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Digital Cable Network Interface Standard

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Digital Cable Network Interface Standard

1.0 SCOPE

This standard defines the characteristics and normative specifications for the network interface between a cable television plant and commercially available consumer equipment that is used to access multi-channel television programming. The interface is also compatible with existing set-top terminal equipment owned by cable operators and with terminal equipment developed via the OpenCable™ specification process (see www.opencable.com). In this standard the Cable Network Interface is defined as the interface between the cable drop and the input terminals of the first device located on the subscriber's premises regardless of whether that device is owned by the subscriber or the cable operator. A coaxial-based broadband access network is assumed. This may take the form of either an all-coax or hybrid-fiber/coax (HFC) network. The generic term "cable network" is used here to cover all cases. Cable networks typically use a shared-medium, tree-and-branch architecture with analog and/or digital transmission. The key functional characteristics assumed in this document are the following:

- Two-way transmission.
- The maximum optical/electrical spacing between the cable headend and the most distant deployed terminal equipment is 100 miles, although typical maximum separation may be 10-15 miles.
- A maximum differential optical/electrical spacing between the cable headend and the closest and most distant deployed terminal equipment is 100 miles, although this would typically be limited to 15 miles.

The cable network provides services utilizing 6-MHz in-band channel(s), out-of-band forward data channel(s), and out-of-band reverse data channel(s). The 6-MHz in-band channels are used to transport digital services as well as analog services. These services may be either in the clear or scrambled.

A typical channel plan for a cable network places analog services (NTSC AM-VSB channels) in the 54 to 450/550 MHz range; and digital services (QAM MPEG-2 multiplex channels) in the 450/550 to 864 MHz range (*Note 1*). These channels shall all comply with the EIA/CEA-542-A channel-tuning plan. However, the frequency location may change over time such that analog and digital channels may be located anywhere in the downstream operating range.

Note:

1. *Nothing in this standard precludes the use of other modulation modes.*