

C200 HD. Broadcast.



**The in-line digital production
console for broadcast**

C200 HD. This is SSL.

Solid State Logic
S O U N D | | V I S I O N

Console Overview

The C200 HD is an advanced digital production console that delivers SSL sonic excellence and all of the operational advantages of a digital console with a familiar in-line control surface and mix system.

Broadcast/live production

C200 HD builds on the broadcast benefits of SSL's award-winning C-Series technology. It adds a range of broadcast-specific features, and components designed with scalability, reliability and fault tolerance in mind. C200 HD is the latest in a long line of successful digital production consoles, which are in daily use for Mono, Stereo and 5.1 HDTV productions with internationally renowned networks such as CBS, Radio France and NTV Tokyo.

Audio quality

As with all Solid State Logic consoles, audio quality is a primary consideration. The C200 HD benefits from SSL's proprietary Centuri processing platform which is optimised for DVD Audio performance. 48kHz and (optionally) 96kHz operation are available.

Each channel provides digital equalisers, filters and dynamics. Unlike some other systems, these are available at all times and not allocated from a pool.

Scalable, future-proof solutions

The C200 HD provides flexible channel configurations; with up to 256 control surface faders. Huge I/O capacity allows up to 512 analogue, AES or MADI I/O and 60 GPIs all from SSL's Centuri core.

The C200 HD delivers large amounts of mixing capacity whilst saving on rack space and reducing installation costs.

Remote microphone sources may be handled using compact and lightweight remote controlled mic amps, connected via interference-free fibre links. For some customers this technology has provided enormous cost efficiencies allowing a single studio to support productions from multiple venues. Channel DSP and I/O configurations are easily expandable for dealing with changes in future production requirements.

Resilience

- Secure SSL proprietary design provides freedom from reliance upon third party systems and complete control over all elements of the system.
- Self-healing DSP automatically recovers from fault conditions, with internal confidence monitoring alerting users to a potential problem immediately.
- Redundant power supply, DSP and fibre-link options, provide proven line production security.
- Fast recovery times, with a complete re-initialisation of software and hardware occurring in seconds, and control surface reset without audio interruption.
 - Fault-tolerant and self diagnostic front panel design.

Advanced Hardware Control Surface

Master Sweet Spot Bay

- Bay Swapping allows any bay of 8 channels to be swapped with a designated central master bay, giving access to all channels from the optimum listening position.
- For smaller control surface configurations, 'virtual bays' may be swapped with the master to access all available processing channels.

5.1 'Master Compressor'

- In addition to master fader and insert point, the console's programme output features a 5.1 compressor with a choice of dynamics profiles including SSL's 4000 Series 'Quad Bus' compressor.

Audio Master Controls

- Master AFL, level and routing control for audio master such as auxes and groups are handled centrally from the Master Audio Control Panel.
- Aux Masters and FX Returns may be assigned to and from outboard effects devices in one operation.

Status Lock for 'On Air' Security

- Status Lock disables potentially destructive console functions such as Solo-in-place, Dynamic Automation and console status changes.

Custom Metering

- Options include analogue VU or PPM and digital phasescopes.

Clear Visual Feedback

- The Channel Information Displays provide metering for all large and small fader signal paths on both channel layers across the console.
- The Master Metering Display provides dedicated metering for all primary console outputs, plus 24 user-programmable meters.
- Neutral colour schemes are designed for comfortable viewing over long working periods.

Dynamic Automation and Machine Control

- Up to four SD & HD machines may be controlled without an external synchroniser.
- Familiar mix statuses such as Abs, Trim, Snap and Autotakeover.
- Powerful tools include MIDI parameter automation, allowing outboard effects settings to be automated from the console.

Comprehensive Console Reset

- 62 Snapshot memories, with selective recall provide balance reset while production is live to air. For example, to handle an entertainment show with multiple acts.
- Snapshot sequencing is also provided with automatic timed transitions between snapshots, or manual control from a designated fader.
- Projects not only recall channel and centre section parameters, but input and output assignments, monitoring formats, automation modes, etc. This enables the entire console to be re-configured for different production types in seconds. For example, to recall a daily production template.
- Offline setup on an external PC allows pre-configuration of the C200 HD without requiring access to the console.

Integrated Digital Routing Control

- Routing to channel inputs, setting mic input parameters and assigning mix busses, is handled centrally for speed and convenience.
- Routes may be made individually or in arrays, providing fast setup tools for changing inputs, or for assigning ranges of channels to bus outputs.

