

# IDEA

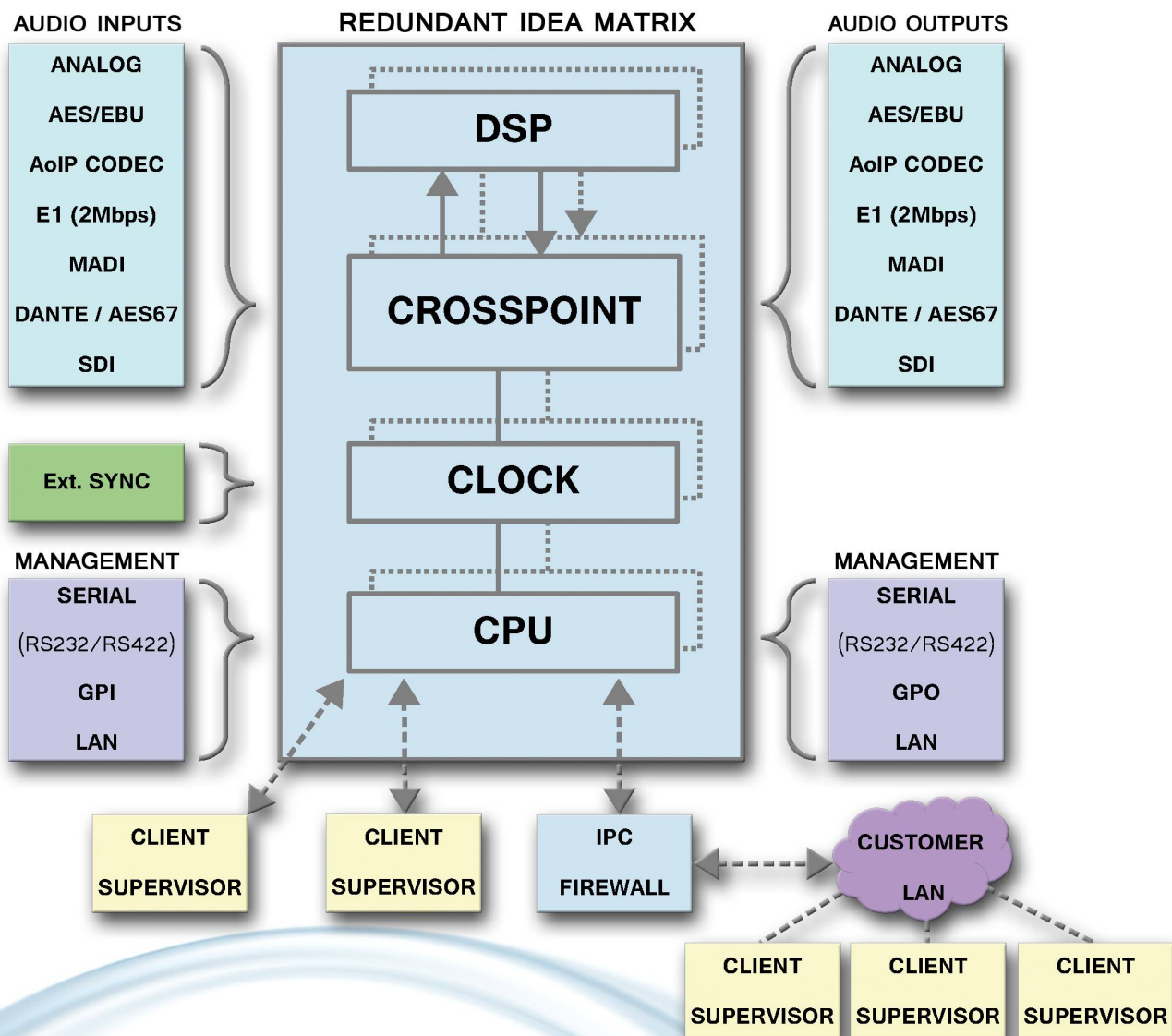
Intelligent digital audio matrix



# The Mandozzi's intelligent digital audio matrix

The **IDEA** audio matrices developed and manufactured by Mandozzi Elettronica SA are ideal for all customers who are looking for systems that perform not only simple X/Y connections, but also **Intelligent switching**.

The **IDEA** audio matrix is composed of a cross-point up to 4096x4096 mono signals, a CPU, a clock (CLK) generator board and a DSP unit to provide several audio functions such as sums, stereo/mono conversion, EQ, phase inversion, delay, fade-in fade-out and much more. All these parts can be duplicated to have a redundant and completely reliable system.



