

Studer On-Air 5000

Digital Mixing System



Studer On-Air 5000 Digital Mixing System sets New Frontiers

With the On-Air 5000, Studer has introduced a product that sets new frontiers in digital audio. Based on the well-known D941, this product uses the newest technology and highly flexible DSP power distribution to satisfy all needs of the professional broadcast industry. The console can easily be configured to suit the specific needs of various on-air applications. The investor profits by getting a flexible and versatile console built on Studer's leading edge DSP core. The operating desk presents itself to the operator

in a clearly laid out, simple to learn design, still allowing an intuitive access to all the fine details of its digital signal processing capabilities. Reliability and highest audio quality as well as the use of industry's standard audio formats are a bonus to the planning and maintenance engineers.

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Studer On-Air 5000: State-of-the-Art Technology

The On-Air 5000 uses industry's most modern technology. This has the advantage of having vast amounts of available processing power and fast system response to every operator's command. In addition, the space requirements and the power consumption are minimised.

The desk surface of the On-Air 5000 mixer has been built for the rigours of day-to-day work, especially taking into account the live and continuity situation. Access to all functions is quick and intuitive.

Graphic controller

The Graphic Controller (GC) puts the enhanced functions of the On-Air 5000 at the disposal of the engineer. It features flexible, individually definable control panels for ease of operation. The GC is used to access functions that go beyond the traditional mixing console features: Snapshot Control, Patch Control, Bookkeeping and Project Management.

Snapshot automation

The snapshot automation of the On-Air 5000 allows you to store and recall previously stored settings of the console. You can save a nearly unlimited number of snapshots in the system. The console takes an instant to fully reset the audio parameters when a snapshot is recalled. With a smartcard you can have access to up to four snapshots directly on buttons without having to use pointing device and computer screen.

Preparation mode

As a unique feature the On-Air 5000 allows to set up a second talkback layer for a so called Multiplex (MPX) talkback. On this layer up to 16 external reporters can have a conference call besides the continuity program. Moreover the program output A, the AUX1 signal and an external signal can be added. With this feature the reporters and the program director can prepare the emission on line before going on air. Possible applications are for example sports transmissions on weekends or election reports.

On-Air 5000: Powerful features, transparent operation.

The On-Air 5000 concept is simple and ambitious at the same time: the clear advantages of digital technology are used to the fullest to allow a rich palette of processing functions. This functionality is presented to the operator in a simple and intuitive fashion: ease of operation combined with powerful audio processing capabilities.

Channel types

All input channels are of Stereo basic type. Mono signals are fed on left and right channel in parallel. The Balance / Panorama function is switched automatically according to the selected source. AUX channels, group channels and master channels with or without faders are defined in the main configuration. The surface can be equipped with up to 32 faders in blocks of four plus a number of group faders.

Channel inputs

The digital routing matrix is situated between the physical inputs of the console and the actual channels. This means that the physical analog and digital inputs can be assigned to any channel of the console via the routing part on the central control panel. The patch setup is part of each individual snapshot and can be saved, updated and recalled within the snapshot system.

Channel outputs

The concept of the inputs applies to the outputs. On the routing part, each channel's output can be selected and sent to any analog or digital output destination.

Channel processing

Depending on the installed DSP power, any of the following channel processing blocks can be configured for all channel types.

Equalizer

Three fully parametric bands are at your disposal. The low band EQ works between 31 Hz to 1 kHz, the mid band EQ between 198 Hz to 6.3 kHz and the high band EQ between 500 Hz and 16 kHz in a range of +/- 15dB. The EQ has a psychoacoustically corrected frequency response, similar to the well known analog EQ designs. The mid-band can be switched between $Q = 0.4 / 1 / 2$. The high and low band can be switched to $Q = 0.4 / 1$ or shelf mode.

Filters

Highpass and lowpass filters which work between 31 Hz and 1 kHz and 630 Hz and 16 kHz respectively with fixed 12 dB/octave slope are at the users disposal.

Dynamics

Two different types of dynamics are available for the On-Air 5000. Output limiter: specifically developed processing block containing a high precision output limiter with program depending release time.

Full dynamics: consists of compressor/ limiter processing block. The dynamics feature high sampling rate transient detection to avoid pumping and modulation. The distortion artefacts are minimised through the selectable automatic program-dependent attack and release time settings. The dynamics is linked for stereo use.

Auxiliaries

Two stereo AUX sends are available. Optionally the number is expandable to a total of 4 mono and 4 stereo AUX sends.

Clean-feeds / N-1

Next to program continuity, communication with remote locations is considered as the most important function of the on-air and sports broadcasting consoles. For this purpose, the On-Air 5000 mixing console can be equipped with up to 16 return channels.

Two separate N-1 layers allow an extremely flexible operation. Usually, either the N-1 signal (consisting of the contribution of all commentators to the current transmission, except his own), the current transmission (including the commentator's own contribution), the AUX1 signal, or an external signal can be routed back to every participant.

Monitoring

The control room monitoring section features control of up to two different speaker pairs and a configurable number of source selectors. Analog or digital, internal or external sources can be assigned to any of the source selector keys.

Talkback

An extensive talkback system is implemented in the On-Air 5000. The talkback source can be the built-in microphone or an external one. Several destinations such as-, auxiliaries and master outputs are available. In addition, each channel is fitted with a talkback button which activates talkback to the N-1 output of the corresponding channel. The talkback return signal can be monitored on a little speaker built into the meter bridge of the console.

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