

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 best MPX/composite compression algorithm, that delivers the highest sound transparency over low-bitrate IP transmissions.

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 300/400/600 and 900kbps, 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

900
kbps



Highest Signal Fidelity

APTmpX preserves the high signal fidelity of the processed MPX signal even at 300kbps and delivers the highest sound transparency. MPX signal characteristics (deviation, MPX power, phases, watermarking) are delivered transparently by APTmpX to 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 5ms.

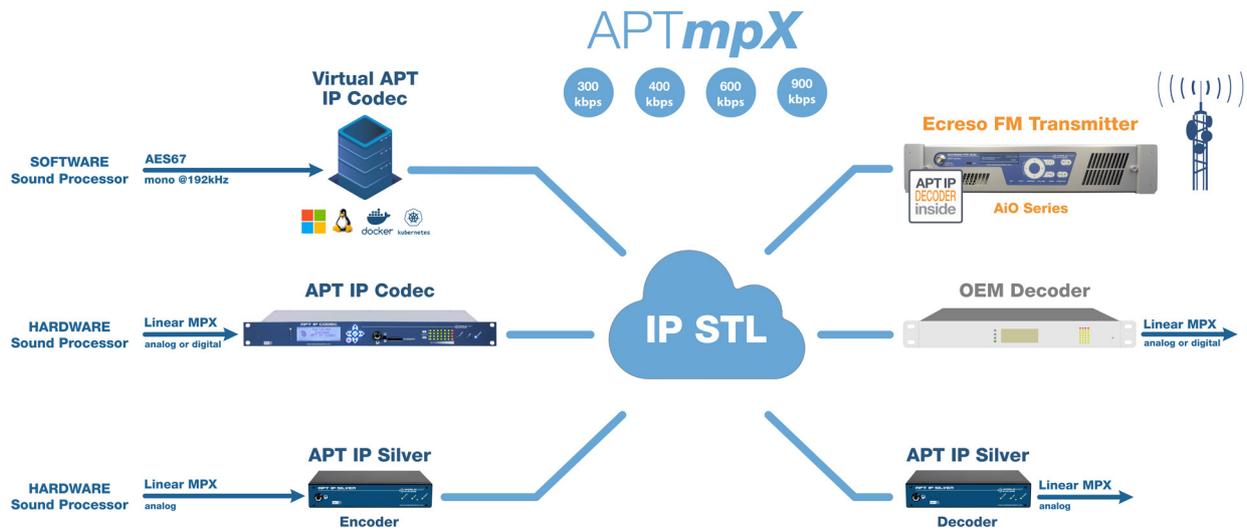


Resilience against Packet Loss

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, small packet sizes and independent packetization reduce any disturbance in the transmission to the respective affected packet.



APTmpX Transmission | Highest Signal Fidelity - Lowest Bitrate

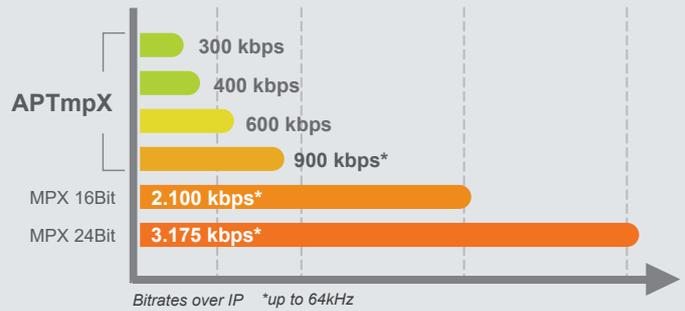


The APTmpX ecosystem adapts to many transmission applications

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 300/400/600kbps and 900kbps differ by varying sampling rates, bit depths (16/24bit) and the width of the MPX spectrum band.



Associated Features

RDS Transmission

Each APTmpX variation can carry RDS data. Depending on the selected APTmpX mode, RDS data is either embedded as serial data (APTmpX 300/400/600) or can be included in the MPX input signal on the 57kHz carrier (APTmpX 900).

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 in itself require synchronization of the encoder and decoder. However, it allows the precise synchronization for SFN interlinking of the transmitters or the content alignment of broadcasts in MFN arrangements.

APTmpX Characteristics	
APTmpX is available as a license option for the APT IP Codec, the AoIP Codec Card and the Virtual APT IP Codec.	
APTmpX 300	300kbps, 16Bit, 53 kHz
APTmpX 400	400kbps, 16Bit, 53 kHz
APTmpX 600	600kbps, 24Bit, 53 kHz
APTmpX 900 <small>(not on virtual IP Codec)</small>	900kbps, 24Bit, 64 kHz
Techniques applicable	APT SureStream (redundant streaming) APT SynchroStream (GPS/SFN synchronization)

*License options for APT Codecs

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