Sports Production, USA

SBS Radio, Korea

Golf Channel, USA

Comcast, USA

Nippon Hoso, Japan

ITN, UK

Physical and Environmental Specification

	C100 HD	C100 HD-S	C100 HD-L
Max Height	1101mm (43.34")	1006mm (39.61")	1006mm (39.61")
Width	(32 fader = 1348mm (53")	40 fader = 1431mm (56.34")	1431mm (56.34")
Each bay adds	334mm (13.15")	285mm (11.22")	n/a
Contoured end trim adds	106mm (4.17")	72mm (2.83")	72mm (2.83")
Max Depth	992mm (39.06")	926mm (36.46")	926mm (36.46")
Height Adjustment	±22.5mm (±0.9")	-0,+10mm (-0",+ 0.39")	-0,+10mm (-0",+ 0.39")
Weight	(32 fader) ~164kg (~361lb)	(40 fader) ~190kg (~419lb)	(40 fader) ~190kg (~419lb)
Each bay adds weight	~35kg (~77lb)	~35kg (~77lb)	n/a
Console Power (dependent on frame size)	100-240V AC, 300-700W	100-240V AC, 300-700W	100-240V AC, 300-700W
Control Surface Cooling Method	Convection (silent)	Convection (silent)	Convection (silent)

Solid State Logic

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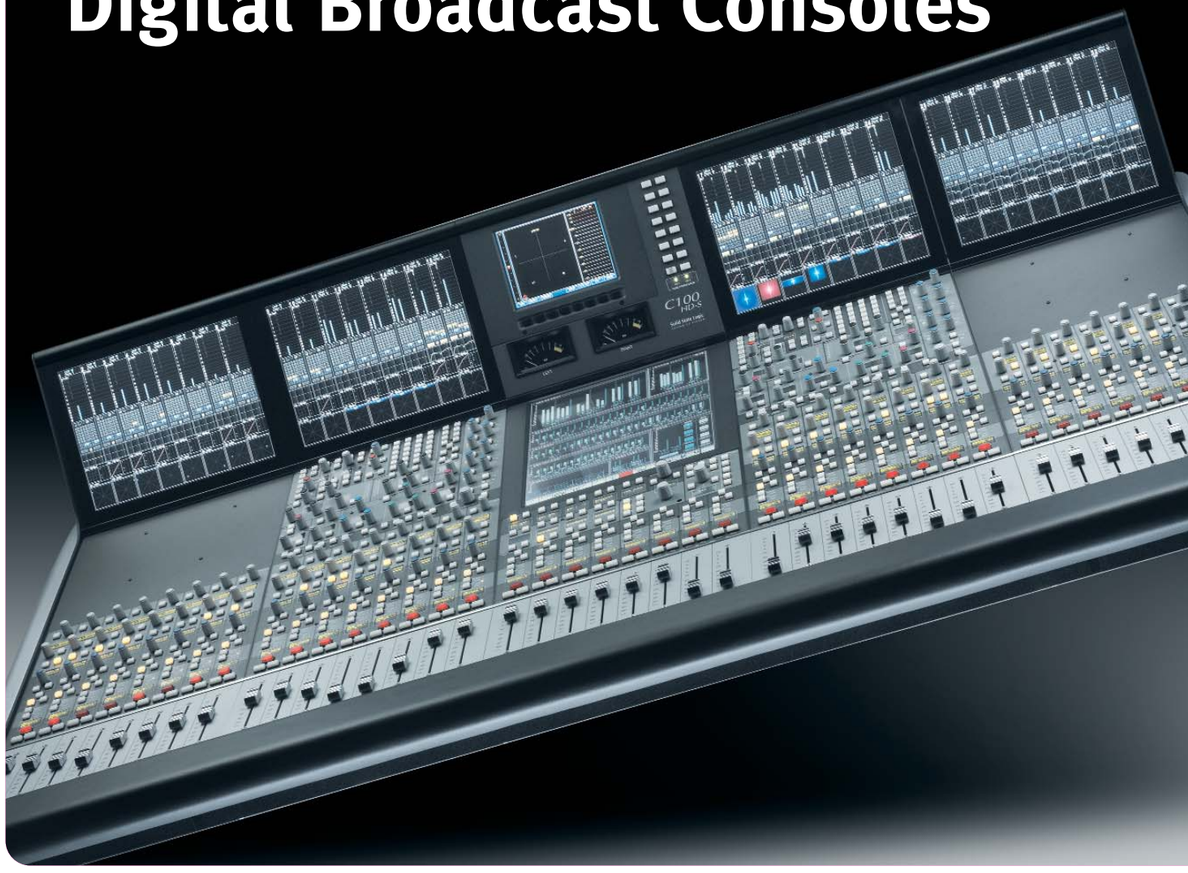
C100 HD Range
Digital Broadcast Consoles



A complete range of scalable broadcast systems

C100 HD Range. This is SSL.

