Solid State Logic

C200

Quick Start Routing Guide

Welcome to the C200 digital production console. This document is intended primarily as a straightforward guide to routing signals, and also gives some useful shortcuts.

The console has an in-line design, with two faders per channel strip, small fader (SF) and large fader (LF). There are 48 general purpose multitrack busses, and 12 configurable main mix (programme) busses.

The current source and bus assignments for each channel are shown below the meters on the Channel Information display. Everything on the display in blue relates to the large fader path, and everything in gold to the small fader. Normally, both A and B layers are metered simultaneously with the active layer highlighted, and the active channel number stated clearly in the top left of the display. The source names for both A and B layers are also shown; source names for the active layer are marked with an arrow. Press the channel **A/B** banking button to see the arrows/metering update accordingly.

Bus assignments to the 48 multitrack busses and 12 main mix busses are shown above the source names. Note that both SF and LF can simultaneously feed the 12 main busses. However, only one source can feed the MT Busses with assignments colour coded in blue or gold accordingly.

Changes to all source and bus routing are made from the central routing panel (see opposite). To enable the panel, press the **SET** button in the lower centre. The channel which was last accessed will appear in the **FROM** channel selection display. To change this, either scroll through the channels using the arrow keys there, or type the number using the general purpose numeric keypad, or press the lower (attention) key on the appropriate large fader. Once the correct channel has been selected, choose which path you'd like to use from the four buttons on the lower left side: **SF**, **GROUP MONITOR INPUT**, **LF** or **INSERT**. We'll assume you chose **LF** (large fader).

You now need to choose a routing action using the four buttons on the lower right side: **SOURCE**, **BUS**, **CLEAR**, and **INC**. The **BUS** button is only available having select **SF** or **LF** above, and the **INC** button only applies to ranges of channels (discussed later in this document). You'll notice that the **SOURCE** button has red engraving and a red LED, while the **BUS** button has black engraving – this colour coding extends to the nine dual-engraved buttons on the upper left side. These are used to choose either a source group (red engraving) when **SOURCE** is selected, or a pan format (black engraving) when **BUS** is selected.

All of the sources for the system, including Mic, Line, and Digital inputs are arranged into source groups (red engraving) as **MICS**, **MTrk** (recorder returns), **FX** (reverbs, delays, etc), **EXT** (DAT, CD-R, etc.), **BUSES** (multitrack busses, etc.), **INS** (EQs, compressors, etc.), **PRE** (pre-fader direct outputs), **CHAN** (post-fader channel direct outputs), and **MISC** (oscillator, talkback, and anything else!). So if you want to route a mic into your LF, press the **MICS** source group button, and you will be shown a list of all mics available on the console screen:

When you have found the source you want, press the corresponding numbered button; you will see the name of the source appear on the Channel Information display. If more than 24 mics are available, the buttons on the routing panel marked **A**, **B**, **C**, and **D** will indicate additional pages by becoming half-lit.

The **MIC** button at the top of the channel strip will be half lit. Press it to fully lit to adjust the remote analogue preamp gain. To adjust other mic parameters, use the set of eight buttons at the top right of the routing panel (see below). The **SET GAIN** button allows access to the currently routed mic input's analogue gain, through the **MISC** knob on the panel to the left of the routing. On the channel strip, you will see confirmation of the **48V**, **HPF**, and **LIM** (analogue limiter) settings on three LEDs to the right of the small fader. *The* **INSERT** *button is only applicable to* **Super-Pre** *mic inputs only and requires the optional insert point to be wired.*
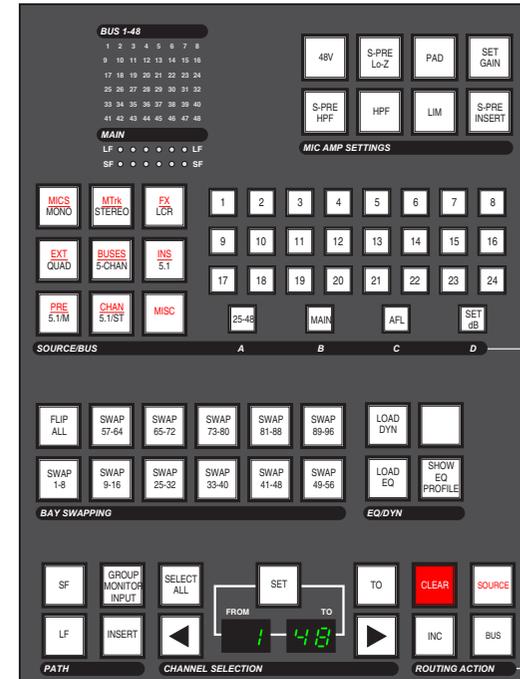
To route this large fader to the busses, press the **BUS** button at the bottom of the routing panel, which will give you access to multitrack busses 1 through 24 on the numbered buttons above the **A**, **B**, **C**, **D** buttons. To access MT busses 25 through 48, press the **25-48** button (doubles as button **A**); to route directly to the 12 main busses, press the **MAIN** button (doubles as button **B**).

