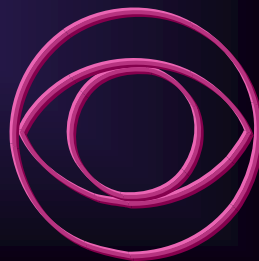


# Pitch Blue

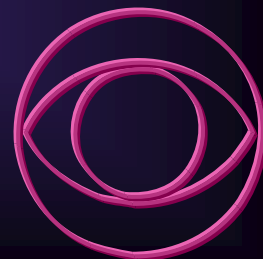
**A Real Time HDTV Store and  
Forward Program Delivery System**



**Robert P. Seidel**

**CBS Television Network**

**V.P. Engineering & Advanced  
Technology**



# Syndistro Joint Venture

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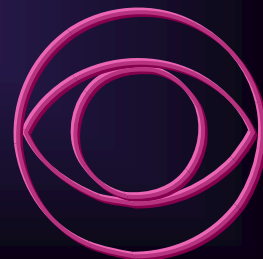


- Ascent Media, CBS Worldwide Distribution (CWD), and Warner Bros. Global Media Distribution Exchange (GDMX).
- Distribute syndicated programming to over 1,350 commercial TV stations via 800 hub locations.





- International Distribution
  - 75,000 hours per year, 200 countries, 5 languages, over 100,000 video tapes.
- Domestic Distribution
  - 70,000 hours. 3.5 million air dates with a rejection rate of less than 0.8%.
- Total Domestic and International syndication fees and ad revenues exceed 2 billion dollars per year.
- Popular shows such as: *Wheel of Fortune, Jeopardy, Oprah, Dr. Phil, Everybody Loves Raymond, ET, Insider, .....*



# Pitch Blue Server

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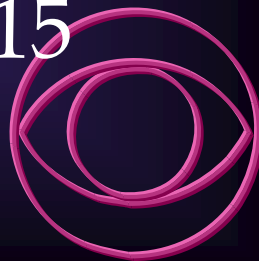
- Provided at no cost to 800 locations.
- Real time transport stream recorder (TSR).
- Capable of recording two satellite transport stream signals simultaneously.
- Automatically records the proper syndicated content.
- In the event of a satellite transmission disturbance, the server requests a retransmission of the segments / frames that were in error.