**IDEA** is configured and controlled by one or several supervisor PC/s. Matrices that are installed in separate radio houses can be interconnected via IP, WAN or 2Mbps lines. This allows the matrices to be remotely controlled from one or several working positions, and the mixers of a radio house can remotely control audio sources of another radio house.

Mandozzi's audio matrices are **well suited to be integrated into television broadcast systems**. In this case **IDEA** realises audio delay to assure lip synchronisation. The matrix can be controlled by video matrices, or is **IDEA** that control video matrices.



## Ultra reliable thanks to full redundancy

Redundant power supply

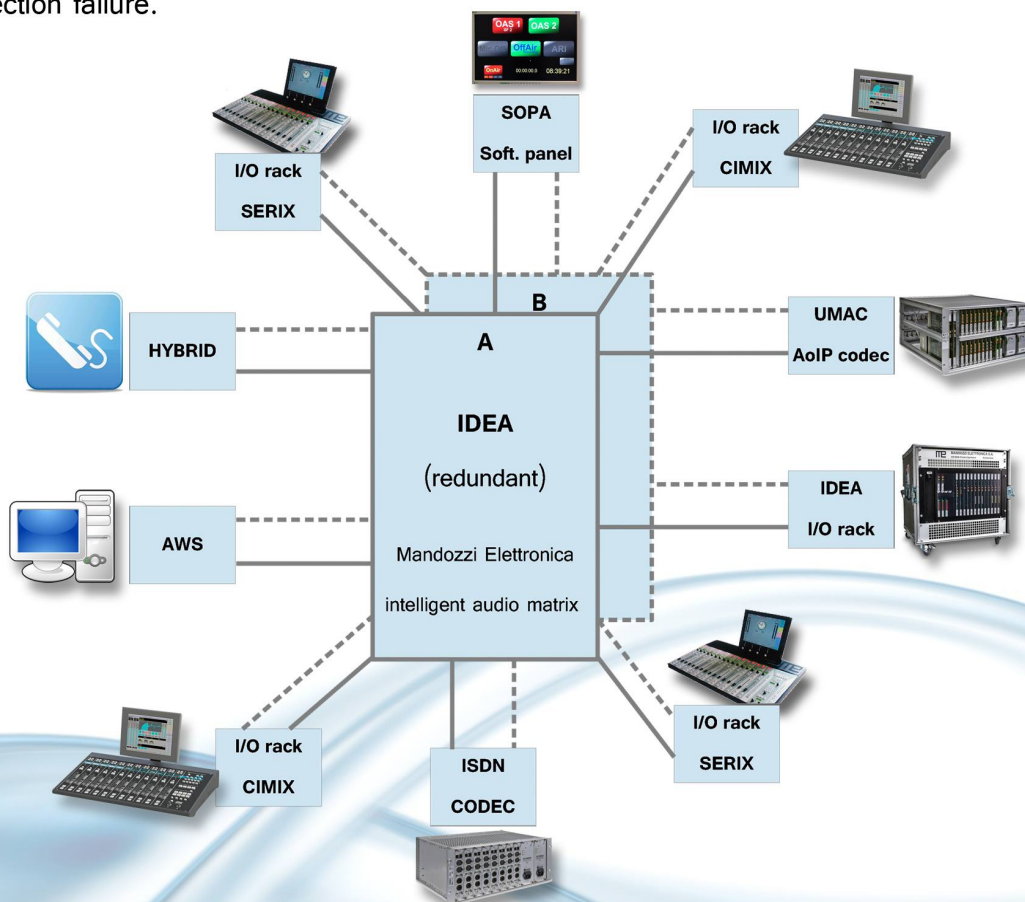
Mic pre-amplifier  
and GPIO



Hot plug cards:  
CLK, CPU, DSP and  
cross-point.  
I/O interfaces cards  
such as ATM, analog  
and AES/EBU input/  
output.

## The Mandozzi's matrix connections

The 19 inch frames with audio and GPIO interface modules can either be installed into the matrix cabinet or into external concentrators that are connected to the matrix via gigabit optical fibres, or via Cat.5 cables, in the same way is possible to connect all the mixers I/O frame installed in the various studio rooms. These connections can be redundant with an automatic switch-over in case of a connection failure.



IDEA is the heart of a radio house system, creating a network of interoperating mixers. The mixers can share any input and output signal with IDEA, and vice-versa as well as control and interact with third-party device such as AWS, telephone hybrids, GPIO, mic preamps and codecs. Users can save and load their own account and configurations from any mixer connected.