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C100 HD Range
Scalable systems for all broadcasters

The SSL C100 HD Range delivers the proven performance and advanced capability of the industry standard SSL C100 console in an expanded range of console, processing and I/O configurations that meet the operational and budget requirements of a broad range of broadcast operations.

The C100 HD Range comprises three consoles; the fully scalable C100 HD with the power to handle the requirements of the most demanding National Broadcaster, the fully scalable C100 HD-S slimline console design that packs all the power of C100 HD into Mobile and space restricted environments and the new C100 HD-L pre-configured 40 fader console & I/O package for Local broadcast applications.

National
C100 HD

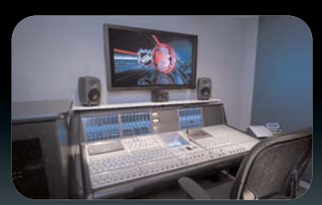
Industry standard scalable Console & I/O for Network Centre applications

- Completely scalable console surface, processing and I/O
- Up to 512 channels : over 600 inputs : Up to 4000 active signal paths
- Very high resolution floating point architecture underpins absolute sonic performance
- Simultaneous formats including HD— Easily handles any feeds from around the world
- The power to handle the most demanding applications controlled by the most elegant and streamlined hardware and software available

C100 - CBS, USA

C100 - WHDH Studio, USA

C100 - EUE Screen Gems, USA



C100 - Versus, USA

Local
C100 HD-L

Pre-configured Console & I/O for Regional broadcast installations

- 40 fader console : up to 192 audio channels
- Network-proven technology priced for Regional TV stations
- Complete C100 software suite : full functionality running on a virus-proof proprietary processing platform
- Slimline control surface : enhanced ergonomics and more faders within space-restricted control rooms

Mobile
C100 HD-S

Scalable Slimline Console & I/O for Mobile & space conscious installations

- Scalable console surface : up to 512 audio channels
- Proven processing available in a range of size and low noise configurations
- Complete C100 software suite : full functionality running on a virus-proof proprietary processing platform
- Slimline control surface : enhanced ergonomics and more faders within space-restricted control rooms : 64 faders in a 92” console width

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Console Overview

Scale capacity, not performance

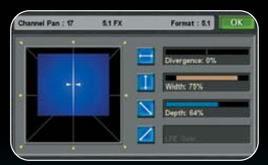
Around the world, the highest profile broadcast organisations rely on C100 technology to deliver reliable, sonically superb performance for mono, stereo and surround productions. The C100 product range extends from the largest C100 HD console capable of the global audience sports productions in full surround for HD television, to a compact sister C100 HD-L console designed for local audience broadcast productions.

Where other systems scale capacity and performance, the C100 range is different in scaling only capacity to match requirements. This means that performance can be relied on to deliver, whatever the scale of the operation. In a world where today's local news story, is tonight's global event, being able to rely on the ability to match performance and quality at all levels in the broadcast organisation is a key benefit of the C100 range.

Ergonomic Freelance-Friendly Interface

- Sharing a common layout, in use, the C100 consoles present the operator with a compact, clear and logical layout, with controls that assist error-free operation even for infrequent users
- The combination of a touchscreen interface with accompanying dedicated and assignable soft keys present the essential 'on-line' features at the top level, while keeping system configuration pages out of the operator's way
- The hardware control surface of all the range is familiar and uncluttered even when handling complex 5.1 set ups
- While operation is simple, the feature set is comprehensive, providing all of the reset and configuration benefits associated with digital technology

Live To Air HD 5.1 Ready



- All the C100 range provide simultaneous 5.1, stereo and mono signal paths from source through to destination, with streamlined routing and control capability. This makes set-up and manipulation of multiple 5.1 mixes an intuitive and straightforward process
- Single fader 5.1 mix control simplify surround production, with complete 5.1 mixes folded together under a single fader or released onto adjacent faders
- SSL consoles are trusted by audio professionals worldwide to deliver the pristine audio signal path required to meet the demands of HD 5.1 audio
- SSL EQ, Filters & Dynamics processing on every channel provides the tools to sculpt perfect 5.1 mixes quickly
- A full processing toolkit is retained regardless of mono/stereo/ 5.1 format

