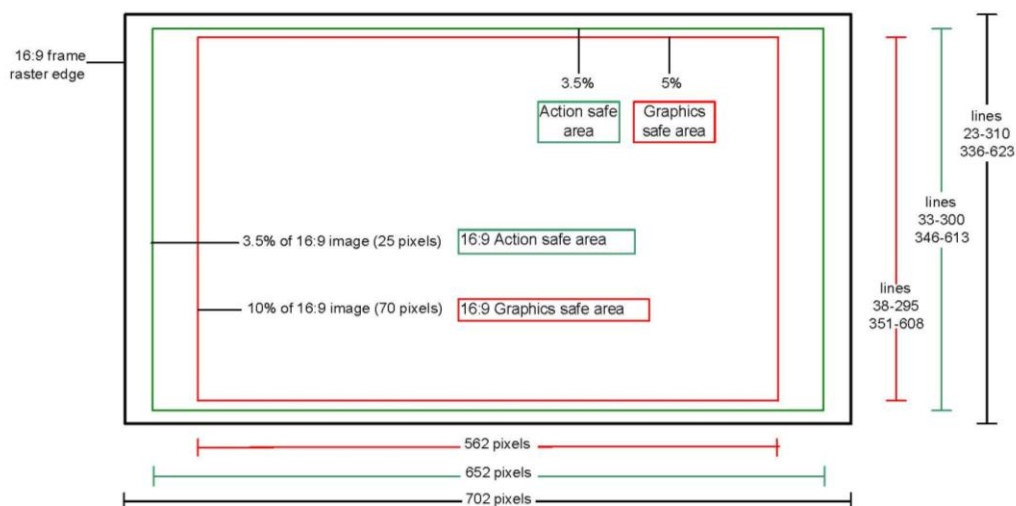
Equivalent RGB values must not exceed 105%

Video Aspect Ratio

Recorded material can be delivered in either 4:3 or 16:9 FHA (Full height anamorphic) formats. Material that is delivered 16:9 FHA will be aspect ratio converted to 16:9 letter boxed at the point of ingest.

Aspect ratio conversion will happen on all delivered content until such time that Discovery switches to 16:9 broadcasting.

When delivering 16:9 FHA material, suppliers should ensure that onscreen elements such as text and graphics are positioned within the Graphics safe area as per EBU Technical Recommendation R95-2000 "Television Production for 16:9 Widescreen: Safe Areas"



Time Code (SMPTE/EBU)

The time code should be locked to video and should be continuous throughout the programme (including the header section). VITC should be recorded on lines 19 and 21 and should be identical to the LTC.

Order of Recording

Recorded material must conform to the specifications outlined below:

Timecode	Duration	Video	Audio			
			Channel 1	Channel 2	Channel 3	Channel 4
09:58:30:00	60"	100% or 75% Colour Bars	1KHz	1KHz	1KHz	1KHz
09:59:30:00	20"	Clock or ident	Silence	Silence	Silence	Silence
09:59:57:00	3"	Black	Silence	Silence	Silence	Silence
10:00:00:00	Programme	Programme	Mono	Mono	As Ch.1	As Ch. 2
Prog. End	30"	Black	Silence	Silence	Silence	Silence

End frame should have minimum 10 sec hold.

There should be no flashing image or repetitive patterns resulting in brightness changes affecting over 10% of the screen at a rate exceeding 3 flashes a second. Highly saturated red flashing is particularly dangerous.

Labelling of the Tape

The tape should be labelled with the **product name** and a **film code** containing 3 letters / 9 numbers e.g. for Discovery Denmark: DCK/7000xxxxx. This code will be provided from the local Stockholm, Oslo or Copenhagen offices.

Please Note:

Audio line up tone should be identical in phase on both audio tracks for mono material or audio 1 interrupted tone and audio 2 continuous tones for stereo material.

Discovery Networks Europe's logo sits in the top right hand corner of the screen throughout the duration of the commercial break.



Ideally, one commercial only should be recorded on each tape that is supplied to Discovery Networks Europe.

However, multi-segmented tapes can be accepted provided that the time code start and end time for each commercial is clearly marked on the tape or packing slip.

Please provide a VHS/DVD copy of all commercials for our local office. More than one version of the commercial can be included on one VHS/DVD.

Material supplied on other broadcast formats is not excluded but may cause processing delays.

For further information regarding the above technical requirements please contact the following:

John Shern
ICP Commercial Coordinator,
Discovery Networks EMEA
+ 44 20 8811 4333