StudioComm
for Surround

Model 58 Central Controller and
Model 59 Control Console

Application Notes

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Configuration Examples

It can initially be confusing to fully understand how a Model 59 Control Console and multiple Model 58 Central Controllers work together to create a multi-channel monitor system. How the input and output channels are assigned to the Model 58 units can seem especially tricky. In this section several examples are provided that should present a clear picture of how things go together. A careful review of the associated diagrams should quickly make you feel more comfortable. The flexibility of the StudioComm for Surround system is both a blessing and a curse. A simpler system would make installation a "no brainer," but in the long run having the ability to achieve your operational goals is of overriding importance.

6-Channel (5.1) Configuration

Figure 1 provides an overview of a typical 6-channel installation. The channels are organized in the standard 5.1 arrangement: left, center, right, left surround, right surround, and sub. The sub or subwoofer channel is sometimes referred to as the LFE (low frequency enhancement) channel. (The term LFE is actually more descriptive but, as of this writing, isn't as commonly used.) Two 6-channel audio sources and one set of amplified monitor
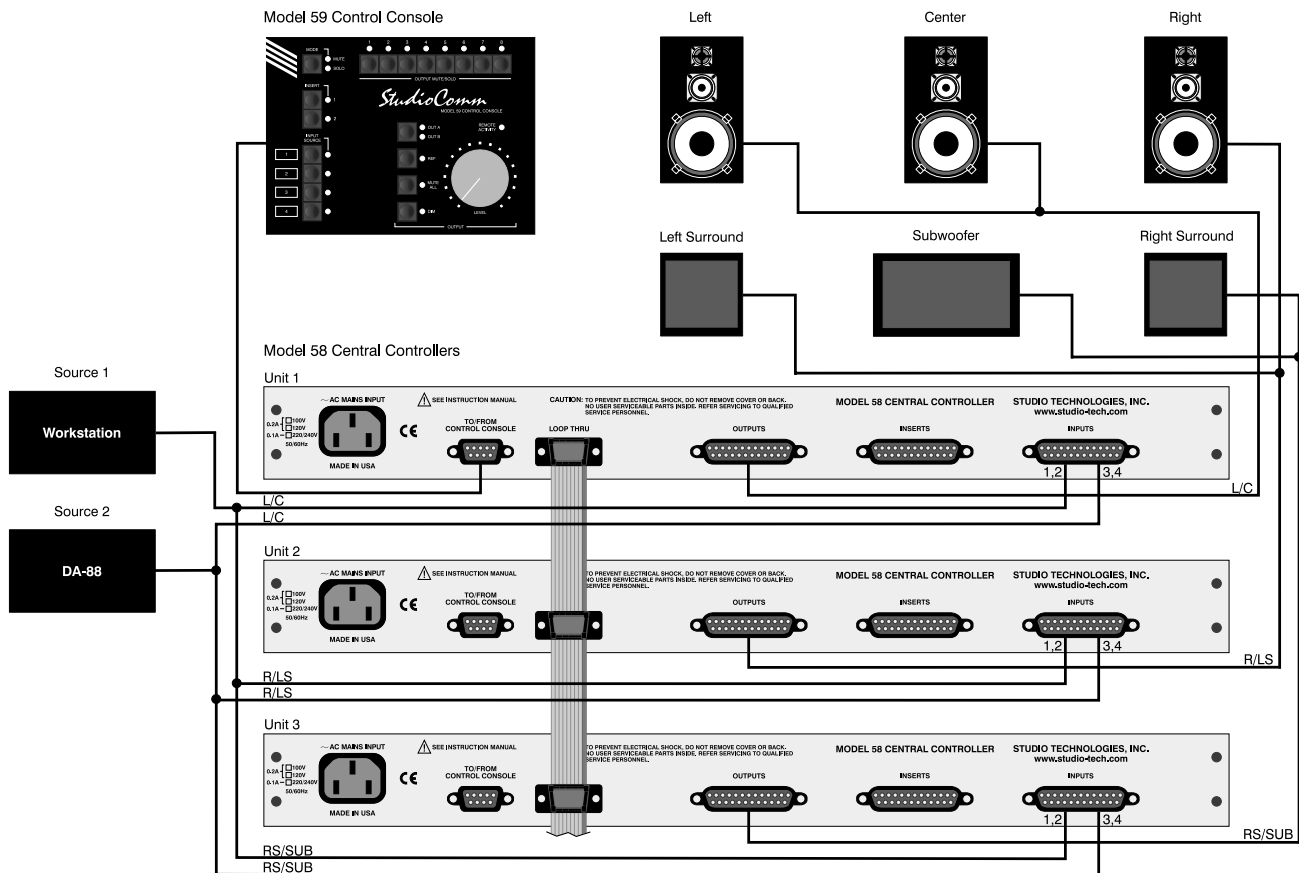