Fully Independent - Extremely Robust

- Virus proof proprietary audio and control processing engines, with no reliance upon third party computing platforms
- The C100's processing is designed with the requirements of the broadcast industry in mind. Its robust construction and intelligent systems monitoring inspire confidence and ensure continuous operation
- Self-healing DSP has onboard monitoring for fast, fault-tolerant processing recovery in under 1/10th second
- Redundant power supplies and low power consumption mean simple UPS provision and dual source redundancy with automatic power source switchover.
- Control surfaces reset in seconds without audio interruption

Maintenance friendly

- Fast and easy front access to key hardware assemblies, ensuring that maintenance can be carried out swiftly and effectively with minimum interruption to production
- Secure, encrypted NetBridge system provides local and remote diagnostic access over standard IT networks without intrusion in the control room or tying up the control surface
- Session templates may be imported and exported across the Internet or on 'memory card' media for offline configuration

Advanced Integration, Routing & Communication

Console routing & control

- The C100's integral digital routing system uses no external computer systems or third party hardware requirements
- Routing to and from I/O and DSP may be achieved quickly and with great flexibility - multiple routes may be made in one operation
- Multichannel (stereo and 5.1) signals may be routed as a single bundle, or as 'breakaways'
- Two independently configurable outputs per channel, with secondary 'submix source' input
- Simultaneous N-1 feeds and parallel clean/ISO feeds
- Flexible matrix for pre- and post-fader processing
- Precise Delay adjustment of up to 10 frames per channel for lip-sync correction of video feeds

NESN Studios, USA

I/O and routing expansion

- 'Mix and match' I/O cards provide Mic, Line, AES/EBU, and MADI I/O interface options
- Remote stageboxes can be linked via fibre-optic for expanded mic inputs and stage cue feeds
- Full remote-control of mic preamps provides status overview from the C100 control surface
- High immunity to interference voltages and magnetic fields ensures the highest quality in the harshest environments.

Monitoring & Communications

- Four 12-way mini routers provide monitoring options for the numerous talent, production area and communication mixes that have become a standard requirement in programme creation
- Dual independent monitor signal paths for Main (5.1) and Mini (stereo) outputs

- 5.1 Monitor insert point with separate stereo return
- Integral 5.1 to stereo downmix and mono compatibility format checking
- Choice of AFL/PFL on both Main and Mini paths
- Two independent comms feeds provide studio monitoring with speaker muting logic
- All switching can be controlled externally via GPIs or from centre section Soft Keys

Comprehensive GPI control

- The GPI control options within the C100 range meet a wide range of practical integration challenges. Audio-Follow-Video (AFV) and advanced controls of external equipment are included, allowing powerful control combinations to be realised.

C100 HD Range. This is SSL.

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C100 HD. Hardware Control Surface

Ergonomic Elegance

The advantages of both assignable and dedicated control philosophies are blended on the C100's control surface, with definable Free controls and the dedicated Master Channel and Fader Strip.

- Freely configurable mono, stereo and 5.1 channels with flexible processing order
- Scalable control surface with up to 128 fader strips plus master section (C100 HD & HD-S only)
- Master Channel controls may be fitted in each bay, allowing hardware redundancy and multiple points of access
- Simple setups for each show through touchscreen and graphical offline configuration
- Channels arranged in layers, with control of the active layer below the touchscreen
- Rearrange channels or 'clone' a channel to all layers, even while on-air
- Unique graphical front panel management provides redundant access to processing
- Stageboxes with remote-controlled mic inputs, line and split outputs and GPI options on redundant fibre-optic connection

Master Channel Panel
- Dedicated sections for control of inputs, bussing, outputs, EQ, Dynamics, Filters, Delay, Insert and Aux sends
- Colour coded for fast recognition
- Broadcast-specific feature set
- Optional multiple unit hardware redundancy
- Ergonomic design and excellent overview

Free controls
- Dedicated channel controls are assignable to any Master Channel parameter
- May be used for GPI control
- 4-character display for name/value

Traditional controls
- Dedicated AFL, PFL and ON buttons
- Pan control and 8-character fader name

