WORLDCAST SYSTEMS

POWERFUL PERFORMANCE CONTROL SAVINGS SERVICES

APT IP Silver MPX Encoder | Decoder

Budget-Friendly Professional MPX Streaming

APT IP Streamers, known for their advanced analog audio encoding and decoding capabilities, are now available in MPX versions.

The transmission of analog composite/MPX for FM transmitter supply, including the innovative compressed APTmpX format, features such as APT's proven SureStream technology for IP redundancy, and the distributed intelligence of ScriptEasy make the APT Silver Range stand out.

With a focus on quality and affordability, the APT IP Silver Range ensures reliable and time-controlled IP audio transmission at a high level.

Designed for reliability, the IP Silver MPX is ideal for individual MPX FM feeds and multi-frequency transmissions.

Optimized for Composite/MPX transmissions, this solution offers a wide range of wired network connectivity options and explicitly supports using 4G/5G modems for connectivity. With the low bitrates of the APTmpX, cellular networks have become viable options.

Choosing the APT IP Silver MPX Encoder and Decoder means investing in the rock-solid performance that has made APT a trusted name for broadcasters worldwide.

APTmpX SURESTREAM SCRIPTEASY

Benefits

IP Transport Optimization

The APT IP Silver Range is rich in network capabilities, featuring VLAN tagging and sophisticated NAT traversal techniques to accommodate networks with dynamic IP addresses, like the Internet or cellular connections. Additionally, its SureStream technology mitigates packet loss, while NTP-based time alignment minimizes latency fluctuations.

Pristine Composite/MPX Quality & Transparence

APTmpX delivers unparalleled signal transparency, minimal coding delay, and high resilience on IP transmission while only requiring a fraction of the uncompressed MPX bandwidth.

Maximize your Cost Savings

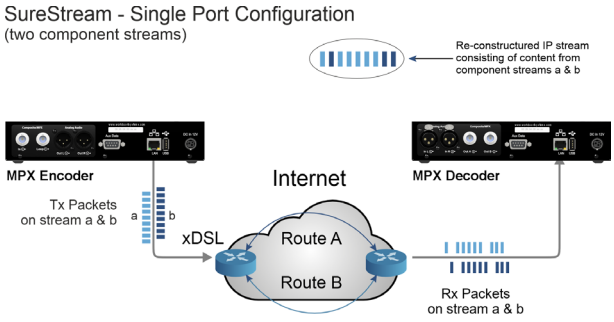
APT Products are designed to offer significant cost advantages. Featuring state-of-the-art capabilities such as APTmpX, SureStream, and ScriptEasy, these items are integral to the WorldCast Systems ecosystem, delivering reliable, high-quality content distribution beyond the scope of costly transmission pathways.

SURESTREAM

Low Latency - Low Costs: With SureStream's capability for redundant streaming, broadcasters can elevate more cost-effective but imperfect services into genuine low-latency, broadcast-grade IP connections.

Single Port and VLAN Configurations: As a VLAN-aware device, the IP Silver MPX can leverage multiple networks as SureStream paths. When using SureStream on a single network, the statistical diversity generator emulates the desired diversity across component streams.

Scalability and Flexibility: SureStream stands as the most flexible and scalable solution for safeguarding content transmission. It integrates paths from diverse networks, including MPLS, satellite, microwave, and cellular (4G/5G), to forge a unified and highly robust connection.



xDSL connections become the broadcast links

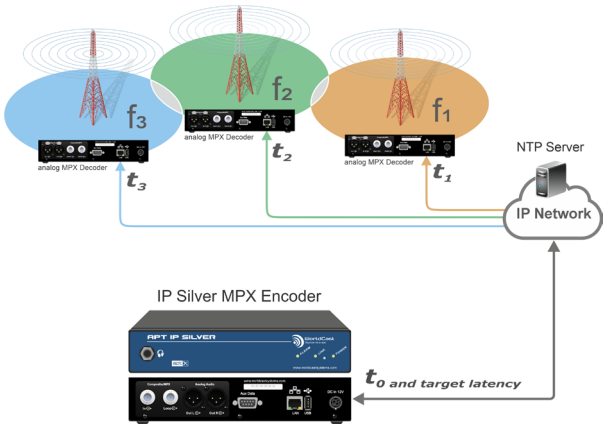
NTP-based Content Time-Alignment

Control Over Target Latency: The NTP-based Content Alignment feature eliminates variable latencies of an IP network within narrow limits*. For program transmissions in multi-frequency networks (MFN), this ensures a seamless program transition between frequencies.

Stable Latency: The timestamp-based transmission requires only a single setting on the IP Silver Encoder to define the general target latency to each Decoder at the transmitter sites.

Fine Adjustment of the Program Playout: Fine-tuning is essential for the optimal alignment of program overlaps in the MFN transmitter network. The IP Silver Decoder offers the flexibility for individual latency adjustments at the transmitter level, down to millisecond steps.