Resource Rich

- 48 Multitrack plus 12 Main busses are available for generating groups and mix minus feeds.
- Independent pre and post fader direct outputs per channel provide additional send capacity.
- 2 simultaneous final mix outputs (5.1 and Stereo).
- 24 x 12 Effects return/Stem returns matrix.
- 12 Auxiliary busses with the option of re-purposing multitrack busses 25-48 as additional aux busses with full control from the channel strip.

Flexible In-line Architecture

- Classic in-line signal flow, ideal for handling live productions with simultaneous recording.
- Both small and large faders may feed the main busses simultaneously, to double the input capacity of the mix.
- Feed main and/or multitrack busses independently from small and large fader paths to generate multichannel groups and/or mix minus outputs.

Dedicated Processing and Control

Dedicated channel strips provide fast 'hands on' mixing, a clear overview of all console settings, and a familiar operational interface. Dedicated DSP is available for all channels at all times and not allocated from a pool.

Channel strip features include:

- Input gain** control
- Compressor/Limiter and Gate/Expander** - featuring dedicated metering and sidechain keying
- High and low pass filters** - available for the main channel path or dynamics sidechain
- 4-band Equaliser section** - featuring a choice of EQ profiles including SSL's 4000 'G' and 'E' Series and notch filter for dealing with problem sources
- Copy and Presets** - for fast copying of settings between channels, and recalling favourite settings
- Insert Point** - with 'Mix Align' for automatic latency compensation
- 12 Auxiliary sends** - feature odd/even stereo linking and 'Aux to Fader' control, for setting up fast foldback mixes or effects sends
- Channel banking** - fast access to more channels of processing
- GROUP/TAPE** monitor path selection
- RECORD** button - for track arming or may fire external GPI functions such as machine starts
- Small and large faders** - provide flexible in-line routing and control
- Panning** - stereo or surround panning with dedicated large and small fader or front/rear surround panning controls
- AFL and PFL** - solos default to AFL, switchable to PFL operation (stereo). Status Lock protects the console from Solo-in-place operation
- Large fader cassette** - featuring motorised fader, snapshot reset protection controls, 4-character grouping display, input signal meter and backstop PFL overpress

Flexible Mono and Stereo Channels

- Any channel strip may be configured for mono or stereo operation providing flexible console layouts stored and recalled on a production basis.
- Mono L and Mono R buttons for dealing with unexpected changes to a stereo source.
- Stereo channels also feature input balance, independent mic gain and panning width control.
- M/S Decode is also available on stereo channels with variable mix.

Comprehensive Communications

- Built-in Oscillator and Talkback microphone with level and frequency controls.
- 3 stereo Foldback and Studio Loudspeaker feeds with individual or global talkback switching.
- Red light switching.
- Any large fader, channel RECORD button or centre section macro may be programmed to fire GPI functions such as machine starts, cue lights, etc.

Servo or VCA-style Fader Grouping Modes

- Operators may choose between 'Servo' (moving fader) or 'VCA style' fader grouping modes, according to the type of control they are most comfortable with.
- SSL's Servo grouping is a true moving fader grouping system, with the ability to update slave positions as the master fader is moved.
- VCA-style operation, ideal for live operation, allows the engineer to view the balance and make adjustments to slave faders whilst the group master is closed.

Audio Follow Video (AFV)

- Any of the 32 VCA masters may be externally controlled via GPI inputs.
- Faders are moved between off and previous mix level according to external trigger.
- Fader glide time and grouping are user configurable.
- Global override function inhibits all AFV control.

Comprehensive 5.1 and Stereo Monitoring

- Two 5.1 Main, two stereo mini and separate PFL monitor outputs provide a number of options for studio monitoring.
- Simultaneous Mains and Minis may be enabled to provide constant monitoring of main programme plus additional sources (e.g. the PFL bus).
- Two 12-way external monitor selectors may be linked to provide 24 monitor inputs, each with input level trim.
- Monitor inserts are provided for surround encoder/decoder returns.

Central Control Screen and Trackball/Keyboard Interface

- Console setup and information displays appear on the central control screen.
- The trackball and console keyboard (wireless) are used to enter information and control features such as UltiPan™.
- The screen may be switched to a second input, for example to view a workstation when running a live show and recording.



Broadcast Features

Service and support

- Hot-swap fader cassettes for transparent servicing.
- Front panel design allows access to all serviceable parts from the front of the console.
- Quick-release component mechanisms for simple maintenance.
- Local and remote diagnostics for real-time monitoring and troubleshooting tools from any location.
- SSL service and support.



Mobile configurations

Fit 48 channel strips (105 faders) across 2.34m (92") with the C200 HD Mobile

For easy installation into remote vehicles, the C200 HD 'Mobile' console reduces the overall width of the desk by 387mm, and enables 48 channel strips to fit across the width of any standard truck. To achieve this, the standard dual width centre section is reduced to single width.