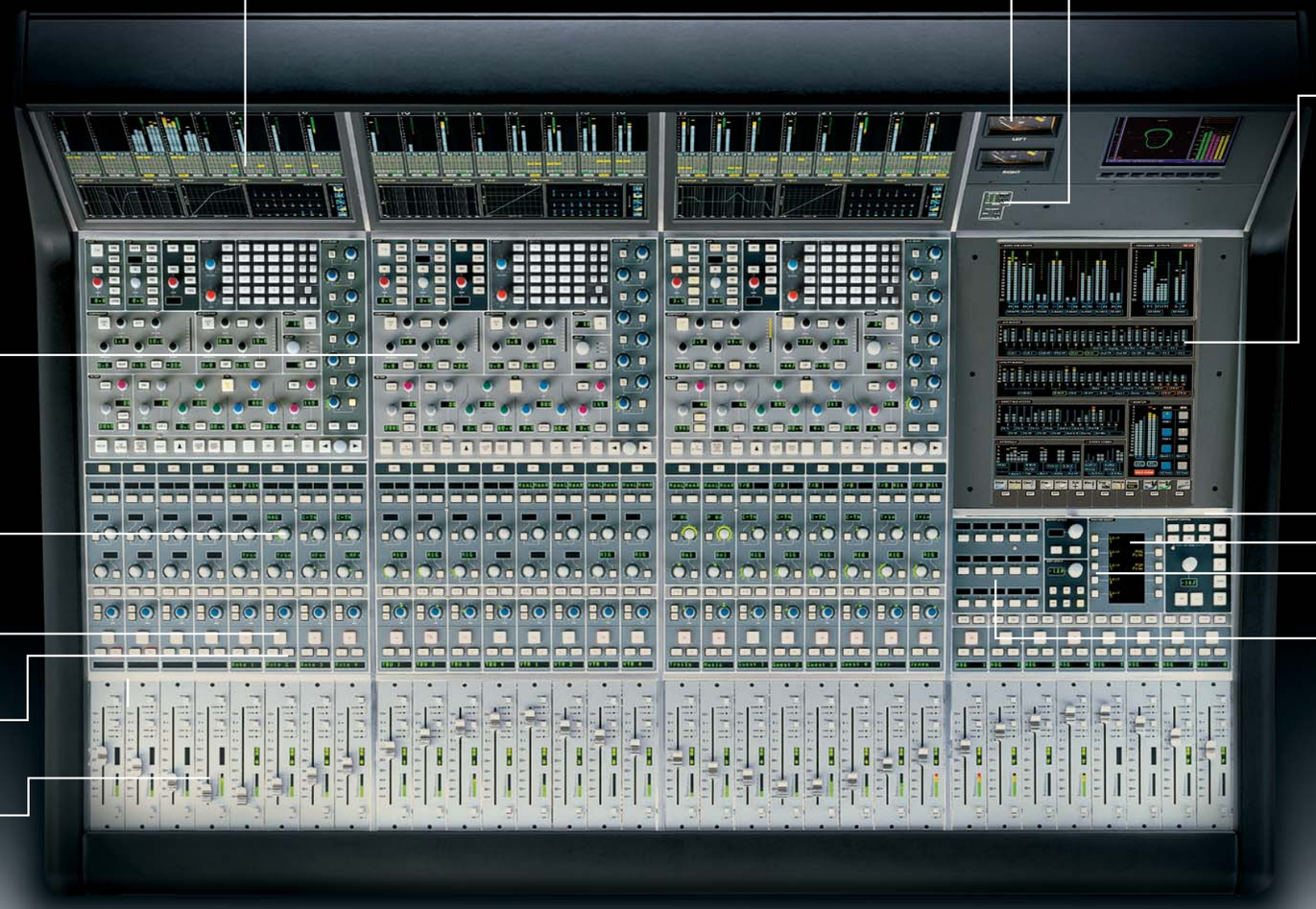
Special access
- Channel Link provides A/B fast channel flip
- 'Expand' button spills multichannel breakouts

Fader Cassette
- Wide 40mm fader pitch
- Hot swappable and motorised
- Input signal meter
- GPI control
- Reset and layer protection
- 4-character fader grouping display
- User-programmable backstop PFL

Channel meter and status display
- Mono/stereo/5.1 meter on every channel
- Choice of 6 meter points
- Input level and Dynamics Gain reduction
- Process matrix and bus routing
- Dynamics, EQ and Filters graphs
- Aux Send level and Pan status
- Main, Alternate, Insert and Fader names

Output meters
- Choice of electronic and mechanical metering
- 2, 6, or 8-channel phasescope
- VU, PPM, or TPM meters with a choice of scales

System status
- Core and console PSU tallies
- Main and backup indication
- Integrated talkback microphone



Touchscreen
- Permanent level and gain displays for all busses
- Colour coded tone and talkback indicators
- 4-way monitor source selector
- Session management functions
- Touch-activated parameter display and adjustment:

Monitor controls
- Main (5.1), Mini (stereo) and PFL (stereo) outputs
- Phase and L/R reverse, monitor flip and mono functions
- 5.1 insert with separate alternate stereo return
- Individual monitor cuts/solos

