Compact. Versatile. Transportable.
Compact

In fixed installations and theatre, audience seats are expensive real estate. And there’s no space to waste in a compact OB truck. A small footprint makes the Vista 5 M3 welcome wherever space is at a premium.

Versatile

From highly complex live sport broadcasts in 5.1 and stereo to musical theatre shows with detailed cue list programming, no other digital audio console is as flexible as the Vista 5 M3.

Transportable

A lightweight desk and a modular DSP core and I/O system make the Vista 5 M3 easy to case, and easy to move around.

Proven

A proven platform, designed and engineered in Switzerland and manufactured in the UK.
The Vista 5 M3 incorporates the unique Vistonics™ user interface which ensures quick and easy console operation – the key to a smooth workflow, short production time, and trouble-free live transmission.

In high pressure live situations, sound engineers depend on a mixing console which allows a fluent working process. Furthermore, a broadcast production facility with numerous engineers and freelancers (or one which is open to external production teams) must provide an easy-to-learn mixing console.

Control of the digital mixing console is therefore a major issue. Today’s practice of arranging controls around or below a flat screen display has obvious ergonomic limitations. Audio parameters are displayed on the screen but their relevant controls are located elsewhere.

Operators must therefore go through a mental translating process countless times throughout the day which makes live production fatiguing and the working process prone to errors, especially in high pressure situations.

This is where the unique Vistonics operating concept of the Studer Vista Series comes in. It includes the patented technology for integrating rotary controls and buttons within a flat screen display, bringing visualization and operation into immediate proximity.

Vistonics allows the colour and shape of controls to be varied according to good ergonomic practice. A given audio function is always associated with the same colour and a parameter is always associated with the same icon displaying values graphically, just as intuitive as an analogue console, or even more so.

Vistonics™ represents a revolution in the intuitive operation of digital audio consoles.
A fluent working process dramatically enhances workflow while reducing the likelihood of errors.

Overview

Every channel displays its settings of dynamics (green), equalizer (red) and panorama (pan – yellow) in the Vistonics™ touch area allowing instant overview of the entire console. By pressing one button on the GlobalView area, the four Vistonics rotary controls on each channel change their function throughout the console displaying the four most important parameters of the chosen audio function. GlobalView buttons can be found on each Fader Bay permitting access from wherever the operator is sitting.

Operation

A simple touch on the desired function of the chosen channel opens up the complete function onto Vistonics. The operator can immediately adjust values and close the selected view afterwards.

By simply turning the rotary control, the chosen value can be adjusted and the changing value is immediately displayed graphically and numerically. Vistonics icons are carefully designed to represent a logical readout for each individual graphs, time settings as clocks, frequencies as radio dials to mention but a few. This allows easy recognition of the function itself as well as its state and approximate value - without the need to actually read the word and numerical values display.

Pressing the physical button next to the rotary control on the Vistonics activates a part of the function. The push button allows additional settings such as switching individual bands on/off, setting slopes etc. By touching, for example, the equalizer and the dynamics on the same channel, they will both open up onto Vistonics with their complete set of functions. The operator can immediately and easily adjust one function in relation to the other by adjusting, for example, the equalizer and the compressor simultaneously.

Operation of the Studer Vista 5 resembles that of an-analogue console but is even more intuitive. Established ergonomic practice blends with modern technology to increase operating comfort and ensure trouble free operation in live environments.

Functions have their dedicated colour: Equalizers and Filters are red on Vistonics as well as on all related buttons. The same applies to the dynamics (green) and the panorama (yellow).

Consistent Operation throughout the Console

No efforts have been spared to improve and simplify the operation of the Studer Vista 5. Vistonics™ is part of a comprehensive and unique operating concept, enhanced by the clear philosophy of a few simple rules which can be combined and remain unchanged throughout the console.

Touch’n’Access

The Vistonics patented technology for integrating rotary controls and buttons within a flat screen display brings visualization and operation into immediate proximity. The operator touches the desired function overview and is given immediate access to all available controls.

There are no submenus – every parameter is just one button-press away, an essential feature in live situations.

Past Copy/Paste and Half-Lit Keys

The console incorporates dedicated copy/paste keys for each audio function including high and low pass filters, EQ, dynamics, panorama and delay. A simple button-press in the original channel and another in the target channel copies the settings across. Copy/Paste is indicated by the half-lit buttons: if one button has been pressed and the desk is awaiting a second button-press, all available target buttons illuminate at half brightness until one of them has been selected. Also, complete channels can be cloned to one or many target channels. Setting up the Studer Vista 5 M3 for a production becomes a quick and easy task, so preparation time is reduced considerably.

Scrolling

DSP channels not visible on the physical desk are accessed by scrolling the channels available in the DSP core. The channel order is freely assignable channels can be grouped or even shown repeatedly on the surface. This ensures physical orientation on the desk so that the operator is always clearly informed as to what is happening. In addition, each fader can individually be flipped to a second layer for fast and immediate access to emergency channels such as backup microphones. Uniquely, all second layer channel labels, each with a small real-time meter can be shown on the channel strip as well as the current layer channel label.

Fader bays with, for example, the master channel, can also be locked in place.

Momentary/Latching Activation of all Buttons

The ganging function in the mixer allows the operator to quickly apply functions to multiple channel strips because channels within the gang act as one. This can be used, for example, for PFL, Faders, Copy/Paste, Bus assign and much more to increase speed and comfort in operation. Creating a gang over the console makes the set-up quick and easy.

Ganging

The ganging function in the mixer allows the operator to quickly apply functions to multiple channel strips because channels within the gang act as one. This can be used, for example, for PFL, Faders, Copy/Paste, Bus assign and much more to increase speed and comfort in operation. Creating a gang over the console makes the set-up quick and easy.
During a hectic live production, FaderGlow provides the operator with an instant overview of the console status by illuminating each fader in one of eight, freely-assignable colours. Suddenly it’s easy to see exactly where your channel groups are, dramatically improving reaction time and reducing the stress of mixing in an environment where there is no second chance.

The concept of logically grouping channels handling signals from the same type of source makes it much easier for the operator to mix effectively. Channel lists are typically planned in this way, and even on an analogue console channels will be grouped accordingly. In live broadcast however, hectic changes can happen at the last minute, before and during the show, which can throw off the most careful preparation work.