Figure 1. Example of 6-Channel (5.1) Configuration

loudspeakers are connected. Note carefully how the channels are assigned: Model 58 unit 1 supports the left channel and the center channel, Model 58 unit 2 supports the right channel and the left surround channel, and Model 58 unit 3 supports the right surround channel and the subwoofer channel. Three input and three output wiring harnesses are required, each connecting to the Model 58s with 25-pin D-subminiature plugs. These wiring harnesses are not included with the StudioComm for Surround system.

The Model 59 Control Console is connected to Model 58 unit 1 using a 9-pin "D-sub" interconnecting cable. The three

Model 58 units are linked together using the ribbon cable bus assembly. Both the 9-pin interconnecting cable and ribbon cable bus are provided with the StudioComm for Surround system. AC mains power needs to be connected to each of the three Model 58s. In this example installation many of the available resources are not utilized, including the third and fourth 6-channel inputs, the insert sections, the meter outputs, and the remote control functions.

4-Channel (LCRS) Configuration

Figure 2 shows a 4-channel installation that follows the traditional LCRS format: left, center, right, and surround. Again, two 4-channel sources are connected,
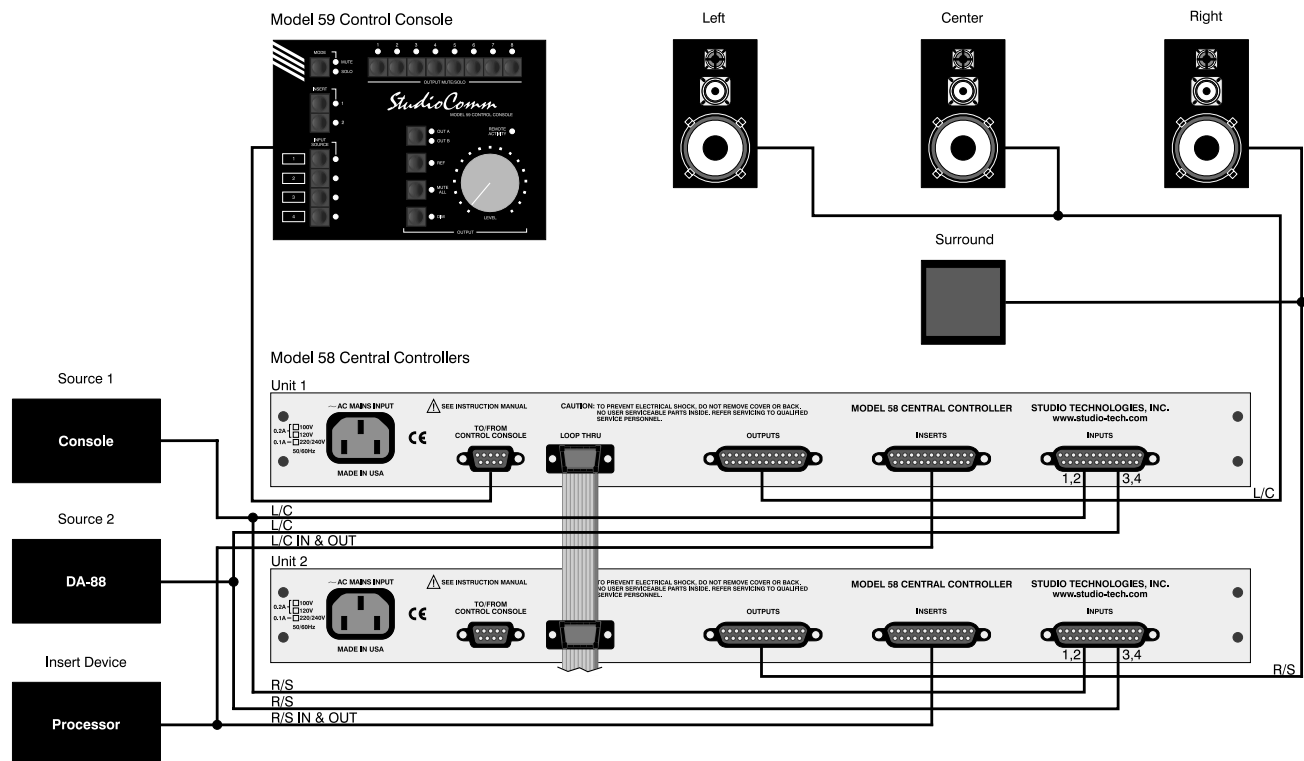