User Layers
- Customise layouts for instant recall

Bus and layer control
- Access to all channel layers
- Access to group master, ASG, and PGM faders
- Monitoring and communications bus trims

Soft Keys
- 60 (10 x 6) definable buttons may be cloned from touchscreen functions

Control Linking

SSL's unique Control Linking™ feature allows per-channel recall of all default settings for a source when routed to an input. The list of parameters includes:

- Format of the source (mono/stereo/5.1)
- Bussing, and routing of utility and direct/N-1 outputs
- Standard GPI control interfacing for the source (eg. cough switch/fader start)
- Free control definitions
- Audio processing parameters (eg. EQ, Dynamics, etc.)

The use of Control Linking allows engineers to benefit from previously stored setups and results in massive reductions in setup time.

C100 HD Range. This is SSL.

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C100 HD-S & HD-L. Hardware Control Surface

Ergonomic Elegance

The advantages of both assignable and dedicated control philosophies are blended on the C100's control surface, with definable Free controls and the dedicated Master Channel and Fader Strip.

- Freely configurable mono, stereo and 5.1 channels with flexible processing order
- Scalable control surface with up to 128 fader strips plus master section
- Master Channel controls may be fitted in each bay, allowing hardware redundancy and multiple points of access
- Simple setups for each show through touchscreen and graphical offline configuration
- Channels arranged in layers, with control of the active layer below the touchscreen
- Rearrange channels or 'clone' a channel to all layers, even while on-air
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- Stageboxes with remote-controlled mic inputs, line and split outputs and GPI options on redundant fibre-optic connection

Channel meter and status display
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- Process matrix and bus routing
- Dynamics, EQ and Filters graphs
- Aux Send level and Pan status
- Main, Alternate, Insert and Fader names

Output meters
- Choice of electronic and mechanical metering
- 2, 6, or 8-channel phasescope
- VU, PPM, or TPM meters with a choice of scales

System status
- Main and backup PSU status

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Traditional controls
- Dedicated AFL, PFL and ON buttons
- Pan control and 8-character fader name

Special access
- Channel Link provides A/B fast channel flip
- 'Expand' button spills multichannel breakouts

Fader Section
- Motorised faders
- Slim 30mm fader pitch
- GPI control
- Reset and layer protection
- User-programmable backstop PFL

Control Linking

SSL's unique Control Linking™ feature allows per-channel recall of all default settings for a source when routed to an input. The list of parameters includes:

- Format of the source (mono/stereo/5.1)
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- Free control definitions
- Audio processing parameters (eg. EQ, Dynamics, etc.)

The use of Control Linking allows engineers to benefit from previously stored setups and results in massive reductions in setup time.

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Intuitive Touchscreen Control

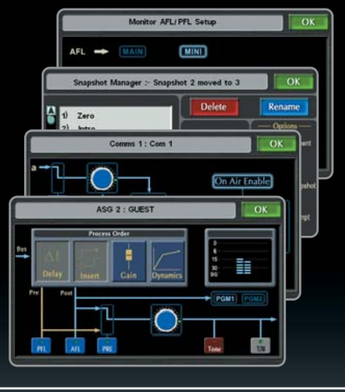
The central touchscreen provides permanent, simultaneous metering of all output feeds and additional input resources, plus access to configuration tools. All outputs have integral tone and talkback injection, with signal level bargraph, output gain indication, and bus name tag for each. In addition, any output bus may be fader-controlled.

ASG busses provide 8 stereo, or twin 5.1 plus twin stereo group busses, with dynamics gain reduction meter, delay and PGM routing indicators

24 Utility busses provide additional 5.1, stereo or mono IFB, record and submix capability

Four external selectors each have 12 inputs and provide fast switching for monitor loudspeakers, headphones etc. in 5.1 and stereo