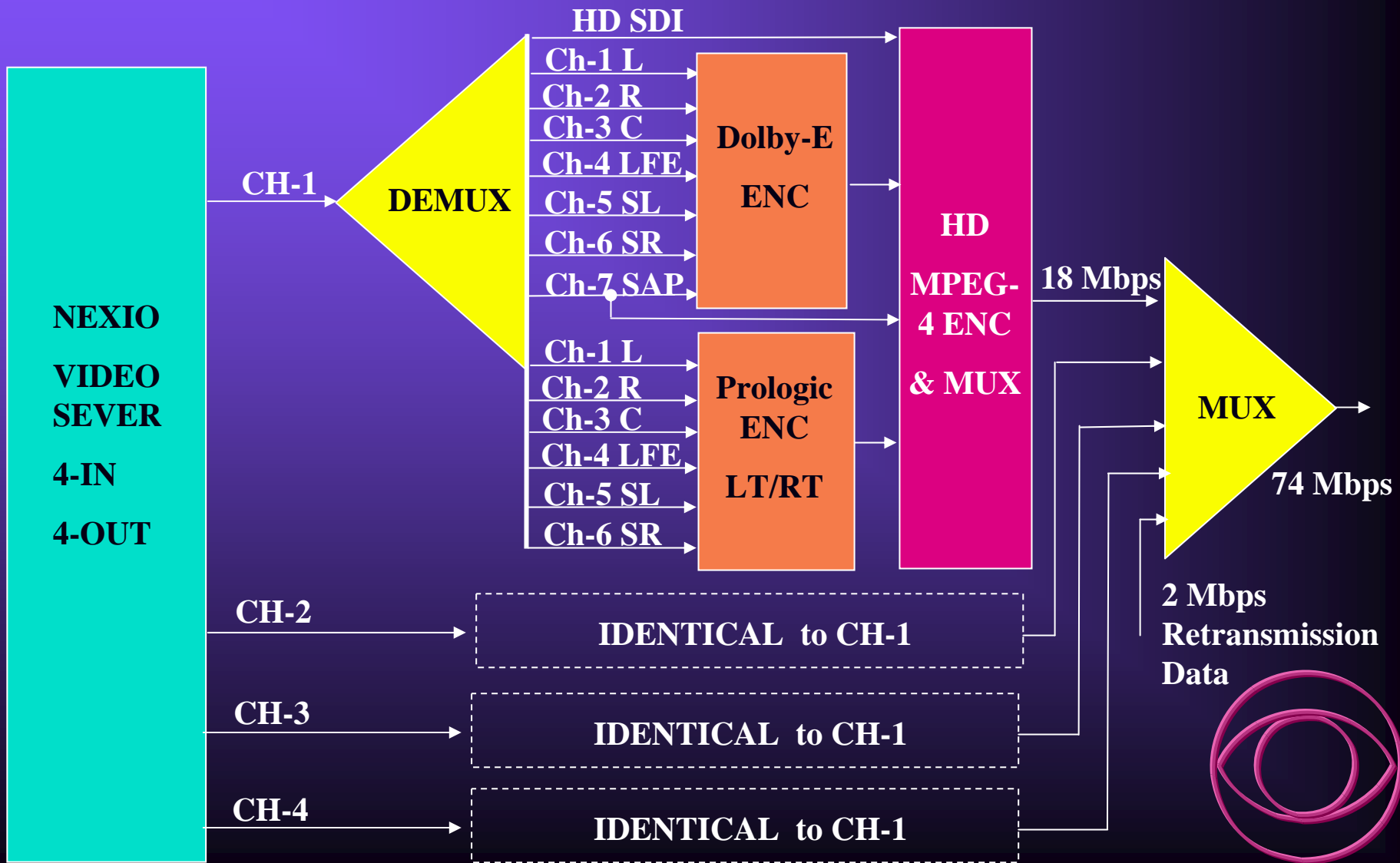
# Distribution Parameters

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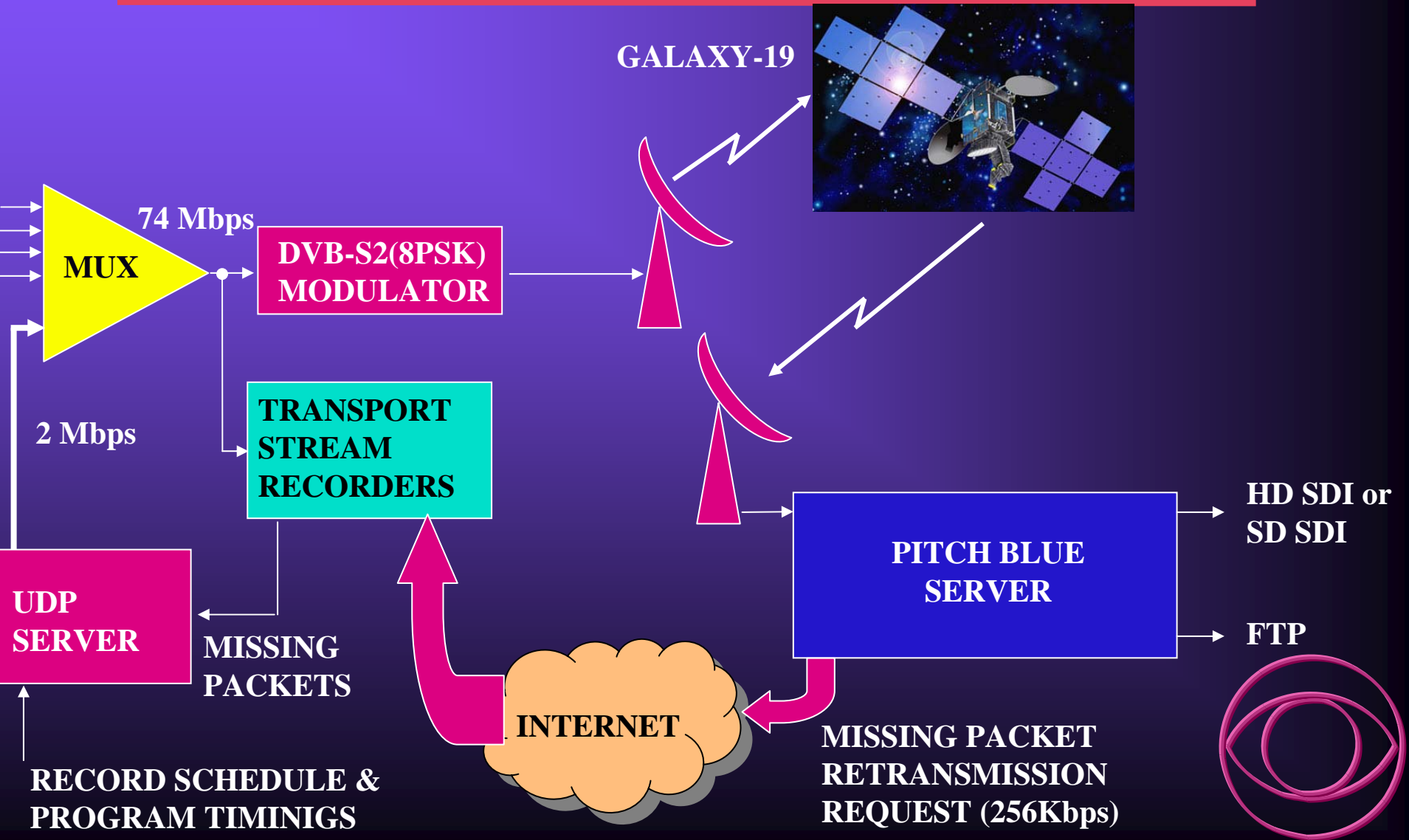
- Galaxy 19; C-21 and Galaxy 16; C-2.
- Modulation 8PSK.
- DVB-S2 with 5/6 FEC.
- $E_b/N_0$  threshold 5.76 dB.
- Total information rate 74 Mbps.
- Up to 4 HD channels per transponder.
- HDTV 1920 x 1080 / 59.94 fields / sec.
- MPEG-4 AVC/H.264 at a data rate of 15 Mbps.



