SOLIDYNE DIGITAL POWER

Coder Decoder

ADA102

The new technology in high quality audio link

Automatic streaming generator set.

A new landmark in high quality FM radio

*Encoder receives a stereo audio signal turning it into a **MP3** or **PCM** audio streaming, under different protocols*

*The output coded **TCP/IP** is at a **RJ45** connector, compatible with Ethernet networks.*

ADA102: the new technology in high quality audio link for radios

The **ADA102** is a digital audio streaming generator, working stand alone. Encoder receives a stereo audio signal (analog or digital) turning it into a **MP3** or **PCM** audio streaming, under different protocols (see specifications).

The output coded **TCP/IP** is at a **RJ45** connector, compatible with Ethernet networks. Through an internal switch activated from the rear panel, the **ADA102** becomes Decoder.

Coder Decoder **ADA102**

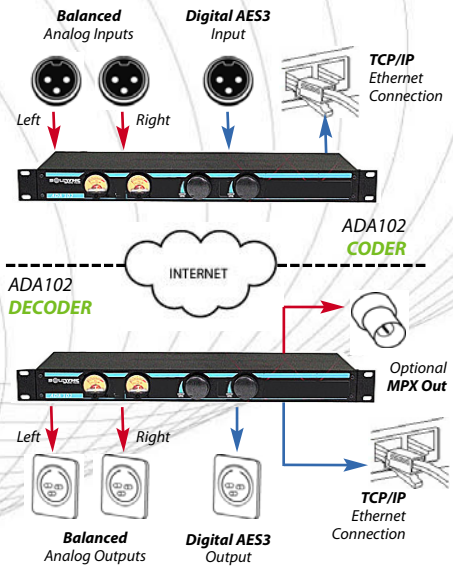
That way, at the other end of the link, data stream coming through the Internet or by a microwave link **802.11.x**, is converted to audio signal. Audio is delivered analog balanced or digital stereo **AES3**, compatible with **S/PDif**.

The **ADA102mpx** model includes a third type of output for direct connection to **FM stereo** transmitter; **MPX** stereo multiplex. The **MPX** output offers the highest quality stereo sound available today at the international market.

PRECISION MP3 ENCODING

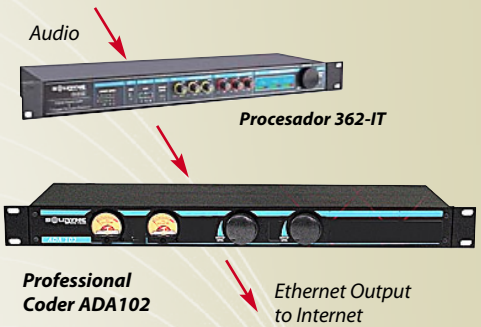
ADA102 handle the new encryption algorithm **MPEG 1/2 layer 3** to arrive at standards of excellence. No encoder, operating on a **PC,** allows you to obtain the 7th degree level of quality (indistinguishable from the original for all ears and all programs.) These algorithms run into an internal high-speed **DSP**. Encoding at **192 Kbps** (kilobits per second) with **VBR** technology (Variable Bit Rate), allows for a faithful and accurate reproduction of a recording session done at **24 bits @ 192 KHz**. This is crucial to face the new FM digital HD radio. But it is also true that still using modern analog **FM transmitters**, the **ADA102** links allows for the excellent sound quality that is always appreciated by the audience.

ADA102 Connections



ADA102 Applications

Internet and transmitter Link



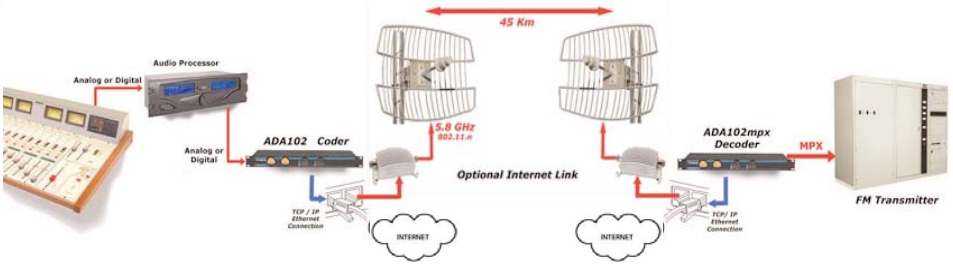
The first application is the generation of streaming audio at Internet. This is called **Webcasting** or **PodCasting**. The quality level achieved by **ADA102** is much higher than the obtained using a PC with a sound card . Moreover, the **ADA102** is always working 24 hours a day, with no virus problems, no crashes no software downs and without hard drive wear. The addition of an audio processor, like **362-IT** enhances the sound quality and maintains a constant audio level.

