

APTmpX

- **Highest Fidelity**
- **Lowest Bitrate**
- **Lowest Delay**

Engineered by leading experts in Studio-Transmitter-Links

The uncompromising compression algorithm for highest fidelity MPX transmissions

APTmpX is the industry's leading MPX/composite compression algorithm, ensuring unparalleled sound transparency even over low-bitrate IP transmissions. With version 2, APTmpX seamlessly integrates RDS into the spectrum, enhancing broadcast efficiency.

The availability of the digital AES192 interface enabled the first end-to-end digital MPX signal chain, marking a significant milestone in simplifying FM broadcasting. By eliminating the number of equipment at each transmitter site, such as sound processors and stereo encoders, it also drives important cost savings.

APT IP codecs support the AES192 interface and allow transmission of linear MPX via the STL. However, until today, the benefits of this approach have been reserved for broadcasters operating a robust broadband IP infrastructure.

With APTmpX, broadcasters in any network infrastructure can benefit from cost-saving FM Multiplex transmission. Even with lowest bandwidth requirements at 300, 400 and 600kbps, broadcasters no longer need to compromise between low bit rate and high audio quality. APTmpX thus eliminates the two barriers that usually discourage migration to FM MPX transmission.

300
kbps

400
kbps

600
kbps



Highest Signal Fidelity

APTmpX preserves the high signal fidelity of the processed MPX signal even at 300kbps and delivers the highest sound transparency. It ensures that MPX signal characteristics (deviation, MPX power, phases, watermarking) and the stereo image are fully preserved at each transmitter site.



Lowest Delay

APTmpX performs on the same level as real-time audio algorithms with low and constant latency. Comparable to the latency of linear PCM, the algorithmic delay is always below 10ms.

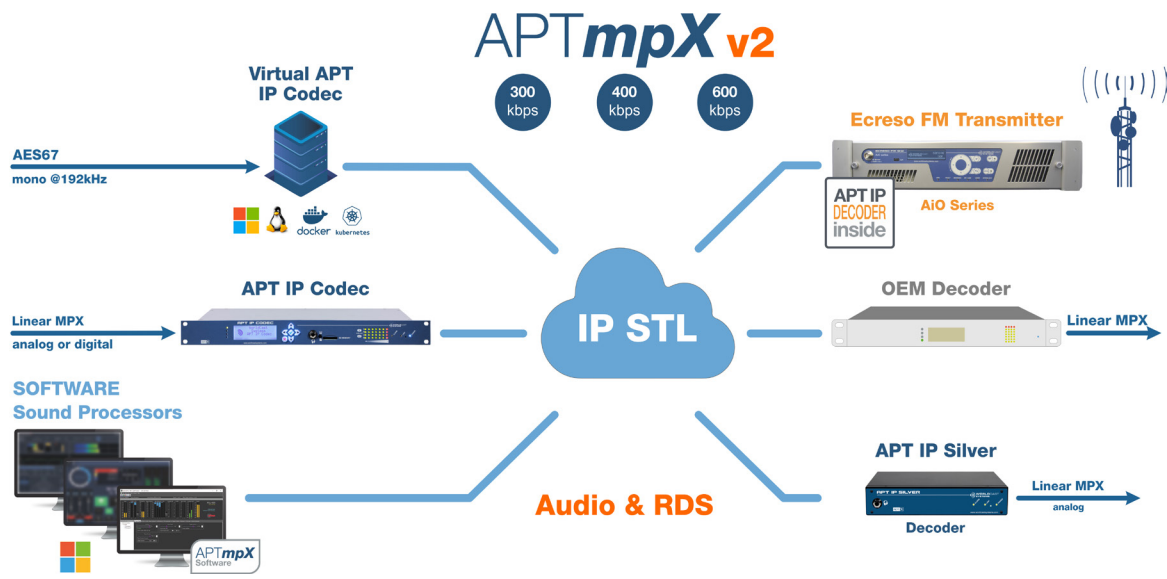


Resilience against Packet Loss

To minimize influences on the MPX signal, the loss of one packet shall not interfere with the decoding capability of the following packet(s). Therefore, independent packetization reduces any disturbance in the transmission to the respective affected packet.



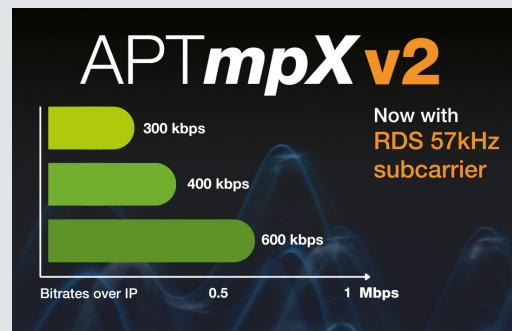
APTmpX Transmission | Highest Signal Fidelity - Lowest Bitrate



The APTmpX ecosystem adapts to many transmission applications

APTmpX | Multiple Formats

APTmpX comes as a complete suite of multiplex formats and provides various compressed modes. All modes are characterized by providing highest signal quality and low latency. The versions 300, 400 and 600 kbps differ by varying sampling rates and bit depths (16/24bit). Each variation supports RDS data.



Associated Features

RDS Transmission

Each APTmpX variation supports RDS data. In hardware codecs, RDS can be embedded as serial data (RS232) or included in the MPX signal on the 57 kHz subcarrier, while software implementations support RDS via the 57 kHz subcarrier.

What our expert says

"With APTmpX, we provide a unique, excellent compression solution for FM MPX/Composite transmission. APTmpX not only enhances our portfolio for MPX solutions, but also marks a milestone in the transition to an MPX/composite environment. We are committed to high quality, low latency, and minimal complexity and this solution meets our brand's quality standards. In the end, the user benefits from significantly lower hardware and distribution costs while maintaining the station sound." - Hartmut Foerster APT Product Manager

Listen to [APTmpX audio examples](#) on our website!

Timing & Synchronization Capabilities

APTmpX does not inherently require synchronization between the encoder and decoder. However, they make precise synchronization possible for SFN transmitter interlinking or content alignment in MFN setups.

APTmpX Characteristics	
APTmpX is available as a license option for APT IP Codec, the AoIP Codec Card, Virtual APT IP Codec and as Windows application	
APTmpX300	300kbps, 16Bit, (RDS)
APTmpX400	400kbps, 24Bit, (RDS)
APTmpX600	600kbps, 24Bit, (RDS)
Techniques applicable	APT SureStream (redundant streaming) APT SynchroStream (GPS/SFN synchronization)

** License options for APT Codecs*

Headquarters

20 avenue Neil Armstrong
33700 Mérignac (Bordeaux) FRANCE
+33 (0)5 57 928 928
www.worldcastsystems.com/contact-us

US office

19595 NE 10th Avenue Suite A
Miami, FL 33179 USA
+1 305 249 3110
www.worldcastconnect.com/contact-us