* A swing is possible within the limits of the NTP time stability.



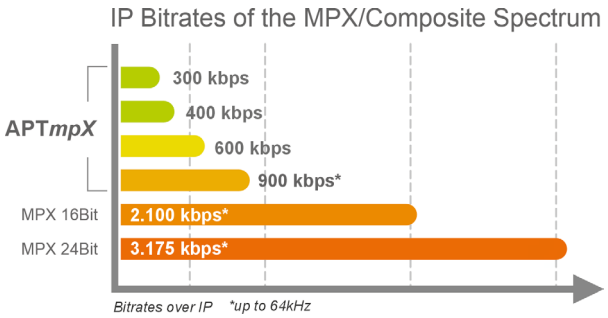
FM-MFN network with time-aligned overlap zones

APTmpX

Signal Transperancy: Offers the highest signal transparency and does not affect the watermarking (e.g., Nielsen).

Low Delay: The coding delay that lasts only a few milliseconds provides a performance that is comparable to that of the linear PCM processing.

Non-Framed: APTmpX is a non-framed algorithm. Each data packet is decoded in-dependently from previous packets. If a packet is lost, the next packet is decoded immediately (no packet-group dependency, no frames).



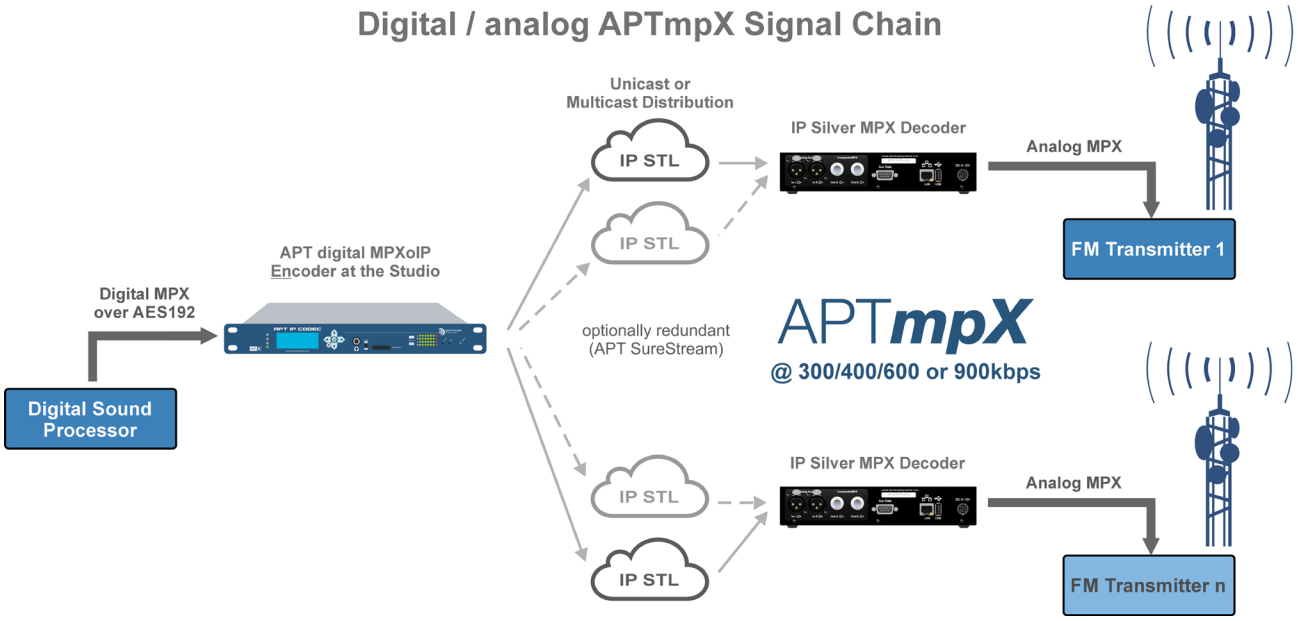
SCRIPTEASY

Advanced Telemetry & Facility Management

ScriptEasy is a revolutionary facility control software for connected devices, enabling the automatic correction of any critical errors that may occur. Across its intuitive web interface, ScriptEasy includes management of the GPIO, serial communications, SNMP, logic operators, live user inputs, timers, and more. This enables the "scripting" of site operations for evaluating multiple parameters and automatically engaging back up systems, while simultaneously alerting relevant technical personnel. **Integrated in the APT IP CODEC, ScriptEasy is the core technology that provides the device with its inherent "intelligence".**

