SIMULCAST - Motorola Systems

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Joe Blaschka Jr., P.E.
Adcomm Engineering Company
Motorola Simulcast

• Three basic options
  – Analog (no longer made)
  – Early Digital (no longer made)
  – Current Digital

• No audio frequency response adjustment

• All equipment and audio paths must be the same

• No automatic adjustment

• All use “?SCI” card
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Analog

• Used computer control (Prime Optimization Node)
• Used Motorola simulcast multiplex
• PON had two settings for loop microwave
• PON had to be manually adjusted
• Used audio distribution amplifier
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Analog block diagram
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Early digital

- Used T1 Channel bank from Siemens
- MUX cards built by Telesciences
- Used computer control (PON)
- PON still had to be manually adjusted
- PON had two settings for loop microwave
- Used audio distribution amplifier
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Early digital block diagram
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Current digital

- Uses special cards in a Premisys Channel Bank
- Time delay automatically adjusts
  - Uses GPS timing (Efratom GPS/Rubidium references)
  - Set for constant delay
  - Can be used with DACS and telco T1s
- Audio levels manually adjusted
- Audio distribution handled in channel bank
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Current digital block diagram
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Common elements

• Systems use “Simulcast Controller Interface”
  – Provides for audio limiting
  – Provides for “low speed data” interface
  – Transmitter keying

• Audio paths must all have the same elements for best audio