With the introduction of Vista consoles, Studer has given the operator a great tool to deal with such fast-changing situations. The Strip Setup feature effortlessly handles the channel layout on the desk - before and during production.

Important as channel ordering and labelling is, an instant visual overview of which faders control which types of source is essential to to allow short reaction times. Analogue consoles assisted this process with coloured fader caps but, with the introduction and the use of layers in digital consoles, this approach has been rendered useless. Until the introduction of FaderGlow.

Now the operator can mark individual, important channels such as presenters, main talents and other "must-never-lose-their-signal" channels. Once the important channel is lit, it can be found within a fraction of a second even after mixing on a different layer and coming back to a channel layout which may not have been on the surface for some time.

Moreover, FaderGlow empowers the operator to colour entire channel groups, to better distinguish and more quickly locate all "band", "guest", "ambience", "string section", "rhythm section" channels, etc.

Eight different colours can be assigned to any channel strip. The logical place to assign colours is in the Strip Setup, where the layout of all channels on all six sections is shown. With a right-click on any of the placed channels, a colour can be chosen and assigned to the strip. In addition, the eight colours can be labeled, ensuring that their function is always clear.

The FaderGlow setup is stored as a part of the Strip Setup, allowing different operators who might alternately mix a show, to have their own setup.
Studer offers as a cost option Lexicon® high quality surround effects for the Vista 5 M3, controlled directly from the Vistonics™ user interface.

Connection of the Vista FX unit to the console’s DSP engine is made directly via two high-capacity multi-channel HD Links. Vista FX is completely integrated into the console snapshot system. The parameters can be copied/pasted between channels and into and out of the Clipboard Library. The FX unit parameters may also be operated from the Virtual Vista application.

The Studer® Vista FX Unit

One lightweight 2U holds the equivalent of two Lexicon PCM 96 surround effects devices, offering the operator a combination of several independent, high-quality reverb or effects units in a single box. It processes eight independent mono, four stereo or two surround signals and is combined with Studer Vistonics, one of the most user-friendly and intuitive control interfaces available.

It connects to the console’s DSP core with two Cat5 cables (max. 10 metres), and with another Cat5 cable to the console for control. Up to three Vista FX units may be daisy-chained, allowing up to 24 independent mono effect channels per console. Connected effects units are automatically detected by the Vista application and appear in the graphic controller’s General Patch window.

Easy Operation

Two possibilities are provided for patching to the FX unit: With the first patch possibility, the desk signals are mixed to an AUX bus connected to a Vista FX input. The FX unit’s output signal is then routed to a desk fader to add to the overall desk mix (typical FX return).

As soon as the direct output of an AUX master is patched to an FX input, the Vistonics AUX Send control will become blue instead of orange. When the effect output is patched to an effect return input, this input channel’s yellow-coloured Panning icon is replaced by the blue FX icon.

With the second possibility, patching is performed in the system’s Channel Patch window, using the Channel Insert Point. This is typical for effects used in one particular channel only.

The Panning icon is replaced by the FX icon in this case as well. Panning controls can still be accessed in the Global Panning or Misc Channel views.

Upon touching the FX icon, the Vistonics view of FX parameters opens up. It then offers the selection of a reverb or effects category from the following:

- Halls
- Plates
- Chambers
- Rooms
- Environments
- Chorus/Flanger
- Delay
- Reverb
- Resonance
- Pitch Shift and Pitch Effects

Literally hundreds of different presets are available, and up to 16 different parameters can be adjusted for every effect.

www.studer.ch
Finally, metering that makes sense

The Vista 5 M3 makes use of dual colour bargraph meters on each fader, along with integral loudness metering in the master section. This keeps the surface as compact as possible whilst providing metering info for mono, stereo, as well as front and rear maximum levels of surround channels.

The optional metertbridge is for users that require more precise information about the audio signal as well as the channel status. It enhances the Vista 5 M3 with the same metering functionality as its large sister-console, the Vista 9. The following key features are provided with the metertbridge option:

- Every meter strip can display mono, stereo, and 5.1 metering
- Correlation meter for stereo channels
- Meter strips can be freely assignable
- Controlbay features user pages with up to 40 meters
- Lower meter area displays user assignable options:
  - Meter history with overload marking
  - Surround image view
  - Layer two meter
  - Bus Assign

The metertbridge provides a built-in ethernet switch making your Vista 5 M3 ready for networked application such as Virtual Vista, Relink, HqNet and others.

There's a large, high-resolution bargraph meter for every channel from mono to 5.1, with eye-catching indication of the actual overload dB value, and stereo channel meters include correlation display (on channels and masters). Meanwhile, the lower meter areas provide additional views such as user-definable assignments, reviewable recent signal history with overload indication and surround view. When the console is in two layer mode, a smaller bargraph meter of the L2 (e.g. spare microphone) channel is always shown.

To further enhance clarity, the Vista 5 M3 metering uses a colour scheme and graphics design that delivers maximum possible contrast to minimise fatiguing of the eyes. The scale of the meter is always in dBFS, with 0 dBFS at the top, and an additional overload segment clearly indicating overs (even displaying a readout value in case peak-hold is active).

The operator can also choose to see the history of the audio that has passed through the channel, configurable up to 50 seconds. In addition to clear information about signal loss or overload (coloured in red), the waveform also indicates the character of the signal. Surround channels come with a surround 'image view' in the lower meter – a spatial visualization of the surround signal which immediately reveals anomalies in a surround signal.

A bus assign view can be applied to any channel providing an overview of bus routing directly beneath the bargraph meters – invaluable on channels where bus assign is changed frequently.

The TFT metering on the control bay can be switched to allow different views. The 'follow' button displays the metering which relates to the channel assigned to the desk surface, and there are view buttons for all different type of master channels Aux, Groups, Program Masters, Matrix etc., along with output meter view of multitrack and n x buses.

Moreover, four 'User' buttons display any choice of channels on four user pages, with up to 10 channels on User 1, 20 on User 2, and a maximum of 40 channels on User 3 and User 4.