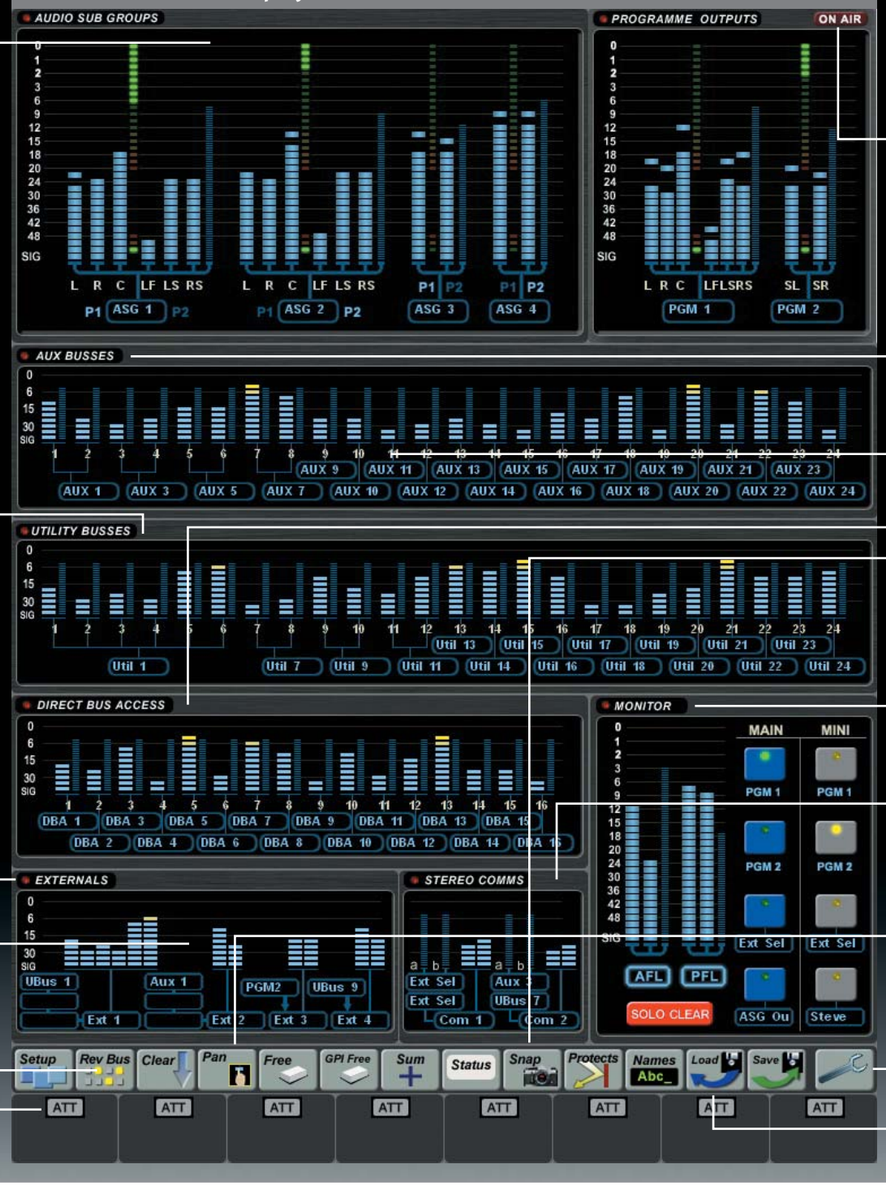
Dynamic display area changes according to selected function



Reverse Bus feature allows overview and control of channel contribution to selected bus

On-screen attention (ATT) boxes allow the 8 central faders below the touchscreen to be selected for processing or configuration changes

Central Touchscreen Display



PGM outputs provide 2 outputs in stereo and/or 5.1, with dynamics gain reduction meters and simultaneous stereo and mono downmix feeds

The ON AIR indicator is driven from internal 'Mic Live' logic or triggered externally. It may also be signalled through any GPI output

24 pre/post Aux busses allow stereo linking between pairs, or mono use and advanced aux to fader features

Active talkback is indicated by busses turning green, and active tone is indicated by busses turning red, for immediate visual feedback

16 Direct Bus Access (DBA) inputs allow injection of signal to any and all busses, for submix inputs, FX returns or comms injection

Additional functions including Snapshot reset, bus naming and Free button assignment

The Monitor section shows activity, gain and signal levels for the stereo AFL and PFL busses, plus 4-way source selectors for both main 5.1 and mini stereo loudspeakers

2 stereo Comms mixers combine dual stereo inputs and have an auto-mute function that may be triggered by the On-Air logic, for studio loudspeaker applications

Touch Pan provides fast and precise 5.1 pan positioning

The 'Spanner' icon leads to the diagnostics and system setup

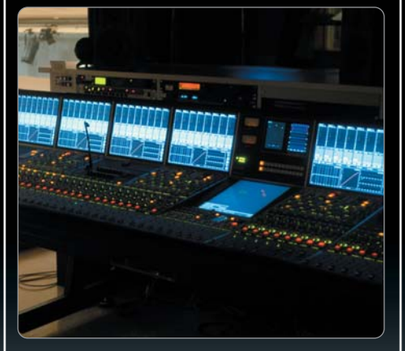
Direct Load and Save functions for the easy access to console set ups

Comcast SportsNet

"We believe that the C100 is the only console capable of real time, live 5.1 production for broadcast."