Having selected your busses, check the format of the panning using the black engraving on the first eight **SOURCE/BUS** buttons (there is no ninth pan format). The feeds to multitrack and mix busses are not 'hard-wired' in any way, so you do not have to treat all odd busses as 'left' and even busses as 'right'. Instead, if you route a fader to bus 1 and bus 3 and choose **STEREO** pan format, left panning will feed bus 1, and right panning will feed bus 3. Pan formats repeat themselves as required, so routing to busses 1, 3, 4 and 5 in **STEREO** treats busses 1 and 4 as 'left' and 3 and 5 as 'right'. Likewise choosing **MONO** will feed equal level to all selected busses and lock out the channel pan control. Faders are free to feed busses with different pan formats without conflict, and different pan formats may be applied to main and multitrack busses.

The Channel Information display, which normally meters both large and small fader paths (as shown opposite), can be switched to meter just one of the paths using the **METER LF** or **METER SF** buttons on the **CHANNEL METERS** panel. In either of these modes, additional feedback is provided on the mic amp settings and pan format for the selected fader path.

If you want to set an input to silence, or remove either fader's entire bus routing, you can select the channel number, path, and either **SOURCE** or **BUS**, then *press and hold* the **CLEAR** button until it flashes.

As a time saving feature, you can also choose a range of channels and route or clear them all with one action; choose the first channel in the range in the normal way, press the **TO** button to enable the range selection, then choose the last channel - the example above shows channels 1 to 48 selected. Pressing **SELECT ALL** will choose all channels. When routing sources into a range of channels, you can choose to increment the signal into each new channel automatically (**INC** on, default), or 'mult' the same signal into all the channels (**INC** off). This allows for fast routing of, say, 48 mics into 48 channels, or alternately the same oscillator source into all channels. Likewise, when routing to busses, each fader may be automatically routed to incrementing multitrack busses, or all may be assigned to the same bus(es). In this way you can quickly set up entire multitrack feeds: eg. select the channel range 1 to 48, choose **SF**, then **BUS** (ensuring that **INC** is lit), then select MT Bus **1** and the **MONO** pan format, and voila, each small fader is routed to its own bus in mono!

With signal routed onto the main busses, you need to choose how those busses will be submixed to the 5.1 output of the console. Stabbing the **MIX SETUP** then **Main Mix** menu boxes on-screen will bring up the mix matrix:
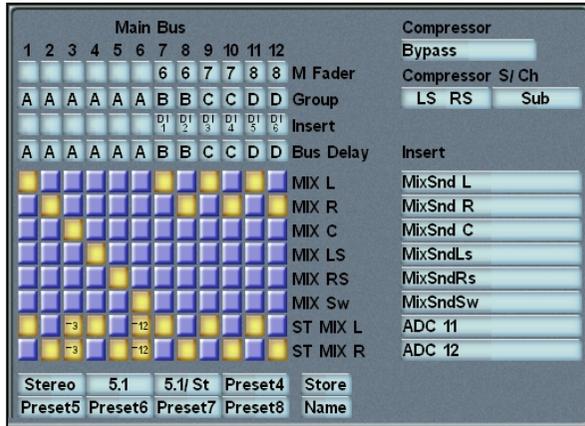
The 12 main busses feed the matrix from the top, and any crosspoints (yellow) route those signals out to the **MIX** 5.1 outputs on the right. There is also a **ST MIX** output which can be used for to feed the cue system, or for fold downs to any system output. There is an 8 channel insert which is set up on the right of this display (here shown normalled with the **MixSnd** insert send signals). This is switched with the **MIX INSERT** button in the upper left side of the centre section, next to the mix compressor (see below). The eight grey boxes below the matrix are used to store and recall matrix presets. To recall a preset simply stab on it (the **5.1/fold** preset is shown in the graphic).

The four rows of boxes under the **Main Bus** legend are for creating bus master faders, bus groups, assigning inserts, and applying delays to each of those 12 busses prior to their entry into the matrix. Stabbing on one of the **M Fader** boxes and assigning a number (between **1** and **8**) links the master gain of that bus output to one of the eight group master faders in the centre section. This can be very useful for creating audio sub groups with master fader level control.

Stabbing on one of the **Group** boxes and assigning a letter (from **A** to **F**) groups the main busses together. Busses in a group may then have their overall gain adjusted from **Off** to **+10dB** using the **GROUP A-D** or **GROUP E-F** pages on the assignable control panel (directly above the routing panel in the centre section). From these pages, any and all bus inserts which have been assigned may be switched in and out for the group. To choose an insert for a bus, stab on the appropriate **Insert** box above the matrix and choose the insert return signal from the pop-up which appears (all the signals are arranged in the same order as the source groups), the insert send is automatically made – this is the same process as configuring a channel insert, which is done from the central routing panel.

