
CE Requirements for Residential Ethernet

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Video

- Packetized by nature



- Synchronization usually defined with respect to start of frame
- 16-20ms per frame in HDTV (50/60hz)

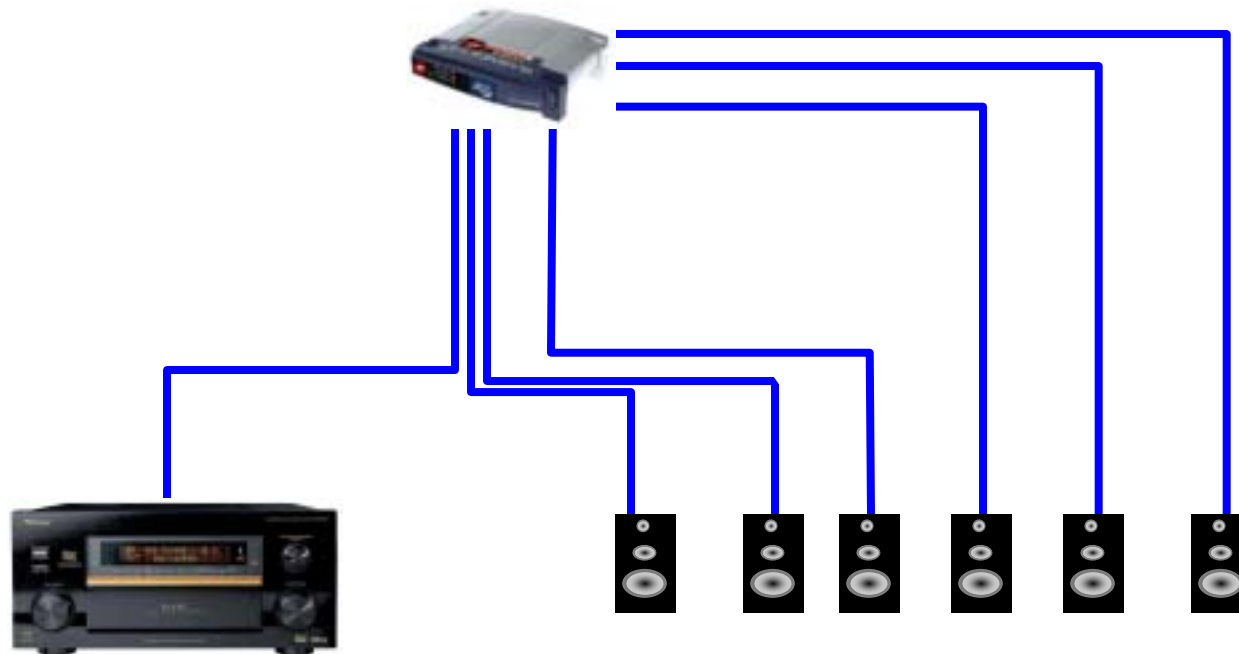
Lip-sync components



Lip-sync factors

- 48Khz (20.83us/sample) in HDTV
- 15ms per ATSC IS/191 for lip sync

Phase-sync components



Phase-sync factors

- 96kHz @ 6 channels for DVD-Audio, 24b/sample (192kHz @ 2 channels)
- 9.6Mb/s
- 0.5ms group delay detectable in 1-5Khz range (perception is frequency dependent)
- 0.1ms differences in time arrival are sufficient cues for localizing sound in space
- 5.2us at input to receiver per AES11 for phase sync

Other factors

- Network timing must be deterministic
- Guaranteed bandwidth
 - Bandwidth and timing must be protected from interfering streams



Thank you