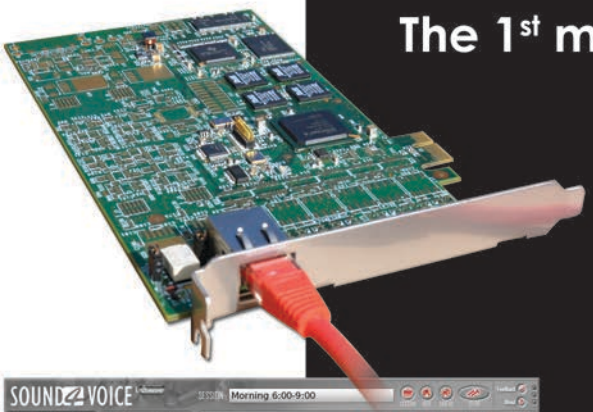
www.sound4.biz

SOUND4

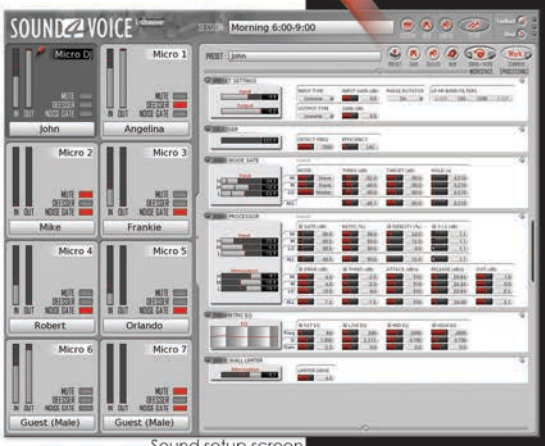
Voice Processing
WebRadio Processing
Broadcast Sound Processing
Audio IP Networking

Voice Processing
SOUND4 Voice



The 1st multi-channel Voice Processor

Much more than a simple noise gate + compressor ...
SOUND4 Voice is powered with the revolutionary HQSound 192 kHz Audio Processing engine, a SOUND4 patented technology. Its processing structure includes an advanced DeEsser, a 3-band noise gate, a 3-band processor, a 4-band parametric EQ, a brick wall limiter... yes really much more than a simple noise gate + compressor... SOUND4 Voice is flexible, its adaptability to all kind of voice is amazing. From Natural tone to Big and very Structured tone, everything is possible in few clicks... In advanced mode the SOUND4 Voice is also the perfect tool for production studios.



Sound setup screen

At last a Voice Processor dedicated to "Live studio"...
SOUND4 Voice has been designed for Live studio requirements. The dedicated graphical user interface shows all 8 Mics (or 6 in AD version), status, affectations and Users Names. Recalling a Mic to a user is done in two clicks... More and more... SOUND4 introduces now the "Session Recall": it is possible to save all Mics affectations + loaded users presets, and then recall all in a click! SOUND4 Voice is also externally automatable for day parts automatic sessions recall ...

In-House Users Presets centralization...
Imagine Live and Production studios with SOUND4 Voice in each... Thanks to Users Presets Centralization, Animators, Interviewers, Journalists and DJs will have access to their own presets in each studio. If a User preset is modified from one studio, all other studios will be automatically updated, this is the job of the "in-house Users Presets Centralization".

Live mode screen

Multi-Studio ready...
The SOUND4 Voice can process separately up to 8 microphones (or 6 in AD version). Thanks to Multi-Studio mode, a SOUND4 Voice can distribute these resources over several studios. Just imagine... you have two studios to equip with three microphones for each studio: with a single SOUND4 Voice you can "split in two" to get two processors which operate separately on each studio. Moreover studios may Save and Recall their own sessions.

