

# WorldNet Rio

**WorldNet Rio** is a full duplex, two channel, multi-algorithm audio codec offering Standard apt-X<sup>®</sup>, Enhanced apt-X<sup>®</sup> and optional MPEG Layer II. Designed to deliver high quality audio for inter-studio networking, remote/outside broadcasts and STL applications, WorldNet Rio utilizes permanent digital links such as X21, V35, E1 / T1, fractional E1 / T1, Satellite or Microwave.

A feature-rich codec, WorldNet Rio offers analog or AES/EBU Input and Outputs, simultaneous Analog and AES/EBU outputs, contact closure for sending remote control signals within the compressed bit stream, Silence Detection and optional SNMP for remote monitoring. The MPEG compression option offers greater flexibility by enabling compatibility with connections to third party codecs.

The highly acclaimed apt-X<sup>®</sup> compression technology is key to the performance of WorldNet Rio. Delivering exceptional quality, lossless audio with negligible coding delay, the Enhanced apt-X<sup>®</sup> algorithm has become the defacto standard throughout the professional audio industry worldwide. As an ADPCM-based algorithm, Enhanced apt-X<sup>®</sup> is non-destructive in nature and offers resilience to the effects of cascading, making it ideally suited for use in the HD Radio Broadcast chain.



## **WorldNet Rio offers key benefits for broadcast audio networking:**

- Available audio bandwidths from 10Hz through to 22.5kHz with corresponding synchronous bit rates from 56kbit/s to 576kbit/s
- Incorporates both Standard and Enhanced apt-X<sup>®</sup> thus ensuring backward compatibility with previous APT products
- Integral back-up feature to assure program continuity, in the event of a failure of the main network
- Features analog or AES/EBU audio inputs and simultaneous analog / AES/EBU outputs
- Optional E1/ T1 interface
- Auxiliary data to 9600 Baud for additional control and data transmission, such as RDS
- Operational setup and monitoring through front panel controls and display
- Up to 5 status alarms or 1 Summary Alarm and 4 opto-coupled inputs for remote status
- Silence Detection
- Optional SNMP for remote monitoring
- Headphone monitoring of audio inputs or outputs with volume control



# WorldNet Rio

## Technical Specifications

### Physical

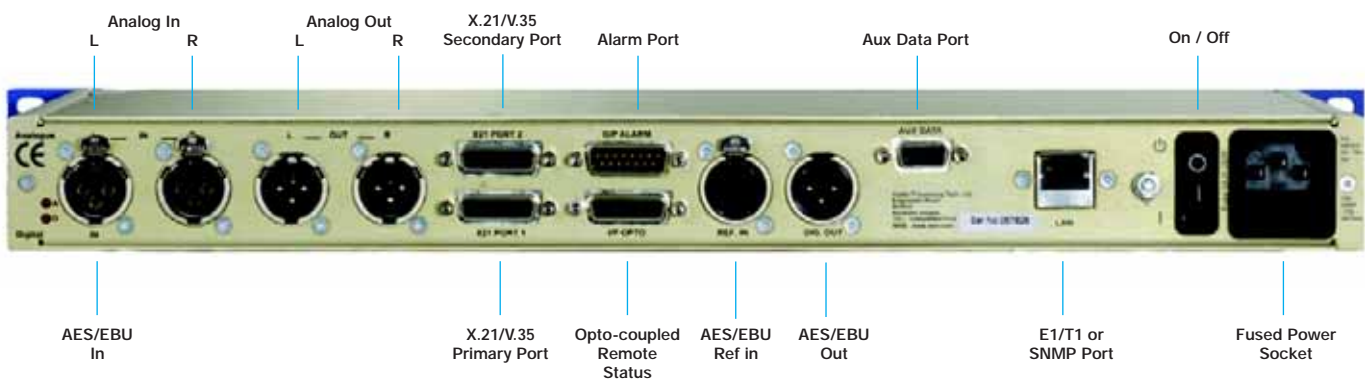
Size	1U x 19" rack mount 44mm x 482mm x 255mm 1.75" x 19" x 10"
Weight	2.25Kg / 5lbs
Power Supply	100–250 VAC, 50-60Hz (optional 48VDC Supply)
Power Consumption	<15W
Environmental	0°C to +55°C, 95% humidity

### Interfaces

DTE Interfaces E1(optional): T1(optional):	X.21/V.35, 15 way D Type, RS422 level G.703, 2.08Mbit/s, 32 Duplex DSO's T1.102, 1.544Mbit/s, 24 Duplex DSO's RJ45 Balanced, 120Ω Termination
Aux. Data Data Rates: Digital Operation	9 way D type, RS232 level 1200, 2400, 4800, 9600 Baud Audio I/O, AES/EBU, Balanced XLR-3 Impedance 110Ω Digital Reference Input, XLR-3
Analog Operation	Balanced XLR-3, Input Impedance 600Ω / >10kΩ Output Impedance 600Ω / < 50Ω
Alarms Opto-coupler	5 Alarms on 15 way D Type 15 Way D type 4 Inputs driving 4 Relay Outputs
SNMP(optional)	RJ45, Version 2, Monitoring

### Audio

Sampling Frequencies: Digital Operation Analog Operation	32kHz, 44.1kHz, 48kHz 8kHz-48kHz
Sample Rate Converter	3:1 (with bypass modes)
Audio Bandwidth: Digital Operation Analog Operation	10Hz through to 22.5kHz mono & stereo 10Hz through to 22.5kHz mono & stereo
Source Coding	Standard and Enhanced apt-X® MPEG Layer II (optional)
Compression Ratio	apt-X® 4:1 MPEG variable
Coding Delay: Standard apt-X® Enhanced apt-X® MPEG	2.5ms @ 48kHz 1.9ms @ 48kHz >100ms @ 48kHz
Dynamic Range	16-bit > 85dB 20-bit > 105dB, 24-bit >110dB
Phase Response	Linear: DC to F <sub>s</sub> /2
Pass Band Ripple	<-0.2dB



NB: All specifications are subject to change without notice.  
All trademarks are copyright

[info@aptx.com](mailto:info@aptx.com) [www.aptx.com](http://www.aptx.com)



**APT Corporate Headquarters**

Tel: +44 28 9037 1110  
Fax: +44 28 9037 1137

**APT North America**

Tel: 800-955-APT  
Fax: 732-796-0304

**APT Japan**

Tel: +81 35 771 1191  
Fax: +81 35 771 1192