

Your Guide to ATSC 3.0 at the Show

presented by



Consumer
Technology
Association™



SINCLAIR
BROADCAST GROUP



SONY



Your Guide to ATSC 3.0 at the Show

Ride the Road
to ATSC 3.0

Join ATSC experts at the
“Riding the Road to ATSC 3.0”
Presentation Stage in North Hall
N2512 for detailed talks about the
many facets of Next-Gen TV ▶

MONDAY, APRIL 8:

- * Dallas Deployment Update
- * Consumer Research on ATSC 3.0
- * ATSC 3.0 National Deployment Update: Pearl
- * Phoenix Model Market Technical Update
- * ATSC 3.0 Consumer Device Panel
- * ATSC 3.0 Conformance Testing
- * Audio Enhancements for ATSC 3.0
- * Real World ATSC 3.0 in Santa Barbara, CA

TUESDAY, APRIL 9

- * Public Broadcasting and ATSC 3.0 with WKAR at Michigan State
- * Panel: Building Out the ATSC 3.0 Station
- * Watermarking in ATSC 3.0
- * AWARN with Next-Gen TV
- * Channel Security with ATSC 3.0
- * ATSC 3.0 Deployment in Korea
- * Cleveland Station Update

WEDNESDAY, APRIL 10

- * Advanced Advertising and ATSC 3.0
- * Measurement and ATSC 3.0
- * European Interactivity Experiences and how those relate to ATSC 3.0
- * Sessions will repeat late Wednesday and Thursday

ATSC 3.0 Standards

GENERAL

A/300 ATSC 3.0 System

RF TRANSMISSION

A/321 System Discovery and Signaling

A/322 Physical Layer Protocol

SCHEDULER/STL

A/324 Scheduler/Studio to Transmitter Link

TEST EQUIPMENT

A/325 Lab Performance Test Plan (RP)*

A/326 Field Test Plan (RP)*

IP

A/330 Link Layer Protocol

A/331 Signaling, Delivery, Sync, Error Protection

A/332 Service Announcement

A/333 Service Usage Reporting

WATERMARK

A/334 Audio Watermark Emission

A/335 Video Watermark Emission

APPS

A/344 Interactive Content

A/336 Content Recovery in Redistribution Scenarios

A/337 Application Signaling

A/338 Companion Device

AUDIO/VIDEO/CAPTIONS

A/341 Video – HEVC

A/342 Part 1 Audio Common Elements

A/342 Part 2 Audio: AC-4 System

A/342 Part 3 Audio: MPEG-H System

A/343 Captions and Subtitles

SECURITY

A/360 Security and Service Protection

RECEIVERS

ALERTING

GENERAL

- **ETRI (N231)**
Seamless convergence of broadcast and broadband networks, Terrestrial 8K broadcast using ATSC 3.0 channel bonding, ATSC 3.0 master antenna TV system
- **IEEE Broadcast Technology Society (LN3)**
ATSC 3.0 Roadshow seminar, being hosted at multiple locations throughout the U.S.
- **Saankhya Labs/ONE Media/Sinclair Broadcast Group (Wynn Tower Suite)**
5G Broadcast demo with operational converged Broadcast/Broadband across telco network infrastructure with Saankhya "Direct to Mobile" SDR Chip
- **Society of Broadcast Engineers LN4 (Lobby North Hall Booth 4)**
Technical educational programs and later in 2019, a new SBE certification on ATSC 3.0

RF TRANSMISSION

- **American Tower (C1633)**
Single Frequency Networks modeling to prepare for deployment, such as the first commercial-grade ATSC 3.0 SFN in Dallas
- **Broadcast Electronics (N6406)**
New series of ATSC 3.0 transmitters
- **Comark (C4409)**
The Parallax liquid-cooled, solid-state Doherty DTV transmitter that now encompasses UHF, VHF band 3 and VHF band 1, Exact-V2 DTV exciter, full ATSC 3.0 Glass-to-Glass demo.
- **DVEO (SU3306)**
Cortina 4K HDR IP: ATSC 3.0 encoder ATSC 3.0 compatible MTP IP or TS outputs, TLV500E-ATSC 3.0 and ATSC 1.0 receiver/demodulator/decoder
- **ETRI (N231)**
Seamless convergence of broadcast and broadband networks, Terrestrial 8K broadcast using ATSC 3.0 channel bonding, ATSC 3.0 master antenna TV system
- **GatesAir (N3303)**
Transmitters and exciters equipped with ATSC 3.0 with operational SFN
- **NAB and various partners (N2512, N1037, CL3)**
Single Frequency Network (SFN) inside the LVCC North Hall and Central Lobby delivering signals to moving portable tablets outfitted with ATSC 3.0 tuners
- **Rohde & Schwarz (SL6404)**
ATSC 3.0 software-based implementation on its entire transmitter EVO portfolio, which includes both UHF high power liquid cooled transmitters and also the new EVO VHF liquid cooled transmitters product lines

