



# AURATUS *platinum*

The compact digital console



A U D I O   E X C E L L E N C E



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Große Oberfläche für kleine Projekte. Die Signalprozessor- und Steuereinheit der AURATUS Mischkonsole befindet sich im selben Gerät wie die I/O-Baugruppen wodurch sich das System kostengünstig und überschaubar gestaltet. Produktionen mit bis zu 54 Eingangskanälen können komfortabel bewältigt werden.

## Concept

In Stage Tec's product portfolio, AURATUS takes over the role of the compact digital console, which of course has the audio quality and high-quality product processing known from Stage Tec as well as the AURUS flagship console. With its fixed channel structures and 54 input channels, AURATUS is designed as a small production, broadcast and live mixing console that is used primarily in the fixed workflows of radio and TV.

The user interface has been optimised for simple and fast operation and allows inexperienced users to quickly familiarise themselves with the system and operate it safely: all relevant channel functions can be easily set in the channel strip using double rotary encoders. This makes the user interface particularly clear and intuitive.

The AURATUS mixing console system consists of a console for operating and controlling the audio signal processing and the XCMC audio processor, which is a 3U large, resource-intensive plug-in card in the remote NEXUS base unit. AURATUS is fully integrated into the NEXUS audio network via additionally con-

nected NEXUS Base Devices. Several XCMC plug-in cards, each with an AURATUS console, can be operated in a NEXUS network. The AURATUS consoles can thus access the wide range of input and output formats in the NEXUS audio network within a wide signal distribution area. This ranges from analog microphone converters with 32-bit resolution to digital audio formats such as Audio-over-IP, Dolby-E®, SD and HD-SDI, 3G-HD-SDI, AES/EBU, AES 42, AES 67, etc. The NEXUS audio network offers a wide variety of input and output formats.

AURATUS has a wide range of functions that make broadcasting easier: these include audio-follow video features, an externally controllable fader (On-Off) function, two freely assignable function keys in the channel, extensive light signalling, individually configurable N-1 buses and timers that count forwards and backwards. An essential feature of AURATUS: the console is optimized for both 48 and 96 kHz sample rates, i.e. a project remains unchanged even if the sample rate changes.



AURATUS is a transportable console and is offered as standard in lightweight construction as a tabletop or built-in version, optionally AURATUS is also available with feet. The mixing console has an extremely low, energy-saving power consumption, even in the largest version with 24 control cables and a central control unit. With 16 control cables, for example, the AURATUS only needs 86 watts. AURATUS therefore does not require a fan. The power supply is always redundant as standard.

AURATUS supports users in recurring tasks - important settings can be configured and saved:

- The assignment of (NEXUS) inputs and outputs to mixer channels can be freely selected with the NEXUS software and saved as snapshots.
- AURATUS can adopt resource names, which can be assigned individually in the NEXUS software (label transfer).
- The mixing console offers more audio channels than control panels. The audio editing of individual control panels can be set up and saved individually. Eight control levels can be freely assigned and called up via keys.
- Channels can be coupled for easier operation (stereo coupling, VCA groups, link groups). Individually created mute groups allow previously defined channels to be muted at the touch of a button.
- Static automation allows you to save your own settings as snapshots.
- All settings and snapshots can be saved and recalled as a project in each production phase within the framework of project management.
- A security project (backup) is stored when the console is switched off and loaded automatically when the console is switched on.

### Direct Access operating philosophy

AURATUS features Stage Tec's well-known Direct Access operating philosophy, which offers direct access to important parameters in the channel strip. The console is equipped with a large number of controls that allow the user to control and display these audio parameters at any time. The AURATUS interface is tailored for intuitive, fast and safe operation. Not only in live operation, but also in production

The dimensions of the console have been designed for optimum accessibility of all operating elements and easy readability of all displays. AURATUS offers a very pleasant operating depth. In addition, the meter bridge is kept very flat by extremely landscape-format 16:10 screens and thus offers an optimum view of the recording room, the picture monitors or the stage. The TFT colour screens have particularly large lateral viewing angles and can be easily read from any position.

The AURATUS consists of the following control cassettes: TFT screens, multi-function cassettes (for operating the aux sends, N-1 sums, equalizers, etc.), fader cassettes, a central cassette (for operating a selected channel) and a monitor cassette. The control cassettes are internally connected to each other via flat ribbon cables for easy maintenance. These also supply the cassettes with power.



### Signal processing and functions

The audio processor of the AURATUS console consists of the XCMC, a compact 3U NEXUS plug-in card. The XCMC plug-in card accommodates the AURATUS mixer's audio processing, the complete I/O routing and the audio interfaces for connecting external devices. Power consumption is only 8 watts. The XCMC supports the sampling frequencies of 48 and 96 kHz without restrictions, i.e. the available mixer resources, channels and buses are always available.

Audio signal processing includes input routing, input channels of various types, different bus types, output channels

that allow processing of the sum busses, and output routing. AURATUS has a fixed signal processing configuration. When working with different AURATUS mixer systems, the user uses identical mixer structures and largely similar user interfaces.