Listen to audio demos at web site

English/ADA102/Description/Audio Demos.

info@solidynePRO.com

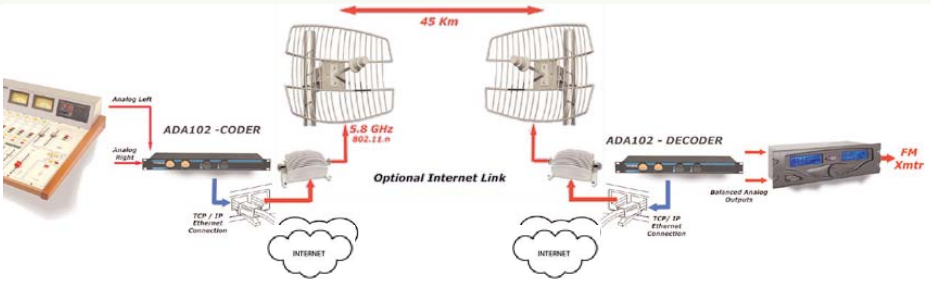
Two or more repeater stations can be easily linked



Your current analog STL link is limiting the audio quality of your FM broadcast station. Its distortion is several times larger than the transmitter distortion. The solution is a digital link.
The use of a coder **ADA102** in studies connected to broadband Internet, allows to cover any distance from the transmitter. This is the ideal solution for radio networks, because a single coder in studio can send a signal to several transmitters throughout the country.
Using the model **ADA102mpx** with **MPX** output, as decoder, you can connect it directly to **FM stereo** transmitter. Then you will have **70 dB** stereo channel separation (with an analog STL link, you will very lucky if it manages **35 to 40 dB**).

It is also possible to keep the processor at transmitter side. Both **AM** and **FM**. But this is only recommended in AM radio at which the processor must be near transmitter to maintain a **DC-coupling** to allow asymmetric modulation.
If you do not have broadband Internet connection at the transmitter side, you can use a standard low cost microwave link (**WI-FI or WI-Max**) for **5.8 GHz** band. It works under **802.11.x** worldwide standard. The **5.8 GHz** band allows for **45 Km** link distance, with no obstacles, and it is of free use in all countries and does not require any special authorization.

Digital STL with Audio Processor at transmitter side



STL link with full digital audio

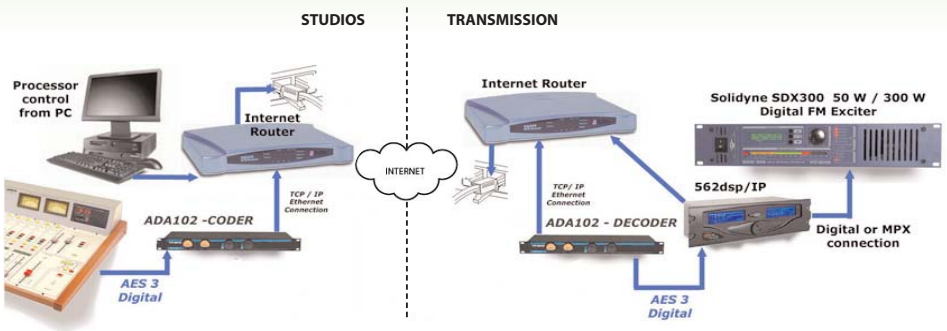
Being a full 100% digital radio station is now possibly without compromise your budget. From console to transmitter the radio can be totally digital. Replacing the current exciter of your transmitter with the new **Solidyne SDX300 AES 3 Exciter**, the radio will have a new CD-quality sound.
The position of the processor is indistinct and may be at transmitter or Studio side. If you do not have broadband Internet connection at the transmitter side, you can use a standard low cost microwave link **(WI-FI or WI-Max)** for **5.8 GHz** band. It works under **802.11.x** worldwide standard. The **5.8 GHz** band allows for **45 Km** link distance, with no obstacles, and it is of free use in all countries and does not require any special authorization.

