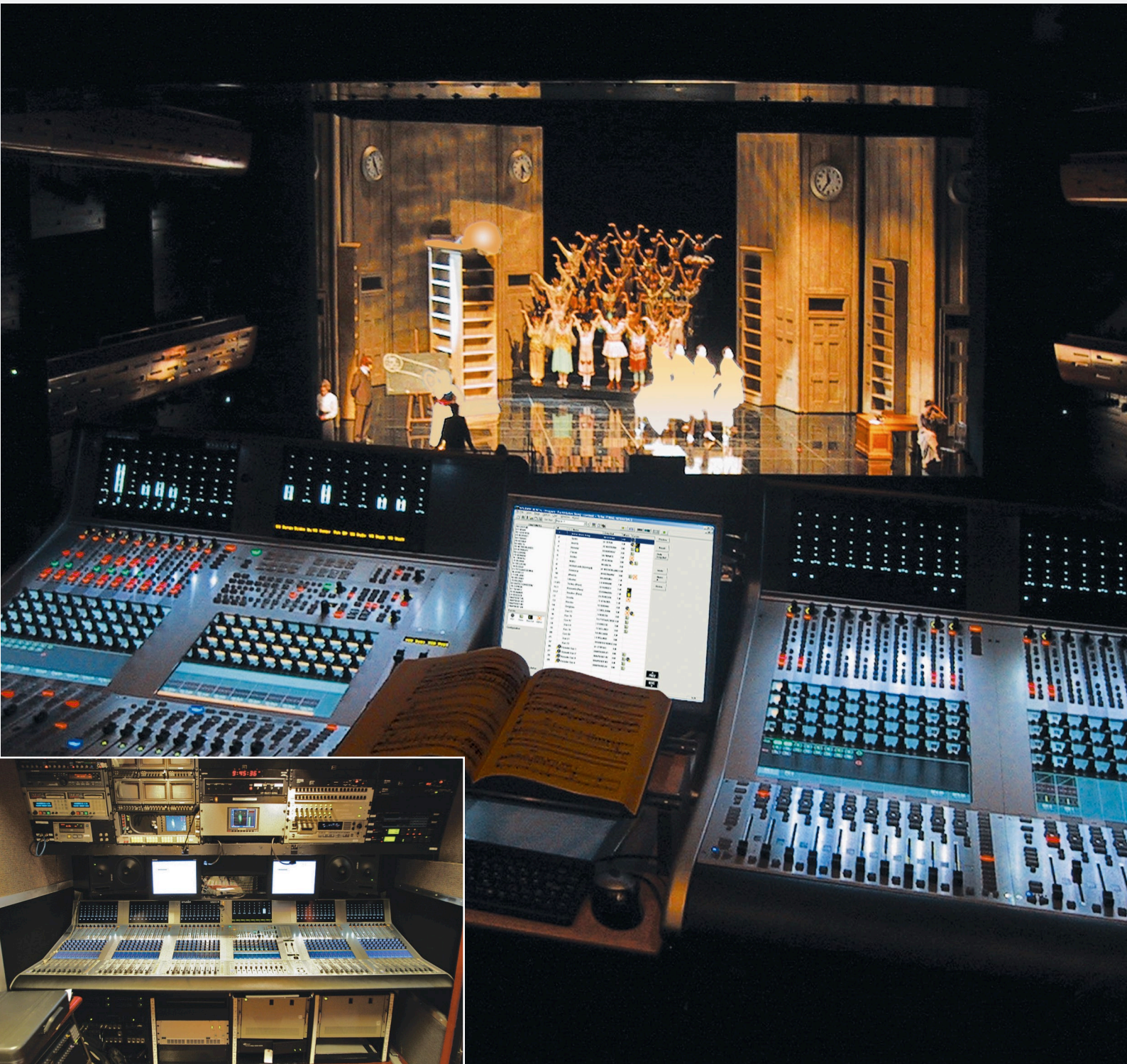


Swiss Sound

News and Views from Studer

May 2005 – No 48



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Dear Reader



Bruno Hochstrasser

Another eventful year has passed since the last issue of our Swiss Sound magazine. With the introduction of the new Vista 8 and its feature set for live applications last year, Studer has firmly established a leading position in the high-end public address, fixed install markets, be it in conference halls, concert halls, opera houses or in theatres. Also in traditional live applications in Television and Radio, such as in fixed or mobile installations, the Vista 8 is seeing great success. The intuitive, easy to use Vistonics® operating concept and the unique redundant control system has made the Vista 8 the digital large frame console of choice around the globe. In this issue of Swiss Sound you will learn how we have advanced the functionality of the Vista 8 with the new Software release V 3.5 adding more functionality and user features for the live sound engineer, and how we integrate the Vista consoles into the Harman HiQnet system network recently introduced.

Also our top-of-the-line On Air console series for Radio and Television has made a great impact. Not only have we received large contracts for the supply of OnAir 3000 systems from leading broadcasters around the globe, but our designs

have gathered a great deal of recognition from leading engineers. Here also, the intuitive user interface and the system architecture have been drivers of our success and in this issue we are talking about further enhancements to the OnAir 3000 range of products by introducing the OnAir 3000Net.

We have just returned from a very successful participation at the NAB convention in Las Vegas where we were very proud to receive a "Top Innovation" award from Television Broadcast magazine for our Vista 8 console using the patented Vistonics® user interface. All this is possible because you, our customers, have put trust in us and in our work and I and all our staff at Studer would like to thank you for that. We are committed to continue to drive forward our mission for excellence in product and services and we are looking forward to a continued fruitful partnership with you - our partner and customer.

Sincerely

Bruno Hochstrasser
President

Front cover:

Vista 8 at Denmark's new Opera House in Copenhagen.
Vista 8 in AMVs Celebrity HD OB van in New York.

Impressum

Editor

Roland Casagrande

Contributors to this issue:

Roland Casagrande
Jean-Philippe Blanchard
Jamie Dunn
Alfred Eckert
Jarle Felin
Robert Habersaat
Hans R. Hässig
Andrew Hills
Stefan Ledergerber
Ian Staddon

Layout + DTP

Max Pfister

Please mail your letters to:

Swiss Sound
Studer Professional Audio GmbH
Althardstrasse 30
CH-8105 Regensdorf
Switzerland

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Studer booth at NAB 2005 in Las Vegas



Vista 8

Vista 8 in Live Applications

It is with great excitement and pleasure that I introduce this piece, as it demonstrates the growing acceptance of Studer's mixing consoles in new markets. Not only has Studer managed to transform its business from being the worlds best tape machine manufacturer, to the premium supplier of digital consoles to broadcasters, but now has taken the high-end live install market by storm with the Vista 8.

Going back two years to the conception of the Vista 8, the initial design discussions revolved totally around the requirements of working "live". It was soon apparent to the team – whose own areas of live expertise span; production, broadcast, recording, theatre or general sound reinforcement – that these applications all fundamentally had the same demands. Firstly, clarity of the surface for fast, efficient ease of use, whilst having as many faders and controls in the most compact, workable area. This second point is for example, most critical in the compact layout of OB vans and in the case of theatres where retaining maximum audience seating is priority. The team felt that Vistonics® already gave us ultimate clarity and ease of use, but then to utilize the same principal for output control, whilst adding faders would give us the ideal control bay and as such the best console for all live applications. We were right! Before the introduction of the Vista 8, we had sold some D950's into theatres and a Vista 7 into the Det Norske Theatre in Oslo. Two Vista 6's went into Japan's national theatre and a D950 M2 output bay with faders was utilized to provide the special matrix for surround speaker control, as existing systems either could not provide enough channels or when they could, there was not enough processing power available. The common theme for these projects was that special adaptations were made for the system to work, be it "MIDI" or "matrix".

However, since the release of the Vista 8 in July 2004, we have succeeded in securing many new prestigious Opera House and Theatre projects. The combination of the control bay utilizing the Vistonics for output control and metering, with the addition of 12 faders had transformed

the Vista 6 and 7 into the Vista 8 and "probably" the best theatre console in the world. The surface alone immediately attracted interest from any theatre or opera house customer who saw it, but with the modification of the aux busses, allowing them to become "Super Auxes" and in effect "Matrices," plus the latest implementation of the version 3.5 software, which is loaded with theatre specific features, it has made the Vista 8 the ultimate theatre console. (See later articles in this Swiss Sound on the control bay and V3.5)



Ian Staddon

There are many aspects of the Vista 8 that make it the "console of choice" for the theatre and opera houses alike, but the ease of operation and the optimization of the surface allowing smaller consoles to control large numbers of channels are key factors, both operationally and financially. The latest software application of MIDI and scene set control has been specifically developed for theatre engineers directly from their input and is intuitive to use.

The Vista 8's success in the high-end live install market has also extended into the broadcast production areas of these facilities, with recent installations in the world class "Royal London Opera House", the "Shanghai Oriental Art Centre" and the "Teatro alla Scala" Milan. The Vista's function in these installations is again "live" but for recording and broadcast once again proving the Vista 8's pedigree for any "live sound" application.

Oriental Arts Centre in Shanghai



Vista 8

Extending the Vistonics® Concept



Jamie Dunn

In the previous issue of Swiss Sound, I outlined the fundamental principles and philosophies behind the Vistonics® operating concept. This concept is built around the unique fact that the rotary encoders and switches of the channel strip are mounted on a TFT screen. This gives the advantage of utilizing a graphical user interface (colors, icons and text) whilst also offering the user a 'where you look is where you control' philosophy. Studer's newest flagship console, the Vista 8 also incorporates the Vistonics® user interface but has pushed the concept one step further.