AVAILAIBLE IN ANALOG/AES, LIVEWIRE AND RAVENNA® VERSION*

Key Features:

HQ Sound

- Three versions
  - 1 to 8 independent Channels in Livewire version
  - 1 to 8 independent Channels in Ravenna version (soon)
  - 1 to 6 independent Channels in AD version (Analog line level & AES)
- Outputs
  - Independent or mixed into 1 or 2 buses for saving space in mixers
- HQ Sound 192 kHz Sound Processing:
  - Advanced DeEsser
  - 3-Band Noise Gate
  - 3-Band Dynamic Processor
  - 4-Band Parametric EQ
  - Brick Wall Limiter
- Presets centralization and sharing
- Session Recall
- Link&Share ready
- Load balancing
  - Audio processing and Livewire protocol are 100% handled by the five DSPs on the card (8 Gflops of computing power!), no CPU or PCI load on mother board.
  - Independent processing, no sound disruption on PC overload, hang or reboot
- Drivers and GUI are Windows & Linux compatible
  - Windows Xp SP3, windows 7 & 2008 R2 (32 & 64 bits)
  - Linux Debian
- Form Factors
  - PCI express x1 (may be inserted in x1, x2, x4, x8, x16 slots)
  - Card dimensions : Standard Height (4.20" / 106.7mm) , < three-quarter length (7.3" / 185mm without IO bracket and optional IDE power connector for AD version)

WebRadio Processing & Coding

SOUND4 x8

The Processing and Streaming solution for WebRadio bouquets

The SOUND4 x8 is the 1st multi-channel processor dedicated to WebRadio bouquets. It can simultaneously and independently process 8 radio streams on a single PCI express card. The x8 offers 8 inputs and 8 outputs through Audio Driver (WDM/Direct Sound) and/or Livewire* and Ravenna* (coming soon).

In terms of Sound Processing, the SOUND4 x8 includes a true processing chain dedicated to webstreaming: AGC + Tone FX + Stereo FX + 3-band Process + 4-Band Limiter + Brick Wall Limiter! The SOUND4 x8 also features the « Predictive HQ-Sound » algorithm which optimizes codec result and reduces compression-induced sound artifacts.

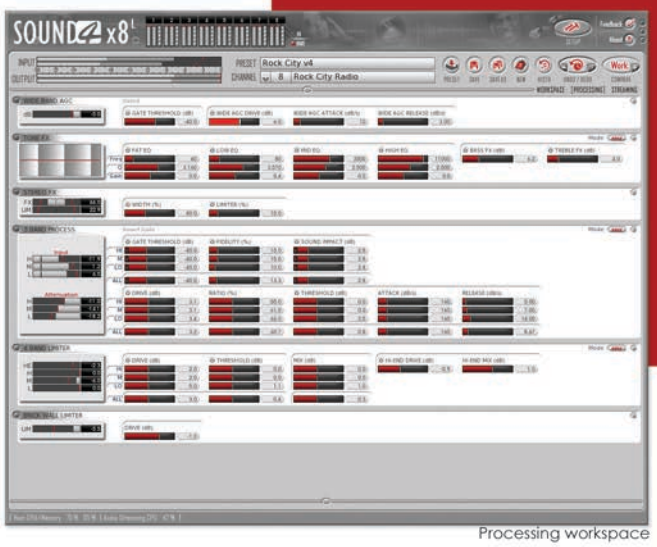
In terms of Encoding, the SOUND4 x8 offers a complete and innovative solution: each processed output may be encoded into up to 5 different stream formats (MP3, AAC, HE-AAC v1, HEAAC v2...). The SOUND4 x8 is the high quality encoding engine that suits every IP audio device profiles. Indeed it is the 1st processor that integers a sound optimizer for very low encoding rates (16 kbps, 24 kbps, 32kbps...). Moreover, an Adaptive Processing can correct each stream independently in order to compensate the sound difference due to encoding (another SOUND4 innovation!). Thus a radio station can easily generate different streams that suit the targeted audience, low rate for mobile phone, high rate for home device, with homogeneous sound whatever the encoder used. Finally, the SOUND4 x8 adapts to most of the standards used for streaming delivery systems (Flash, Darwin, Helix, Wonza, Icecast 2, Shoutcast...)

