



Jeff Welton

Sales Manager - Central USA
Nautel



Jeff Detweiler

Executive Director Broadcast
Business Development
Xperi Corporation



Donna Detweiler

Snr. Manager - Broadcast Services
Xperi Corporation



HD Costs



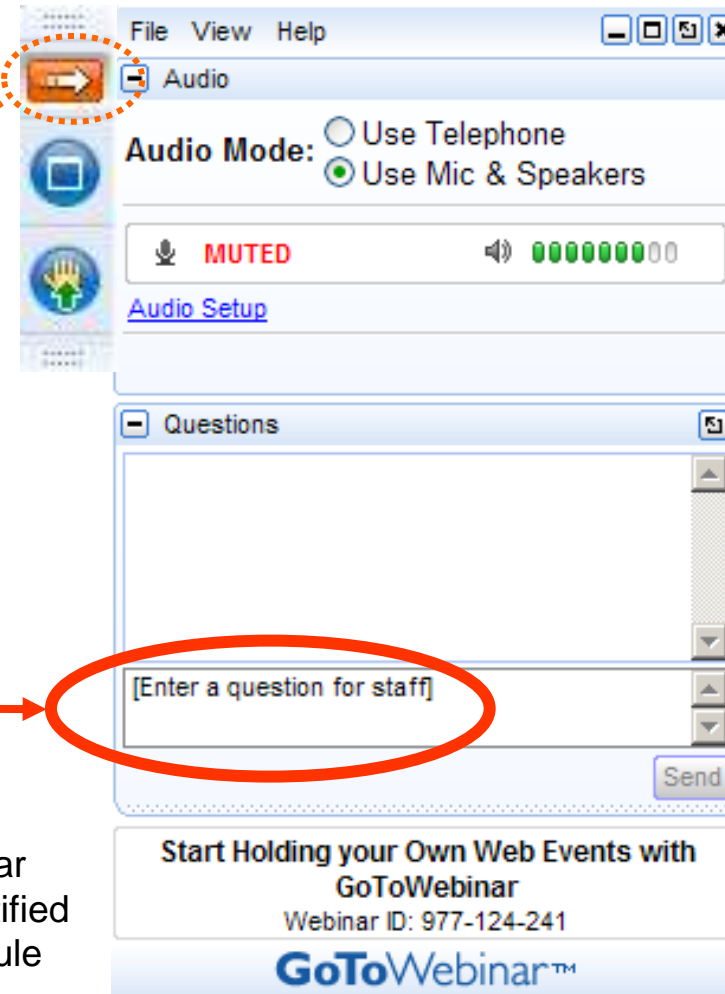
Ed Sylvester

Occasional Disembodied
Voice
Nautel

Your questions please?

(if you don't see the control panel, click on the orange arrow icon to expand it)

Please enter your questions in the text box of the webinar control panel (remember to press send)



The screenshot shows a GoToWebinar control panel with two main sections: 'Audio' and 'Questions'. The 'Audio' section includes a menu icon (an orange arrow) circled in red, 'Audio Mode' options for 'Use Telephone' and 'Use Mic & Speakers', a 'MUTED' status indicator, and a volume level bar. Below it is a 'Questions' section with a large empty text box and a smaller input field containing the placeholder text '[Enter a question for staff]', which is circled in red. A 'Send' button is located at the bottom right of the 'Questions' section. At the bottom of the control panel, there is a promotional banner for GoToWebinar with the text 'Start Holding your Own Web Events with GoToWebinar' and 'Webinar ID: 977-124-241'.



Remember: The completion of a Nautel webinar qualifies for $\frac{1}{2}$ SBE re-certification credit, identified under Category I of the Re-certification Schedule for SBE Certifications.



Agenda

- Short discussion with panelists
- Round table discussion with attendees
 - We can unmute for audio, but can also handle typed input
 - We want your thoughts, ideas, comments or questions!
 - What you've done, what you'd like to do, questions on how to do something.