# Encoding Block Diagram



# Retransmission System

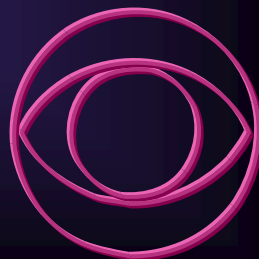




# Pitch Blue Server

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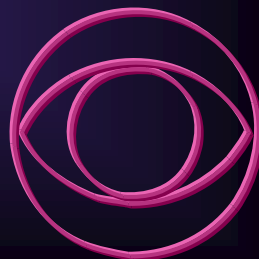
- 3 TeraBytes of storage = 370 hours of HD at 18 Mbps; or 1,111 hours of SD at 6 Mbps; or any combination of HD & SD.
- HDSDI output with embedded audio.
- SDI output with Embedded audio.
- Internal transcoding from MPEG4 to MPEG2 for file transfers to other Air-servers
- Video Disk Control Protocol (VDCP) automation control on RS-422.



# Pitch Blue Server

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- If required, internal down conversion from 1920 x 1080 / 59.94 to the following:
  - 1280 x 720 / 59.94 Progressive.
  - 720 x 480 / 59.94 Interlaced.
- All CWD content will be “center cut” protected for a center cut down conversion, but letterbox down conversion can be selected.