In terms of Meta-Data, the SOUND4 x8 is compatible with the different standard formats and can interface to many automation software thanks to a XML-based gateway (A2I, BE, BSI, Enco, Jazler, Netia, NextGen, RCS, Winamp, Winmedia...)

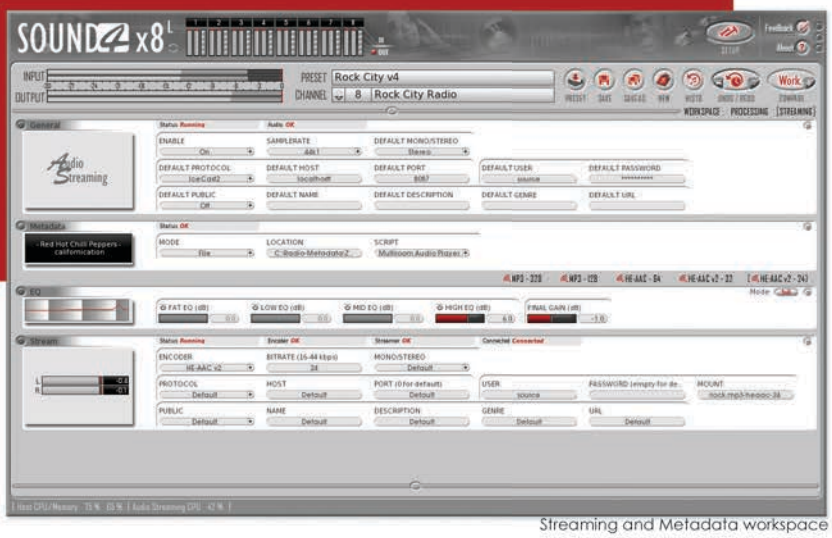
Key Features:

HQ Sound

- Input and Outputs
  - 8 stereo channels Audio Driver (WDM/Direct Sound for Windows; ALSA for Linux Debian)
  - Liwewire (Standard Stream and Live Stream)
  - Ravenna (coming soon)
- 8 independent stereo radio station processing
  - AGC + Tone FX + Stereo FX + 3-band Process + 4-band Limiter + Brick Wall Limiter
- 5 encoding streams per radio station (40 streams total)
  - MP3, AAC, HEAAC v1, HEAAC v2
  - 3GP compatible (mobile phones)
- Adaptive Processing with respect to encoder used, quite no audio difference between streams at 16, 24, 32, 44, 64 or 96 kbps
- Meta-data management
  - Input: gathered from file, HTTP, FTP or TCP
  - Scriptable meta-data processing
  - Output: embedded in audio or compatible mode with broadcast servers
- Compatible with all standards used by streaming servers
  - Darwin, Flash, Helix, Icecast 2, Red5, Shoutcast, Wonza ...
  - Protocol: HTTP/ICY, RTSP/RTP Unicast, RTMP
- Link&Share ready
- Driver and GUI are Windows & Linux compatible
  - Windows Xp SP3, windows 7 & 2008 R2 (32 & 64 bits)
  - Linux Debian
- Load balancing
  - Audio processing, Livewire or Ravenna protocols are 100% handled by the five DSPs on the board (8 Gflops of computing power), no CPU load on mother board.
  - Stream Encoding is 100% handled by the main CPU on PC mother board (where the SOUND4 card is plugged). The SOUND4 x8 features a highly optimized encoding engine that allows many streams to be encoded (more than 80 streams on a quad-core processor PC).
- Form Factors
  - PCI express x1 (may be inserted in x1, x2, x4, x8, x16 slots)
  - Board dimensions: Standard Height (4.20"/106.7mm), < three-quarter length (7.3"/185mm without IO bracket)



Processing workspace



Streaming and Metadata workspace

HD/FM Processing
SOUND4 HD/FM

An all-powerful processor

SOUND4 HD/FM product range is based on two products: the small one (HD/FM2) dedicated for small radio budget, and the SOUND4 HD/FM4 the biggest product in the FM/HD range. All products are based on our revolutionary algorithm concept: "HQ Sound". In short this unique process doesn't need a lot of bands to offer perfect sound stability. That's why 4-band HQ Sound can easily surpass 5 or 6 traditional bands.