The utilization of Vistonics® in the fader bays remains unchanged for Vista 8. The main difference between the Vista 6 and 7 is in the Control Bay. The Vista 8 control bay houses 12 faders, a Vistonics® screen and other controls

such as monitoring, automation controls, etc. The use of Vistonics® in the Control Bay differs from a Fader Bay and offers a radical new method of controlling and viewing masters. The 40 rotaries on the Control Bay Vistonics® can be thought of as 40 channel faders. This means in essence there are 52 faders in the Control Bay alone! As default, the 40 Vistonics® faders display any 40 channels (including inputs) with a real-time meter directly adjacent to each control. This exactly follows the 'where you look is where you control' philosophy; you see the level going over and your instinct is to grab the rotary (fader) next to

the meter! It is mainly thought that users will prefer to have their master faders each with a meter displayed on the Control Bay Vistonics®. There are some default views such as all the Aux Masters, all the Group Masters, Main outputs and even multitrack bus trims. There are in addition, four user definable view keys that allow the user four pages (of 40 rotaries) to display any channels in any order on the rotaries. This can even include inputs which means you can always have direct access to important inputs all of the time. These four user views are setup and selected in an additional 'Strip Setup' page of the GC. And not to forget the Vistonics® switches. As a default, the switch next to the rotaries offers

PFL/Solo of the channels but there are two modifier keys that temporarily change the switch function to either TALK or MUTE. The talk function is extremely useful when working with numerous auxes.

There is a second use of the Vistonics® in the Control Bay that is perhaps one of the most powerful features of the Vista 8 console. My opinion is that the way of working with the desk during the setup of a show and whilst running a live show slightly differ. Whilst setting up, the operator tends to be thinking about all things to do with the input channels i.e. make a bus assign, set the input gain, EQ and compress the signal, etc. When it comes to being live on-air, the operator is thinking differently. He is mainly working with masters, i.e. VCA, groups, Aux, and main outputs. Of course it is important to have direct control and metering of these masters. In addition, the contributing channels to a particular master are of high importance. This is the same as thinking about the bus assign in reverse. Which channels are currently assigned to a particular master and contributing level? If there is a problem with a mix of a master, the operator's mind then turns to the inputs. The issue is that now I have to find these contributing



Vista 8 Control Bay



Direct Access to level Control with real-time meter



Control Bay Vistonics®

channels and navigate my way around the desk to access them. It would be extremely elegant if I could still think in terms of masters but 'pull' the fader controls of all contributing channels directly to the Control Bay Vistonics® to make any mix adjustments. In this way I would not have to care where the contributing channels are on the desk layout and therefore would not have to navigate around the desk to find them; a 'clean' view of only the channel faders that are assigned to a chosen master! This is exactly the concept behind the unique and powerful 'Contribution' feature of the Vista 8.

The Control Bay has ten faders below the Vistonics® screen. These faders have a separate navigation system to the fader bays. This navigation is made up of four banks and offers access to up to 120 different channels on the ten faders of the Control Bay. The user has free allocation of channels to these strips as with the fader bays, but it is typical for console masters to be placed here. Each of these ten faders has a corresponding 'Contribution' button above the fader. If the 'Contribution' button is selected from a fader showing a master, then the Vistonics® rotaries above temporarily show the currently contributing channels to that selected master. The user then has direct level control and metering of the contributions. In the case of a group, master or VCA, the Vistonics® rotaries are the faders of the corresponding channels. There is no need to physically go to the channel strip of the contributing channel, just adjust the fader levels on the rotaries! Don't forget the temporary activation of the Contribution View by touch-and-hold of the button for incredible speed!

Imagine you are making a complex music and entertainment show. You will probably have some VCAs on the control bay faders. One for the drums, strings, horns, backing vocals etc. Once you have set up the drums in the rehearsal, you tend to only need to tweak fader balances during the live show. With a single push of the contribution button above the drums VCA master, the drum faders are directly displayed on the Control Bay Vistonics® and you have instant level control with real-time meters of those inputs! No thought, bank switching or moving required! Think about this for a second. Do I really need a large number of physical faders even for the most complex of shows when I can access channels as fast as this?

Imagine how much this feature helps you when dealing with large numbers of Auxes or Matrixes. The contribution feature produces a 'clean' view of all contributing channels to an Aux or Matrix on the Control Bay Vistonics®, and allows you to change the mix without having to go to the channel strips. Is this the ultimate monitor console concept? Think about mix-minus feeds. If a bus owner channel is on one of the control bay faders, the contribution feature will show the contributing channels to the selected mix minus bus allowing instant access and mix balance control. No thought, view switching or moving required! I could go on with example after example. Access does not get any faster than this!

The concept goes one step further though. The 'Contribution' feature has two modes. The 'reduced' Contribution view (default) is as described above showing only the currently contributing channels to a selected master. But by deselecting the 'reduced' mode by deselecting the reduced key, the user can temporarily show all possible contributions to a particular master on the Vistonics® and bus assign further channels to the bus in question. If further channels are added, when returning to the reduced view, the additional

channels also appear as they are now contributing. In essence, the user is able to make a bus assign using the contribution view without using the normal channel strip based bus assigning method. No thought, bank switching or moving required!

This unique way of accessing and displaying contributing channels to masters is only possible because of Vistonics®. The mounting of the rotary controls on the screen allows Studer to develop revolutionary and forward thinking operational concepts that analogue consoles just cannot offer. It is Studer's vision to continuously develop new and radical operational concepts and we aim to push the limits of ergonomic design to provide the fastest and most intuitive user interface possible. Vistonics® has provided us with the key.



Control Bay faders with Contribution buttons

Vista

Studer goes Live: Software 3.5



Stefan Ledergerber

In the early days of audio, products were specified, developed and sold with a specific feature set. If a customer wanted to have more features after he bought a product, he was urged to buy a new one. Today, most of the functionality of our products is realized in software. It is therefore feasible to change functionality after it has been bought. However, limits may be imposed by the hardware, be it inside the product or because the controls on the surface don't allow access to new functions. Some manufacturers are therefore tempted to build surfaces with very generic hardware panels. Buttons and rotaries are labeled by using LCDs in order to be "future proof" against any upcoming changes. While such an approach is definitely future proof, it doesn't take into account the ergonomic aspects of operation. Such manufacturers therefore find themselves in a dilemma between flexibility and ergonomics. With the introduction of the Vistonics® operating concept Studer has found a way to unify both interests with hardly any compromise. Generic hardware controls can not only change their name, but virtually their appearance by the use of graphics and colors right next to them. This provides us the flexibility to provide enhanced functionality through revisions of software.

In the course of specifying and implementing new features it is important to follow a roadmap. Not only is this important in order to focus our



Vistonics® buttons and rotaries on a TFT screen

resources but also for our customers who need to know that Studer is developing along the right road for them.

While continuing to serve our traditional broadcast market, the announcement of Version 3.5 software for the Vista 6, 7 and 8 will show customers in live PA applications that they can also benefit from many typical broadcast features in their line of work. Probably the two key interests of both markets are:

- fast access to the console parameters, and
- reliability.

Studer consoles have always found their way into fixed install PA applications during the course of our history. With the release of software 3.5 the Vista 8 has now become the first choice for theatre applications as well. This started some time ago with the release of Version 3.3 software that introduced one of the most powerful snapshot filtering systems. Not only did it provide easy protection of single parameters within channels against snapshot recalls, but it was also possible to protect a whole bus with a single button press. This feature has since been enhanced by the option to update the console snapshots based on the console parameter protection. The sound engineer has the choice whether the changes made during the course of a performance should be stored within the snapshots or forgotten after one run.

In Version 3.4 software, the engineer was able to configure matrix outputs and mute groups within the system, a must for all PA applications. But why wouldn't a broadcaster appreciate the functionality of matrix outputs? We have actually found quite a lot of customers who are now using this typical live PA feature to make mixes quickly out of their subgroups and masters in order to send them, for example, to a speaker outside the OB truck.

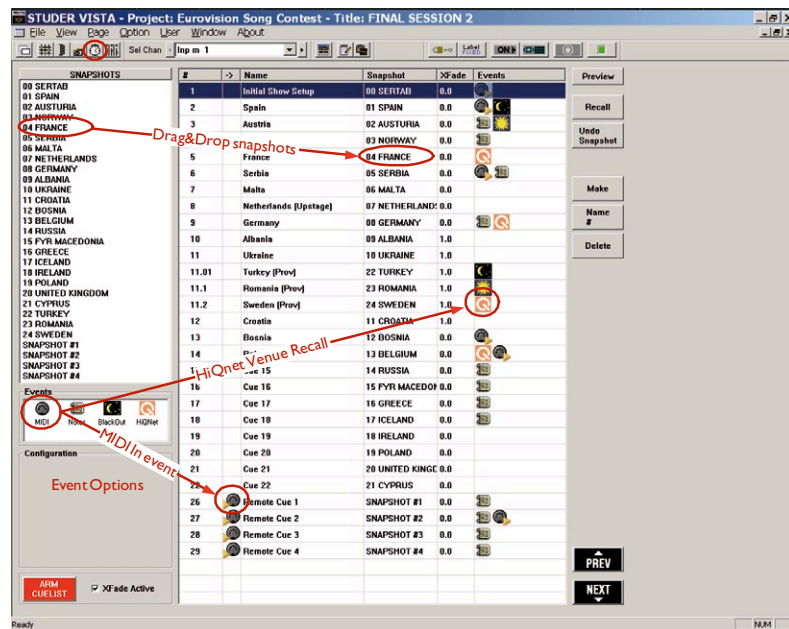
Now Version 3.5 introduces the ability to create cue lists. This feature allows sorting of snapshots while attaching various events to them. Such events (e.g. MIDI) may be sent out of the console at the time of recalling a cue or be received by the console and trigger a cue. But even the console's cue list functions such as NEXT or PREVIOUS are controllable by 3rd party equipment using "MIDI show control" commands. Finally, the cue list has the ability to fire off HiQnet commands, allowing control over all Harman HiQnet-compliant devices such as AKG wireless microphones, dbx and BSS signal processors, Crown amplifiers or JBL loudspeakers. HiQnet was introduced to the public in January 2005 and Vista 8 is the first console to incorporate this interface.