Studio Transmitter MPX Distribution

with low-bitrate APTmpX



APT IP SILVER MPX | **Key Features**

- Simplex composite/MPX transmission
- Serial AUX Data in Duplex Communication
- Professional composite/MPX formats, APTmpX and linear @192/128 kHz FS
- Supports RTP/UDP streaming
- Point-to-Point and Point-to-Multipoint operation
- Packet redundancy, provided by SureStream enables reliable transmissions on any network
- Forwarding and protecting of UDP Streams, such as EDI or E2X data
- NTP-based packet timestamping allows to set target latencies per stream
- Supports UPnP IGD protocol for configuration of UPnP enabled gateways (routers)
- The advanced NAT traversal capability overcomes port blockages in the network
- Supports “Diffserv” Quality of Service (QoS) on variable DSCP values
- VLANs and virtual IP interfaces enables multi-network integration
- Performance monitoring on each individual IP stream
- Configurable jitter buffer for receiving IP stream (1 ms to 5000 ms)

Support Level Agreement

To make sure you reap all the benefits of your broadcast investment, you can rely on the WorldCast Systems’ Support Agreement program. The range of services available and with the support of our team of experts, you will benefit from maximum uptime, better performance, and overall improve your Total Cost of Ownership!

Contact your Sales Manager for more information.

APT IP SILVER MPX | **Technical Specifications**

IP Silver MPX Encoder

IP Silver MPX Decoder

Composite/MPX	
Analog MPX I/O	Unbalanced, capacitive isolated BNC connectors for Input/Loop and Outputs
Input/Output Clip Level	Input MPX Encoder +10 to 16 dBu Output MPX Decoder +10 to 16 dBu level adjustment in 0.025 dBu steps
MPX Bandwidths	53 kHz to 88 kHz, compressed and linear
MPX Formats	APTmpX 300/400/600 kbps (53 kHz) APTmpX 900 kbps (64 kHz incl. RDS) lin. MPX 88 kHz/64 kHz
Signal Processing	24 Bit AD/DA conversion
STREAMING MODES	
Stream Types	Multiple (Tx) stereo and mono Audio, UDP and RTP forwarding, Reply-to-Sender, NAT traversal mode
Casting Modes	unicast, multicast, multiple unicast, multiple multicast
Stream Forwarding	Bidirectional UDP or RTP (re-encapsulation capability)
Jitter Buffer	1 - 5000 ms with packet re-sequencer
QoS	DiffServ (RFC 2474) per stream
Redundant Streaming	SureStream, multi-stream packet-by-packet redundancy
Unit Clocks	Internal Media Clock and NTP-based Time Reference
Target Latency	NTP-based up to 4.5 sec.
MANAGEMENT	
Web Browser GUI	
APT NMS	
Connect Kybio (SNMP-based Manager)	
SNMPv2c/v3	
APT API	
ScriptEasy	
MONITORING & ALARMS	
Adjustable Silence Detectors on Inputs (Enc.) and Outputs (Dec.)	
Event Logs	
SNMP Traps/Notifications	
PHYSICAL INTERFACES	
Analog MPX	BNC analog MPX In/Loop (Enc.), analog Out (Dec.)
Headphone	1/4" (6.3 mm) Jack Socket (front)
AUX Data	D-Type 9-pin connector
Ethernet	RJ45
Power Connector	DC Connector with interlock
USB Port	5 VDC supply for ext. equipment and future options

NETWORK	
IP Interface	10/100BaseT/Tx, Ethernet IEEE 802.3x, IP4, Auto MDI-X
Port Speed (FE)	Full-auto, restricted-auto and hard coded
Virtual IP Interfaces	VLAN Tagging according to IEEE 802.1q
IP Alias	Multiple virtual IP addresses and gateways
Dynamic DNS	Multiple DDNS clients selectable
Standard Protocols	RTP, UDP, DHCP, FTP, HTTPS, ICMP, IGMP v2/3, SMTP, SNMPv2c/v3, NTP, UPnP (IGD)
Net Security	TLS 1.1 and higher, Service Filter and Firewall
DATA	
Serial Data (bidirectional)	RS 232 via UDP stream up to 15.200 Baud
AUX Data via UDP	UDP forwarding PAD/E2X or private Data
BACKUP OPTIONS	
RTP Stream	Multiple RTP backup streams
Redundant Streaming	SureStream, multi-stream packet-by-packet redundancy
PHYSICAL SPECIFICATIONS	
Dimensions (H x W x D)	44 x 223 x 163 mm (1.73" x 9.5" x 6.3")
Weight	1.0 kg / 2.2 lbs
Power Supply	12 VDC, external PSU, wall-mount 100-264 VAC/50-60 Hz
Power Consumption	5 W
Env. Temperatures Operation Storage Humidity	 0 °C - +55 °C -30 °C - +80 °C 95 % (non-condensing)

Order information

REF	DESCRIPTION
TFP0103-MPX	APT IP MPX Encoder Silver
TFP0104-MPX	APT IP MPX Decoder Silver
SPP00015	Rack Mounting Kit for APT IP Encoder/Decoder Silver

This document is not contractual. All specifications are subject to change without notice.

Headquaters
20 avenue Neil Armstrong
33700 Mérignac (Bordeaux) **FRANCE**
+33 (0)5 57 928 928

US Subsidiary
20233 NE 15th Court
Miami, FL 33179 **USA**
+1 305 249 3110