All signal processing is based on 40-bit floating point arithmetic. In addition to first-class sound quality for equalizer, filter and dynamics modules, this ensures that the internal signal processing of the mixing console is practically overload-proof. The AURATUS console can be operated as a pure stereo console or as a surround

(5.1) console, depending on whether pure stereo projects or 5.1 projects are loaded.

The structure of the audio channels corresponds to the way analog systems think and work. In addition, restrictions have been lifted and additional functions provided to increase flexibility. The channels are made up of editing modules such as faders, EQ filter block, compressor, expander/gate, delay, limiter, insert, mute, etc. The channels can be used in a variety of ways.





## Buses

The AURATUS bus system, which is integrated in the mixing console module, offers its own system in addition to the NEXUS TDM bus system. These group, summing, auxiliary and N-1 buses sum up the signals from the connected channels. All bus signals can be output unprocessed via NEXUS. The buses also have their own channels - so-called bus channels - which allow further signal processing and level adjustment of the bus signals.

## Monitoring

AURATUS is equipped with a stereophonic and a 5.1 monitoring path (5.1 only in AURATUS multi-channel projects). Source selection is freely selectable for both monitor paths, and NEXUS signals can also be switched directly to the monitor channel. AURATUS offers various solo and PFL modes for monitoring a channel. A separate stereo bus is provided for PFL, and the Back-Stop-PFL (fader overpress function) and prioritized PFL functions are also possible. The solo function in AURATUS is fully multichannel capable. Depending on the selected configuration, a solo bus with up to 5.1 channels is available. In addition, signals present in the system can serve as monitoring sources: NEXUS inputs, inserts, channel outputs, mixer buses or direct outputs. The sources can be selected on customer-specific keypads in the monitor cassette and the channel cassette.

## Automation

The AURATUS mixing console system is equipped with static automation, which allows the audio parameters of all editing channels to be saved and reloaded. The current parameter settings are stored as snapshots in the current project. Up to 99 snapshots, which can be individually named, can be managed within a project. AURATUS also allows the storage of

partial snapshots in which only certain parameters are stored.

## Logic Control" control system

NEXUS Logic Control is a flexible, programmable logic system for switching and control functions that users can define according to their individual needs. Logic Control can be used to query various parameters of the NEXUS system, such as coupling point circuits, fader start contacts, input and output levels, and the signalling of internal system error states. Logic Control can control many different events, such as red light control, throat buttons, transmit switches, line level monitoring, automatic emergency circuits and command systems. AURATUS has 256 Logic Control inputs and outputs each.

## Offline Editor: AURATUS configurations without console

Users in changing production environments will appreciate the offline configuration options of the AURATUS because they bring time and cost advantages to productions with tight timing, for example on the OB truck or at live events. With the offline editor, the configuration of an AURATUS can be prepared even if the console is not yet in use on site, but for another production. All work such as channel assignments, etc. is carried out in a stand-alone editor on a PC. Projects are then loaded into the console via SD cards. It also works the other way round: Projects are imported from the console and further edited in the offline editor.

## Conference Call with N-1

With the N-1 system, complex conference calls can be realized. All commentators that are not "On Air" can communicate with each other. If one of them is dazzled in the current broadcast, it is automatically switched off in the conference. Only when his fader is closed can he participate in the conference again. Up to 8 N-1 buses can be configured individually in the AURATUS.

## Spill function

In order to save space on a mixing console, control cables are often assigned several channels. In this case, however, only one audio channel is in the foreground and the other channels belonging to the control group are in the background. They are coupled and controlled during operation. If a channel is to be corrected from the background, the spill function helps. Pressing the Spill button brings all channels to the surface for editing. After the correction, the main layer is in the foreground again by pressing the spill button again.

The advantage of the spill function: The mixed project is better structured, the user can access all signals more quickly and retains an overview because he only has to work in the main layer - important for live operation. Normally, the definition of the layers for small digital consoles needs to be very well thought out, but thanks to the spill function, the division of the layers has become less important.



### TREM - the virtual channel extension

The virtual channel extension TREM simulates physically non-existent control strips on a remote PC connected to the console via Ethernet. All mixing tasks can be performed via the software, as the GUI simulates all control elements that could also be found on physical cassettes, including all metering, faders and knobs. The user can choose how large or small the manually operated console interface should be: In the minimum case, one fader unit with eight channel strips plus two knobs each and three buttons above each control strip is sufficient. Everything else can - if useful and desired - be transferred to the PC.

### Down mix matrix

The independent "Down-Mix" matrix enables the conversion of a 5.1 multi-channel signal into a stereo signal. The matrix, whose inputs and outputs are freely available in the NEXUS system, can be used, for example, for stereophonic monitoring of a multichannel mix or for downmixing a multichannel format. The input and output levels can be set separately for individual adaptation to the program material.

### AURATUS remote control through control systems

Various functions, e.g. fader control, mute, panpot, PFL as well as fader panels, can be influenced by external control systems. AURATUS supports some protocols (e.g. the Ross Audio protocol from Ross Video Limited) in RS232 format.