But Studer isn't only concentrating on live PA application. While introducing all these new features for those users, we have at the same time greatly improved functionality for our main market: broadcasting. In software version 3.3, we introduced a highly acclaimed feature set for offline conferencing and n-x operation.

At the same time we have taken the aspect of system integration very seriously. Studer has therefore implemented various standard interfaces to third-party equipment. Not so long ago we introduced the ability to exchange labels from router systems: now with software 3.5, we introduce native support for controlling our console internal router by using third-party equipment. In this respect, we have gone a bit

further than most of our competitors: third-party equipment may not only control console output patches, but even set and clear any console internal patch points, using "Probel compatible" commands. Software 3.5 has also improved the support of "Audio follows Video". By using "general purpose inputs", it is possible to make faders open and close automatically. This allows the console to follow camera switches without operator action. Also here we have gone a bit further: The trigger for opening and closing a microphone may not only come from external devices. Why shouldn't we do something to make life a little easier for TV sound engineers who are making discussion shows, for example? Tired of constantly opening and closing the very same faders over a long time? Well, you may just tell this to the Vista 8 console - by simply touching the fader or pressing a button, it will open and close the microphone between predefined levels.

Studer follows a clear roadmap and protects customer investments by providing upgrades to its products. Buying Studer means buying an insurance for your future.



Cue list screen

OnAir 3000

V2.0 for OnAir 3000



Roland Casagrande

The OnAir 3000 has had an extraordinary start since its introduction to the market at IBC 2003. Thanks to its flexibility in configuration and its ergonomics in operation, the OnAir 3000 has gained the support of many users and engineers in radio stations throughout the world.

By introducing the V2.0 software, Studer continues the evolution of the OnAir 3000 with a considerable increase in functionality and system integration, moving a step closer towards the networked broadcast center.

A major innovation in the V2.0 software for the OnAir 3000 is the Net option. This option migrates the OnAir 3000 from a stand-alone desk to an open and networked console in the overall infrastructure of a broadcast house. The OnAir 3000Net option is further described in an article in this edition of Swiss Sound.

In addition, the V2.0 release offers further enhanced audio functionalities, such as

- eight stereo subgroups with four-band equalization and compressor in each subgroup
- ducking feature, controlled either manually or automatically
- additional high pass and low pass filter in every channel with selectable slope
- configurable insert points pre or post dynamics
- support of remote D21m I/O stagebox with control of external mic gains if fitted
- new desk operation modes: parallel desk and A/B desk
- enhanced studio 1 monitoring with the same functionality as in the control room
- integration of Dalet and DigaRock system via Monitors serial interface
- setting of patch points in the input router via Probel SW-P02 protocol
- label import via Probel SW-P08 protocol.

The ducking feature, the HP and LP filters and the subgroups are an optional audio package and will have an additional charge as they require also additional DSP power.

Parallel desk operation means that next to the OnAir 3000 desk GUI, a second GUI can be connected to the SCore working completely in

parallel, either as a second physical OnAir 3000 desk surface with a central screen or a PC or a laptop running the OnAir 3000 GUI software. The two GUIs will have an immediate effect on the SCore, there is no priority and access is given according to the access rights of the respective users logged in (user access management starting with V2.2). If, for example, one user loads a snapshot, it will have an effect on both desks. Possible applications are, for example, remote operation of the desk from one's home via a PC, co-moderation with one desk in an OB van outside and the desk in the control room, or a remote user GUI running on a PC in the support department of the broadcast center allowing for immediate assistance or remote configuration of the desk.

A/B operation means that there are two physical OnAir 3000 desk surfaces connected to one single SCore acting as two logically separate units. This means both desks have a main screen with a user logged in which does not influence the other. If one user loads a snapshot, it will be loaded on this isolated logical desk unit and will not affect the other logical desk unit. However, both desks will share the same output buses which must be assigned in a useful way to the two desks, whereas the sources can be shared between the desks.

The label import and the ability to set patch points in the input router allows the integration of the OnAir 3000 with, for example, a video router or any external controller controlling for example, a complete studio or OB van infrastructure.

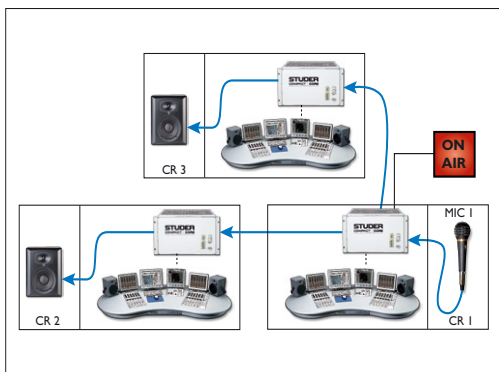
These new features make the OnAir 3000 an even more flexible and open system, a powerful answer to your demands. And there is more to come in the next release V2.1!

OnAir 3000

Studer OnAir 3000Net

When the OnAir 3000 was invented some years ago, there was a vision. A vision of how a broadcasting station would look in the future. The OnAir 3000 as presented at IBC 2003 in Amsterdam was the first step towards this vision. Inherent in the architecture of the OnAir 3000 however, there was already the structure for the next step in this evolution – the OnAir 3000Net.

The OnAir 3000Net is an option in the V2.0 software release. This option migrates the OnAir 3000 from a stand-alone desk to an open and networked part in the overall infrastructure of a broadcast center. By interconnecting several SCores control and audio wise, the local and decentralized audio resources in each SCore, be they sources or output busses, can be shared by the other SCores in the network. This means that a user working on, for example, SCore A can access the microphone which is physically in another location and connected to, let's say, SCore B, route it on a fader on his surface and use it as if it was connected virtually to his SCore. She or he can control the mic gain in the other SCore remotely and, if the fader is opened the loudspeakers in the remote location will be dimmed or cut and the red light will go on.



OnAir 3000Net, I/O sharing

All interconnected audio sources are visible in the input routing page on the OnAir 3000 user GUI and can be patched to faders in the same way as local sources, making operation just as easy as with the standard OnAir 3000. Routings including remote sources from other SCores can be stored and recalled with snapshots as usual.

The OnAir 3000Net widens the scope from one single studio infrastructure to the whole

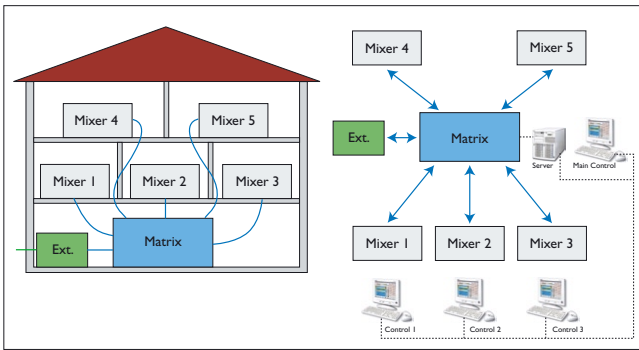
broadcast infrastructure or even to a national infrastructure and allows for a completely new topology. It is conceivable that the traditional topology, consisting of a large star router where all incoming signals are concentrated, then distributed to the individual studios within the broadcast house and after processing back to the star router from where they again leave the broadcast house, either to the transmitter, external correspondents, other studios or other connections will be replaced by a “distributed, virtual router”. By interconnecting several decentralized SCores/OnAir 3000s in the studios, with local inputs and outputs, within a network where the sources are accessible to all the individual SCores, the same functionality can be achieved but with much more flexibility, reduced cabling effort and more possibilities also in terms of redundancy. Central resources like telephone hybrids and codecs can be connected to one SCore and distributed from there to all interested participants.

One possible implementation of this new topology is described in this Swiss Sound edition, in the article from Alfred Eckert about the installation at Swiss Radio in Zürich. There clusters of OnAir 3000Net's and standalone SCores are built on each floor. The floors are interconnected, one to another and also to one central standalone SCore in the basement of the broadcast house where the central resources are accessible. This SCore also forms the bridge to the existing infrastructure and the existing star router for a transitional period.

