

jünger

HIGH DENSITY AUDIO PROCESSING

APPLICATION NOTE



CONTENT

Welcome	4
HIGH DENSITY LOUDNESS PROCESSING	5
Embedded Processing Module C8491	6
Smart integration.....	6
Cost effective solution	6
Features.....	6
Licence Model.....	6
EMBEDDED PROCESSING IN DETAIL	7
C8491 in 5.1 + stereo mode.....	7
C8491 in 4x stereo mode.....	7
C8491 in 2x 5.1 + stereo mode	8
C8491 in 5.1 + stereo + 4x stereo mode.....	8
HIGH DENSITY LINE.....	9
COMPACT 64 EDITION.....	9
COMPACT 256 EDITION	9



WELCOME

With well over 20 years' experience in dynamic audio processing and over 12.000 channels installed worldwide, Jünger Audio is internationally recognized as the industry's leading solutions provider for broadcast audio processing in production, playout and distribution environments.

From the very beginning close customer contact has been our main focus. This led to exceptional product developments that have been jointly driven by our enthusiastic customers and our highly motivated development team. Quality audio products "made in Germany" do have a long and impressive history and we at Jünger are proud to continue this legacy.

This application note is intended to share some ideas we jointly developed with our existing customers having the focus to help you designing a future proof systems solution.

I very much hope that you will enjoy our collection of application notes and I look forward to seeing and talking to you soon.

Yours sincerely,

A handwritten signature in blue ink that reads "Peter Poers". The signature is fluid and cursive, with a long horizontal stroke at the end.

Peter Poers
Managing Director

HIGH DENSITY LOUDNESS PROCESSING

For large multi-stream applications high density processing is the key to powerful but economically balanced investments, as a very large number of programs and channels need processing on a minimal footprint. With a combined SDI De-embedder/Embedder and up to 16 channels of baseband processing, the C8491 module offers the highest processing density available in the market today.



Embedded Processing Module C8491

This new module combines powerful, compact processing with an efficiency and flexibility never before seen. Designed for extremely compact multi-stream systems, these modules will add all the processing you need for efficient loudness management with the smallest footprint available today.

SMART INTEGRATION

Configure and control your loudness solution out of your office via Web-browser based configuration and monitor the loudness system via SNMP. Even remote installations near a teleport can easily be remote controlled via Ethernet. Smart integration also includes an open protocol gateway to 3rd party external control such as broadcast scheduling systems. This integration supports fully automated playout with fully integrated external control – a workflow decision which lets you concentrate on creative elements rather than supervising the daily work.



COST EFFECTIVE SOLUTION

This highly integrated solution offers a maximum in processing power per rack unit. Considering the high demand for rackspace in air-conditioned environments for technical equipment, a highly integrated solution will not only reduce the initial investment but also reduce the consumption of expensive rackspace in your installation.

FEATURES

- SDI (3G/HD/SD) embedder and deembedder for 16 audio channels
- LEVEL MAGIC II™ loudness management for up to 16ch according to: ITU BS.1770 (all revisions), EBU R128, ATSC A/85, ARIB TR-B32, Free TV OP-59 and Portaria 354
- Surround upmix functionality
- Fail over with signal loss detection and auto 5.1 upmix
- Dynamics with compressor and expander/gate
- Setup and configuration via web interface
- Power-fail bypass relays for SDI signal
- Up to 4 modules in one 1RU frame
- Up to 16 modules in one 3RU frame

LICENCE MODEL

In case your application requires more than the basic license model (4 audio channels) or even surround capabilities just add a license to suit your requirements:

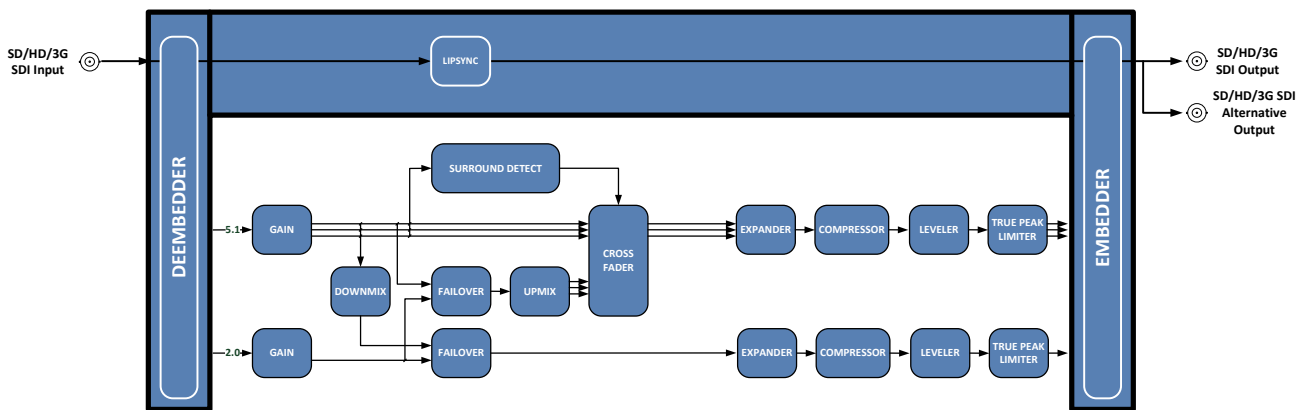
- Upgrade to 8ch, (4x 2.0) audio processing
- Upgrade to 16ch, (8x 2.0) audio processing
- Upgrade to 8ch, (5.1+2.0) or (4x 2.0), mixed mode stereo and surround/upmix
- Upgrade to 16ch, 2x [(5.1+2.0) or (4x 2.0)], mixed mode stereo and surround/upmix



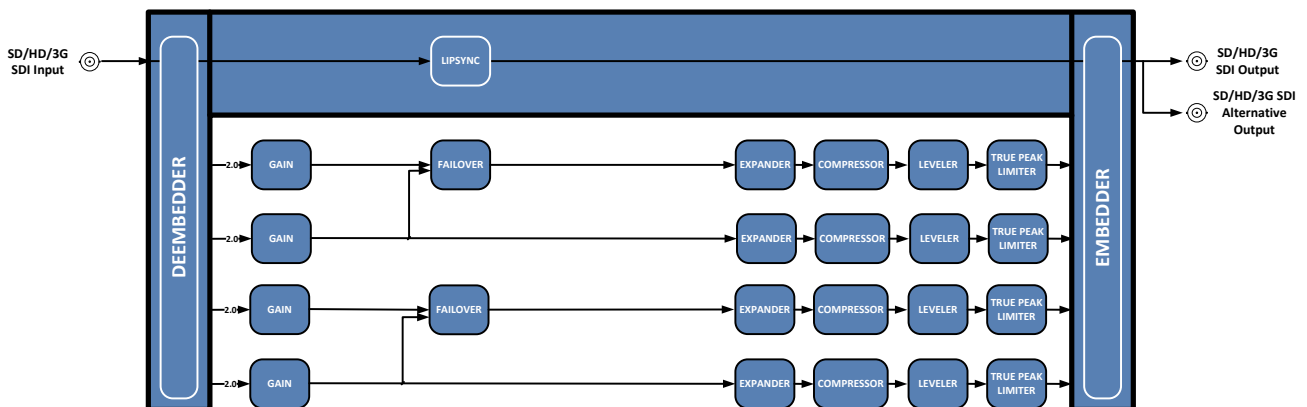
EMBEDDED PROCESSING IN DETAIL

The C8491 embedded processing module is designed to fit into any operating mode. Simply select the operating mode according to your application. All solutions feature an integrated de-embedder/embedder with access to all 16 audio channels embedded in the SDI signal whereas all SDI embedded blocks (groups of 4 audio channels) as well as all individual channels are phase locked. An integrated video delay plus individual audio delays lets you keep audio and video lip-synced throughout the entire processing chain. The following block diagrams will give you more detailed information about the systems operation modes and their audio processing features:

