API Router: Service for Matrix Management

The “router” interface serves for managing switching matrices. The server can simultaneously control several matrices, usually connected through the same physical interface. The administrator assigns a unique name to every matrix. A switching matrix can execute a certain number of effects; the number and quality of effects depend on a certain switcher type.

Supported XML-RPC Methods

get_pins

```
"get_pins" – receiving the matrix current status
the parameter 0 – string – matrix name
returned value – array(int) – array elements correspond the outputs
  of the matrix with coresponding numbers. The element value equals the
number of the input
  switched to the given output.
```

set_pins

```
"set_pins" – changing the matrix condition
parameter 0 – the structure containing the following fields:
  string "name" – the matrix name
  array(struct) "pins" – an array with every element being
    a structure describing the switching required to be executed.
    The structure contains the following fields:
    int "out" – the number of the output to be switched
    int "in" – the number of the input that will be connected to the output
returned value – no value
```

set_effect_parms

```
"set_effect_parms" – setting the effect parameters, which are interpreted
  depending on a certain matrix type
parameter 0 – the structure containing the following fields:
  string "name" – the matrix name
  struct "parms" – the effect parameters, the structure may contain the
following fields:
    int "speed" – the speed of executing the effect
    int "type" – the effect modifier
returned value – no value
```

get_effect_parms

```
"get_effect_parms" – retrieveing the effect parameters, which are
interpreted
  depending on a certain matrix type
parameter 0 – the structure containing the following fields:
  string "name" – the matrix name
returned value – the structure containing the following fields:
  int "speed" – the speed of executing the effect
  int "type" – the effect modifier
  int “status” – the current status of the effect execution
```

do_effect

```
"do_effect" – gives the command for effect execution, the effect parameters
and type
  are interpreted depending on a certain matrix
parameter 0 – the structure containing the following fields:
  string "name" – the matrix name
  string "effect" – the effect type
```

get_varf

```
"get_varf" – retrieving the switcher variable
parameter 0 – the structure containing the following fields:
  string "name" – the matrix name
  string "var" – the variable name
returned value – the structure containing the following fields:
  int    "exists" – possesses the following values:
                    0 – no variable with this name discovered
                    1 – the variable value in the “val” field
  double "type" – the variable value
```

Parameters and Types of Effects for Different Matrices

DMS M2D2

Inputs:

```
quantity – 2
input 0 – input A
input 1 – input B
```

Outputs:

```
quantity – 2
output 0 - PGM
output 1 - PVW
```

Effect 0

```
Implements a transition resulting in connections of outputs 0 and 1
 changing places. The following parameters are used for the transition:
  int "speed" – the speed of executing the transition:
    0 – slow
    1 – average
    2 – fast
  int "type" – the type of transition:
    0 - CUT-Mix
    1 - V-Mix
    2 - X-Mix
```

Effect 1

```
Switches the replacement mode of the 0 output with a black burst When
replacing,
the following parameters are used:
  int "speed" – the replacement speed:
    0 – slow
    1 – average
    2 – fast
```

DMS M8A3

Inputs:

```
quantity – 9
input 0 – input A
input 1 – input B
inputs 2-7 – are not functioning
input 8 – silence
```

Outputs:

```
quantity – 2
output 0 - PGM
output 1 - PVW
```

Effect 0

```
Implements a transition resulting in connections of outputs 0 and 1
 changing places. The following parameters are used for the transition:
  int "speed" – the speed of executing the transition:
    0 – slow
    1 – average
    2 – fast
  int "type" – the type of transition:
    0 - CUT-Mix
    1 - V-Mix
    2 - X-Mix
```

Effect 1

```
In case, if the 8 input (silence) is connected to the 0 output, checks the
input
connected to the 1 output: if it also equals 8,
implements swift switching of the 0 input to a previously saved output.
In case, if the 0 output is connected to an input different from 8,
saves the input number and implements quick switching of the 8 input
(silence)
to the 1 output.
Then the 0 effect is executed,
using the same parameters as in the 0 effect.
```

DMS MK3D2

Inputs:

```
quantity – 4
input 0 – the result of mixing BGND, FILL and KEY
input 1 – BGND
input 2 – FILL
input 3 – KEY
```

Outputs:

```
quantity – 2
output 0 - PGM
output 1 - PVW
```

Status:

```
When retrieving “get_effect_parms” parameters, the "status” field takes
the following values:
  0 – the overlaying mode is on
  1 – the overlaying mode is off
```