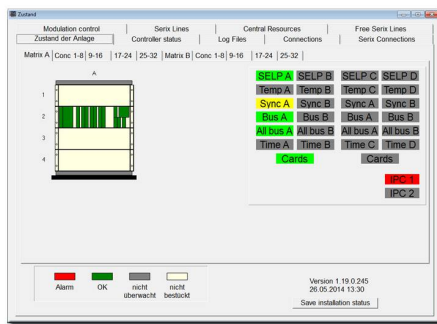
# The omnivorous intelligent audio matrix

The IDEA matrix can be equipped with a great variety of interface modules:

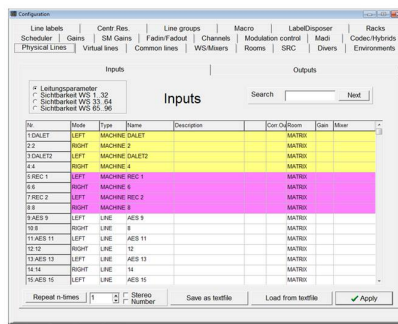
- MADI via optical fibres (100 Mbps, configurable to 56 or 64 mono signals)
- ATM via optical fibres (155 Mbps, 80 mono signals)
- GIGABIT via optical fibers (1 Gbps, 128 or 256 mono signals)
- CAT.5 (50 Mbps, 32 mono signals)
- E1 - G703/704 (2 Mbps with integrated ITU-T J.41, J.57 and MPEG1 Layer II coder/decoder)
- UMAC Audio Over IP codec with G.711, G.722, PCM, MPEG1 and 2, APT-X, AAC, OPUS LC/HE, ACC, LD/ELD
- SDI Embedder and Deembedder (16 audio channels)
- AES67 / DANTE (4x redundant ports of 64 mono signals)

## Easy and intuitive administration tools

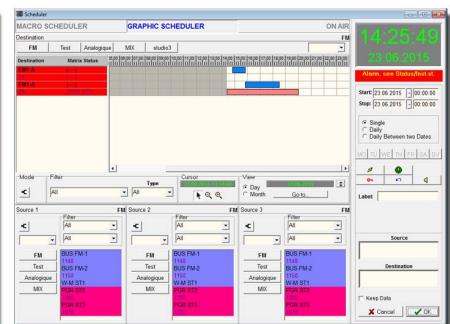
The IDEA matrix workstation, is the management software that can be installed on several client PCs. This tool offers many different section to manage all centralized resources depending on customer requirements.



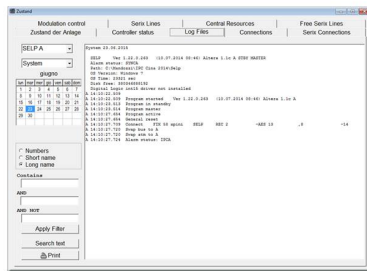
Maintenance



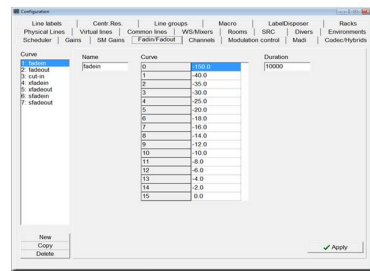
Configuration



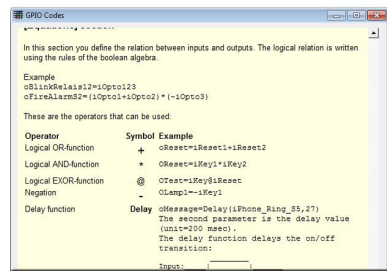
Graphic Scheduler



Log file



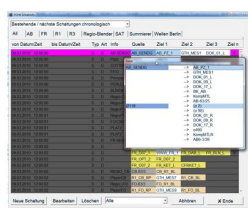
Fade-in / Fade-out function



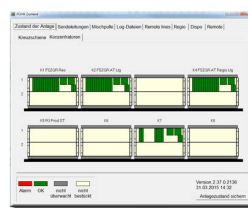
GPIO Programmer



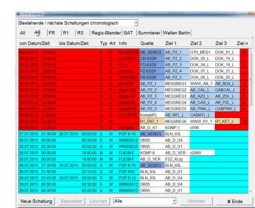
Redundancy Alarms



I/O Management



System overview



Shared Lines

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