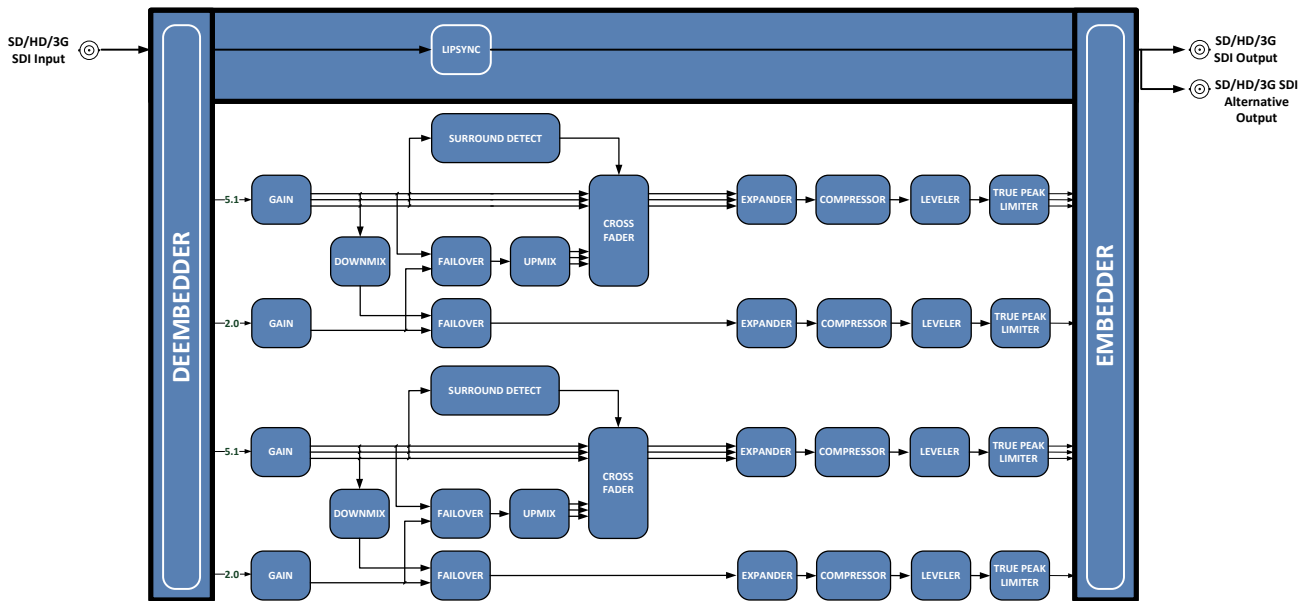
C8491 in 5.1 + stereo mode



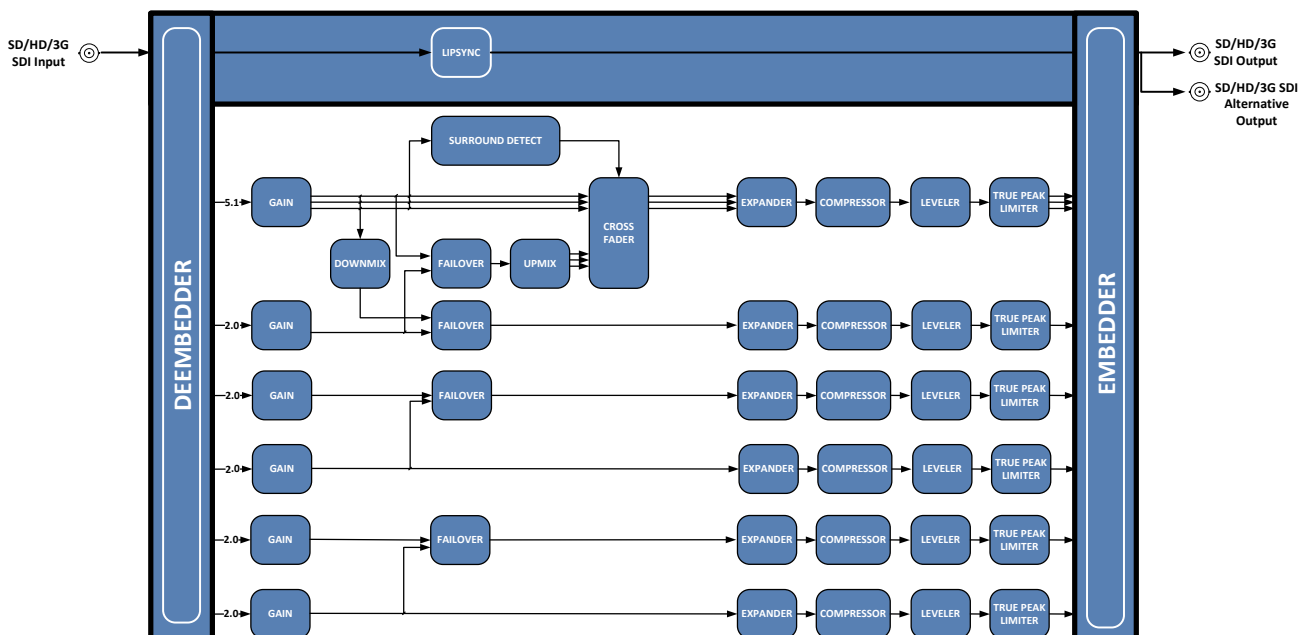
C8491 in 4x stereo mode



C8491 in 2x 5.1 + stereo mode



C8491 in 5.1 + stereo + 4x stereo mode



HIGH DENSITY LINE

When it comes to high density processing, compact mainframes for the embedded processing module will make sure all modules are accessible from the outside world.

- web-based configuration tools
- SNMP monitoring systems
- 3rd party remote control via open control protocol
- dual power supplies

The advantage of these modular systems is a very high level of resilience and easy service access with hot-swap capabilities for easy servicing and upgrading features.

The high density line is designed for system installations requiring loudness processing for high channel counts. With up to 64 channels in 1RU (COMPACT 64) and up to 256 channels in 3RU (COMPACT 256), the COMPACT solutions feature a rackspace to DSP channel ratio that marks the limits of today's DSP capabilities.

COMPACT 64 EDITION

This package offers loudness processing for up to 4 SDI streams in 1RU. The COMPACT 64 system comprises the following items:

- C8912 1RU Frame with dual redundant power supply
- C8702 Frame controller, web interface, external control via network (Ember+), SNMP
- C8817 GPI/O interface, 8 in + 8 out
- C8491 SDI (3G/HD/SD), Level Magic II™ loudness processor, incl. basic license for 4 audio channels (2x stereo)



COMPACT 256 EDITION