Saankhya Labs/ONE Media/Sinclair Broadcast Group (Wynn Tower Suite)

- 5G Broadcas demo with operational converged Broadcast/Broadband across telco network infrastructure with Saankhya "Direct to Mobile" SDR Chip
- **Thomson Broadcast (N4206)**
Thomson Software Defined Television, ATSC 3.0 demonstrations showing content distribution system, real-time cloud-based encoders and media asset management, playout automation, integrated playout, IP Security monitoring

SCHEDULER/STL

- **ATBiS Co., Ltd (SU6905)**
SFN Scheduling Gateway, Change Over and Simulator
- **Enensys (SU6102)**
MediaCast, SmartGate, VCC modulator

TEST EQUIPMENT

- **Avateq Corp (N5012)**
ATSC 3.0 RF analyzers targeted to meet broadcasters' everyday needs including the transmitter output, coverage area signal quality and SFN monitoring, and remote ALP streaming
- **Enensys (SU6102)**
MediaCast, SmartGate, VCC modulator
- **Eurofins Digital Testing (N231)**
Test Harness and suite of test tools enabling automated playout of conformance test materials for testing devices against ATSC 3.0 standards
- **Triveni Digital (N3908)**
New StreamScope XM Verifier, a software application for receiving, verifying, and recording ATSC 3.0 broadcast streams via RF, ROUTE, MMTP, or STLTP protocols

IP

- **Alticast (SU10521)**
Cloud-based solution designed to enable a seamless user experience for content consumption on various devices in the home with ATSC 3.0 broadcast streams
- **Brandywine Communications**
ATSC 3.0 Implementation & Optimization
- **DTV Innovations (SU7821)**
Next generation of PSIP Pro/Central platforms with full ATSC 3.0 Signaling and Service Announcement
- **Enensys (SU6102)**
MediaCast, SmartGate, VCC modulator
- **ETRI (N231)**
Seamless convergence of broadcast and broadband networks, Terrestrial 8K broadcast using ATSC 3.0 channel bonding, ATSC 3.0 master antenna TV system

- **Gaian Solutions (IVE1 and IVE2 (North and Central Hall))**
10 unique SaaS solutions for the ATSC 3.0 & 5G ecosystem, including AI, ML applications in Broadcast Advertising, Master Control reimaged, Device Proliferation & App Strategy, Spectrum Monetization
- **Saankhya Labs/ONE Media/Sinclair Broadcast Group (Wynn Tower Suite)**
5G Broadcast demo with operational converged Broadcast/Broadband across telco network infrastructure with Saankhya “Direct to Mobile” SDR Chip
- **Thomson Broadcast (N4206)**
Thomson Software Defined Television, ATSC 3.0 demonstrations showing content distribution system, real-time cloud-based encoders and media asset management, playout automation, integrated playout, IP Security monitoring
- **TitanTV (N6227)**
ESG Data Service and MediaStar Scheduler
- **UniSoft and S&T (N4131)**
ATSC 3.0 Delivery System with S&T ATCaster Signaling/ROUTE/MMT/ESG/NRT Server, S&T ATMonitor, and more from other partners
- **WideOrbit (SU7102)**
WO Streaming as the targeted ad server, fully integrated with Digital Orders and Multicast logs in WO Traffic for the complete monetization platform from order to on-air/ad serving, reconciliation and invoicing

WATERMARK

- **Verance (Wynn Salon Suites)**
ATSC 3.0 Interactivity and Personalized Audio demonstrations powered by the Verance Aspect watermark.