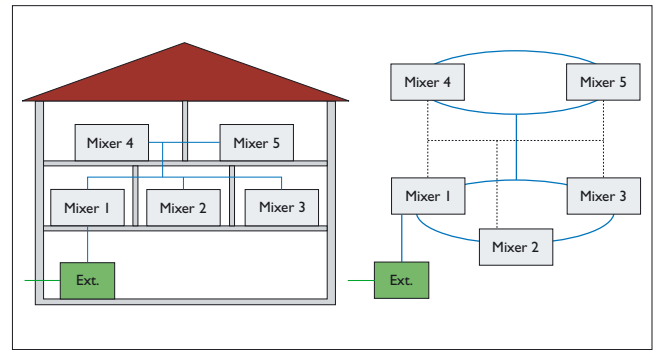
Studer has deliberately designed the OnAir 3000Net technology in a generic way, whereby the control information is separated from the audio and is physically connected via TCP/IP over CAT 5 cable. By designing the control



Roland Casagrande



Traditional star router topology



Distributed, network topology with workgroups

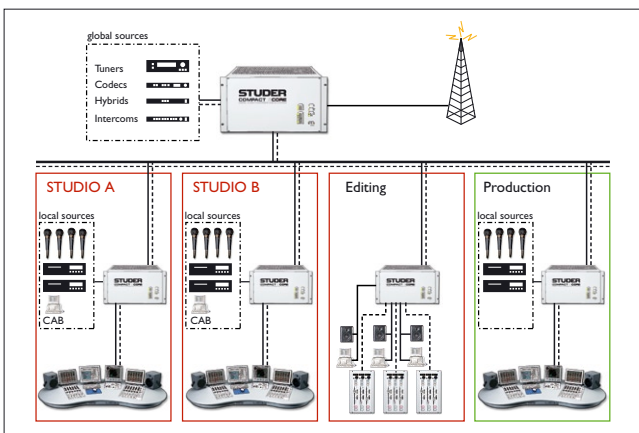
system generically Studer has the option to adopt any adequate and suitable transport means for the digital audio data. This may be, in the simplest case, one single XLR cable to connect just one source from one SCore to another SCore. This is sufficient to share one microphone between two SCores. From there, every possible multi channel audio format is theoretically applicable, ADAT, TDIF, MADI or e.g. ATM or any other current or future technology. Digital audio is just digital data that needs to be conveyed with low latency and enough bandwidth from one SCore to another. By taking this approach, Studer is not bound to any one technology but remains free to follow any interesting future development in IT tech-

nology, adapting to the most efficient and secure means of transportation of digital audio data. Thorough analysis has shown, however, that many applications can be realized with the well-established and known MADI technology, deployed either over glass fiber cable or over CAT 6 copper wire with the new D21m I/O card.

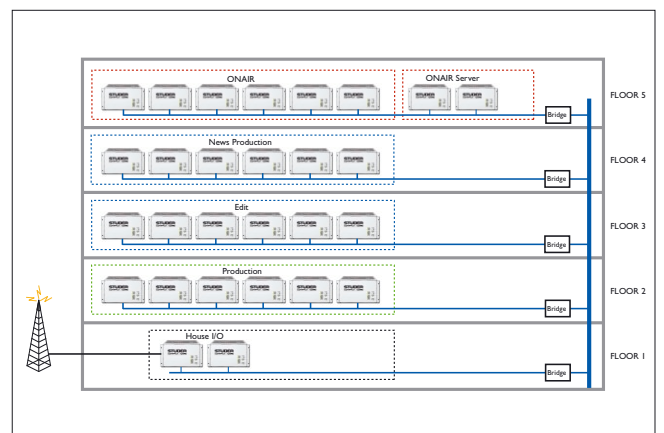
The OnAir 3000Net technology will be further developed in coming software versions, as we pursue our vision of the broadcast house of the future.

There is more to come:
Studer – the evolution goes on.

Application examples



Local Radio Station



Networked public radio station

OnAir 3000

OnAir 3000Net at Schweizer Radio DRS

For the latest installations in the main broadcasting center in Zurich, Schweizer Radio DRS decided to go for the Studer SCore platform with OnAir 3000Net. The customer's demands for autonomous but networked mixing desks, for cost-effective emergency scenarios, for simple wiring, and for a future-proof network solution in different locations could be fulfilled in an almost ideal way.

SRG SSR idée suisse, known in English as the Swiss Broadcasting Corporation, is the largest provider of electronic media in Switzerland. Its services encompass 7 TV channels and 18 radio stations, complemented by websites and teletext. SRG SSR services are broadcasting nationwide but programming is made primarily for the country's separate language regions: German speaking Deutschschweiz, French speaking Suisse Romande, Italian speaking Svizzera italiana and Rumantsch speaking Svizra rumantscha. Schweizer Radio DRS (SR DRS) covers the German speaking part of Switzerland from its three main studios in Zurich, Basel and Berne and offers five radio programs: DRS 1, DRS 2, DRS 3, VIRUS and MW 531.

The concept of SR DRS features a centralization of individual transmitters in different locations throughout Switzerland. DRS 1, nationwide the #1 radio program with a market share of 40%, has been upgraded to meet the new criteria. In addition, a so-called "marketplace" has been established where programs with audience participation can be made.

The OnAir 3000's new topology and its flexibility precisely correspond to the customer's requirements. As several SCores can be networked, the demands for emergency solutions and redundancy could be fulfilled in an optimum way. Mixing desks that are normally used for editing can, in the case of an emergency, also be used for on-air purposes. There is no stand-by emergency infrastructure that can't be ready for operation if the need arises. Thanks to the I/O sharing, the same program sources can be accessed even after a studio change.

At the Zurich location the on-air and production desks, together with affiliated studios and editors'

offices, are installed over three floors. Workflow is improved by the tight link between editing and on-air desks. At the same time it is required that every floor is an independent unit, only having a minimum of interfaces in common with the neighborhood systems. The emergency concept does not provide individual hardware components being redundant but every floor is a complete unit in itself instead. Also in this way, the eventuality of a larger defect or even a fire incident is covered; the broadcast is then simply performed from another mixing desk on a different floor.

The on-air desk for the "Regionaljournal ZH/SH", a regional program for the wider Zurich area, is located on the 2nd floor. As long as this desk is not busy on-air, it may be used for production. Three further production desks are provided for pre-production.

The main on-air mixing desk is placed in a studio on the 3rd floor. An open "market place" for live transmissions within the audience area and the adjacent editing workstations form the IPH center (IPH: integrated program creation). A layout desk for jingle production and a technical office equipped with basic production facilities are arranged in such a way that they can share the same studios.

The emergency on-air desk is located on the 4th floor. As all on-air desks have an identical layout, the emergency desk can easily replace each of the other desks. Usually this desk is used for production, a fact that at the same time warrants for correct function in case of an emergency.



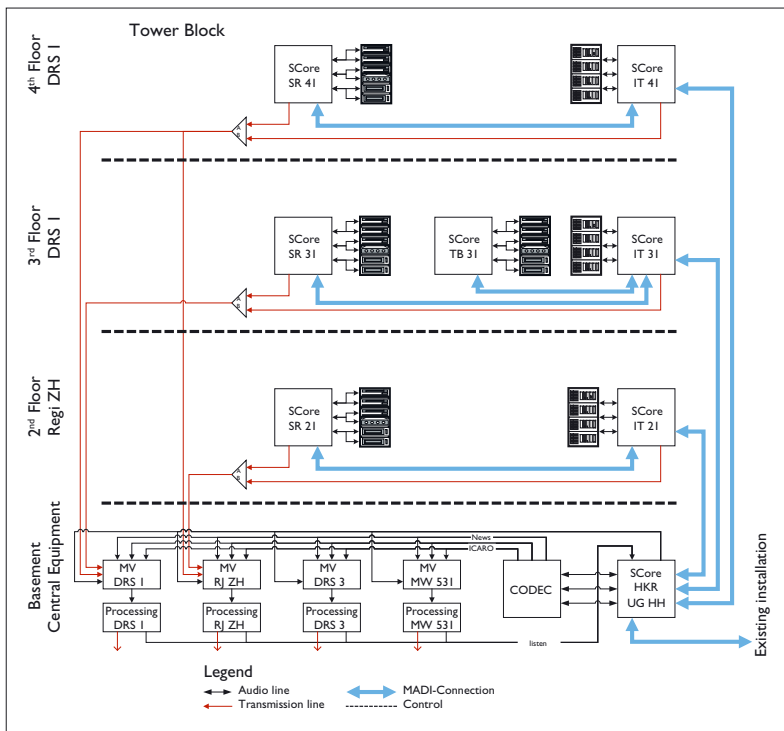
Alfred Eckert



Floor specific equipment room with SCore



SCore installed in studio

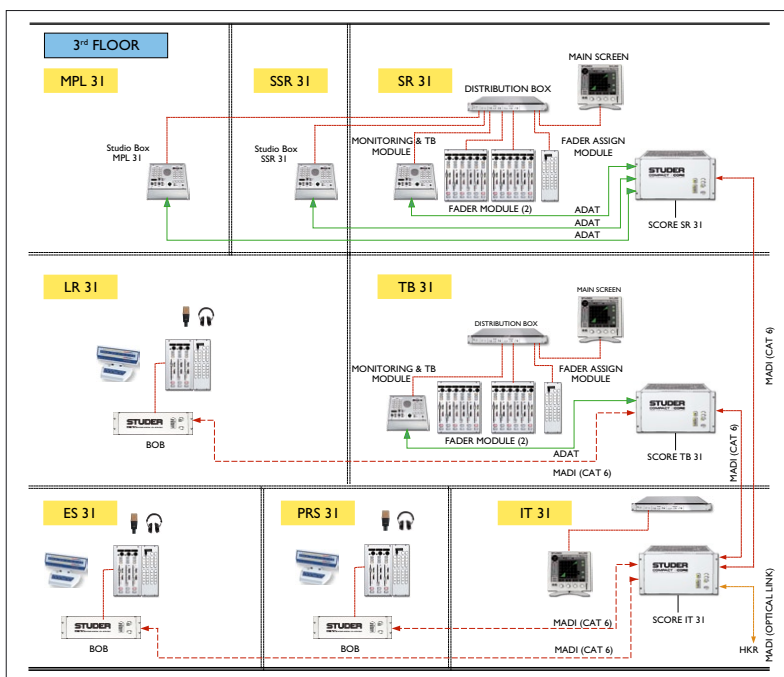


Score system layout

The few remaining central components are arranged in the basement of the building, much reduced in number because of the decentralized concept.

