

# The technical and commercial choices

“High Definition Broadcasting – Which Strategy for National Broadcasters?”

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Sveriges Television AB



## You will listen to...

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Sveriges Television AB



## To get “options/choices” (plural)...

- ... (as the title of this presentation says...)
- ... one must fight – by lobbying, by standardisation and clever use of ones wallet!
- Otherwise an interlace-format (1080/I/25) will become the de-facto.
- SVT believes that “HD green field” Europe, targeting (non-CRT) Flat Panels must get format “options”, hence get the “choice” to avoid such an inefficient interlaced future – quality; bandwidth; spectrum and economy-wise.

## The future CE-legacy in the homes...

- ... will probably prevent us PSBs (slow “followers”) to get any second chance. I.e. any perfect “HD Mark II ” with a “Wow!” (like 1080/P/50) *may never happen*.
- CE: In competition - sell as many bad/cheap products as possible, to highest price possible – at once, not in the future. And use the buzzword “HDTV” a lot, until it can not be used as a selling buzzword anymore.
- Dear PSBs – it has to be right from the start; it has to be right now... so please make up your minds, now!

## DVB STBs and the HDMI-interface...

- ... will, by the already de-facto “complexity-level” that has been set, *allow the viewer to choose between 720/P/50 and 1080/I/25, but not 1080/P/50*, for the connection between STBs and Flat Panels.
- DVB STBs using the quality effective AVC/H.264-codec (not MPEG-2) must mandatory be able to receive/decode *both 720/P/50 and 1080/I/25, but not 1080/P/50*.
- Dear PSBs – please, stop dreaming!

## DVB STBs / HDMI-interface and 25P film/drama-style?

- Note: both 720/P/50 and 1080/I/25 have 50 Hz motion portrayal.
- Today, in Europe's SDTV-MultiCast services, *a minor part* of the programming have 25 Hz motion portrayal – films/drama etc. That balance won't change eventually, just because of HD.
- Either the HDMI-interface, nor any EICTA “HDTV Ready Displays” will mandatory promise us broadcasters 25P-transparency, although DVB STBs, using the AVC/H.264, mandatory shall handle 25P – *hence we PBS do not dare broadcasting 25P-streams!*

## No 25P streams – so what to do?

- When all programs and all services (targeting living rooms) in Europe are in HD eventually, the minor part of 25P-programs will be converted and broadcasted *dependent on what basic choice you have made for your 50 Hz service:*
- **As 720/P/50:** by, reducing the spatial aliasing (always introduced in, not over-sampled cameras) by down converting the “over-sampled” 1080 to 720 lines *and* by motion-interpolating the 25 Hz to 50 Hz motion portrayal (to reduce “judder”), hence *achieving a constant quality experience* in a 50P-service! (Program masters as “true” 720/P/50 or 1080/P/25 are treated equally for transmission – professional quality control).
- **As 1080/I/25:** by “interlacing”, hence, in practise almost by default in converters, introducing vertical low pass filtering that reduces the vertical resolution. Workaround - try to convert to PsF-mapping, Progressive Segmented Frame, without vertical low pass filtering and “pray” that all the CE-equipment have perfectly working automatic “film-mode-detection” a.k.a. “2:2 pull down removal”.
- Do I have to say what SVT, dedicated to “50P”, discusses to do with our 1080P/25 archive (?) – off course “as 720/P/50 above”!

## 720/P/50 by standardisation

- “HDTV Ready Display Label” – (very soon) **OK!**
- HDMI-interface – **OK!**
- DVB STBs (ETSI TS 101 154) with AVC/H.264 – (very soon) **OK!**
- Pure technical 720/P/50 parameters (SMPTE 296 M) – **OK!**
- Pure technical 1080/P/50 and 1080/P/25 parameters (SMPTE 274M, hence ITU-R BT.709) – **OK!**
- The final EBU BMC & TC Statement about 720/P/50 as an “optimum” transmission format – **OK!**
- The EBU PMC Recommendation, including 720/P/50 (and 1080/P/25, 1080/I/25 and, in future, 1080/P/50) for European production – (very soon) **OK!**
- **But .....**

## Lobbying to be made

- DVB Contribution (ETSI TS 102 154) with AVC/H.264 – *ask for up to AVC/H.264 Level 4.2 (1080P/50) for contribution – to allow “oversampled” contribution from OB-trucks etc!*
- ITU “720/P/50 for production and international programme exchange” – *every European National Administration must push at the ITU-R WP 6P, 6-12 April, 2005, please !!! (A lot of prestige involved; like a global “court” – thru the eye of the needle).*

## Then... use your wallet !!!

- Money talks!
- SVT refuses to buy any 1080I/25 products - loudly!
- SVT buys 1080P/25 products (and waits for 720P/50) – and if they include also 1080I/25 then: *“If any kind of official announcement will be given from XXX regarding this agreement/purchase, the following statement from SVT shall then be included: SVT promotes the use of progressive scan both for 50 Hz and 25 Hz motion portrayal, hence this purchase is made targeting 1080P/25-productions, not 1080I/25-productions.”*
- Push, push, push every single production equipment manufacturer towards 720P/50-products (and, for the future, 1080P/50 products)!

Thank You!

*“Progressive scan, progressive  
Europe – progressive SVT”*