The flexibility of SOUND4 HD/FM is unique so it can be used for all types of program:

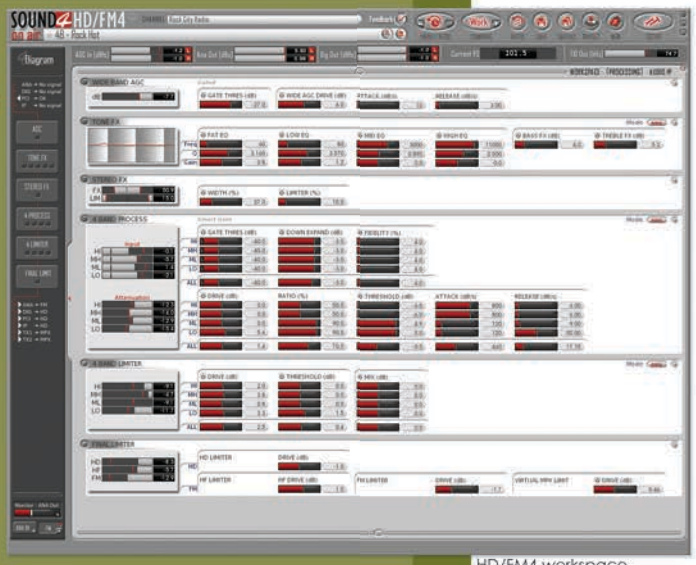
- Demanding commercial radio will appreciate the power of the sound
- Dance, hip/hop, R&B radio... will finally discover real bass
- Rock radio will revere the precision of the guitars
- Jazz radio will be delighted with the contrast and depth of the instruments
- Talk or news radio will like the warm, precise voices with no distortion
- Classic radio will take pleasure in broadcasting works without destroying the different levels...

Much more than a mere processor, the SOUND4 HD/FM cards has Audio Backup functionalities. The only limit will then be the capacity of the hard disk to store audio files. It is thus the first processor that guarantees continuity of the On Air program!

Audio Over IP built-in: the Audio IP option offers innovative functionalities expected by many users... Low delay codecs, Single way or duplex, 32 links, IP synchronization, IP route backup, pass-through... SOUND4 HD/FM products integrate in option a Basic RDS encoder or a Full RDS encoder (UECP compatible)

Key Features:

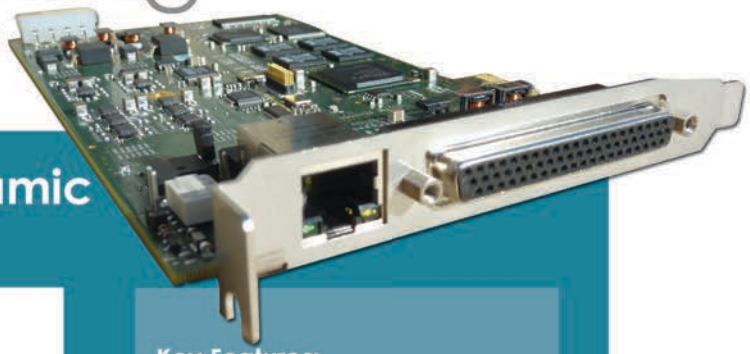
- Inputs and Outputs
  - Analog
  - Digital
  - Audio Driver (WDM/Direct Sound for Windows; ALSA for Linux Debian)
  - IP (Ethernet connector on SOUND4 board)
    - SOUND4 IP: audio Networking solution (optional)
    - Liwewire (Standard Stream and Live Stream)
    - Ravenna (coming soon)
- Automatic input management
  - Backup Mode
  - Priority Mode
- MPX
  - 2 assignable outputs (MPX or 19kHz stereo pilot)
  - 1 SUB input (for RDS, SCA...)
- Audio Processing
  - Main sampling process frequency 192 kHz (HQSound 192 kHz)
  - Final Clipper sampling Frequency: 1.5 MHz.
  - Ultra low delay ~5 millisecond
    - Wide band AGC
    - 4-band Eq + Tone FX and Stereo FX
    - Stereo FX
    - 4-band process with Fidelity and Sound Impact System (S.I.S)
    - 4-band limiter
    - Look Ahead limiter for the HD output
    - Virtual MPX limiter
    - MPX power controller (ITU-R 412 standard)
    - FmHQ Compliant: now it is possible to set Low Pass Filter to 17 kHz... Our revolutionary filter guarantee a perfect pilot protection (-90 dB)
- RDS
  - Basic RDS: scrolling PS included (in option)
  - Full RDS, UECP compatible (in option)
- Audio Backup
  - Audio Driver (in option) compatible with all Audio Players
- WebRadio streaming: 5 different encoding streams (in option)
  - MP3, AAC, HEAAC v1, HEAAC v2
  - 3GP compatible (mobile phones)
- Link&Share ready
- Driver and GUI are Windows & Linux compatible
  - Windows Xp SP3, windows 7 & 2008 R2 (32 & 64 bits)
  - Linux Debian
- Load balancing and start-up delay
  - Audio processing, Livewire or Ravenna protocols are 100% handled by on board DSPs (8 Gflops of computing power), no CPU load on mother board
  - WebStream Encoding is 100% handled by the main CPU on PC mother board (where the SOUND4 card is plugged)
  - Start-up delay of the SOUND4 card: 2 seconds max before being On Air
  - Start-up delay of WebRadio Streaming and Audio Backup: running PC needed
- Form Factors
  - PCI express x1 (may be inserted in x1, x2, x4, x8, x16 slots)
- Board dimensions: standard Height (4.20"/106.7mm), < three-quarter length (7.3"/185mm without IO bracket and IDE power connector for analog I/O)



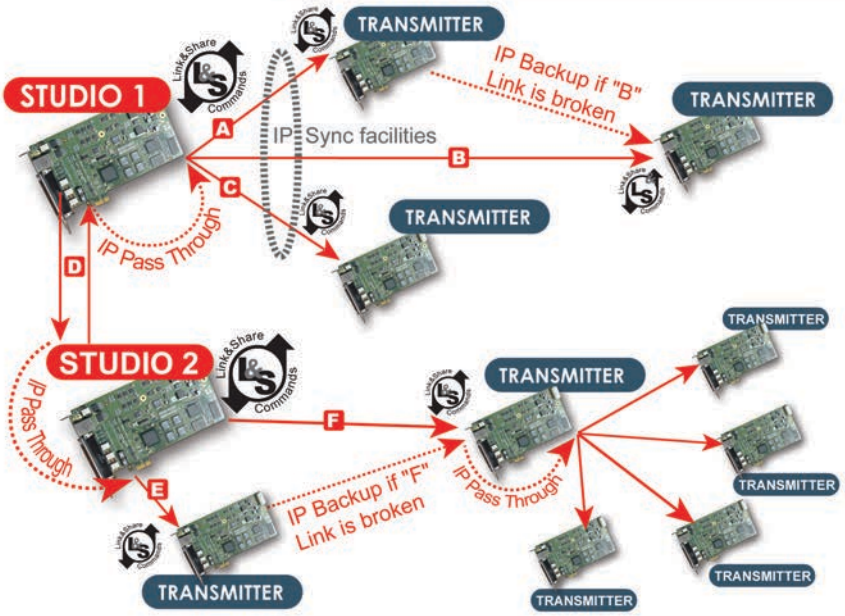
HD/FM4 workspace

HQ Sound

Audio IP Networking
SOUND4 IP



The solution for Dynamic Audio Networking



Much more than point-to-point sound streaming...
Have a look at all the AUDIO IP solutions available... Although an essential point, none of these solutions take signal processing into account! None of them allow for synchronization... None of them offers a secure routing in the event of an IP link failure... None of them offers stream duplication without decoding and re-encoding... In many cases, the most commonly used codecs impose significant delays, up to a few seconds... Network architectures are fixed and cannot be adjusted according to the new demands of the broadcasting management...
SOUND4 IP allows to create a live program "in one click", to assign a group of transmitters to a particular studio, to manage an IP network through the radio automation systems...