The central point of the installation is the SCorE networking. The individual floors are linked by MADI connections only, which fulfills the demand for a simple structure and the de-coupling of the different floors in an ideal way. The MADI signals are not connected by optical fiber but via the structured cabling system, using twisted-pair copper wire which improves the flexibility of the mobile units.

Layout 3rd floor



Thanks to the dynamic networking, the required audio signals and any return (clean-feed) signals are automatically routed to the MADI link. I/O sharing allows access to the local audio signals from every mixing desk; refer to the Studer OnAir 3000Net article in this issue for details.

The block diagram of the 3rd floor shows some of the possible applications. Three SCores are linked in such a way that all audio signals are transparently available at any location.

The on-air desk, its studio and the “market place” are connected to SCorE ‘SR31’. SCorE ‘TB31’ is linked to the layout desk and the ones in the technical office. Here, the breakout unit constitutes a particularity as it allows all the local sources and faders to be connected. All audio and control signals are transmitted over one single MADI link to the SCorE. In the same way, a production desk and an intake station are connected to SCorE ‘IT31’.

Three codecs are installed, next to the different mixing desks, thus making the usual, troublesome routing of central codecs unnecessary. In the OnAir 3000Net environment, the signals of any of the codecs may be used by any desk via the network. It goes without saying that the return channel is routed automatically, so that the user neither notices the actual physical location of the codec nor does he need to know about it.

Thanks to the modular design principle of the OnAir 3000Net, studio installations can be matched exactly to the customer’s requirements. With the ‘Net’ version, the I/O signals no longer need to be physically near the place where they are processed. On the other hand, many of the units that had to be located centrally in the past may now be directly set up next to the mixing desks, while the audio signals remain available across the whole building, thanks to the networked concept. This also helps to drastically reduce the number of multicore cables – the installation described above uses no multicore cables at all. Even AES/EBU signals can be routed over CAT6/7 lines as typically used for LAN. Remote desks may be realized in a very easy way by using the breakout box. The OnAir 3000 mixing desk offers up-to-date hardware and software structures which can grow in parallel to the customer’s needs.

Audio Networking

Audio Networking for Broadcast and Installed Live Sound

History

Large installations usually consisted of multiple control rooms, where every control room is linked to its own, adjacent studio. Apart from the direct audio connections between control room and studio, wiring was established by a huge amount of analog audio lines coming from and going to a central, analog patch room.

Today

The analog patch in the central patch room is replaced by a digital router with a physical and logical star architecture. The control of patch points is based on a centralized database with exactly defined operator access rights. The number of audio lines has been greatly reduced thanks to the use of fiber-optic infrastructure, transferring a large amount of audio channels (usually 64) on one optical fiber; however, these fiber-based digital audio lines are expensive. For the transmission of audio data, standardized isochronous protocols (AES3 or MADI) are applied; in some cases proprietary protocols are used as well.

Audio and IT networking infrastructures are used in parallel. The program content is delivered by a central media server that is usually administrated and maintained by IT experts. New, raw content contributions may be copied to this media server through the existing IT infrastructure. For program editing, compilation and playout de-centralized CAB systems are used.

Future Trends

- Installation of the transport media (i.e. the wiring of the building complex) is quite expensive. Unification of the transport media is a reasonable measure for cost reduction.
- The goal is ultimately to use a transport system with identical physical layers for both the IT and audio networking infra-structures. Thanks to its low price and its reduced installation cost, wiring with e.g. CAT5e cable is considered as favorable.

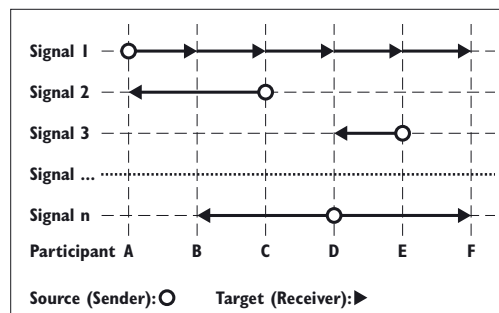
- n studios and m control rooms, where $n > m$.
- Workgroup-oriented broadcasting (gathering, editing, storing, distribution) for different program formats.

General Determining Factors

1. Physical Layer

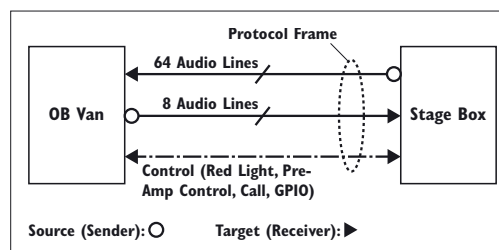
1.1 Broadcast

Focus: Within a heterogeneous environment, a large number of source signals must be distributed to many targets at the same time, with as low a latency time as possible.



1.2 OB Van

Focus: Here, transmission from a large number of sources (such as stage boxes) to a few targets (homogeneous environment) is the standard requirement; bundling of bi-directional digital audio signals replaces the former multi-core wiring. Signal bundling offers additional advantages: Bi-directional talkback signals and GPIO control signals may be embedded in the bundled, bi-directional digital audio lines and do not need additional wiring.



Requirements and Challenges: Ultra-low latency time, i.e. near-zero delay is required. Cables and connectors need to be physically rugged in both

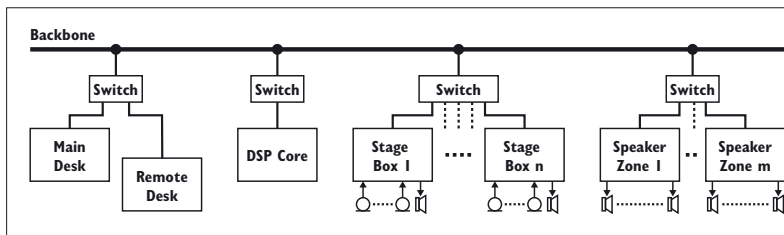


Hans R. Hässig

mechanical and climatical terms. The cables must be easy-to-wind on cable drums and as low weight and size as possible. Connectors must be resistant to humidity and usable in an extended temperature range.

1.3 Installed Sound in Theatres

Distributed stage box architecture is standard; distributed control interfaces and/or wireless remote control may be added as required. This allows the sound engineer to adjust level, EQ etc. from the audience position during the rehearsals.



Requirements and Challenges: Ultra-low latency time, I/O sharing, fail-safe/redundancy concept, and program-related activation of loudspeaker zones and control signals.

Safety Aspects: Reliability and redundancy of the network must be on such a high level that e.g. automatic playback of an emergency evacuation message can be warranted.

2. Logical Layer

- Using the routing possibilities based on IT infrastructure, i.e. inherent routing on Cat5, is easy to be implemented and already partly used; however, as packets are transmitted in an asynchronous way, block-oriented synchronization is established on a higher level which increases latency time caused by buffer handling overhead.
- Central and/or decentral switching and routing systems IEEE 802.1Q/p related to Quality-of-Service (QoS) with priority and VLAN tagging. The Ethernet switch changes to an inherent audio router, using Ethernet frame tagging.
- AIP (audio over internet protocol): Multiple samples are packed into one frame to minimize protocol overhead-to-content ratio. This block-oriented behavior leads to inherent latency.

This topology is comparable to an IT topology, i.e. the backbone is established with a (high-speed) optical-fiber link, and the fine distribution via decentralized switches and routers.

The topology is mutating from a star-based to a distributed structure, leading to the fact that the group memberships will be defined rather by software than by hardware, by using IT domains (Broadcast, Multicast, Unicast). In this scenario a minimum latency time must be considered which is acceptable for a major part of the applications.

If no latency is required (< 1 ms), a special frame protocol based on Ethernet frames must be implemented, warranting clock synchronization on frame level. This calls for dedicated switches and routers but uses standard physical LAN front-ends at the end points.

Transmission speed: Currently 100 Mbit/s (client) and 1 Gbit/s (backbone) are common; in the near future 1 Gbit/s (client) and 10 Gbit/s (backbone) will be achieved.

Challenges:

- Transmission frame: Multi-channel versus block-oriented transmission
- Lean protocol overhead
- Standard Ethernet protocol frame (transparent) versus a protocol frame optimized for digital audio (minimum clock jitter and latency times) because of IT switches and IT routers
- Synchronization on Ethernet frame level to get rid of frame buffering for minimum latency
- Artifact-free switchover to a redundant system in case of a failure
- Guaranteed delivery of audio streams (error correction on links)
- Quick adaptation of a selected technical solution in the extremely dynamic IT environment

For Studer, the overall context of system aspects, interoperability with the connected systems, and the customer's workflow are clear priorities. When selecting a standard, we pay strict attention to its conformity to the highest professional demands.