Finally, the **Bus Delay** row allows a letter to be selected for each bus delay, ganging together the delay controls found in the **MAIN DELAY** page of the assignable control panel. The delays there may be set to compensate for different timing between subgroups, or to delay the entire mix output of the console up to167 ms in sample accurate steps.
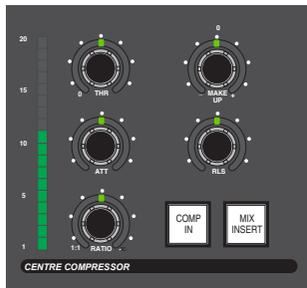
Once the 5.1 mix signals leave the matrix, they pass through the mix insert point, then the 5.1 mix compressor in the upper left side of the centre section. This is a 6-channel digital compressor with all sidechains and parameters linked together (shown left). The **COMP IN** button switches the compressor in circuit. A choice of main compressor algorithms are available by stabbing the top right box under the **Compressor** heading – these include emulations of the analogue SL 4000 G (named **Quad Bus**) and SL 9000 J (named **Standard**).

Following the mix insert point and compressor, the master fader is the last signal processing element before the output busses. This is a long throw, VCA style fader with touch sense and a level match feature for renulling the fader after snapshot reset, etc.

Whenever the fader's physical position does not match its actual processing value, the status button (marked **ST**, see right) becomes half-lit. Pressing and holding this button will enable level match, where the **ST** button flashes, and the green **trim** and red **abs** LEDs next to it also flash to show the direction to the null point. When the fader is in the correct position, neither **abs** or **trim** LED flashes, and level match mode may be cancelled by pressing the **ST** button once more. There is also a master fader offset, which allows the 5.1 output gain to be trimmed up or down by up to 20dB, regardless of the position of the master fader. This feature is accessed from the **MISC LEVELS** area to the left of the master fader, by pressing the **OFFSET** button there and adjusting the pot to the desired level (this defaults to 0.0dB, and is shown in the numeric display).
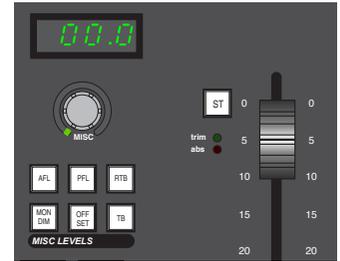
At this point, all that's left is to route the mix busses out to recorders, distribution, or other destinations. To view or change output routing, select the **MACHINES** then **Outputs** menu boxes on-screen:
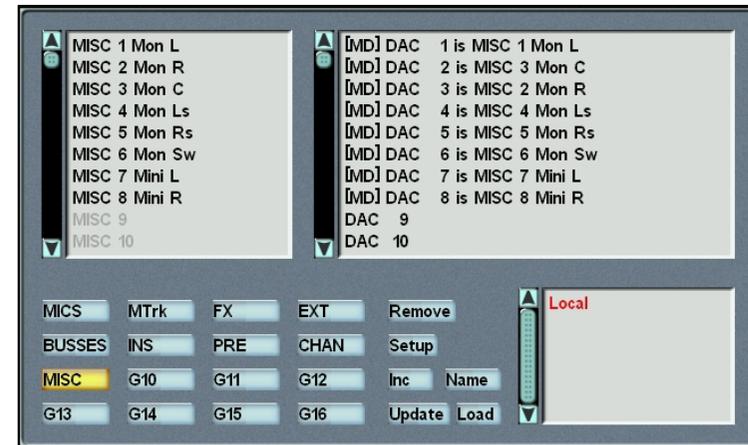
This pop-up is divided into four areas: top left is the list of signals available from the source group which is currently selected at the bottom left, and top right gives the hardware outputs available in the I/O unit currently selected in the list to the bottom right. Most of the I/O in the system will be under the **Local** category. However, any outputs to remote stageboxes will be labelled with their network ID and user name.

To route signals out of the console, select the output from the upper right-hand list, then choose a signal from the upper left-hand list. You will see the signal name appended to the output name to indicate the route is made.

In the example above you can see that the first eight **Local** (analogue) outputs have been fed with the 5.1 main and stereo mini monitor busses (**MON L** through **MINI R**). Any output which has a number before it is a digital output – the number is the sample rate selected for that AES pair. If you want to route a set of consecutive signals to consecutive outputs, route the first, then select the **Inc** box and stab on the other outputs in turn – the console then automatically increments the signals from the source list to each new output. To remove a route, stab on **Remove**, then on the route in the upper right-hand list. The other options are mainly used for calibration and system setup, so are not of interest here.

That's as far as we need to go, and it should get you up and running with audio through the console. With a little experimentation, you'll be able to make complex and flexible routing to handle the most demanding of sessions.

If this is your first time on the C200, please let us know how you got on: <*info@solid-state-logic.com*>

Good luck!