Loudness Metering

The Vista 5 M3 incorporates a custom version of the RTW TM7 TouchMonitor to facilitate loudness metering according to ITU (BS1770 and BS1771), ATSC (A/85) and EBU (R128) recommendations in both stereo and surround. PPM bargraphs with many international scales, moving coil instrument emulation and audio vectorscope displays are included.
Studer provides numerous automation options to assist in production workflow and creative operation, from automatic microphone mixing and newscast automation interfaces to dynamic mix automation.

**VistaMix Automatic Microphone Mixing**

Live multi-microphone un-scripted events such as talk-shows, game-shows and discussion panels suffer from both microphone-spill and background noise with each active microphone added to the mix making the overall sound quality deteriorate. The result is decreased intelligibility and unpleasant comb-filter effects (phase distortions).

Without VistaMix automatic mixing an operator needs to manually adjust all the faders all the time, leaving microphones of talking participants open, while closing the microphones of silent participants in order to reduce spill and background noise. Due to the reaction time of a human operator this often results in audible fade-ins of people who start talking rather unexpectedly. Also changes in fader positions can quickly lead to disturbing change of total ambience/noise level in the mix.

**VistaMix offers the solution**

By mimicking the action of a human operator the system can increase gain for ‘talking’ mics and reduce gain for all others but do it very fast and at the same time keep the amount of gain at a constant level, a clean live mix can be created. Normally only one VistaMix is used at a time but several instances of VistaMix masters may be configured in a setup.

For game-shows and news operation, 8 input channels will likely be sufficient. Some large talent shows with many contestants each singing live a line from a song may require up to 20 channels. Game-shows and talk shows tend to keep the dialogue in the centre of the stereo or surround balance. For this reason a mono VistaMix master may be used. However if panning of the source channels is required, a stereo VistaMix master can be used.

Each source channel has a ‘WEIGHT/CAL’ control allowing the desk operator to add level to the main presenter (Host) in such a way that he can ‘talk over’ the guests or contestants and also to give more gain in the mix to any contributors who have weak voices or who are too far from their microphones. The weight control may also be used during a show to adjust the relative balance dynamically. The ‘Response’ time control knob sets the speed of operation of the VistaMix algorithm in a way similar to the attack time control of a dynamics unit.

**Newsroom Automation**

Demands on newscast systems has become higher than ever, with more immediate coverage required while preventing rises in operational costs. Seamless integration of Vista consoles with 3rd-party broadcast or newscast automation systems is supported by the implementation of the EMBER protocol. Ember connectivity allows external equipment such as video systems to transfer signal labels and to control input channel gains, solo mutes, plus Aux send levels and mutes, along with NLX (minimum) bus levels and mutes. Master levels and mutes can also be addressed along with Group and Aux master channels. Since Ember supports multi-connection setups it is well suited for installations requiring redundancy operation.

**Dynamic Automation**

Studer’s AutoTouch Plus is an automation engine that offers features and functionality permitting the most complex automation tasks to be carried out within a clear and logical workflow. For those requiring only the basic dynamic automation functions, a straightforward and simple operation has also been developed. Every fader and knob within the Vista 5 M3 is touch-sensitive and can be dynamically automated along with switches by simply touching the control, making the move and releasing the control or pressing the switch. Switch states can also be edited in the TRIM mode, or by using the quick and easy Press-and-Hold functionality which permits the editing of switch events in real time without having to go offline. When offline editing is required AutoTouch Plus provides a comprehensive offline mix edit facility for editing and copying of automation data for faders, knobs and switches within a mix or merged across mixes.

The last eight mix passes are held in memory with every mix pass automatically saved to the hard disk. Any previous pass may be instantly recalled, updated or compared to any other pass, whether during the session of the day or during a remix some time in the future.
Live Transmission
Totally under control

The ease of operation in the Fader bays is replicated in the centralized functions of the Vista 5 M3 Control Bay. Even with such powerful features, operation of the Control Bay remains straightforward, quick and easy.

Unique Output Control

The conventional basis for console design is sophisticated input channel control and here Vistonics™ provides fast and intuitive operation with unequalled visual overview. The control requirements for outputs however differ from those for inputs in several important ways.

Excellent metering and fast adjustment of the output channel levels themselves are essential, but it is often the contributing channels to the master that are important to the user. Usually level control of the contributing channels is handled via the input channel strips. The Vista 5 M3 offers a unique and revolutionary operational concept for controlling outputs. The Control Bay houses a Vistonics screen with 40 rotaries and switches and 12 faders, 10 of which line up with the Vistonics rotaries as in the fader bays. Any channel can be assigned to these faders but they are most useful for output channels such as VCA Masters or Group masters. In fact, the 10 faders have a separate navigation system to the fader bays. This navigation is made up of 4 banks.

The rotaries on the Vistonics screen can be thought of as an additional 40 faders with 40 real time meters. On these 40 rotaries, up to 40 master faders can be represented with direct access to level control of the master. As each rotary level control is immediately adjacent to its associated meter, which includes headroom and overload indication, the operator’s reaction is completely intuitive – ‘where you look is where you control’.

A particularly important function of the rotaries is to call up all of the level controls of the contributing channels of any of the masters displayed on the faders below. A ‘Contribution’ button above each fader provides reverse bus interrogation, ‘pulling’ all of the faders of the contributing channels to the rotaries above with channel name and of course real time meter. The user can even assign further channels to the masters from the Vistonics screen directly. This reverse way of working offers the user incredible speed of operation for making small balance changes without having to go to input faders.

The Vista 5 M3 offers a unique and revolutionary operational concept for controlling outputs.
Studer’s unique Virtual Surround Panning (VSP II) fits the Vista 5 M 3 perfectly. It allows the operator to take mono sources and create a realistic sound field (stereo up to 5.1) modelled around a few simple parameters. When few or no sources of multi-channel sound elements are available, operators must attempt to create a surround mix out of multiple mono sources. Creation of an impressive and satisfying surround mix takes a lot of time and effort, and the results are often disappointing. Conventional amplitude panning as known from traditional consoles shows its limitations in multichannel mixing even more than in stereo.

With VSP II, mono sources can be positioned within a two channel as well as multichannel environment to produce a highly convincing surround panorama. Creating directional imaging by adding phase and frequency spectrum information to commonly known amplitude panning, VSP II gives the operator a creative tool to position a source within a sound field by using the channels pan control. The panning to the surround mix is achieved by generating the appropriate directionality and time delays on all speakers.