Figure 2. Example of 4-Channel (LCRS) Configuration

along with one set of amplified loudspeakers. The left and center channels are supported by Model 58 unit 1, while the right and surround channels are supported by Model 58 unit 2. A processor device is connected to one of the insert sections on both Model 58 units. Two input, two insert, and two output wiring harnesses are utilized for audio interconnection.

The Model 59 Control Console is connected to Model 58 unit 1, and both Model 58s are interconnected using the ribbon cable bus assembly. AC mains power must be connected to both Model 58 units. Many features are available for future use, including inputs 3 and 4, the second inert section, the meter outputs, and the remote control functions.

Inserts

The Model 58 insert sections are applicable for far more than the usual console inserts functions. Under control of the Model 59 Control Console, each insert channel can independently function in one of four modes: mute normal signal flow, maintain the normal signal flow, replace the normal signal with the return signal, or sum (combine) the return signal with the normal signal. (Note that in all cases the insert send signal will remain active.) With this flexibility the inserts can be used for a variety of insert, routing, and mixing functions.

Using the insert returns, in conjunction with contact input 2, allows a console's AFL/solo system to be directly integrated. The console's source of AFL/solo audio (usually the stereo monitor output) can be connected to the insert returns associated with the left and right channels. With this arrangement, whenever the console's

AFL/solo system is active, the audio will automatically be monitored, overriding the normal audio source.

The decision as to which insert section to utilize for an AFL/solo function depends on how the AFL/solo signal should flow through the system; pre or post, relative to the other insert section. In most cases using insert 2 is preferable, ensuring that the AFL/solo signal will not be processed by insert 1.

A "phantom" center channel can be easily created by connecting the insert send of a surround channel to the insert returns on the channels designated for left and right. However, with this implementation, a level "buildup" problem may occur. If this is the case, the source of the phantom center may need to be attenuated by 6dB (voltage). This would be easily accomplished using a resistor "pad" to drop the level. With the insert sends capable of driving 600 ohm loads, a simple three resistor pad would work well; two 150 ohm and one 300 ohm resistor would do the trick.

Remote Control

Provision has been made to allow remote control of several operating parameters. Contact input 1 allows remote activation of the mute all or dim functions. Contact input 2 allows remote activation of the insert 1 or insert 2 functions. The level control input allows remote control of the monitor output level. The exact functioning of the remote inputs is dependent on the configuration of Model 59 Control Console parameters.

Remote control of mute all or dim is provided to allow a variety of applications to be supported. Placing a mechanical switch

adjacent to a telephone, allowing personnel to conveniently mute the monitor loudspeakers, is a perfectly acceptable application. Allowing a talk-back system to automatically dim the monitors is another typical application.

Remote control of insert 1 or insert 2 was specifically provided to support interfacing with an associated console's PFL/solo system. By connecting to an electronic signal that indicates when the PFL/solo system is active, audio signals connected to insert return 1 or 2 will be automatically monitored.

The remote level control input is one of those features which is rarely going to be used, but if you need it, you'll really need it! (Without having support built into the Model 59 Control Console's hardware and software, it would be almost impossible to add a remote level control later.) The remote level control input was provided specifically to allow a producer, director, or other "big cheese" to have their own level control for use when previewing motion picture or video work-in-process. The remote level control input, along with the remote mute all and dim functions, makes it simple to create a small control console for secondary locations.

Note that software "smarts" in the Model 59 Control Console inhibits the use of the remote level control any time the operator selects the reference output level. This ensures that the calibrated monitor level won't accidentally be changed by some maroon. This, along with a remote activity LED indicator on the Model 59, keeps the remote level control from doing more harm than good.