## Console Surface Specifications

Headphone terminals	2 (front, left and right)
Nearfield speaker terminals	2 (rear, left and right)
Talkback microphone port	1 (front, centrally located)
1 per bay (rear)	1x per cassette (on the back)
Speaker brackets	2 (rear, left and right, optional)
Goniometer bracket	1 (rear, centrally located, optional)
Sheet holder	optional
GPIO card	Optional components: GPIO feat. 16 optocoupler inputs plus 16 semiconductor relay outputs (max.) on 25-pin D-Sub port, common-potential or floating-pair configurations supported, input and output filters for noise suppression
Controls	11 dual encoders (touch-enabled), 100-mm smooth-action fader (touch-enabled), 32 backlit keys, and 1 OLED display per channel strip
Individually assignable keys	40 logic keys (TMON) for operating console and system global functions and commands, 8 source keys (TMON)
Panel dimensions	332 x 400 mm
Panel types	TMUL, TFAD, TZCH, TMON, TTFT
Channel strips per panel	8, (TMUL, TFAD, TTFT)



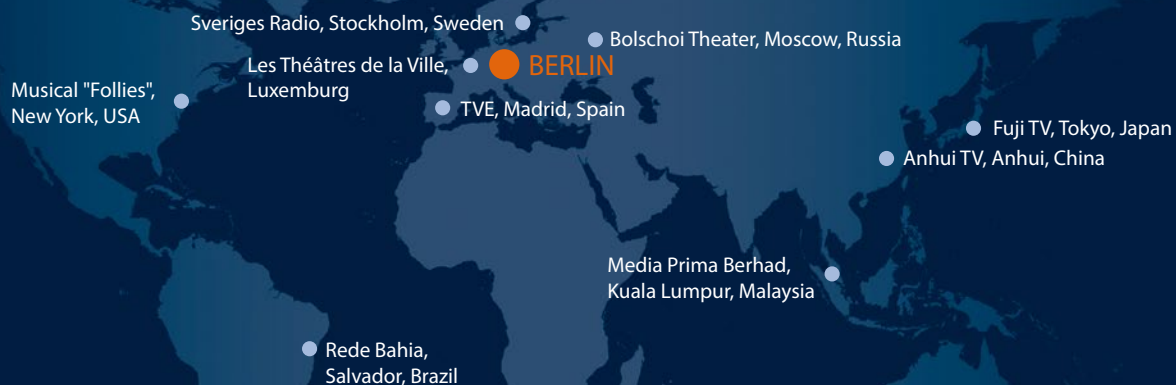
## Audio and Control Performance

Channel strips	Panels with 8 operating strips each (8–24 strips in total per console)
Summing buses	32 Buses (8 Sums, 8 Groups, 8 AUX, 8 N-1)
Input channels	Max. 52
Algorithms	40-bit floating-point, minimum latency, all channels summed with single-sample accuracy, identical latency across all DSP channels guaranteed
Sample rates	44,1 / 48 / 88,2 / 96 kHz
Interfaces	aAll audio I/Os on the NEXUS network – access to all GPIOs, serial, and Ethernet links
Line A/D converters	32 Bit TrueMatch®, 158 dB(A) Dynamik
D/A converters	24 Bit, 131 dB(A) Dynamik
Boot-Performance	Consoles: max. 14 sec
Refresh rate	10 ms for all audio parameters of all channels and all user-interface settings
Snapshot and scene storing and loading	<10 ms
Behavior after power outage	Full data retention guaranteed; Console ready for operation after 14 seconds (including meters and restored project data including snapshots, scenes, etc.)

## Features

Macro controller	Full integration with NEXUS Logic Control
Upmix/Downmix	2.0 through to 7.1 built-in; ISOSTEM patented algorithm (mathematically fully reversible upmix/downmix) for NEXUS XDSP card optionally available
Control groups	Mute, Stereo, Surround, Link, Master-Slave, VCA
Automation	Snapshots
Conference	Built-in N–1 (mix-minus) matrix for up to 96 N–1 busses
Remote control	Virtual Surface Software (optional)
Loudness Metering	Via NEXUS Master Monitor
Audio-follow-Video	yes
Monitoring	1x Stereo, 1x 5.1
Channel formats	Mono, Stereo, 5.1
Delay	up to 200 ms per channel
Control formats	Remotely controllable through RAS, ROSS, MOSART, MIDI
External device control	Machine control through Sony 9-Pin, RS232, RS422, MIDI; virtually unlimited when using NEXUS Logic Control
Spill function	yes

# Stage Tec mixing consoles: A global reference!\*



\*This map shows the locations of selected reference installations. All in all, more than 500 Stage Tec mixing consoles have been delivered and installed so far.

## Stage Tec Entwicklungsgesellschaft für professionelle Audiotechnik mbH

Tabbertstraße 10-11  
12459 Berlin, Germany

P: +49 (0)30 639 902-0

F: +49 (0)30 639 902-32

E-mail: [office@stagetec.com](mailto:office@stagetec.com)

[www.stagetec.com](http://www.stagetec.com)



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