The same way you can send RDS information and control commands to the transmitter. Using an inexpensive **Ethernet** router is easy to send an additional data stream to control the audio processor.
The same way you can send **RDS** information and control commands to the transmitter. Modern IP transmitters allows remote **Ethernet** networking.

Professional Coder Decoder
ADA102

STL link with full digital audio

Digital technology allows for managing the audio processor from a PC located at Studio.



Technical Specifications

A- Coder Decoder ADA102

CODER / DECODER MODE
ADA102 is able to work as Coder or Decoder depending on a hidden button at rear side and the software mode loaded.

ANALOG INPUT / OUTPUT
- Stereo balanced In / Outs -10 to + 15 dBu input level, regulated by front panel level control.
- Max output level + 20 dBm over 600 ohms (at FSD level).
- 0 VU at meter: + 4 dBu out

DIGITAL IN / OUT
- AES 3 professional balanced digital stereo IN / Out Z=110 Ohms.
- Full compatible S/PDif.

FREQUENCY RESPONSE
Analog or Digital 30 - 15.000 Hz +/- 0,5 dB @ 192 kbps.

DISTORTION
Less than 0,01 % THD distortion, Analog or Digital @ 192 kbps.

NOISE
-Dynamic Range > 70 dBA @ 192 kbps as encoder.
-Dynamic Range > 80 dBA @ 192 kbps as decoder.

HEADROOM
Safety level from 0 VU meter to Full Digital Scale: 15 dB.

VUMETER LEVEL
Measures true peak level with a peak-hold system.

CHANNEL SEPARATION
-Better than 70 dB @ 1 kHz, Analog.
-Better than 90 dB @ 1 kHz, Digital AES 3.

POWER SUPPLY
220-240V / 110 - 127 V 50 / 60 Hz, 15 VA.

B- Digital Streaming Input / Output

STREAMING CONNECTION
Standard RJ45 Ethernet connection TCP/IP.

STANDARDS SUPPORTED
-MP3 Layer 1 (32, 44.1 and 48 kHz).
-MP3 Layer 2 (16, 22.05 and 24 kHz).
-G.711 (µLaw / A-Law 8 and 24 kHz sampling rate).
-16bit PCM uncompressed (8 and 24 kHz).
-MONO Streaming: MPEG1/2 Layer 3, VBR (Fs: 48KHz): 72 76 80 88 96 112 144 160kbps.
-STEREO Streaming : MPEG1/2 Layer 3, VBR (Fs:48KHz): 88 96 104 120 144 160 176 192kbps.

PROTOCOLS
-IP standard based protocols; TCP/IP, UDP, HTTP, ICMP, SNMP
-Supports BootP, DHCP and Auto IP
It supports RTP for low latency

LATENCY (TIME DELAY)
ADA102 has a latency of only 50 - 100 mS.

VARIABLE BIT RATE (VBR) ENCODING
The encoder uses Variable Bitrate Encoding (VBR) to realize optimal compression of the audio data. The setting of a fixed bitrate is replaced with setting a quality level that preserves audio quality in critical sections and enhances compression otherwise.

MPX output specifications model ADA102mpx

MPX OUTPUT
Differential output, BNC connector, floating ground 50 ohms. Allows 45 dB canceling buzz & noise due to ground loops. Level: Adjusted 0,5 to 4 Vpp from rear panel preset.

TOTAL DISTORTION
THD less than 0.003 % at 1 kHz.

STEREO SEPARATION
75 dB at 400 Hz / > 70 dB; 30-15.000 Hz.

38 KHZ SUPPRESSION
75 dB minimum below 100% modulation.

57, 76 AND 95 KHZ SUPPRESSION
75 dB minimum below 100% modulation.

PILOT LEVEL
Adjusted 7-12 % from rear panel preset control.

PILOT STABILITY
+/- 0.05 Hz, 0 to 50 °C.