APPS

- **Bred Software (SU9526CM)**
ATSC 3.0 Interactive Advertising
- **Fincons Group (SU9024C)**
Next Gen TV Broadcaster and OTT apps, Interactive and Addressable Advertising, TV Rights Management
- **PILOT (N1037)**
Demonstration of interoperability of ATSC 3.0 receivers for interactive services, ATSC 3.0 content swapping and Next Generation TV user interfaces

AUDIO/VIDEO/CAPTIONS

ATEME (SU6005)

- ATSC 3.0 encoding and transcoding
- **Dolby Laboratories (SU1702)**
Demonstration of end-to-end ATSC 3.0 audio workflow and dialogue enhancement features with Dolby AC-4
- **DS Broadcasting (SU6907)**
ATSC3.0 UHD encoder, ATSC3.0 Multi-channel encoder (up to 12 FHD/HD channels), ATSC3.0 IRD
- **DVEO (SU3306)**
Cortina 4K HDR IP: ATSC 3.0 encoder ATSC 3.0 compatible MTP IP or TS outputs, TLV500E-ATSC 3.0 and ATSC 1.0 receiver/demodulator/decoder
- **Enensys (SU6102)**
MediaCast, SmartGate, VCC modulator
- **Fraunhofer IIS (SU4816)**
ATSC 3.0 next-generation audio standard with an MPEG-H Audio end-to-end chain for broadcast and DASH streaming, and the latest production tools and authoring units for creation of MPEG-H Audio content
- **Harmonic (SU810)**
ATSC 3.0 Encoding/Packaging with Electra X encoders, Hybrid Services, and VOS360 Software-as-a-Service
- **KAI MEDIA (SU6506)**
ATSC 3.0 HEVC Encoder and Decoder
- **PixTREE (SU6607)**
ATSC 3.0 Live Video Encoder supporting realtime HDR10+
- **PsyX Research, Inc. (N4120)**
Complete, ATSC 3.0 compatible, real time 3D workflow and delivery suite, including a 3D visualizer and 5.1.4 headphone virtualization for monitoring
- **SK Telecom/Sinclair Broadcast Group North Hall (automotive)**
Sinclair Broadcast Group and SK Telecom (in conjunction with Harman International/Samsung) will show ATSC 3.0 smart car services for Harman’s connected Maserati
- **The Telos Alliance TV Solutions Group (SU3921)**
Linear Acoustic LA-5291 Professional Audio Codec provides decoding, encoding

SECURITY

■ **Intertrust Technologies (SU13801MR)**

Intertrust ExpressPlay XCA is the next-gen technology in securing and targeting content, using open standard Marlin technology and cloud architecture for one-way and two-way ATSC 3.0 broadcast networks, with converged OTT and Broadcast support

■ **Thomson Broadcast (N4206)**

Thomson Software Defined Television, ATSC 3.0 demonstrations showing content distribution system, real-time cloud-based encoders and media asset management, playout automation, integrated playout, IP Security monitoring

RECEIVERS

■ **Airwavz.tv (N1831)**

RedZone Receiver and TvXplorer video player for ATSC 3.0

■ **BitRouter (N1831)**

ATSC 3.0 set-top box, gateway and client

■ **Coherent Logix (Renaissance Suite)**

ATSC 3.0 Receiver and HEVC

■ **DS Broadcasting (SU6907)**

ATSC3.0 UHD encoder, ATSC3.0 Multi-channel encoder (up to 12 FHD/HD channels), ATSC3.0 IRD

■ **DVEO (SU3306)**

ATSC 3.0 encoding and transcoding

■ **LowasIS, Inc. (N231, N1134FP)**

ATSC 3.0 set-top box to support OTA and OTT, Smart phone cradle to receive ATSC 3.0 channels, Home Media Gateway, to support targeted advertisement, and ATSC 3.0 receiver supporting Advanced Emergency Alert System

■ **NAGRA KUDELSKI (SU3624)**

A NAGRA ATSC 3.0 STB Stack implemented with NAGRA CAS, DRM and QR Code Server

■ **Sony Electronics (C11001)**

Private demonstrations of solutions for broadcasters

■ **Wipro Limited (in partnership with AirWavz) (N1831)**

ATSC 3.0 Receiver solution on Android OTT Box integrated with USB tuner/demod (from our partner Airwavz.tv) showing features like Live TV Playback, Channel Navigation, ESG Guide

ALERTING

■ **AWARN Alliance (N1435)**

Advanced emergency alerting and digital news integration

■ **Digital Alert Systems (N4813)**

ATSC 3.0 Advanced Emergency Information (AEA) with the DASDEC EAS-Net AEA module that aggregates emergency messages and multimedia, and generates a station's Next-Gen TV emergency information messaging for transmission