Furthermore, the operator has the choice of different microphone simulation modes, which let him chose the characteristics of how every single mono source gets added to the surround image. By making use of VSP II panning as opposed to normal amplitude panning, even the most complex surround production will result in a quality mix which is second to none.

Of course all these settings are captured in the consoles internal automation system, both in the snapshots as well as in the dynamic automation system. The results – which must be heard to be believed – are very impressive and offer an enhanced experience in surround sound unachievable with any other console system.

Virtual Surround Panning allows the operator to create a realistic 5.1 sound field modelled around a few simple parameters.
Surround sound made easy

If you’re planning for Multicat 5.1 and stereo broadcast, and need 3G SDI and Dolby E audio distribution, the Studer Vista S will empower you for multichannel surround broadcasting now.

Multi-channel sources

Acquiring and managing multi-channel audio sources has never been easier or more cost effective.

Option cards for the Studer D21m I/O system include a dual-channel Dolby E decoder and a 3G SDI de-embedder/embedder in which up to 16 channels of audio can be extracted from the video signal (including Dolby E signals) and patched to the console. After processing signals can be re-embedded onto the SDI stream. Using such cards reduces weight and space in critical installation such as OB vehicles.

The Dolby E card accepts any AES/EBU stream encoded with Dolby E or Dolby Digital decodes the stream within the input stage and then provides up to two sets of 8 channels to the console. One D21m I/O frame can take up to 12 of these cards in a 3U rack space, and each card may contain up to 2 decoders, making it possible to decode up to 24 Dolby E streams in just 3U of rack space. Dolby Digital or Dolby E encoded signals may be directly connected to the card’s front panel or patched via the console’s internal software patch window.

The 3G SDI card accepts the embedded SDI signal via a standard coax BNC connector and also has a Through BNC connector for passing the original SDI signal unaltered. Once de-embedded, the audio may be processed by the console and then returned to the I/O system to be re-embedded into the SDI stream for onward transmission via either or both of 2BNC outputs. As a fail-safe for signal continuity, the SDI stream will passively bypass the card in the event of a system failure. Up to 2 3G SDI cards may be fitted to a D21m I/O system.

A new approach to surround

With the Studer S.1 input channel, the engineer is able to have Input, EQ, Dynamics and Panning sections totally designed for premixed S.1 input sources. The main goal is that he can adjust the most important parameters directly via touch on the Vistonics™ screen without the need to ‘split’ single mono or stereo channels to additional faders, where other important sources would be hidden and become unavailable. This is realised by introducing complete new parameters to ‘balance’ the S.1 signal using the Vistonics™ encoders.

This way engineers can maintain the perfect arrangement of one fader for one source on their mixing console, and maintain a good overview while fast access to every single source parameter is provided.

Routing sources to input channels

A source can be patched to a S.1 input channel very easily by using the ‘auto’ route facilities where all 4 discrete mono sources are patched at once with a single mouse click. This makes patching as simple as patching mono inputs.

Bus assign

With the new industry-accepted surround channel order of L R C Lfe Ls Rs, Studer has changed the bus order in Vista consoles to reflect this ITU standard. The newly introduced labelling of the busses in the Vistonics touch area allows a better overview and secure and quick assignment. Adjustable input order In daily broadcast work it is found that still not all S.1 sources are delivered in the standard format. An input order selector has been designed comparable to the ‘2CH mode’ (L to R, R to L, swapped, mono) in stereo channels. Input order is a very fast way to detangle different standard surround material, so that once this is on the S.1 fader everything is in L R C Lfe Ls Rs.

Balancing the S.1 signal

Studer has designed an innovative new control – the perceived ‘balance’ control where e.g. the Left channel is also sent to the Ls channel. The S.1 bus balance gives the S.1 operator a ‘balance’ control at the front console. This allows one to adjust the perceived level between the different L & R feeds. This can be adjusted differently from others – e.g. adding high frequency in the rears – does not affect the front channel.

Balance

Basically as an evolution from stereo inputs, here the balances between front channels L-R rear channels Ls-Rs and also the balance between front and back can be adjusted.

Centre level

Centre level adjustment is most important to correct dialog level.

Centre usage

When desired, takes dialog out of the centre for example, and adds it to L and R, converting the incoming centre channel gradually into more of a phantom centre.

Life level

To enhance or reduce the Life level.

Adjust the surround image

After the balance has been set, a further set of parameters comes into action where the ‘image’ of the surround signal can be altered – such features are hardly ever found on other consoles as yet.

Front width

As also an evolution from stereo inputs, the front channel width can be adjusted from 0..200%.

F-B Depth

A unique new control – the perceived distance between front and rear signals can be extended or reduced.

Back width

The same width control as on the front channels – but here separately for the rears also from 0..200%.

Operate fader l master EQ / master Dyn

Once the balance is set, the S.1 input channel can be handled in the same way as a mono or stereo input channel. Most importantly the signal is brought into the mix with one single fader and all the necessary adjustments can be made on one single channel strip.

When EQ is needed it can be applied via EQ master parameters which are accessible again in the same way as on mono or stereo inputs. EQ is then applied to all of the surround signal legs except for the Life. Dynamics processing is handled in the same way. Working with these most important controls is what we expect to be about 95% of the surround engineer’s work.

Parameters if needed

With the newly introduced possibility to turn around a fully mixed surround image the engineer gets the tool to correct “the direction” of a premixed source. This can be done as far as turning a surround sound in a 360° cycle. A mix-adjusted surround microphone can be aligned without leaving the mixing console!

Channel view for sub EQ / sub Dyn

When certain legs of the signal have to be adjusted differently from others – e.g. adding high frequency in the rears – does the channel view have to be selected. Channel view shows all the separate EQ and Dynamics settings of Front, Centre, Life and Rear. Here one can really tweak the surround sound differently – with the touch of a button.

