

Title (en)
DIGITAL SIGNAL MIXING ARCHITECTURE

Title (de)
ARCHITEKTUR ZUM DIGITALEN MISCHEN VON SIGNALLEN

Title (fr)
ARCHITECTURE DE MIXAGE DE SIGNAUX NUMERIQUES

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Application
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Abstract (en)
[origin: WO9832223A2] An improved digital signal mixing architecture for applications such as digital mixing consoles is provided. The architecture provides a software configurable mixing system that is expandable up to more than 48 channels. The architecture comprises a master DSP device coupled to a plurality of slave DSP devices on a DMA bus. The master performs functions including data bus arbitration, calculating coefficient variables, and transferring the variables to slave DSPs. The master is interconnected to each of the slaves in a manner that enables the master to command each of the slaves to write the results of its input signal processing to the internal memory of each of the other slaves. The master commands the slaves to transmit processed input signals to each other, so that each processed input signal is stored in the memory of each slave. Once each slave has the results of every processed input signal, the master commands any combination of the slaves to mix any of the processed input signals to create a mixed signal that is sent to its outputs for conversion to an analog signal. Mixing combinations are controlled by scripts that are interpreted by software. The digital mixing architecture of the present invention provides a system that is software configurable, so that a mixing console embodying the invention is easily reconfigurable and upgradeable. Additionally, the software configurable characteristics and channel expandability of the invented architecture provide a digital mixing console that is low cost to upgrade or reconfigure.

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