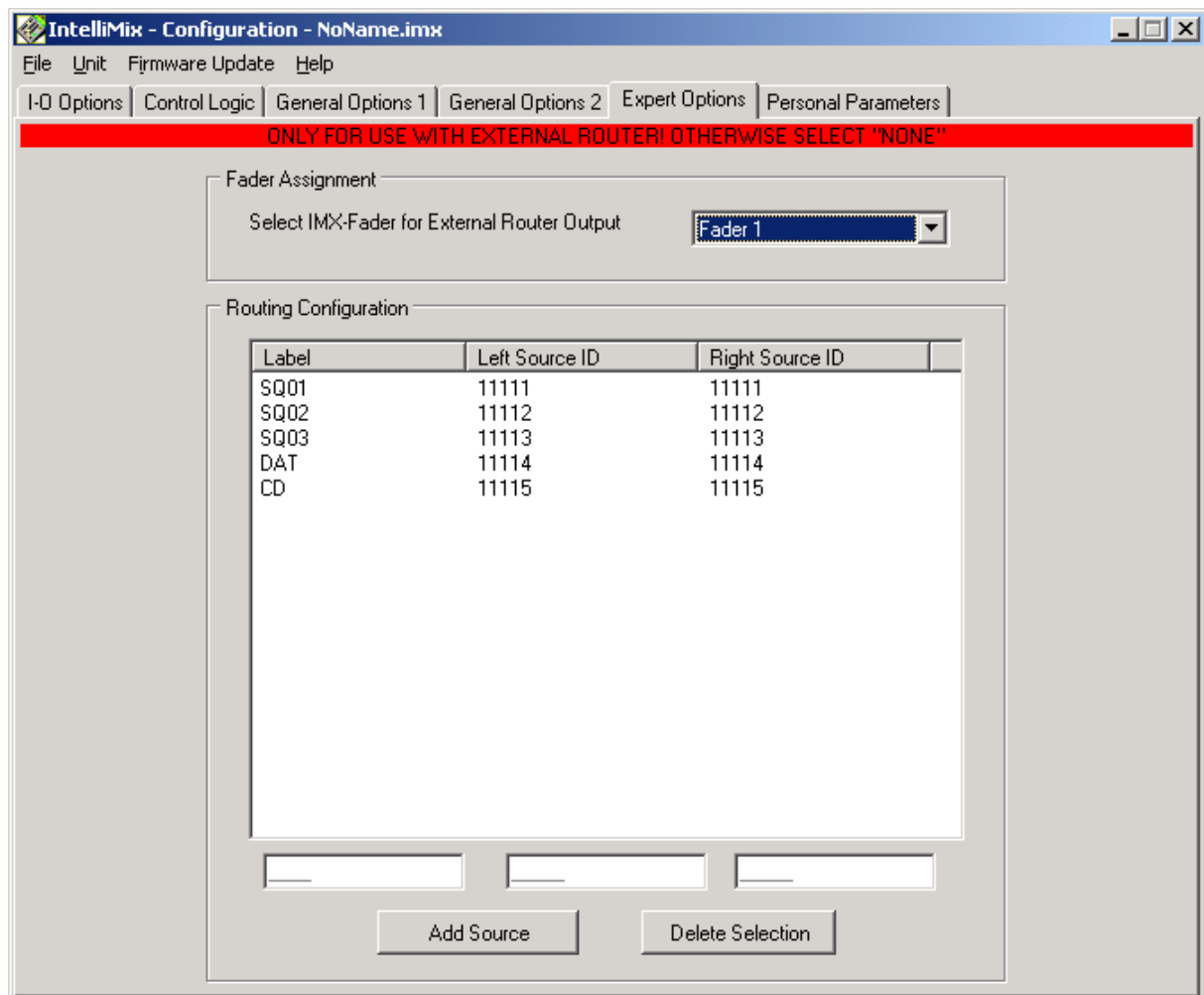


intellimix

Application Note External Router Control



Expert Options



External Router

This option exclusively addresses users who wish to use *INTELLIMIX®* for controlling an external router.

Note: This option reserves a *Fader* and the associated *Source Selector* for the external router. The appropriate *Fader* and *Source Selector* will then no longer be available for a selection and editing of the local sources.

INTELLIMIX® can control digital matrix routers. If you feed one input of your *INTELLIMIX®* from your router, you may access all signal sources of a complex studio.

Connect one AES/EBU output of *INTELLIMIX®* (any output will do) to one input of your Router. Connect the AES/EBU output of your router to *INTELLIMIX®* AES/EBU Line Input #1.

The Control-Data are embedded in the Channel-Status-Bit of the AES/EBU format. Your router will "extract" the appropriate information for source selection.



The source IDs required must be entered in the *Routing Configuration* range (see below). For the label identifications only the restrictions as described in the Manual under *I-O Options > Label* apply.