To complete this functionality a new surround panning module is also available for stereo channels. Since there are still a significant number of stereo sources used in a typical surround production, engineers also need to bring these into the S.1 format. Studer has now implemented a way to pan such stereo signals also to the surround mix, providing the possibility to wrap a simple stereo signal to a surround sound field. Every stereo channel can be equipped with the ‘upmix’ panner. This works in three modes: normal LR, S.1 and S.1 width mode, the most interesting mode being the S.1 width mode where a revolutionary algorithm (using Harman intellectual property) basically also extends the stereo width control to the surround speakers. LR mode is normal stereo panning, S.1 mode simply uses “standard” panning where e.g. the Left channel is also sent to the Ls speaker etc.
**SCoreLive**

Maximum power from minimum space

**DSP Core Structure**

The DSP core, the "SCore Live", builds on Studer’s excellent reliability record and inspires a high degree of confidence enjoyed by the numerous clients operating our consoles in mission-critical applications. The SCore Live uses parallel processing architecture with integrated floating point circuitry and an internal word length of 40 bits. No overloads will ever occur within the console, since floating point architecture is even used in the summing busses. The system can be used in 44.1 kHz, 48 kHz, 88.2 kHz or 96 kHz mode. The clock source may be sourced internally, or from external WordClock, AES/EBU or Video Sync signals.

The more DSP cards that are fitted in the core, the more channels and busses will become available. The SCore Live offers up to 4,000 'timeslots' for freely routing signals within the core. These timeslots are fed by I/O card slots which hold a minimum of one bridge card (for communication with the desk) as well as up to 9 DSP cards. This allows the highly scalable system to easily exceed a channel count of 200 on the Vista series consoles with an appropriate number of busses.

As illustrated above, an SCore Live frame houses the DSP cards in the upper frame section. It also holds up to two additional D21 m GPIO card(s) at the left of the DSP cards.

The lower section is reserved for D21 m audio I/O and GPIO cards.

The SCore Live maintains full redundancy, with redundant power supplies, and even DSP card redundancy. In case of a hardware failure, any unused DSP card will take over the processing almost immediately. Furthermore, a redundant link between desk and core is available via a redundant bridge card.

By using the optional Configuration Editor Software it becomes possible to change number and types of channels, as well as the number and types of mixing busses. Furthermore, the processing within the channels can be freely defined.

Extensive import functions allow the user to adapt existing configurations to meet changing needs.

**RELINK**

I/O sharing

The Vista 5 can be integrated easily within the studer RELINK (Resource Linking) managed I/O sharing system, which can link numerous Studer consoles in various locations of a broadcast facility to allow audio input and output sharing across a wide network.

One of the benefits of the Studer RELINK system in comparison to others is that it is based totally on Studer’s existing SCore platform which is an integral part of a Studer console architecture, so no additional hardware or breakout boxes are required to complete the network. Communicating over TCP/IP with each other any combination of Studer Vista (5, 7, 8, 9), the OnAir 1500, 2500 and 3000 consoles, as well as Route 6000 can link via RELINK.

RELINK is seamless, scalable, flexible, and can start with a simple link between two Studer consoles, right through to multi-console systems using a two-step topology where all signals are mixed through a central device, e.g. the Studer Route 6000 system.

Source selection is transparent, and signal labels are automatically transferred to the consuming locations, so the operator always knows what source is connected. Signal takeover between studios is seamless, so RELINK is well-suited for live transmission switchover. A resilient mic take-over mechanism ensures that mic control parameters such as analogue gain, phantom voltage, etc. are not unintentionally changed but require conscious takeover confirmation.

For example, shows a (radio-) broadcast house where production studios and control rooms are located, in addition to the on-air studios in the same building. The production studios (Drama A, Drama B and Auditorium) are equipped with D21 m stageboxes connected to the Route 6000 in the MCR.

In this way, not only the two Vista 5 M3 consoles in the production control rooms can use these signals, but also the four OnAir consoles can use these signals and, if necessary, also get control of the mic parameters.

STUDER RELINK offers probably the most integrated, comprehensive and optimised I/O sharing management available to Broadcasters today.

To utilise STUDER RELINK consoles must be running at least the following software versions – V4.1 for Vista, V3.1 for OnAir systems and V2.0 for Route 6000 systems.
The optional Vista Compact Remote Bay has been designed for users seeking a slave or secondary desk to work in parallel with their Vista console. Typical applications are theatre or live sound installations where it is desired to control the sound balance from the auditorium. It provides full control and monitoring functionality and can be used with all types of Vista consoles running software V4.8 and up. In addition it may also be used as a completely stand-alone controller for the Vista’s DSP and I/O should the control surface not be available.

The unit is foldable, similar to a laptop computer. It consists of a control surface section with 12 high-quality, motorised Penny&Giles faders, 40 channel rotary controls, a touch pad and a slide-in keyboard.

The 19” touch screen can be folded down, thus protecting both screen and control hardware during transport and, at the same time, considerably reducing the unit’s size.

Applications
• Compact bay with minimal footprint for theatres
• Redundant VCA-style fader box in theatres
• Redundant fader box for OB Trucks.

Touch Screen
All navigation and control buttons available with the Virtual Vista application can be operated via the touch screen, instead of using a track ball or a mouse. The number of physical control elements is therefore reduced to the most important ones, such as faders, rotary controls, MUTE and PFL keys.

Monitoring
In order to use the Compact Remote Bay as a redundant desk, it connects via a Cat5 cable to the AUX port of the D2’s MADI card and is fed from there with split monitoring signals. The analogue 5.1-channel control room monitoring signals are available on individual rear-panel XLR sockets. A headphone output is located on the rear panel. Two physical volume controls are available on the faceplate. One is dedicated to the headphone level, while the other is assignable to control room, studio A or studio B loudspeaker levels.

A GUI monitoring page mirrors all monitoring controls of a real Vista desk (see above). This page is operated from the touch screen and can be called up by a physical key on the controller. For talkback, a gooseneck mic can be plugged into an XLR socket on the face plate. Its signal is fed through to an XLR socket at the rear.

