

Technical Bulletin
No: 110 – Treatise on Mix-Minus

Model: RS-6/12/18/24

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Subject: Mix-Minus Theory

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The term 'mix-minus' applies to any audio feed that differs in program content from the main console output. Typically, a feed that is minus one or more console inputs, as in the common application of a mix-minus feed to a telephone hybrid composed of all console inputs except the caller's voice (the output of the hybrid). However, mix-minus feeds are used for a variety of applications, and may actually contain more inputs than the console's main program output.

The simplest way to establish a mix-minus feed is to use the mono buss (for mono sends) or the audition buss (for stereo sends). Select one of these busses for every channel you want to feed to the mix-minus send. For instance, in the above telephone hybrid example, if the caller audio is being fed to channel 3, depress the mono buss selector above every other fader. Then connect the console mono output to the telephone hybrid input. Mix-minus feeds established in this manner are flexible in that they can be easily operator reassigned for each application.

Permanent (non-user selectable) mix-minus may be internally wired inside the console. For simple mix-minus arrays, utilizing just one or a few inputs, the optional DA card may be used to buffer and combine the audio. The audio may be hard wired in parallel with a console input for pre-input selector audio or to a channel loop through point (connector J8) for post input selector, pre-fader audio. Radio Systems will provide a specially modified DA card for applications where up to four mono (or two stereo) sends must be combined for a mix-minus feed. A common application for this type of mix-minus is when the console program output is combined with one additional source (e.g. a cart machine with local ID's) for a split-network feed.

More complex hard-wired mix-minus feeds can be established using the Radio Systems optional mix-minus input and output boards. These circuit cards, described more completely in the interface and options section, allow up to four mono (or two stereo) mix-minus busses to be created out of any combination of any console channel, input and/or external audio inputs. Meter drivers are also included in the circuitry.



601 Heron Drive
Logan Township, NJ 08085
Phone: 856-467-8000 • Fax: 856-467-3044
<http://www.radiosystems.com>