Ideas for things to discuss

- **Licensing**
 - Fee structures
 - But what about...?
- **Simple Things**
 - Incremental gains
 - OpEx vs CapEx
- **AM vs FM vs FM+HD**
 - MDCL and HD
 - Cost of Operation
 - Spectral Optimization
- **Other thoughts**
 - How to cut costs and maintain quality

WE'RE WORKING WITH OUR MANUFACTURING PARTNERS TO BRING DOWN THE COST OF HD RADIO-SPECIFIC EQUIPMENT

GEN II – 2002

- ≈ \$45K; HD1 Only
- Low volume – High cost
- Developer level configuration
- Challenging to set up
- Linux-based exciter (limited life)
- Projected life: ≈ 8-10 years



GEN III – 2008

- ≈ \$35K; HD1 – HD4 + Data
- Improved stability
- Improved setup
- DSP-based Exporter & Engine
- Windows-based Importer
- Projected life: ≈ 12-15 years

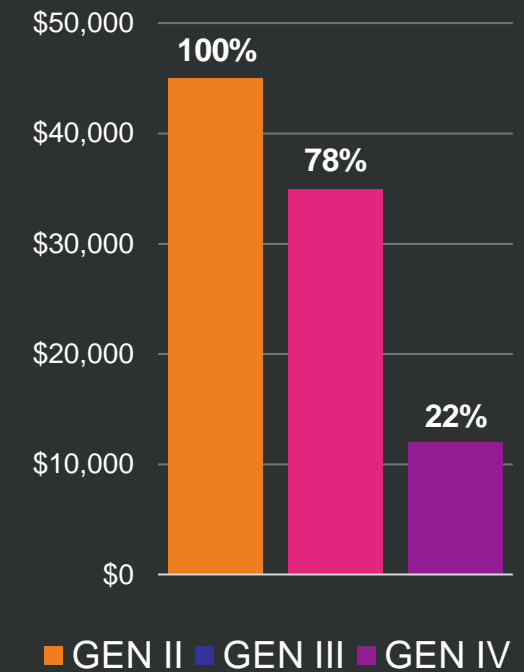


GEN IV – 2017

- ≈ \$12K; HD1 – HD4 + Data
- Low cost / Low complexity
- Ease of setup
- Drop down menu configuration
- Dual core ARM 9 / FPGA
- Projected life: ≈ 12-15 years



Equipment Costs



Main Station License Fees



One-time License Fee

5 year zero interest payment plan

\$1000 Prepay Discount

Quarterly Multicast and Data Royalties

One-time License Fee

5 year zero interest payment plan

One-time License Fee

5 year zero interest payment plan

Quarterly Multicast and Data Royalties

One-time License Fee

5 year zero interest payment plan



Station Reported Quarterly Royalties



Each Multicast Channel \$250 per Quarter or 3% incremental net revenue, whichever is greater.



Each Multicast Channel \$125 per Quarter or 3% incremental net revenue, whichever is greater.

* LPFM Multicast - royalties included in one-time license fee

* AM Multicast – presently not supported



Mexico and International Station Licenses



International Program

License Fee collected by Manufacturer or their Agent on behalf of XPERI

One-Time Main Station (HD1) License Fee of \$6,775 (US)

Multicast (HD2, HD3, etc.) - Stations purchasing an Importer or combined Importer/Exporter System, a separate one-time multicast fee of \$4000 (US) will be collected

Efficiency

Efficiency

Analog Mode:

64% typical at 20 kW

HD Radio™ Hybrid Mode (-20dB):

55% typical at 14.6 kW

HD Radio™ Hybrid Mode (-10dB):