This package offers loudness processing for up to 16 SDI streams in 3RU. The COMPACT 256 system comprises the following items:

- C8942 3RU Frame with dual redundant power supply
- C8702 Frame controller, web interface, external control via network (Ember+), SNMP
- C8817 GPI/O interface, 8 in + 8 out
- C8491 SDI (3G/HD/SD), Level Magic II™ loudness processor, incl. basic license for 4 audio channels (2x stereo)



APPLICATIONS

- Rebroadcasting / Turnaround
- Teleports
- Multi Stream Management

About Jünger Audio

Established in Berlin in 1990, Jünger Audio specializes in the design and manufacture of highest quality digital audio dynamics processors. Jünger Audio has developed a unique range of digital processors that are designed to meet the precise needs of the professional audio market. All Jünger Audio products are easy to operate and are developed and manufactured in-house, ensuring that the highest standards are maintained throughout. Jünger Audio's customers includes the world's top radio and TV broadcasters, IPTV providers, music recording studios and audio post production facilities.

HEADQUARTERS

Sales; Service and Support
Jünger Audio GmbH
Justus-von-Liebig Strasse 7
12489 Berlin
Germany
phone +49 (30) 67 77 21-0
fax +49 (30) 67 77 21-46
sales@jungeraudio.com
www.jungeraudio.com

JÜNGER AUDIO ASIA

Jünger Audio Asia Pte. Ltd.
33, UbiAv. 3, no 06-02 Vertex
408868 Singapore
phone +65 65 09 81 71
fax +65 67 48 17 40
sales@jungeraudioasia.com
www.jungeraudioasia.com

