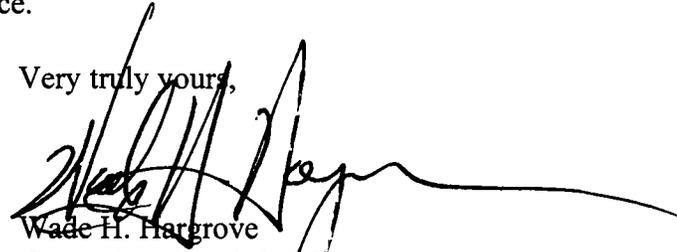


Marlene H. Dortch
June 7, 2006
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If any questions should arise during the course of your consideration of this matter, it is respectfully requested that you communicate with this office.

Very truly yours,



Wade H. Hargrove
*Counsel to the ABC Television
Affiliates Association*

cc: Commissioner Deborah Tate
John Grant

Digital Television and Cable Capacity

In analog television, a broadcast station uses 6 MHz (megahertz (or million cycles per second)) of bandwidth to broadcast an analog signal. A cable operator typically devotes 6 MHz of bandwidth to retransmit that analog signal on a cable system. *See Figure 1.*

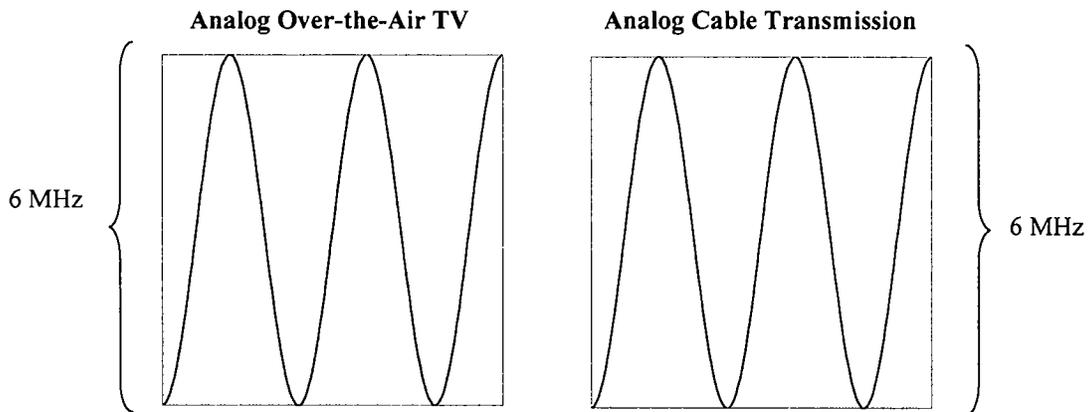


Figure 1

In digital television, a broadcast station also uses 6 MHz of bandwidth to broadcast its digital signal over the air at a rate of approximately 19.4 Mbps (megabits per second).

When a cable system receives a digital broadcast signal, it remodulates the signal using QAM (Quadrature Amplitude Modulation), typically a version known as 256QAM, and this permits the cable system to retransmit a television station's digital signal in *half* of the bandwidth required to retransmit a television station's analog signal. Therefore, one television station's full DTV transport stream takes no more than 3 MHz of bandwidth in a cable system, and the other 3 MHz of bandwidth (that would have been necessary for an analog signal) is available for other uses by the cable system.

Regardless of whether a television station is broadcasting a single high definition (HD) program stream or several standard definition (SD) program streams, the over-the-air digital signal will never carry more than 19.4 Mbps and, thus, when remodulated by a cable system, will never require more than 3 MHz of bandwidth in the cable system.

Figures 2 and 3 illustrate that (i) it requires only 3 MHz of digital bandwidth (one-half that required for analog) for a cable system to carry the full 19.4 Mbps transport stream

of a digital broadcast signal and (ii) it requires only 3 MHz of digital bandwidth for a cable system to retransmit one stream of HD programming and two streams of SD programming. In short, multicasting places no greater burden on a cable system than “single-casting” since, at all times, the broadcast television signal will not carry more than 19.4 Mbps.

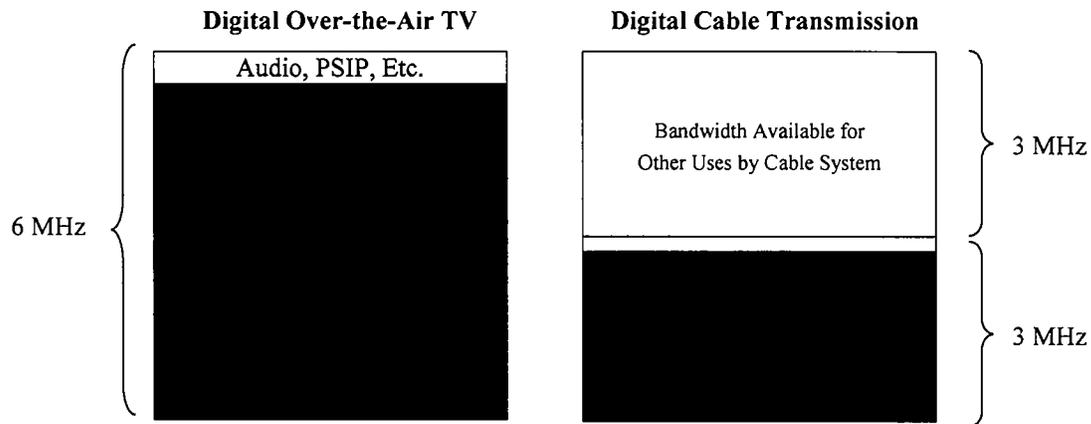
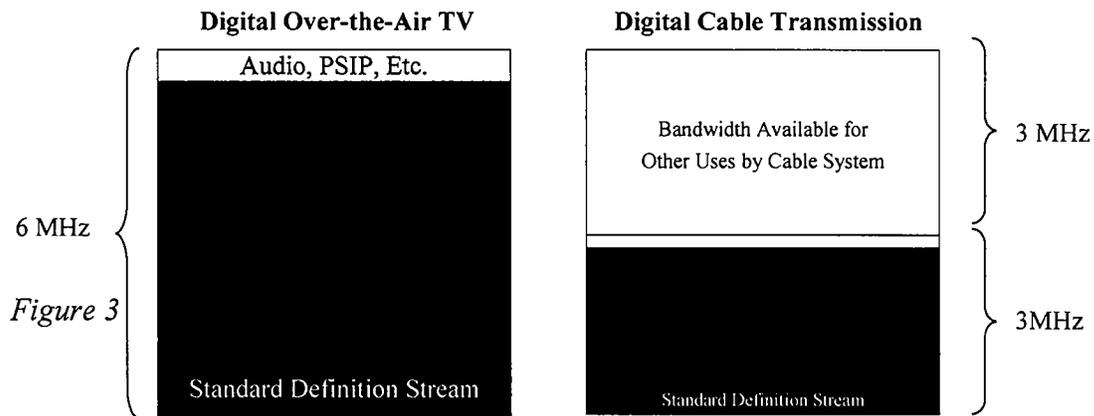


Figure 2



Through the use of compression technology and statistical multiplexing, it is even possible that a cable system will require less than 3 MHz of bandwidth to retransmit a broadcast station’s 19.4 Mbps transport stream.