STUDER CMS:

Managing your connections

The Studer Call Management System has been introduced as a highly flexible tool to connect and control voice over POTS, ISDN and IP lines to broadcast studio infrastructure. With upcoming version v2.0 the CMS offers even more than this. With the same graphic user interface you can connect to your high-quality voice and audio devices linked via ISDN or IP networks. This gives you total control over your communication lines from and to the world outside your studio just with one application.



Robert Habersaat

New Studio Client

The Studio Client is the main application that gives control over the main features of the Studer Call Management System. It allows the user to select any communication line from various holding areas and to have it on the air with just one touch (or mouse click). The integrated Soft-Phone offers presets for easy dialing configured with the preferred type of communication line. To cover the requirements of other applications the CMS offers special clients for newsrooms, operators and reporters.

TCP/IP only

While the CMS offers connectivity to voice or audio devices through POTS, ISDN and IP the communication between server, client and peripheral devices is only via TCP/IP, including audio, control and signaling. No other cabling other than CAT5 or CAT6 is required.

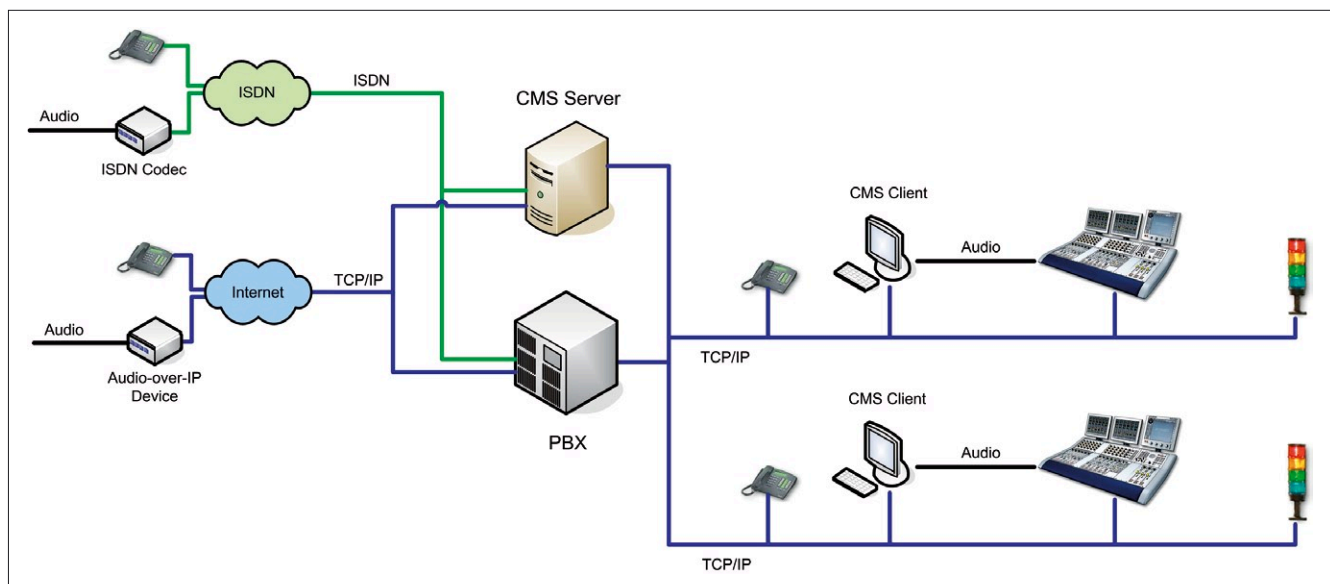
Standard IT and Audio Equipment

The entire system is under straightforward software control, managed by a client application that is installable on any number of networked PCs. Even for audio converting including clean feeds standard audio boards are applicable. The system handles a maximum of 240 lines per server and each client can control up to four audio channels for playout to an audio console. Each audio channel can handle numerous lines simultaneously. Multiple servers and clients extend the performance of the system accordingly and allow redundancy.

Applications Unlimited

The Studer Call Management System offers a variety of functionality for various applications:

Telephone system: The CMS is a fully comprehensive telephone system interfacing communication lines (POTS, ISDN, VoIP) with professional



broadcast equipment like an on-air or production mixing console with a single GUI. It can replace any telephone- or ISDN-hybrid solution and additionally offers VoIP.

Audio routing: The CMS is able to route high-quality voice (G.711 and G.722.2) over standard

digital communications lines (ISDN, VoIP) with the same GUI mentioned above. The integration of various softcodecs allows connectivity to high quality audio.

Intercom: The CMS is a complete communication system (Soft-Phone) for internal and external connections.

Voice Mailbox: The CMS offers a highly sophisticated answering system on multiple levels with automatic recording.

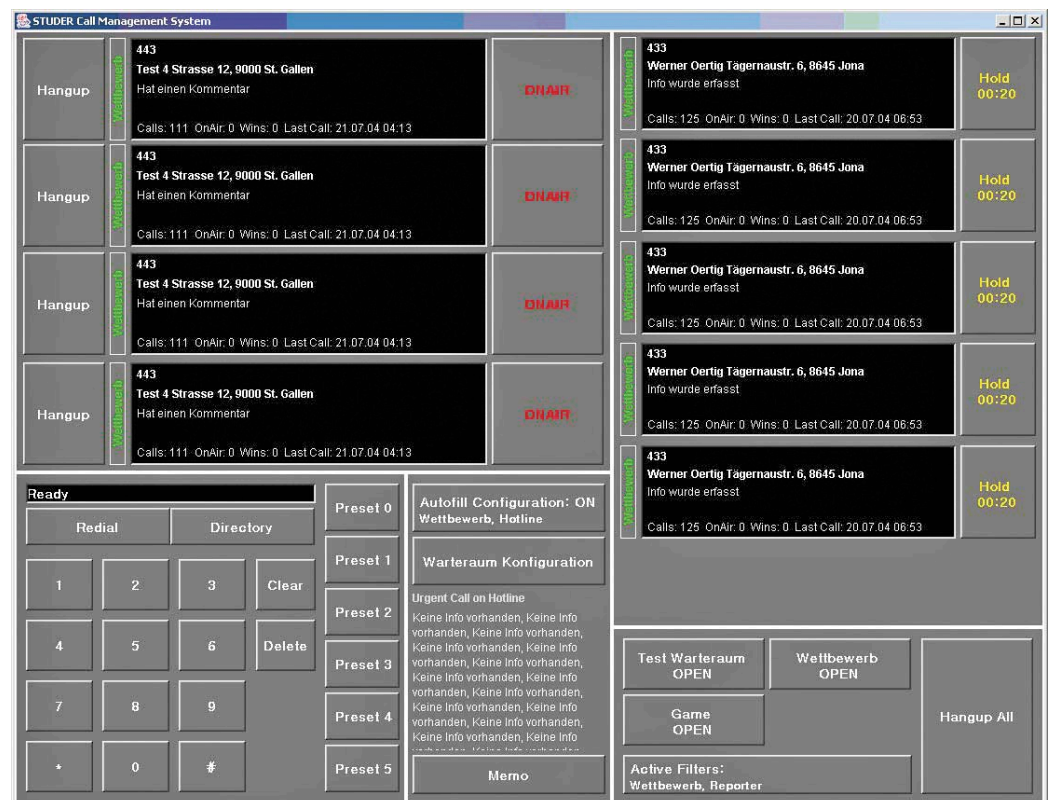
Gaming/Voting: The CMS allows extensive on-air gaming and voting with online analysis. The system can even filter callers with automatic Q&A cascades on different levels until they finally reach the holding areas in the studio.

Marketing-Tool: With the CMS it is possible to analyze caller demographics (with graphical output) to a very high level.

OnAir 3000 Integration

For OnAir 3000 users the CMS Studio Client can be operated with a special touch screen that is similar to the Fader Screen of the OnAir 3000.

Feature	Studio	Newsroom	Reporter	Operator
Multi-language (Uni-Code)	✓	✓	✓	✓
OnAir 3000 integration	✓			
Caller identification				
name/address of caller	✓	✓	✓	✓
editable additional info of the caller (for all calls and/or for current call)	✓	✓	✓	✓
time the caller is waiting	✓	✓	✓	✓
number of calls of the caller, date of last call	✓	✓	✓	✓
number of on-air of the caller, date of last on-air	✓	✓	✓	✓
number of wins of the caller, date of last win	✓	✓	✓	✓
Integrated softphone				
DTMF send	✓	✓	✓	✓
Redial	✓	✓	✓	✓
Preset	✓	✓	✓	✓
Shortcut keys (considering softcodec)	✓	✓	✓	✓
Holding areas				
Color for each holding area	✓	✓		✓
Priorizing of holding area	✓	✓		✓
Direct on-air of callers in holding areas	✓	✓	✓	
Moving of callers from one holding area to another	✓	✓		✓
Forwarding of callers to other CMS clients	✓	✓	✓	✓
Hang-up for each caller or all callers	✓	✓	✓	✓
Winner notification	✓	✓	✓	✓



Recent Projects and Installations

Studer With Worldwide Success

Swiss System Decisions

Both SRG SSR idée suisse as Switzerland's largest state-run radio and TV broadcaster and the major Swiss private broadcasters are choosing latest-generation digital mixing desk systems from Studer. Granted, Studer is a Swiss company - but the decisions taken have little to do with championing a fellow national and a whole lot more with state-of-the-art digital technology and leading-edge human interface concepts. Swiss customers have ordered no less than 142 Studer digital consoles to date, including 32 OnAir 3000 systems and seven Vistas over the past six months alone.