Effect 0

```
Switches the mixing mode BGND, FILL and KEY delivered to the 0 input.
When switching, the following parameters are used:
  int "speed" – the switching speed:
    0 – slow
    1 – average
    2 – fast
  int "type" – the type of transition:
    0 - CUT-Mix
    1 - V-Mix
```

Effect 1

```
Activates the mixing mode BGND, FILL and KEY delivered to the 0 input.
When switching, the following parameters are used:
  int "speed" – the switching speed:
    0 – slow
    1 – average
    2 – fast
  int "type" – the type of transition:
    0 - CUT-Mix
    1 - V-Mix
```

Effect 2

```
Turns off the mixing mode BGND, FILL and KEY delivered to the 0 input.
When switching, the following parameters are used:
  int "speed" – the switching speed:
    0 – slow
    1 – average
    2 – fast
  int "type" – the type of transition:
    0 - CUT-Mix
    1 - V-Mix
```

DMS M8A3-2

Inputs:

```
quantity – 9
inputs 0-7 – regular inputs
input 8 – silence
```

Outputs:

```
quantity – 2
output 0 - PGM
output 1 - PVW
```

Effect 0

```
Implements a transition resulting in connections of outputs 0 and 1
 changing places. The following parameters are used for the transition:
  int "speed" – the speed of executing the transition:
    0 – slow
    1 – average
    2 – fast
  int "type" – the type of transition:
    0 - CUT-Mix
    1 - V-Mix
    2 - X-Mix
```

Effect 1

```
In case, if the 8 input (silence) is connected to the 0 output, checks the
input
connected to the 1 output: if it also equals 8,
implements swift switching of the 0 input to a previously saved output.
In case, if the 0 output is connected to an input different from 8,
saves the input number and implements quick switching of the 8 input
(silence)
to the 1 output.
Then the 0 effect is executed,
using the same parameters as in the 0 effect.
```

DMS MKS6V2-MIX

Inputs:

```
quantity – 9
inputs 0-7 – regular inputs
input 8 – a black burst
```

Outputs:

```
quantity – 2
output 0 - PGM
output 1 - PVW
```

Effect 0

```
Implements a transition resulting in connections of outputs 0 and 1
 changing places. The following parameters are used for the transition:
  int "speed" – the speed of executing the transition:
    0 – slow
    1 – average
    2 – fast
  int "type" – the type of transition:
    0 - CUT-Mix
    1 - V-Mix
    2 - X-Mix
```

Effect 1

```
In case, if the 8 input (black burst) is delivered to the 0 output, checks
the input
connected to the 1 output: if it also equals 8,
implements swift switching of the 0 input to a previously saved output.
In case, if an input different from 8 is delivered to the 0 output,
saves the input number and implements quick switching of the 8 input (black
burst)
to the 1 output.
Then the 0 effect is executed,
using the same parameters as in the 0 effect.
```

DMS MKS6V2-DSK1/MKS6V2-DSK2, LM1D21/LM1D22

Inputs:

```
quantity – 1
input 0 – the result of mixing BGND, FILL and KEY
```

Outputs:

```
quantity – 1
output 0 - PGM
```

Status:

```
When retrieving “get_effect_parms” parameters, the "status” field takes
the following values:
  0 – the overlaying mode is on
  1 – the overlaying mode is off
```

Effect 0

```
Switches the mixing mode BGND, FILL and KEY delivered to the 0 input.
When switching, the following parameters are used:
  int "speed" – the switching speed:
    0 – slow
    1 – average
    2 – fast
  int "type" – the type of transition:
    0 - CUT-Mix
    1 - V-Mix
```

Effect 1

```
Activates the mixing mode BGND, FILL and KEY delivered to the 0 input.
When switching, the following parameters are used:
  int "speed" – the switching speed:
    0 – slow
    1 – average
    2 – fast
  int "type" – the type of transition:
    0 - CUT-Mix
    1 - V-Mix
```

Effect 2

```
Turns off the mixing mode BGND, FILL and KEY delivered to the 0 input.
When switching, the following parameters are used:
  int "speed" – the switching speed:
    0 – slow
    1 – average
    2 – fast
  int "type" – the type of transition:
    0 - CUT-Mix
    1 - V-Mix
```