Connectivity
The following connectors are located on the rear panel:
• Mains socket (80-240VAC) with integrated switch
• MADI (for monitoring signals)
• 2 × USB (e.g. for a mouse or a memory stick)
• RS422 port (Pro-Bel control)
• 2 × Ethernet (for connecting to the desk in on-line mode and to the second Bridge Card port for desk redundancy/DSP control)
• WLAN antenna sockets
• 7 × XLR (5.1-channel monitoring and TB mic outputs).
System Expandability

The Vista series consoles use the Studer D21m I/O system which provides a flexible and expandable high density 24-bit 96kHz capable audio interface. Up to 9 local I/O frames are connected to the DSP core, whereby the first I/O frame is already mechanically integrated into the DSP core. These local I/O frames may then connect to remote Stageboxes using MADi fibre or CAT 5 connections, enabling large numbers of microphone sources in either studios or OB locations to be connected to the console. Full I/O channel count even at 96 kHz is ensured when using the second 'redundant' MADi link for channel extensions.

48 Mic Inputs in 3U rack space!

A D21m 3U stagebox can accommodate up to 48 mic inputs with analogue split outputs as a standard and may be shared between multiple consoles. It may be equipped with redundant power supplies.

All local and remote I/O frames can be fitted with a variety of I/O cards, such as:
- Axia Livewire™
- 4 Channel HD Mic Input
- 4 Channel analogue MicLine Input
- 4 Channel analogue Insert for MicLine Input
- 8 Channel analogue Line Input
- 8 Channel analogue Line Output
- 16 Channel digital AES/EBU Input and Output, with or without SRCs
- 16 Channel digital ADAT Input and Output
- 16 Channel digital TDFI Input and Output
- 16 Channel SDI I/O
- 8 Channel SDI Input and Output (De-Embedder and Embedder)
- 16 Channel SDI Input (De-Embedder)
- 64 Channel digital MADi Input and Output (optical or CATS)
- Dolby E/Digital Decoder
- 32 Channel Cabernet Input and Output
- 16 Channel Aviom A-Net® Output
- Ethersound Input and Output
- GPIO with opto Input and relay or open collector Output
- Riedel Rocknet Input and Output

The 3U Frame

The 3U frame provides 12 slots for I/O card insertion. Each card may provide a different number of I/O channels, depending on its capabilities (e.g. a microphone card provides four channels of microphone inputs, while an ADAT card provides 16 channels of inputs and outputs simultaneously).

Some cards mechanically occupy two slots, and therefore a maximum of 6 double-width cards may be inserted into a frame.

Compact Stagebox

The Compact Stagebox adds a cost effective expansion option, offering a high density of I/O connections in only 4U of rack space. The modular unit is fully configurable but is offered with a standard configuration of 32 mic/line inputs and 16 line outputs. It is possible to equip the Compact Stagebox with an additional 16 mic/line input module instead of the output module, then providing 48 inputs. In this case, analogue or AES/EBU outputs can still be obtained on D-Type connectors via D21m cards fitted to the expansion slots.

Compact Stagebox
Studer Vista consoles interface with the major DAW systems available on the market. Many DAW functions can now be directly controlled from the console, where innovative operating concepts such as StripSetup and Ganging bring DAW integration to a new level and greatly enhance the production workflow. Editing is faster, customers are happier.

All Vista consoles with software V4.1 or higher can control DAW systems such as those listed here.

Simple configurations screens within the Vista system allow the operator to select the DAW control interface and enable it. Then, you can mix and match DAW channels alongside Vista channels.

Directly at the channel fader, tracks may be armed ready for record using console buttons. Additionally, the DAW gains features of the Vista consoles such as ganging.

No additional hardware is required and connection is made through a simple Ethernet link rather than multiple MIDI cables typically found in other systems.

DAW systems currently supported by Vista are:
- ProTools
- Sade
- Apple Logic Pro
- Steinberg Cubase
- Steinberg Nuendo
- Magic Sequoia
- Merging Technologies Pyramix
- Samplitude

Vista 5 M3 brings DAW integration to a new level, greatly enhancing the production workflow.
Outside broadcast vehicles present a series of challenges to equipment providers. As well as the inherent audio functionality required, consoles in particular need to be robust and reliable, have suitable redundancy be very space efficient as audio space is always a premium in OB vans, and be flexible enough to handle different types of production very easily.

Studer’s history in OB vehicle installations is well known. Not only does the Vista 5 M3 fit perfectly into small spaces, the supporting racks being small enough to fit in minimal rack space while including equipment such as SDI and Dolby® interfaces that would otherwise be large external units. Integral MADI connectivity allows huge reductions in analogue patching systems.

The console itself offers all the functionality that may be required of it for OB:

• Full surround source management with up and down-mixing for sports events,
• Mix minus feeds,
• Audio-follows-video which can be tied to camera feeds and VT sources using several protocols, including Probel,
• Multitrack capabilities for music events
• Dynamic automation for live mixdown of multitrack audio.
• Integral audio router which saves on further external equipment, with control possible from video switchers
• Remote stagebox systems using environment-proof fibre-based MADI connectivity

With the existing popularity of Studer Vista consoles in fixed and mobile broadcast facilities, most engineers will already be familiar with the operation of the console, but new users will find themselves easily assimilating the Vistonics user interface.

With its compact footprint, the Vista 5 M3 is fully-equipped to handle large numbers of sources and feeds, along with full surround management, integral interfacing capabilities to numerous source formats including SDI, Dolby® E, AES, MADI, CobraNet, Axia Livewire and more. The integral audio-router functionality means that systems may be much more closely integrated and controlled than ever before.

Outside Broadcast
The perfect console for the perfect OB truck
In addition to the standard functionality, the input channels provide several broadcast live production specific features. Dedicated controls for extensive snapshot filtering are available to deal with the most complex live productions. Dedicated buttons for talkback (e.g. to Direct Out, N-1 etc) and for user programmable functions provide more flexibility and ease during live operation. Dedicated Matrix busses can be configured which suits the fixed install application but can also offer a fast and easy method of handling complex head phone feeds in a broadcast environment. 16 dedicated Mute Groups are also available.

Stress-free outside source management
In the last few minutes before the studio goes on-air or the show starts, stress is at its highest and many things are happening at once. Clear and fast console operation is essential. Problems with outside sources and reporters often induce a high stress factor; setting up the correct return feeds and talkback on-air needs to be as simple as possible. In some cases the n-1 feed may not be what the outside source wants to hear while waiting to go on-air. The Vista 5 offers a dedicated switch per channel that automatically sends the outside source and alternative signal to the n-1 whilst the outside source is not on-air.

