

# Marian Routing Matrix for Clara E Dante systems

## General

The routing matrix is used to redirect and distribute audio signals that enter ([sources](#)) and leave ([destinations](#)) the Clara E sound system. Regarding the signal flow, the Clara E routing matrix is located between the inputs and outputs of the various [signal types](#).

Due to the large number of channels, the matrix can be customized visually using [view options](#). Eight individual channels of one [signal type](#) are combined in a group, which can be shown or hidden. Groups themselves are also combined in pairs of 8 until the total number of all channels of a [signal type](#) is represented.

[Input channels \(Sources\)](#) and [output channels \(Destinations\)](#) are connected by <left-clicking> and deleted by <right-clicking> on a node. Depending on the [view option](#), a node can connect individual channels or several channels (groups) at once. Nodes can be set [individually](#) or in [multiples](#). The [intelligent routing](#) of the matrix provides logical support while connecting source channel groups with destination channel groups.

Routings can be [undone](#) indefinitely and [saved in files](#).

## Signal types

From the Clara E's point of view, there are [input channels \(sources\)](#) and [output channels \(destinations\)](#)

### Input channels (Sources)

#### *DAW*

Signals that enter the Clara E from the output of a software on the computer

#### *DANTE*

Signals coming from the Dante network to the Clara E

#### *TDM*

Signals coming from the TDM SyncBus to the Clara E

### Output channels (destinations)

#### *DAW*

Signals that lead away from the Clara E to the input of a software on the computer

#### *DANTE*

Signals that lead away from the Clara E to the Dante network

#### *TDM*

Signals that lead away from the Clara E to the TDM SyncBus

## Menu

### Swap Source / Destination

This function swaps the display of the [input channels \(Sources\)](#) and [output channels \(Destinations\)](#).

## Load Routing ... Save Routing

The current routing can be saved in <Ctrl + S> or loaded from <Ctrl + L> a file.

## Undo ... Redo

The last routing action can be undone by clicking on "Undo" or using the keyboard shortcut <Ctrl+ Z> or < Alt+ bkspc>.

Click on "Redo" or use the keyboard shortcut < Ctrl+ Y> *or* < Ctrl+ shift+ Z> to restore the last editing step.

## Help F1

This menu item opens the present PDF documentation.

## View options

The vertical or horizontal arrangement of the [input channels \(Sources\)](#) and [output channels \(Destinations\)](#) can be swapped via [Swap Source/Destination](#).

Individual channels are combined in groups of 8. Groups themselves are also combined in groups of 8 until the total number of channels for a signal type (DAW, Dante, TDM) is represented. A simple click on a name field or a channel group opens or closes the group below it.

The view can be moved vertically by:

- Scrolling with the mouse wheel in the routing field
- Scrolling with the mouse wheel in the vertical channel list
- Click and drag a free area of the vertical channel list

The view can be moved horizontally by:

- Scrolling with the mouse wheel while holding the <ALT> key in the routing field
- Scrolling with the mouse wheel in the horizontal channel list
- Click and drag a free area of the horizontal channel list

The number of DAW / DANTE source and destination channels depends upon the current samplerate.

<b>Samplerate</b>	<b>DAW and DANTE Kanäle, each</b>
44.1 / 48kHz	512 sources / 512 destinations
88.2 / 96kHz	256 sources / 256 destinations
176.4 / 192kHz	128 sources / 128 destinations

Switching from a higher to a lower sample rate will restore previously present routings.

## Make routings / delete routings

### Set individual nodes

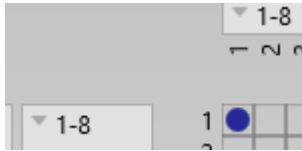
Routings of channels are activated by a simple <left-click> and deactivated by a <right-click> on a node between source and destination.

If the node is a channel group, the individual channels within the group are successively connected to each other in a 1:1 manner. For example, channel 1 of the source group is connected to channel 1 of the destination group, channel 2 of source to channel 2 of destination and so on.

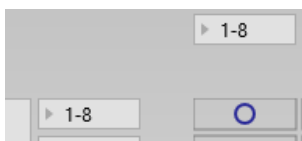
For example, to quickly route all 512 DAW channels to the 512 Dante channels, simply <left-click> at the node of the DAW/Dante group.

**Further descriptions and special cases can be found in the [Intelligent Routing](#) section.**

A source can be routed to several destinations at the same time. However, several sources cannot be routed to one destination at the same time.



A filled blue circle indicates that a point-to-point routing of individual channels is active or that all channels in the group are successively connected 1:1.



An empty blue circle indicates that *some* routing is active within the combined group of channels. This is not a successive 1:1 routing.



A filled blue square indicates that the same input channel is routed to several outputs within the combined group of destinations.

## Set multiple nodes

Nodes can be set in rows by <left-clicking, holding and dragging>.

Nodes can be deleted in rows by <right-clicking, holding and dragging>. These nodes can affect individual channels or groups. If nodes are set across groups, [intelligent routing](#) finds the best combination of source to destination channels.

## Intelligent routing

The intelligent routing of the matrix provides logical support while connecting source channel groups with destination channel groups. The specific routing result for the individual channels of a group depends mainly on the size of the destination group and its position. The intelligent routing applies the following 2 rules:

1. Only as many channels of the source are routed as are available in the channel group of the destination.

Examples:

Sources channel group	Destination channel group	Routing result
1-32	1-16	Routes source channels 1-16 to destination channels 1-16
65-80	1-8	Routes source channels 65-72 to destination channels 1-8

2. The nodes start either at the corresponding lowest channel or at the equivalent channel of the destination group.

a. Lowest channel, examples:

Sources channel group	Destination channel group	Routing result
9-16	1-64	Routes source channels 9-16 to destination channels 9-16
65-128	1-512	Routes source channels 65-128 to destination channels 65-128
1-64	9-16	Routes source channels 1-8 to destination channels 9-16
129-192	9-16	Routes source channels 129-136 to destination channels 9-16
1-512	65-128	Routes source channels 1-64 to destination channels 65-128
1-512	505-512	Routes source channels 1-8 to destination channels 505-512
1-512	512	Routes source channel 8 to destination channel 512

b. Equivalent channel, examples

Sources channel group	Destination channel group	Routing result
9-16	129-192	Routes source channels 9-16 to destination channels 137-144
512	1-512	Routes source channel 512 to destination channel 512

## Workflow

### Backup

If a specific routing has been carried out, it can be saved in a file <Ctrl + S> or loaded <Ctrl + L>.

### Undo/Redo

To undo the last action: < Ctrl + Z> or < Alt + bkspc>

To restore the last action: <Ctrl + Y> or <Ctrl + shift + Z>