The TFT display, trackball, keyboard and custom metering are mounted externally, and key control functions condensed into the single width section. Each bay of the C200 HD Mobile is 334mm wide, bringing the total width for 48 faders plus mobile centre section to 2341mm including 3mm for thin end trim.

Broadcast specific operation includes:

- Simultaneous Mains, Minis and PFL monitoring for complex production management.
- Status Lock for disabling potentially destructive console functions such as Solo-in-place, Dynamic Automation and console status changes.
- In-line architecture provides large amounts of channel, mix minus, clean feed and multi-track send flexibility.
- Integrated digital routing for fast and efficient source handling, and selective reset control provides the ability to handle complex production requirements.
- Freely assignable mono and stereo channels for flexible console layouts.
- Mono Left and Mono Right enable the operator to react quickly to unexpected changes in a stereo feed.
- Backstop PFL enables the operator to pre-fade listen any input by simply pulling back on the channel fader.
- Dedicated signal level meter on every large fader for clear visibility of signal presence.

Weight and rack space savings

Weight savings are made through careful front panel construction and the opportunity to remove the console's legs and use mounting beams for support. All Channel and Mix DSP, I/O and GPI options are contained within a single 15U rack-mounted Centuri core. Remote controlled stageboxes handle either 24 or 48 mic inputs per unit, with interference-free multimode fibre optic connections to the truck.

Essential Production Features

Flexible frame configurations provide extensive mixing capacity from a compact control surface

- Virtual Bays access all processing channels by swapping 'hidden' channels into the sweet spot master bay.
- Frame customisation options enable DAWs to be housed within the console frame for an ergonomic mixing/editing solution.

Integrated machine control removes the need for an external synchroniser system

- 4-port SD & HD machine control system with advanced control and offset options.
- Dedicated timecode memories provide fast autolocation to any point in the scene.
- Trackball, keyboard and video switching from console to DAW enables the operator to move seamlessly between mixing and editing operations.

Scene-based automation, designed for mixing to picture

- Non-linear dynamic automation enables the operator to write moves at any speed.

- Join allows you to easily rehearse and write settings for a scene.
- Off-line editing functions provide tools for dealing with scene re-ordering or removal.
- Project re-configuration enables mixes to be switched in seconds.

Multi-format channels, bussing and monitoring for multi-stem applications

- Parameter linking across multiple channels allows processing to be applied simultaneously across all legs of a multi-channel source, e.g. 5.1 stem.
- Unique PanPoint™ operation provides precise surround panning control.
- 5.1 and stereo monitoring system, with external source summing to combine Music, Dialogue and Effects stems.

Variable sample rate support provides operation at pull-up or pull-down frequencies

- Operate at 44.1kHz, 48kHz, 88.2kHz or 96kHz, or any 0.1% pull-up/pull-down derivative.
- All digital I/O are fitted with 24-bit sample rate conversion to handle multiple sample rates.

Sound Creators Inc, Japan



With demand for television programmes and DVD content on the increase, SCI felt it was time to upgrade its main vehicle so that it was better placed to cope with 5.1 surround sound productions. The C200 HD was an ideal console choice because it is very compact and can be tailored to fit into small spaces such as a mobile studio.

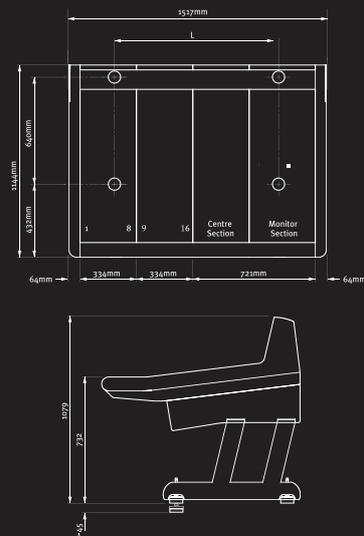
Fox, USA



The Fox on-air promotion department is a high-volume production group that creates hundreds of promos per week. Their C200s are integrated with hard disk editing systems to provide a truly re-settable random access environment. Reliability and efficiency are essential to producing this volume of production output.

Physical and Environmental Specification

Max Height	1124mm (44.25")
Max Width (see diagram)	
Each channel bay adds	334mm (13.15")
End trim adds	128mm (5.04")
Max Depth	1144mm (45.04")
Height Adjustment	±22.5mm (±0.9")
Weight (48 channels)	~354kg (~780lbs)
Each (inc. centre) adds	~40kg (~88lbs)
Legs add	~33kg (~73lbs)
Power (40ch with 100-240V AC)	<1.2kW
Continuous (dependent on frame size)	
Cooling Method	Convection (silent)



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