Robert Habersaat

A Decade of Digital at SR DRS

The era of digital broadcasting got off the ground in Switzerland in 1995, with the NISKO



Schweizer Radio DRS broadcasting centre in Zurich

installation at Schweizer Radio DRS in Zurich. The broadcast suite with its four Studer D941 digital consoles and a Studer MADI router was the first fully integrated digital broadcast solution in Europe, indeed perhaps in the world.

Almost a decade later, it was time to replace the trusty old NISKO with more recent, decentralized and networked solutions. The decision by Schweizer Radio DRS to choose Studer systems for its Zurich studios came at the end of an intensive evaluation in which the Studer SCore platform with OnAir 3000 as the broadcast control surface came out ahead of numerous competing systems. What ultimately tipped the balance for Studer was the unique graphical

user interface of the OnAir 3000, along with a highly modular system that would adapt well to workstation design concepts and production workflows. There will be a total of eight OnAir 3000 units deployed in Zurich.

Score for Private Broadcasters

The first Swiss independent radio station with an all-digital broadcast and production chain went on the air in 1997. This event coincided with the first two production OnAir 2000s going into operation, at Radio BE1 in Bern. Today, there are 64 satisfied customers throughout Switzerland. The latest generation of Studer OnAir consoles is proving a similar hit with Swiss independent broadcasters: two of the largest are implementing the SCore platform in their new studios, with Radio 24 and Radio Zürisee taking delivery of five and three OnAir 3000s respectively.



Studio 1 at Radio Zürisee in Rapperswil

49 Digital Consoles at RSR

The highest concentration of Studer digital consoles anywhere in the world can be found around Lake Geneva. French-speaking state broadcaster Radio Suisse Romande (RSR), has used Studer technology for a long time at its Lausanne broadcasting center, with exactly 49 digital mixing consoles in current use. Recent orders include two OnAir 3000s for the new radio studios in Geneva, and a Vista 8 for the new mobile broadcast truck.



RSR van «MusiquePlus» with Studer D950 M2

RTSI and RTR go Fully Digital

As the national broadcaster, SRG SSR idée suisse not only serves the country's main German and French-speaking regions, but also provides local-language programming for populations in Italian and Rumantsch-speaking areas of Switzerland. The infrastructure is housed at broadcasting centers in Lugano and Chur, which were always a fertile ground for innovative technical solutions on account of the compactness of the premises. Radio Televisione di lingua Svizzera Italiana



(RTSI) and Radio e Televisiun Rumantscha (RTR) have both established an end-to-end digital radio infrastructure over recent years, based on the Studer OnAir 5000 and OnAir 3000. The end result is proving both extremely convenient to operate, and highly stable in engineering terms. Fulfillment of these requirements has led RTR in Chur to choose the SCore platform plus OnAir 3000 for its new Center da Medias, which will be ready for operation next year.

SCore at the Federal Media Centre

One of Switzerland's most prestigious broadcast projects is a new media center, scheduled to open in Bern next year. The facility provides state-of-the-art infrastructure for journalists and other media workers covering Federal government proceedings. The SRG SSR idée suisse production center in Bern decided to equip the radio studios using the Studer SCore platform throughout, and to hire Studer as general contractor for the project. A total of 14 OnAir 3000 systems are due to be installed.



The new National Media Centre in Bern

Vista Deployment at Swiss Television

It is not just Swiss radio broadcasters who are convinced by the latest generation of Studer products. A pair of large Vista 7 digital consoles ordered by Télévision Suisse Romande (TSR) will be the first examples of the latest digital systems to appear in Swiss television broadcasting.

OnAir 5000 at RTSI in Lugano

BBC Asian Network

The BBC has recently built a new broadcasting center in Leicester to service the BBC Asian Network. The Asian network is a BBC domestic radio service transmitted in Indian languages on the BBC's UK wide digital transmitters. The BBC Asian Network is a "one-stop shop" for UK Asian communities where they can get daily national news, top international stories, big consumer stories and music, ranging from the latest in British Asian sounds to old favorites.

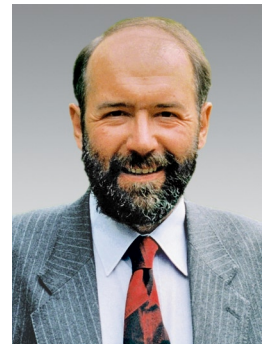


On the first floor of the new building are three studios; two identical main presentation/self-op

studios each with a twelve-fader OnAir 3000 and in the middle a larger studio used for big talk shows and small musical recording.

The presentation/self-op studios are normally live to air and are used as a self-op with the presenter and up to six guests. The studio has been designed to simplify operation and reduce as far as possible the "technical impact" of the installation to make the presenters life as easy as possible and not intimidate members of the public who take part in the shows. The OnAir 3000 modulo with its interfacing to the studio playout devices and simple control surface integrated into the studio furniture has achieved this.

Upstairs a third six-fader OnAir 3000 is installed in a small editing/recording studio. Each of the three OnAir consoles is connected via a fiber link to an OnAir 3000 SCore fitted in the central apparatus room. This SCore acts as a hub to provide common signals such as Off-Air monitoring and ISDN codecs to all three studios.



Andrew Hills

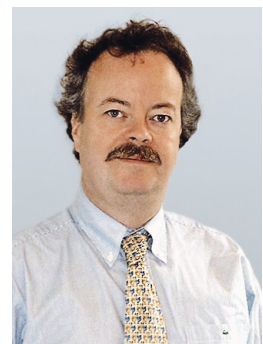
RTL Paris

RTL has recently completed a total refurbishment of its Grand Studio de la Rue Bayard in Paris, utilizing a Studer Vista 7 console for the control room. The Vista 7 installed is a 60 fader console, of which ten faders are housed in the remote bay which can be used either for the line sources mix or as an additional pre-mixer for the main desk. The console is capable of accepting 56 mic inputs, plus another 40 line inputs in addition to the 72 AES/EBU inputs.

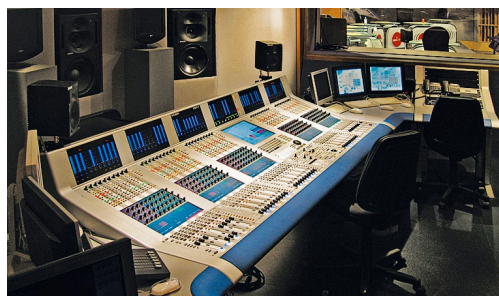
The "Grand Studio" can hold around 100 people and is used for many different and diverse applications, which includes one of the most famous, oldest and most popular radio talk shows, "Les Grosses Tetes", as well as the "Quitte ou Double", the "Grand Jury", "Studio 22" and the "Grand Débats". Also the studio is used for combined TV and Radio broadcasts of "Emission de Cautet" and multitrack recording of the "Concerts d'un soir". "The versatility of the console which offers comprehensive dynamic automation and the ability to completely reconfigure the console were decisive elements affecting the choice" says

Philippe Magniez, responsible for engineering in RTL. "This console allows us to maintain the continuity with STUDER, who have already equipped five other studios with digital consoles and also helps us to work with freelance sound engineers, a good many of which are already trained on this console in France".

Within France, RTL Radio is the most important station of the RTL Group. Originating from the famous Radio Luxembourg station founded in 1933, RTL is the market leader in France and broadcasts a variety of programs ranging from news to talk shows to concerts and general entertainment.



Jean-Philippe Blanchard



Copenhagen Opera House – A Unique Version of Vista 8 for a Unique Building



Jarle Felin

Studer has created a unique version of its Vista 8 digital mixing console to grace the new Copenhagen Opera House, officially 'received' by the state of Denmark at a formal ceremony in October 2004. The custom-built Vista provides two moveable front-of-house control surfaces, connected to each other and to the machine room by fiber optic cable, which can be freely positioned anywhere in the theatre, from the control room to the auditorium.

A project worth over 300 million Euro, the Opera House is set to be one of the most technically advanced theatres in the world. It has been gifted to the nation to be the new home of Det Kongelige Teater (the Royal Theatre) Opera Department.



The main auditorium seats approximately 1500 people. The performance space has been cleverly planned to allow for considerable acoustic flexibility - the orchestra pit providing for differing sizes of orchestra, which in turn allows for the auditorium seating capacity to be adjusted accordingly. The auditorium follows the horseshoe form that

has historically proved to be acoustically and theatrically appropriate for opera.

The audio control room is centrally situated on the first of the three levels above the stalls. Racks for the Vista 8 front-of-house console are situated in the basement, incorporating the DSP core, I/O frames, and power supplies. By moving the control system for the Vista 8 into the same rack, Studer's engineers have made it possible to have two moveable control surfaces, one with two input bays, and another with input and control bay. These lightweight frames are connected to the main rack by fiber optic cable. Complete freedom to move the frames anywhere in the house is enabled by a fiber patchbay with wall boxes in different positions. Each frame is so lightweight that it can be easily moved by two people. All Studer equipment has been supplied by Kinovox A/S, Studer's distributor in Denmark.

In total, the Studer Vista 8 front-of-house console, with integrated digital routing matrix, is capable of offering up to 288 inputs and 144 outputs. The remote operating desk has 20+2 faders, while the remote bay has another 20 faders. The two units can be operated discretely in separate locations in the House, or fixed together, in the control room or in the auditorium. The versatility of the Vista 8 reflects the flexibility of the auditorium itself, which can be configured differently according to the requirements of the production.