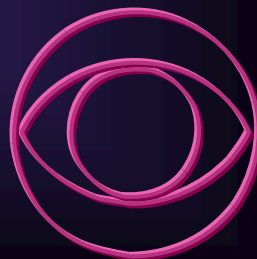


# Pitch Blue Server cont'd

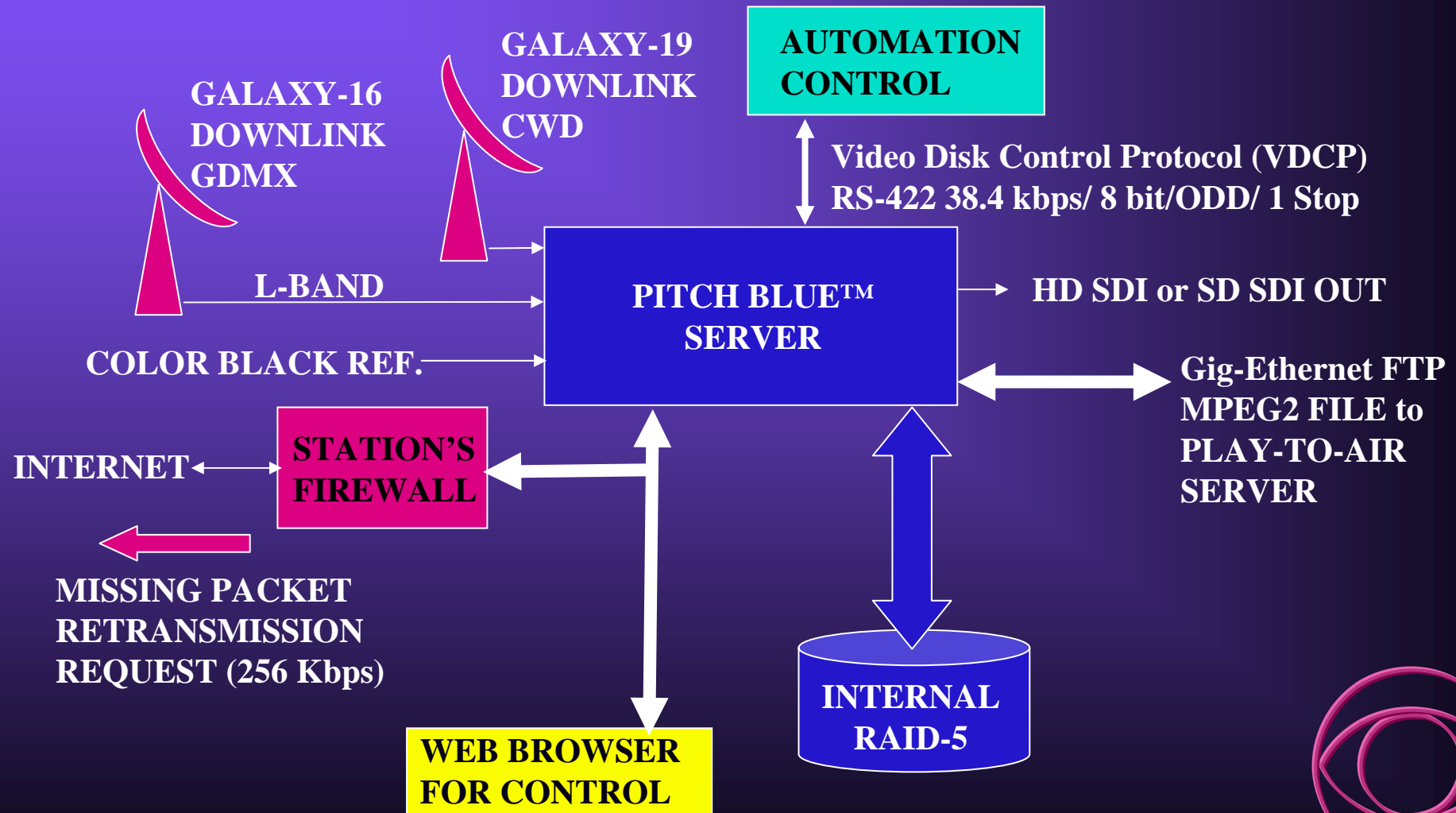
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- Redundant Power Supplies
- USB flash drive for rebuilding the operating system in the event of disk crash.



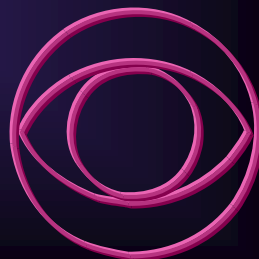
# Pitch Blue™ Server cont'd



# Summary

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- The Pitch Blue is a cost effective, highly reliable automated transport stream recorder, designed by Broadcasters for Broadcasters.
- Capable of:
  - 370 hours of HD storage.
  - HD or SD SDI out with embedded audio.
  - FTP of MPEG-2 files to On-Air Servers.
  - VDCP automation control.
  - Full VANC support.



**Thank You**