During operation the source selection can be controlled by the *Source Selector* associated with the selected *Fader*. The label identifications are shown in the source display.

The source IDs can be obtained from the manufacturer of your matrix router or from us. Yellowtec can provide the current information about available source IDs, control logs and connection possibilities under info@yellowtec.com

Fader Assignment

Select a fader for controlling the external router. This selection is used to activate the option. Selecting *None* makes the External Router option unfunctional.

Routing Configuration

To define a new source, click on the *Add Source* button. A new line in the display field appears. Then, click on the automatically generated label identification.

Now, the values for *Label* (max. 4 characters as for all IMX labels), *Left Source ID* (5 characters) and *Right Source ID* (5 characters) can be entered below in the entry fields.

To delete the sources, click on the associated label identification(s) and then on the *Delete Selection* button.

Note (applies to *INTELLIMIX®* Software/Firmware version 2.21 and before): The settings for the external router are not saved to the SmartCard. Thus, *INTELLIMIX®* can only be configured for external routers from the PC. If a SmartCard with any setup is plugged in, the reserved *Fader* and/or *Source Selector* will retain its External Router function. The setting stored on the SmartCard for this fader will be skipped.

From Version 3.0 on this functionality has less restrictions than described above. Refer to current documentation.

If you are not sure, whether or not your router provides control via AES/EBU data, please contact your local dealer or YELLOWTEC.



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If the *INTELLIMIX* will be seen in larger set-ups it may be easily used as a complementary device. That's why we included some functionality in the software which may make the *INTELLIMIX* become the remote control over a central router. You simply determine (in the *INTELLIMIX*-Software) one of the three faders and so its dedicated input selector to become the output selector of a central router. With the restriction of not being able to control more than one stereo output of a central router this equals the general functionality of a standard output control panel of a router.

In most workspaces you deal with a lot of local (private) sources. For most of them you may not wish to connect them to a central router. Though, you might want to access sources from a central router. Pick up any kind of feeds, down-links and whatsoever. With *INTELLIMIX* you get a very cost effective solution as the unit could operate

- 1) the local mixer
- 2) the local source selector
- 3) the control panel for the central router.

All that in a smart and comfortable way.

The communication between *INTELLIMIX* and Central Router has been done through the AES/EBU format so far. We assume that we always need an AES/EBU link (One input / one Output) and handle the few control commands over the Channel-Status-Bit. The "protocol" is rather basic, as we do not communicate any "labels" over AES/EBU. We simply order the requested source from the router by sending "your" adequate channel IDs (left ID, right ID). The label to be displayed in IMX will be matched with a "look-up-table" table inside the *INTELLIMIX* software. The data bits will be set as long as the source will be selected.

The protocol does not care about any handshakes. Any AES/EBU output of *INTELLIMIX* will carry those data bits.

16.08.2002

The External Router Control Data are embedded in the Channel-Status-Bit of the AES/EBU standard. Normally byte 6 to byte 9 of the Channel-Status-Bit are reserved for "channel origin data" and byte 10 to byte 13 for "channel destination data".

INTELLIMIX uses byte 6 to 9 for the left source ID and byte 10 to 13 for the right source ID instead.

As the user enters numbers 00000 ... 99999, a conversion to 7bit ASCII code (according to the AES/EBU standard) is implemented.

External Router function with DHD4200

1. activate the "CS Routing Function" of your DHD4200 for the AES/EBU output you want to use
2. connect this output to Intellimix Line In #1 digital
3. connect any AES/EBU Mix Output of the Intellimix (if convenient you can use a Mix Minus Output as well) to the DHD AES/EBU input adjacent to the DHD output activated for „CS Routing Function“.

Control data used for source selection are embedded in the AES/EBU datastream.

Note: Using a Mix Minus Output of the Intellimix may be a good choice in order to avoid feedback loops between Intellimix and DHD.

You have access to all inputs of the DHD4200 and to a number of internal signals.

The formular for calculating the Source IDs:

Slot number on DHD4200 multiplied by 256, add number of Input on the Card, subtract 1

Note: Consider that AES/EBU signals carry 2 channels, so the first connector provides inputs #1 and #2, the second one provides inputs #3 and #4, etc.

Example:

Second Slot from left, second connector from top (L-R inputs):

$$2 \times 256 + 3 - 1 = 514 \text{ (Left Channel)}$$

$$2 \times 256 + 4 - 1 = 515 \text{ (Right Channel)}$$

Source IDs for internal signals in the DHD software:

- Open the Toolbox application of your DHD4200
- Select "Export DSP Frame I/O as CSV" in the "File" menu
- The export creates a file "export.csv" (default name), which can be opened by Microsoft Excel
- Find the section called "internal audio sources" with the records for "name", "ID (hex)", "ID (dec)".
- Use the decimal ones (dec)