40% typical at 7.99 kW

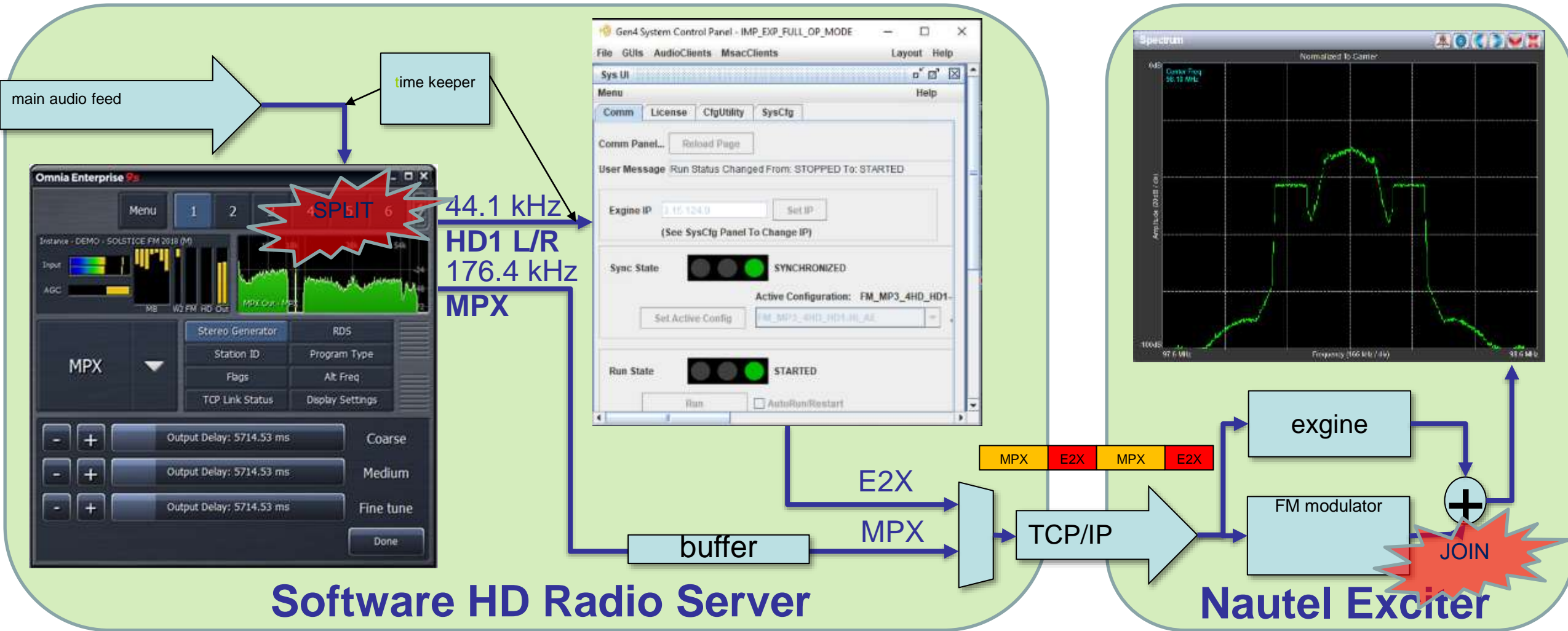
HD Radio™ Digital Mode:

33% typical at 5.6 kW

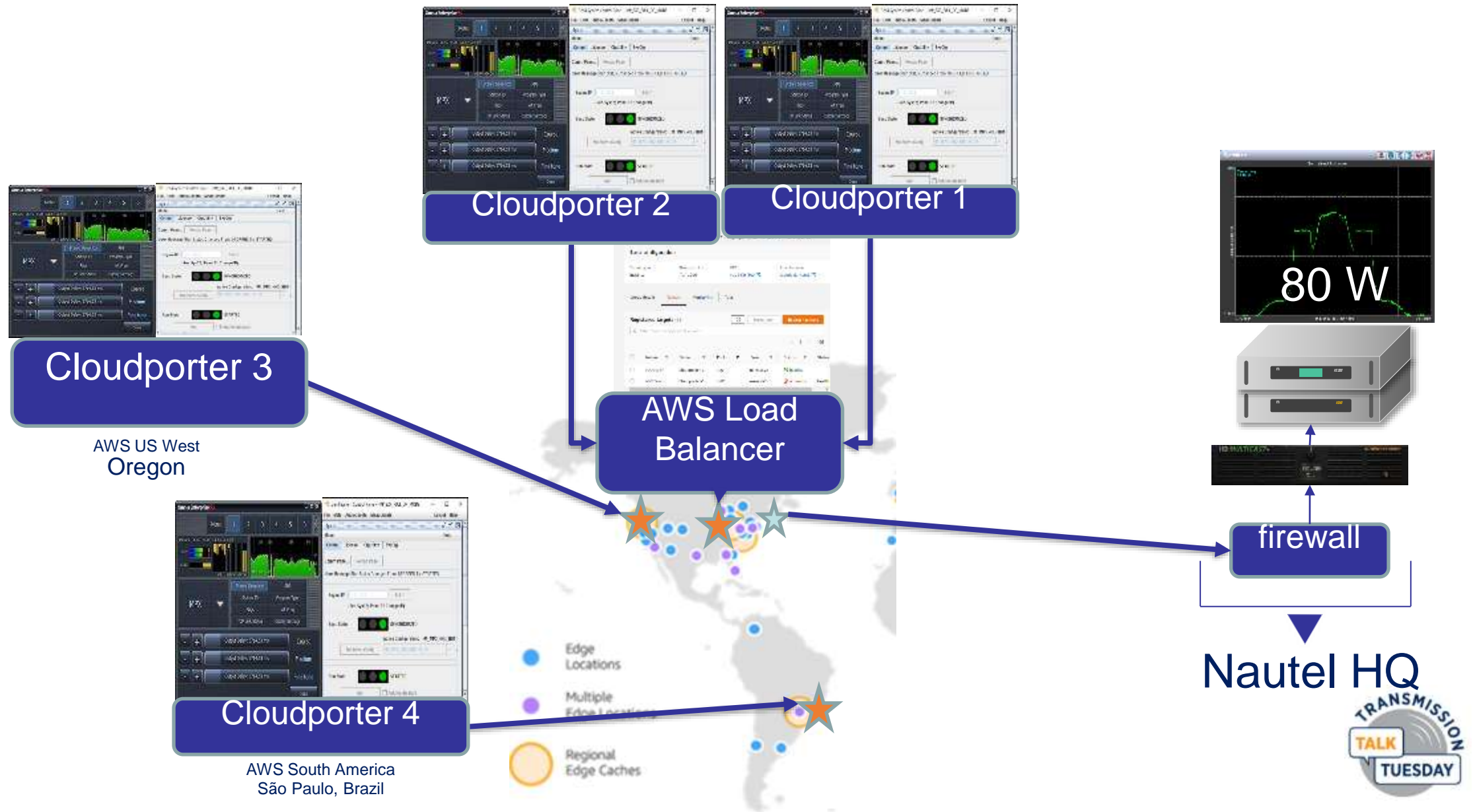


| RF Output Power and Efficiency | Analog Mode (max/rated) | HD Radio Hybrid (-20dB) | HD Radio Hybrid (-14dB) | HD Radio Hybrid (-10dB) |
|--------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Analog TPO (kW) | 22 / 20 | 20 | 18 | 13 |
| Typical Efficiency | 72% | 70% | 60% | 55% |

Synchronous System from **SPLIT** to **JOIN**



Cloud Scalability: We cloned 4 Cloudporters



XPERI



www.hdradio.com



www.thisisaim.com



www.arcticpalm.com

Jeff Detweiler
Executive Director, Broadcast Technology
jeff.detweiler@xperi.com
443.539.4334

Donna Detweiler
Senior Manager, Broadcast Services
donna.detweiler@xperi.com
443.539.4332

Online Information



Webinars

<https://www.nautel.com/resources/webinars/>



Nautel Waves Newsletter

<https://www.nautel.com/newsletters/>



YouTube

<http://www.youtube.com/user/NautelLtd>



THANK YOU!

