

JVC Comments

In the USA, the true transition to DTV finally began in August of 2002 when the Federal Communications Commission mandated that all TV receivers sold in the USA, after dates starting in late 2004, possess ATSC DTV receiver/decoders. Now that it's finally in progress, we believe that adoption of the E-VSB proposal by ATSC will cause a major disruption to the DTV transition. This will especially disrupt consumer equipment manufacturers who produce products that must, or can contain an ATSC DTV receiver/decoder.

We believe that strong concentration and effort will be required by engineers from all manufacturers to make ATSC DTV television receivers that are capable of truly reliable DTV reception, decoding, and functionality, and on time to meet the FCC mandated deadlines.

A second most important burden for consumer equipment manufacturers is to develop and implement into receiving devices, plug-and-play capability for cable ready DTV service, based on the MOU of December 2002 between the CEA and NCTA.

These are the very most important things that manufacturers must accomplish within the FCC mandated deadlines and there is no time for disruption to this process. We believe these strong required efforts should not be interrupted by introducing E-VSB as a major modification to the ATSC A53 standard at this time.

Even beyond the DTV transition period, we do not believe that E-VSB is ever a good thing to do and we doubt that it will find widespread use. A vast majority percentage of all television viewing households in the USA receive their television service via wired cable television connections and we believe that the percentage of CATV homes will increase in the future. Cable television service does not need an enhanced bit stream to assure good reception. This leaves a remaining minority percentage of homes in the USA that receive TV service by DBS satellite service or "off-air" terrestrial TV reception. Satellite viewers also do not need an enhanced stream and so the remaining minority percentage is again further reduced. Of this remaining minority percentage of terrestrial-reception-only homes, not all are located in poor reception areas and a simple roof-top antenna is likely to be sufficient for good reception without need for an enhanced bit stream. All of this probably results in a very very small percentage of viewers for which an enhanced bit stream might be useful. We think that many of these will just concede terrestrial TV reception and subscribe to cable television if they can't reliably receive terrestrial DTV signals (This is why cable television came to be in the first place!).

So, we believe that only a very, very small percentage of viewers will ever have use for an enhanced bit stream. We think it is wrong to degrade the picture quality of HDTV service to the very large percentage of viewers so that a few megabits per second of a separate enhanced stream, sacrificed from the precious total 19.4 Mb/s ATSC bandwidth, can offer a very, very small percentage of terrestrial viewers the chance to see an alternate SDTV signal, carried at low bit rate in the "enhanced", or better, robust but low quality stream.

How will consumer equipment manufacturers deal with the enhanced stream when it transports something other than the robust data to improve fringe and multi-path area reception of the program carried in the main stream? We have heard that broadcasters are asking for "flexibility" as a result of the E-VSB activity yet no broadcaster has defined what is meant by "flexibility". Also, what will be done with this "flexibility"? We are anxious to learn of some firm applications that broadcasters definitely intend to apply to the enhanced stream. DTV receivers will have to support whatever trickles out of the enhanced stream and we cannot endorse E-VSB without knowing what that is. Broadcasters can already divide the ATSC stream to carry many programs and services. What additional capability does the enhanced stream offer?

We are aware that ATSC T3-S6 is studying new modern compression methods that are known to significantly outperform MPEG-2. Some have implied that one or more of these might be used in

the E-VSB enhanced stream to carry yet to be defined “flexible” services. DTV receiving devices will have to support whatever is selected by ATSC T3-S6. We cannot even think about endorsing E-VSB until we know what this is and how it will be used in the enhanced stream.

There has been considerable study within ATSC of seamless switching of video and audio between the main and enhanced streams and that these are difficult problems to solve. Since DTV receiving devices will have the burden of executing the switch, we cannot even think of endorsing E-VSB until a viable and practical solution is proposed.

Several “recruiters” have telephoned to promote E-VSB and that we cast an affirmative or abstaining ballot. The callers have made the following arguments for E-VSB. We think that there is no merit to most of these arguments and our responses to them are as follows:

1. *“A “No” vote is not constructive. It keeps a powerful tool from broadcasters, prevents them from experimenting with enhanced services...”* “Experimenting”??? What is the meaning of “experimenting”? When will the “experimentation” begin and how long will it last? We cannot even consider endorsing E-VSB until we are absolutely certain of exactly what DTV receiving devices will have to support. There is absolutely no room for “experimentation”, only absolute certainty!

2. *“This robust stream can be used for a variety of applications at the broadcaster’s option.”*

For this, we repeat the following:

How will consumer equipment manufacturers deal with the enhanced stream when it transports something other than the robust data to improve fringe and multi-path area reception of the program carried in the main stream? We have heard that broadcasters are asking for “flexibility” as a result of the E-VSB activity yet no broadcaster has defined what is meant by “flexibility”. What will be done with the “flexibility”? We are anxious to learn of some firm applications that broadcasters definitely intend to apply to the enhanced stream. DTV receivers will have to support whatever trickles out of the enhanced stream and we cannot endorse E-VSB without knowing what that is. Broadcasters can already divide the ATSC stream to carry many programs and services. What additional capability does the enhanced stream offer?

3. *“A “No” vote is not constructive.....and raises troubling questions about the credibility of the ATSC process.”* We absolutely do NOT agree with this lame, sympathetic appeal. This does NOT raise troubling questions about the credibility of the ATSC process. Instead it confirms the ATSC process as a truly open one in which all members can state their opinions and vote for what they believe to be in the best interest of the television industry in the USA!

4. *“There is no increase in royalties.....”* Zenith (owned by Lucky Gold Star of South Korea) is making major efforts to get this proposal passed and they must have some serious financial incentive to do so. Zenith (LGS) will own and control the patents to this technology as they now do for 8-VSB. One of the “recruiters” who telephoned introduced himself as engaged by Zenith to promote the E-VSB proposal.

5. *“There is a limited increase in receiver complexity.”* We disagree. We believe that execution of seamless switching between streams, management of the process leading to the switch itself, and the need to support yet undefined new compression method(s) and “flexibility” “experiments” by broadcasters will make E-VSB very complicated, indeed.

In conclusion:

First, we do not believe that ATSC should ever proceed with E-VSB. E-VSB appears to serve absolutely no useful purpose for the vast majority of television viewers. Also, we fail to see how broadcasters can possibly benefit from it, especially for “flexibility” purposes.

Second, should ATSC decide to proceed with E-VSB, our feeling is that *Revised Annex D of A/53B, Rev 4* should be frozen and tabled until all of the answers and solutions to the open issues surrounding *Revised Annex D of A/53B, Rev 4* are understood and resolved. This will preserve the work done already and permit time to develop solutions for all of the unsolved problems with confidence that *Revised Annex D of A/53B, Rev 4* cannot be changed. We expect that acceptable answers to all of the concerns expressed here could require three or more years.