When the outside source is put out on-air (fader opened), the correct n-1 feed is automatically switched to the outside source without the user having to disable the switch manually. In addition, any number of outside sources are able to talk off line together in a conference mode (MPX), with the outside source automatically removed from the conference and sent the correct n-1 feed when put on-air.

Vista 5 reduces the stress levels associated with complex live productions.
Theatre sound designers and console operators make some of the highest demands when it comes to efficient workflow on the heart of their audio system. Nothing must go wrong, while everything needs to be changed quickly! To enhance workflow processes from offline programming, rehearsals through to daily performances, Studer has developed special software which makes Vista consoles the ideal choice for cue-based theatre productions.

Sound designers now have a complete toolkit provided with the new V4.2 Vista Software which is available for the whole range of Studer Vista consoles. Together with the Vista’s already extensive facilities which suit Theatre sound, such as high input/output capacity, DSP configurability, the acclaimed Vistonics™ user interface, distributable I/O systems, control surface configurability, very compact footprint and outstanding sonic performance, the Studer Vista series of consoles is the perfect choice for world class theatres.

Enhanced Theatre Cue Lists

To aid in rehearsal and show build, cues containing a snapshot can now be created with a single button press. Cues can be comprehensively inserted and re-numbered, and cues can be automatically recalled via a precisely timed event to give the engineer an extra pair of hands.

Cues can also fire MIDI/MMC events, for example for SFX playback, where the MIDI ports can be muted for cue list navigation. Most importantly the enhanced cue list now provides a large display of the current cue, as well as an indication of whether a snapshot is masked or not made clearly visible in the cue list.

Character/Actor Library Event handling

Characters in a production can be given any desired library entry (for example, a special EQ setting) on a cue by cue basis. This allows easy temporary or permanent adjustment of these library settings, as well as a very straightforward way to replace the settings of an actor with replacement-actor or understudy settings.

There are two ways of applying library events to characters, firstly by using the two new Vistonics controls on the actual channel and secondly the large overview window where a list of all cues and all characters is provided.

The Library window itself enables selection of the different actors as well as very easy creation of understudy actors.

Performing Arts

The mix without the drama

Dedicated software makes Vista an ideal choice for cue-based theatre productions.
The rear of the Vista S M2 provides local connectivity for monitoring for the control room and two studios. Provision is made for two different control room loudspeaker systems, one 2-channel stereo and one multichannel (surround). Separate PFL outputs are also provided.

Two Studio outputs A and B provide analogue and AES/EBU connections for 2-channel stereo monitoring.

Talkback connections are also provided on the rear of the console, along with generic monitor inserts and I/O in AES/EBU format. XLR outputs are provided for:

- Talkback connections are also provided on the rear of the console, along with generic monitor inserts and I/O in AES/EBU format. XLR outputs are provided for:

- Control Room:
  - Analogue Outputs L, R, C, LFE, LS, RS
  - AES/EBU Outputs L/R, C/LFE, LS/RS
  - AES/EBU Inputs L/R, C/LFE, LS/RS

- Studio A
  - Talkback In (Line level)
  - Analogue Direct Outputs L, R
  - AES/EBU Outputs L/R, C/LFE, LS/RS

- Studio B
  - Talkback In (Line level)
  - Analogue Direct Outputs L, R
  - AES/EBU Outputs L/R, C/LFE, LS/RS

- Talkback
  - Desk Mic Output (Line level)
  - Production Talkback in (Line Level)

A BNC wordclock output is also provided.

Control & Networking

Connectors provide 6 digital monitor insert send and returns (AES pairs) and 6 user digital inputs and 2 outputs (also AES pairs). The rear panel also hosts:

- Two Cat 5 LAN connections
- MIDI connections
- 9 Pin D-type connector for control link to optional meter bridge
- VGA and DVI outputs for the GC screen
- A multiway D-Type connector for Custom-Panel GPIO
- Two RS-422 COM Ports

An 8-port Ethernet switch which allows easy integration of the console with RE LINK and other networking systems.

- A USB port for connection of an external keyboard or mouse.

Also located on the rear are a 14-pin connector and dual optical SC connector (multimode) used to connect the monitoring I/O to the DSP rack.

Power

Two standard IEC power inputs are provided for the main and redundant power supplies, along with an AC power output for the optional TFT meterbridge. 12 V XLR connectors are also provided for connecting console lamps.

Technical Specifications - Rear Panel Connectivity

### Mic/Line In Card

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input sensitivity (for 0 dB FL)</td>
<td>–40...–126 dB</td>
</tr>
<tr>
<td>Input impedance</td>
<td>1.4 kΩ</td>
</tr>
<tr>
<td>Split-out gain (input sensitivity -20 dB)</td>
<td>–20 dB</td>
</tr>
<tr>
<td>Equivalent input noise (± 15 V, max. gain)</td>
<td>–126 dB, –111 dB</td>
</tr>
<tr>
<td>Crosstalk (1 kHz)</td>
<td>–110 dB</td>
</tr>
<tr>
<td>Frequency response (30 Hz-20 kHz)</td>
<td>–52 dB, –57 dB, –100 dB</td>
</tr>
<tr>
<td>THD+N/B [1 kHz, –30 dB FL]</td>
<td>&lt; –97 dB, &lt; –111 dB</td>
</tr>
<tr>
<td>THD+N/B [20 Hz-20 kHz, –30 dB FL]</td>
<td>&lt; –97 dB, &lt; –111 dB</td>
</tr>
</tbody>
</table>

### Transformer HD Mic/Line In Card

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input sensitivity (for 0 dB FL)</td>
<td>–40...–126 dB</td>
</tr>
<tr>
<td>Input impedance</td>
<td>1.4 kΩ</td>
</tr>
<tr>
<td>Split-out gain (input sensitivity -20 dB)</td>
<td>–20 dB</td>
</tr>
<tr>
<td>Equivalent input noise (± 15 V, max. gain)</td>
<td>–126 dB, –111 dB</td>
</tr>
<tr>
<td>Crosstalk (1 kHz)</td>
<td>–110 dB</td>
</tr>
<tr>
<td>Frequency response (30 Hz-20 kHz)</td>
<td>–52 dB, –57 dB, –100 dB</td>
</tr>
<tr>
<td>THD+N/B [1 kHz, –30 dB FL]</td>
<td>&lt; –97 dB, &lt; –111 dB</td>
</tr>
<tr>
<td>THD+N/B [20 Hz-20 kHz, –30 dB FL]</td>
<td>&lt; –97 dB, &lt; –111 dB</td>
</tr>
</tbody>
</table>