Mike Giacalone, Digital Audio Consulting Engineer to Comcast, USA

Radio France



Radio France is the foremost music and talk station in France, with a renowned audiophile approach to their productions. Reliability and sonic quality of the C100 were prime deciding factors. After extensive evaluation of the competition, the C100's sonic performance significantly exceeded their critical quality standards.

Comprehensive Channel Display

The Channel Information screen provides a wealth of feedback about the signal, routing and processing, laid out in a clear and logical fashion. Each screen displays 8 channels simultaneously, with a more detailed view of the processing across the lower part of the screen, automatically following the channel which has its attention (ATT) button pressed.

The meter may be sourced from one of 6 points in the channel, indicated here above the Dynamics Gain reduction meter

5.1, stereo and mono channels may be arranged in any order, and clearly identified

5-way processing order is shown as icons, with bypassed processing 'greyed out'

Indicators for the 24 Utility busses are shown, with the 8 ASG and the 2 PGM busses

Lower section shows details of channel selected, including sources for sidechain, insert etc.

High-res frequency response graph for the 4-band EQ and 2-band Filters

Switchable between single channel and alternate multichannel view

High-res Dynamics (Compressor/Limiter and Gate/Expander) transfer response graph

Each channel shows the fader number, source name and DSP channel in use, dynamically updated when a change is made

Indicators for the 24 Utility busses are shown, with the 8 ASG, the 2 PGM, and the N-1 bus

Typical Channel Information Display

Multi-purpose display momentarily echoes the last parameter altered on the selected channel

Aux Send gain indicators, showing mono aux level and stereo aux level/pan position, and colour coded pre/post and on/off status

Enlarged process order icons, showing Insert point, EQ and Filters, Fader, Dynamics and Delay sections respectively

NHK Sapporo

"It is very flexible and easy to operate and, because it has a flexible signal router, our engineers don't need to patch regular programs, thus saving an enormous amount of time."

Tetsuo Ueno, Chief Engineer, NHK Sapporo, Japan

NESN Truck

"The C100 certainly is a great board for us, because of its 5.1 capability, its flexibility, and most important, the sound quality. It's been a major benefit."

Michael Narracci, NESN

MORSE. Modular Resource Sharing Engine

For multi-studio broadcast facilities, the SSL MORSE system provides an extremely reliable, cost effective and scalable solution for sharing audio I/O and managing related control data.

MORSE delivers a resource sharing capability that offers fast switchover of any control room between multiple studio floors and parallel usage of the studio floor resources by multiple control rooms – with full ownership arbitration to avoid conflict.

Control of MORSE I/O parameters and crosspoint routing is fully integrated into the C100's user interfaces, resulting in a seamless operational experience.

Designed for critical On-Air environments, the system consists of modular I/O in stageboxes and a central router chassis. It benefits from hardware redundancy and fault tolerant proprietary software.

MORSE – key benefits:

- Efficient multi-studio usage, sharing resources with ownership arbitration
- Seamless integration with C100, using the console's own graphical interfaces and front panel controls
- On-Air reliability, ensured by comprehensive redundancy options
- Zero-downtime maintenance, provided through hot-swap hardware
- Cost-effective fit of current needs, using highly flexible modular I/O
- Future-proofed with ample expansion, up to 6,144 audio paths
- Specification flexibility, through a wide range of audio I/O: AES SRC, Analogue Line, Analog Mic, MADI, SDI Embedder and De-embedder and HD-SDI Embedder and De-embedder
- Removal of common vulnerabilities, as no PC is required for operation
- Fibre-optic interconnection, for interference-free operation in all locations
- Offline configuration and system overview, through optional PC
- Multiple additional system control stations, on multiple PCs
- Enforcement of all PC control rights by Administrator PC
- Cross platform connectivity, with standard MADI protocol

3U and 6U chassis sizes are available for the stagebox and router units, allowing for compact systems with space to expand, or more dense concentration of audio I/O and router crosspoint matrices. Cards are interchangeable between the two sizes of chassis, allowing existing modules to be re-deployed within a facility or re-used in an expanded frame when an upgrade is required.

In both frame sizes, the router can be configured as a fully redundant, mirrored system, with every module duplicated – PSU, sync clock input, communications controller, crosspoint matrix and MADI I/O. Embedding of stagebox control data on the fibre-optic cable removes the need for separate serial/ethernet cabling and offers the same interference immunity benefits as the audio enjoys. The inherent interdependence of backplane designs is avoided by using an internal star configuration of connections, allowing hot swap of all stagebox and router cards. This offers low-impact maintenance – even while on-air.