Installation of 72 OnAir 3000 for new DR Byen Complex Starts

At Danish Radio's new world-class multimedia house in DR Byen, Studer have started deliveries of 72 OnAir 3000 consoles ordered through Kinovox, Studer's distributor in Denmark. First two factory acceptance tests are already completed.

All twelve of the Danish Radio sites presently operating in Copenhagen will relocate to this new center in Ørestad Nord, which will bring together TV, radio and Internet operations

under one roof for the first time. When the transition is made in 2006, Danish Radio will move into a new age of digital multimedia production: all programmes will be produced, processed and transmitted digitally.

Danish Radio has chosen the OnAir 3000 as the standard small and medium size audio consoles in DR Byen. Lars Lomborg, DR's general project manager for audio facilities, explained

the appeal of the OnAir 3000. “The design of the OnAir 3000 is very user-friendly and offers a lot of functionality in a compact design. We are able to use the same modules to build up different consoles, from small six-fader units to big 39-fader production consoles. Each console can be scaled up or down if we have a requirement for another size of desk in the facility. When it comes to features, in particular, the center GUI gives an overview and easy access to settings for EQ, DYN and other features. Studer’s graphical Touch’n’Action user interface allows us to have a complete system overview at any time and access any parameter settings immediately, which is especially important in a live broadcast situation. This also means safer handling of the console, with fewer operator errors affecting live broadcasts.”

Studer OnAir 3000 design will become the standard throughout the radio production facilities at Danish Radio. “By standardising on this one type of console, we gain the advantages of easy and safe handling, less training, less work for our service department, and less complexity in terms of system integration,” says project manager Poul Nørgaard. “Not only is the OnAir 3000 a particularly user-friendly design, but having Studer desks throughout our facility means it will be easier to move engineers and consoles around in response to changes in production plans.”



Shanghai’s Oriental Arts Centre

Construction of the Oriental Arts Center started in 2001 in Shanghai in the province of Pu Dong, and the first production was aired to the public on the 31st of December 2004. The buildings appearance is striking to say the least and was designed by French architect Paul Andreu. It’s five glass sections are impressive and imposing from the ground, but when viewed from above, take on the look of a “Butterfly” orchid. Housed within the five sections are the entrance hall, a general-purpose area, an 1,100 seat Opera Hall, a 2000 seat Symphony hall and finally a 300 seat auditorium.

The Symphony hall was the first to open on 31st of December, with the Shanghai Philharmonic Orchestra playing to a select audience and like the Opera hall, both rooms are fitted with 62-fader Vista 8 consoles, whilst the 300 seat Auditorium will have a 32-fader Vista 8. The whole installation is predominantly a Harman “showpiece” with both the Symphony hall and auditorium almost exclusively equipped with Harman brands.

The three Vista 8s are being used as the main “Front of House” consoles in all venues and are then linked via MADI over fiber optic to a 40-fader Vista 7 situated in the Central control Room. Here the Vista 7 will be used as the central nerve center of the complex, recording

any performance in any of the halls, providing a transmission link to the broadcasters, whilst also acting as a router.

Use of the new D21m I/O system provides the capability of the whole system to run at 48 kHz or 96 kHz and provides the infrastructure to communicate over 1200 inputs and 600 outputs – the total number available in the three hall system – to the Vista 7. The use of the D21m system as stage boxes and MADI allows for a large number of sources to be available using the minimum amount of cabling, and built-in redundancy as standard. In fact, the whole console system is capable of having “true” redundancy, not only with signal distribution, but power supplies, DSP and also control system if required.

The overall installation is one of the best, if not the best in the Far East and is certainly one that Studer can be immensely proud of, as indeed the city of Shanghai should be.



Ian Staddon



Oriental Arts Centre, Shanghai - China

Vista Becomes a 'Celebrity'



Jamie Dunn

There was such a buzz at this year's NAB show in Las Vegas. The Studer booth was flooded with freelance engineers all wanting to take a look at the Vista 8 console. The reason is that one of the biggest Commercial TV OB truck companies in the US, All Mobile Video, has installed a Vista 8 console into its primary 'Celebrity' TV Production truck. Comprising of a total of 72 faders and over 400 inputs, the Vista 8 purchased by All Mobile Video is the largest Vista ever built.

'Celebrity' is a 53 foot triple expando mobile unit and has already been used on some high profile live events including Miss USA. So what were the reasons that brought AMV to changing the US tradition of installing English or home grown American consoles in their truck? The combination of the extremely intuitive Vistronics User Interface and the complete redundancy package were the key factors. Lee Blanco, AMV Director of Mobile Operations comments, "Our desk has a fully redundant control system with

all current console settings mirrored from the primary system, which means we can switch to the backup system and transparently restore to the most recent desk settings. As Celebrity is frequently used for live broadcasts, this capability was vital to ensure uninterrupted operation and gives us guaranteed peace of mind!"

So watch out USA, the Vista 8 truck is rolling into town!



The Relationship Continues as CBC Continue to put their Trust in Studer

The Canadian Broadcasting Corporation has a long history with Studer and this relationship has recently been strengthened with recent purchases of both OnAir 3000 and a Vista 7. Installed at CBC Saint John (CBD 91.3FM) New Brunswick, the OnAir 3000 console is significant that it not only represents the first OnAir 3000 console to be installed by CBC but also the first console to be sold in North America. The new 18-fader Studer desk is located in Studio B, CBC Saint John's primary on-air room, and employed to provide up to seven hours of original programming a day.



According to Gary Arsenault, plant manager, TV and radio for CBC Fredericton and Saint John, Studer's proven reliability was a key reason in selecting the OnAir 3000. "We have had a number of Studer 963 consoles here in New Brunswick

and the Maritime region that have given us very faithful service for a dozen years, as well as OnAir 2000s in both Halifax and Charlottetown that have been equally dependable for handling our Radio One programming needs. Consequently, we knew that the OnAir 3000 would be a similarly robust choice. We see this new console as being a major initiative in allowing us to improve the quality and presentation of our programs, and we're excited to be using it."

The console has the full complement of fader screens, thus giving the operators a great overview of the current console settings and also providing the unique and intuitive touch'n action operating philosophy synonymous with Studer consoles. This gives both comfort and speed of access during complex shows. The OnAir 3000 also seamlessly integrates with the Sonotechnique 1050 Talkback system allowing CBC to maintain their existing familiar work practices.

Following on from the Saint John installation, a further OnAir 3000 console has been ordered for CBC/Radio Canada in Montreal. Due to be on-air this summer, the console flexibility, reliability and friendly user interface were also all factors in the final decision.

Mobile 4 is the latest vehicle to join CBC British Columbia's fleet of Vancouver-based remote production facilities. Designed to meet the mobile audio requirements of CBC Television and Radio-Canada alike, the vehicle's 96 KHz capable, all digital mobile studio is built around a Vista 7 console. The past relationship and reliability of CBC's previous Studer purchases were key in the choice for the Vista 7.

CBC British Columbia Regional Operations Engineer Jim Nelson commented, "There are currently three Studer D950 desks here at CBC in Vancouver, as well as a number of OnAir

1000s and 2000s, all of which we've had great success with. During our initial design phase for Mobile 4, Studer Canada demoed the Vista 7 for us and our operations people immediately fell in love with its flexibility and highly intuitive Vistonics® interface."

Our belief in not only selling a product but establishing a long term partnership with our customers is a fundamental reason for Studer's global success. We guarantee you will not be disappointed!



Teatro alla Scala

In May 2005 the world famous Teatro alla Scala was the latest addition to the growing list of prestigious venues to install a Vista 8. However, how could we aspire to reach a higher goal above the "home of Opera"? After the fire that destroyed the Royal Ducal Theatre on the 26th of February 1776, the original home of Opera, it was decided by the owners of boxes at the Ducal to fund the construction of the new theatre in exchange for the possession of the land on which stood the church of Santa Maria alla Scala, whilst of course continuing ownership of their boxes! Designed by the architect Giuseppe Piermarini, La Scala opened on the 3rd of August 1778.

More recently Teatro alla Scala has once again been undergoing another refurbishment after a fire and opened its doors again in November 2004. Whilst the main theatre itself has outstanding natural acoustics and the majority of productions are carried out without the aid of sound reinforcement, this is just for the benefit of the few who have the great pleasure to attend performances in this most magnificent of venues. However, there is a huge requirement for these performances either to be recorded or broadcasted live. And this is where RAI, Italy's national broadcaster and the Vista 8 come in.

In a completely new custom-built studio, designed by RAI, a superb facility has been installed within the hallowed walls of the Teatro alla Scala. Pride of place is taken by a 62-fader Vista 8 console, which will be utilized to provide the live broadcast feeds for RAI, at the same time allowing recording of the performances. Equipped with 120 mono channels with full processing the core has 19 DSP cards, including one for redundancy, whilst the D21m system has been utilized greatly to enhance the flexibility of the system.

As a reference site for any other customer looking to provide a similar facility, it is hard to get better than the home of Opera "Teatro alla Scala".



Ian Staddon



STUDER

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Studer Professional Audio GmbH, Althardstrasse 30, CH-8105 Regensdorf-Zürich, Switzerland
Phone: +41 44 870 75 11, Fax: +41 44 870 71 34

www.studer.ch

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