SOUND4 Audio IP Networking, a panel of unique features dedicated to quality and programs
Our products are always the results of extensive market research. Not to look at what others do, but to analyze the requests and directions that our customers might take, therefore ensuring that the Radio of the future is technically more advanced and interactive... Our advance is demonstrated through the unique features described herewith and our understanding of the needs 100% dedicated to the quality of your programs.

Key Features:

- 32 independent links: Single or Duplex and until infinite in dynamic re-routing
- Extremely low delay: 50ms encoding / transport / decoding
- Protocol type: UDP
- Codecs
  - SOUND4 LD Codec64 to 384kbps (transparent at 128)
  - PCM linear Codec (for LAN application)
- IP Synchronization: 5ms on SDSL, max 20ms on ADSL
- IP Pass-Through for stream replication (no decoding and re-encoding)
- IP routing backup (in case of a broken link)
- Inputs and Outputs
  - Analog
  - Digital
  - Driver audio (WDM/Direct Sound for Windows; ALSA for Linux Debian)
  - IP (Ethernet connector on SOUND4 board)
    - SOUND4 IP: audio Networking solution
    - Liwewire (Standard Stream and Live Stream)
    - Ravenna (coming soon)
- Automatic input management
  - Backup Mode
  - Priority Mode
- Link&Share ready (compatible with Radio Automation systems)
- Drivers and GUI are Windows & Linux compatible
  - Windows Xp SP3, windows 7 & 2008 R2 (32 & 64 bits)
  - Linux Debian
- Load balancing
  - Audio processing and Livewire protocol are 100% handled by the five DSPs on the board (8 Gflops of computing power), no CPU or PCI load on mother board
  - Independent processing, no sound disruption on PC overload, hang or reboot
- Form Factors
  - PCI express x1 (may be inserted in x1, x2, x4, x8, x16 slots)
  - Board dimensions: Standard Height (4.20"/106.7mm), < three-quarter length (7.3"/185mm without IO bracket and IDE power connector for analog I/O)

HQ Sound

All SOUND4 cards are Link&Share ready:
With Link &Share you can read and modify values directly with Telnet protocol. Link&Share is the ultimate solution for product integration with other products of the chain. Moreover, SOUND4 provides for free a full scripting solution and a Link&Share Transmitter for sending commands automatically!

Many thanks to our PARTNERS

Partnership goal:
Integrate Livewire* technology in SOUND4 products.

Since March 2010, SOUND4 is an Axia licensed partner for Livewire* technology.
*Livewire is a trademark of Axia Audio

RAVENNA

Partnership goal:
Integrate RAVENNA® technology in SOUND4's products.

Since September 2011, SOUND4 is a Ravenna® licensed partner for Ravenna® technology. We will now propose a full catalog of Ravenna® powered products.
RAVENNA® is a registered trademark of ALC NetworX GmbH and is used here under license

Partnership goal:
Integrate SOUND4 HD/FM Sound Processing in Digiplexer and NextFM.

Since 2007, for Audio Processing part, our cards, our algorithms and our software equip the Digiplexer 2/4, Digiplexer 246 and Next FM.

SOUND4 works with Dell's OEM Solutions team for its product integration. With Dell*, we have found the best, most cost-effective solution provider for SOUND4 products' integration. Today our cards are integrated by Dell and directly shipped to our customers.

*registered trademark of Dell

SOUND4
93 rue Henri Barbusse
69310 Pierre Bénite - FRANCE
Tel: +33 (0) 413-415-540 - Fax: +33 (0) 413-415-541
E-mail: sales@sound4.biz
Web site: www.sound4.biz