Industry standard MADI connections on stageboxes and router allow any compatible audio equipment to be connected. Stagebox status and I/O parameter values (mic gain, digital SRCs, etc.) may optionally be viewed and updated using a web browser via a TCP/IP connection. The router and stagebox hardware have low power consumption, convection cooling and proprietary technology using flash memory, removing the common causes of failure and offering the silent operation that allows studio floor positioning.

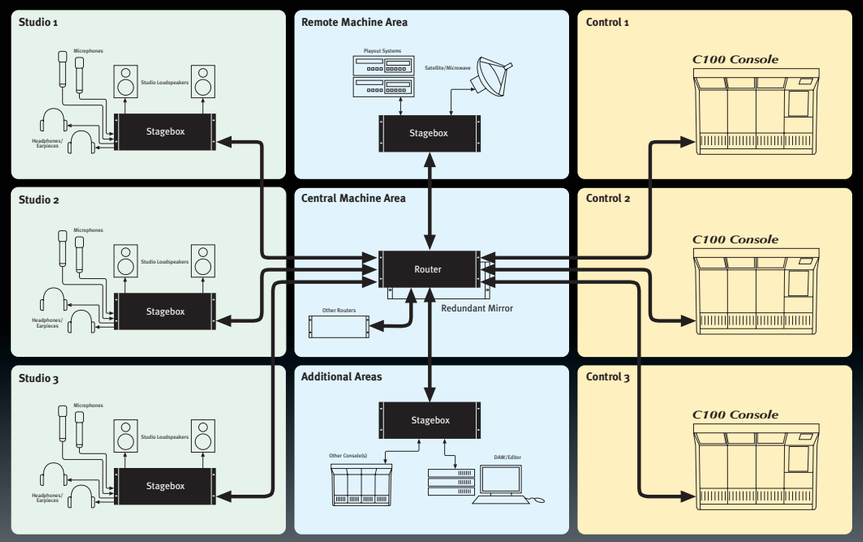
The optional 'Administrator' PC control software can be used to create password-protected user accounts, with control of which parts of the system may be accessed (eg. routing matrix, mic control), using the same arbitration of ownership as the consoles.

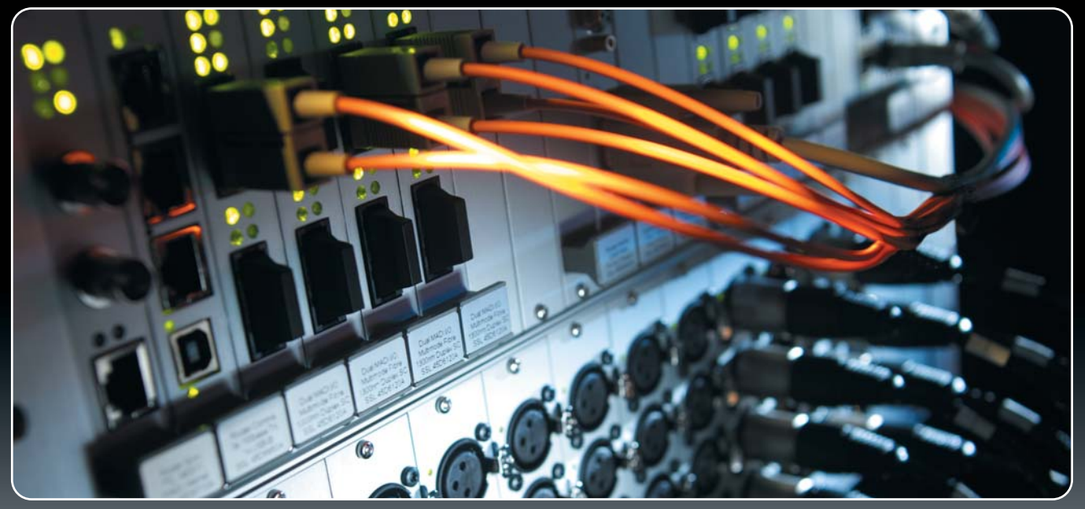
As many PCs as required may be connected to the system, with the Administrator PC enforcing access restrictions. Conversely, all PCs may be disconnected, leaving the system controlled solely by the C100 console(s).

Remote Stage Box and Router

The MORSE Stagebox (top) and Router are available in 3U and 6U chassis sizes. The hot swap cards are interchangable between both chassis sizes.

In both frame sizes the Router can be configured to deliver a fully redundant mirror system with every module duplicated.





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