### Line In Card

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input level (for 0 dB FL)</td>
<td>±314 dB (fixed, jumper-selectable), ±7-23 dB (adjustable)</td>
</tr>
<tr>
<td>Input impedance</td>
<td>&gt; 0.1 kΩ</td>
</tr>
<tr>
<td>Frequency response (30 Hz-20 kHz)</td>
<td>±2.8 dB, ±0.2 dB</td>
</tr>
<tr>
<td>THD+N/B [1 kHz, –30 dB FL]</td>
<td>&lt; –97 dB, &lt; –111 dB</td>
</tr>
<tr>
<td>Crosstalk (1 kHz)</td>
<td>&lt; 38 samples (0.79 ms @ 48 kHz)</td>
</tr>
<tr>
<td>Current consumption (7 V)</td>
<td>0.2 A</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0–40 °C</td>
</tr>
</tbody>
</table>

### Line Out Card

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output level (for 0 dB FL)</td>
<td>±314 dB (fixed, jumper-selectable), ±7-23 dB (adjustable)</td>
</tr>
<tr>
<td>Output impedance</td>
<td>40 Ω</td>
</tr>
<tr>
<td>Min. load (± 234 dB FL)</td>
<td>600 Ω</td>
</tr>
<tr>
<td>Frequency response (30 Hz-20 kHz)</td>
<td>±2.8 dB, ±0.2 dB</td>
</tr>
<tr>
<td>THD+N/B [1 kHz, –30 dB FL]</td>
<td>&lt; –97 dB, &lt; –111 dB</td>
</tr>
<tr>
<td>Crosstalk (1 kHz)</td>
<td>&lt; 28 samples (0.28 ms @ 48 kHz)</td>
</tr>
<tr>
<td>Current consumption (7 V)</td>
<td>0.23 A</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0–40 °C</td>
</tr>
</tbody>
</table>

### AES/EBU M2 Cards

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input/Output impedance</td>
<td>110 Ω, 60 Ω</td>
</tr>
<tr>
<td>Input sensitivity</td>
<td>±0.3 V (±0.15 V, adjustable)</td>
</tr>
<tr>
<td>Output level (± 10 dB)</td>
<td>±0.4 V, ±0.15 V</td>
</tr>
<tr>
<td>THD + noise</td>
<td>±0.25 V, ±0.15 V</td>
</tr>
<tr>
<td>S/N range</td>
<td>22–100 dB</td>
</tr>
</tbody>
</table>

### AES/EBU M2 Cards

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMRR</td>
<td>&lt; ±55 dB</td>
</tr>
<tr>
<td>Low-cut filter</td>
<td>75 Hz / ±12 dB (adjustable)</td>
</tr>
<tr>
<td>Input delay (local)</td>
<td>38 samples (0.79 ms @ 48 kHz)</td>
</tr>
<tr>
<td>Input delay (remote)</td>
<td>45 samples (0.74 ms @ 48 kHz)</td>
</tr>
<tr>
<td>Current consumption (7 V)</td>
<td>0.2 A</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0–40 °C</td>
</tr>
</tbody>
</table>

### Transformer HD AES/EBU M2 Cards

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMRR</td>
<td>&lt; ±55 dB</td>
</tr>
<tr>
<td>Low-cut filter</td>
<td>75 Hz / ±12 dB (adjustable)</td>
</tr>
<tr>
<td>Input delay (local)</td>
<td>38 samples (0.79 ms @ 48 kHz)</td>
</tr>
<tr>
<td>Input delay (remote)</td>
<td>45 samples (0.74 ms @ 48 kHz)</td>
</tr>
<tr>
<td>Current consumption (7 V)</td>
<td>0.2 A</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>0–40 °C</td>
</tr>
</tbody>
</table>
Dimensions

Vista 5 M 3 22 Fader Console Dimensions

Vista 5 M 3 32 Fader Console Dimensions

Vista 5 M 3 42 Fader Console Dimensions

Vista 5 M 3 22/32 Fader Console Dimensions

Vista 5 M 3 32 Floor Stand Dimensions (32 fader version shown)

Vista 5 M 3 22 Floor Stand Width - 1108 mm / 43.6”
Vista 5 M 3 32 Floor Stand Width - 1453 mm / 57.2”
Vista 5 M 3 42 Floor Stand Width - 1888 mm / 74.4”

Vista 5 M 3 22 Fader Console

Vista 5 M 3 32 Fader Console

Vista 5 M 3 42 Fader Console

Weight | kg | lbs
--- | --- | ---
Desk | 42 | 92.6
GC Screen | 14.22 | 30.8
Core | 14.22 | 30.8
Remote I/O Frame | 8.13 | 17.6
Meterbridge Option | 12 | 26.5

Power Consumption | Watts
--- | ---
Desk | 166 typical / 260 peak
GC Screen | 25
Core | 60.320
Remote I/O Frame | 20.250
Meterbridge Option | 90

Weight | kg | lbs
--- | --- | ---
Desk | 51.5 | 113.5
GC Screen | 35 | 77
Core | 14.22 | 30.8
Remote I/O Frame | 8.13 | 17.6
Meterbridge Option | 15 | 33

Power Consumption | Watts
--- | ---
Desk | 200 typical / 360 peak
GC Screen | 25
Core | 60.320
Remote I/O Frame | 20.250
Meterbridge Option | 100

Weight | kg | lbs
--- | --- | ---
Desk | 61.5 | 135.5
GC Screen | 35 | 77
Core | 14.22 | 30.8
Remote I/O Frame | 8.13 | 17.6
Meterbridge Option | 18 | 39.6

Power Consumption | Watts
--- | ---
Desk | 270 typical / 330 peak
GC Screen | 25
Core | 60.320
Remote I/O Frame | 20.250
Meterbridge Option | 115