

# PRODIGY SERIES

## Product Information



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**DirectOut**  
TECHNOLOGIES

## PRODIGY Series - About

A series of audio devices performing state-of-the-art conversion, signal routing and signal processing.

PRODIGY Series uses a modular approach and extends the scope of the popular ANDIAMO Series of AD/DA/AES to MADI converters, to meet today's – and future – requirements of broadcast, live-sound, installation and recording.

„As you wish“ is the DNA of each PRODIGY.

PRODIGY uses a customizable mainframe, with dedicated slots that can be populated using a variety of IO modules and a scalable license management.



PRODIGY.MC - Modular Audio Converter



PRODIGY.MP - Multifunction Audio Processor

## Modules - Audio I/O

- Analog Mic / Line
- Digital AES3
- MADI AES10
- Network RAVENNA\*
- Network Dante\*
- Network SoundGrid

\* compliant with AES67



## Licenses

System licenses are available as three different feature bundles matching individual applications and budgets:

- Essential
- Advanced
- Unlimited

Single license options can be acquired on demand at any time.

## globcon

DirectOut devices are best operated by globcon, which is a global remote control software. globcon can be run on a Mac, PC or Linux and supports device connections via network and further via USB, DO.Net and MIDI to ensure compatibility with legacy devices.

globcon





## PRODIGY Series at a glance



PRODIGY.MC - Modular Audio Converter



PRODIGY.MP - Multifunction Audio Processor

- 8 x Converter, 2 x MADI, 1 x Audio Network
- 320 inputs / 324 outputs
- no DSP

- 4 x Converter, 2 x MADI, 2 x Audio Network
- 416 inputs / 420 outputs
- DSP - EQ, Dynamics, Delay / DSP Routing with insert points, Matrix Mixer and Summing Busses

## PRODIGY Features

### Signal Path

- FastSRC™  
low latency sample rate conversion for MADI and Audio Network I/O
- Input Managers  
redundancy switch between physical inputs
- EARS™  
Enhanced Automatic Redundancy Switching for seamless signal redundancy
- Channel based routing
- MirrorMode for alignment of several devices

### Additional Interfaces

- Headphones Output 6.3 mm & 3.5 mm
- Word Clock I/O
- USB port for legacy control of ANDIAMO devices

### Control

- Dedicated network port for management
- Control via globcon, webserver and touch display
- Remote control protocols: JSON API, Ember+, OSC

### Operation

- Dual Power Supply
- Clock Redundancy Strategy
- LTC Reader
- GPI and GPO

## „As you wish‘ - it’s a PRODIGY



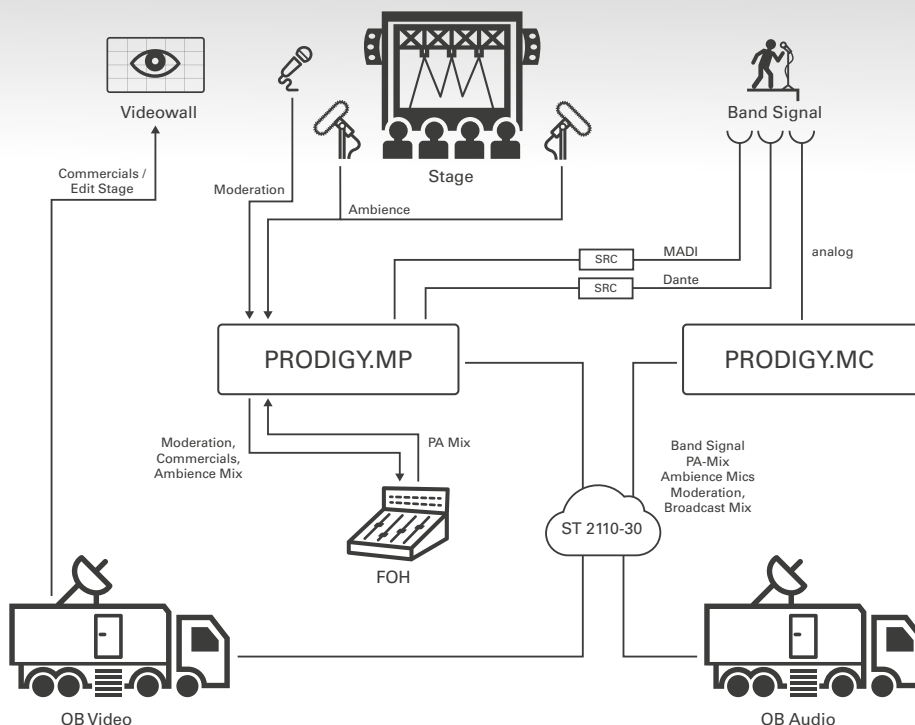
## PRODIGY Series - Applications

Outside broadcasting of a music festival. PRODIGY.MP acts as central hub for interfacing between the PA system and the ST 2110-30 audio network.

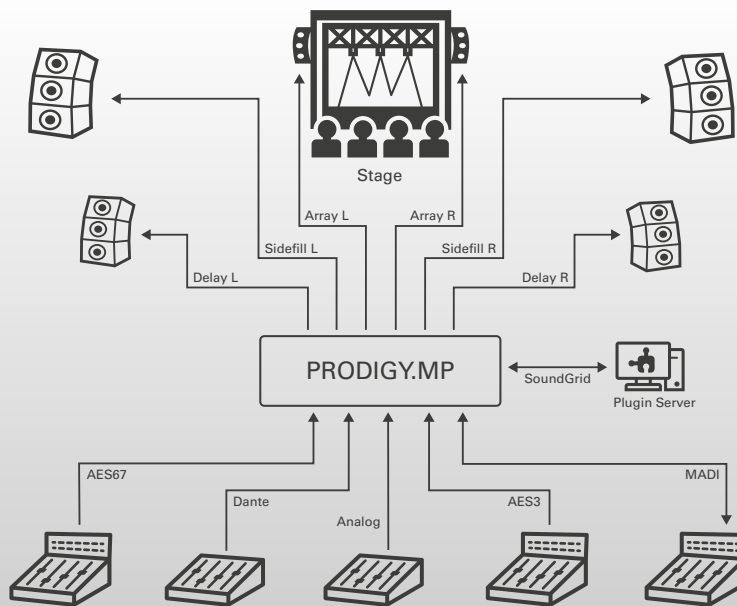
Local IOs are used for ambience mics and moderation, MADI and Dante IOs with sample rate conversion provide clock independent connection to the artist signals.

A PRODIGY.MC acts as stagebox for connecting with the analog split from the PA system.

Both PRODIGY devices are connected to the ST 2110-30 environment via the RAV.IO modules.



Configuration: PRODIGY.MP - 2 x MIC8.LINE.IO, 1 x AES4.IO, RAV.IO, DANTE.IO, BNC.IO - System license: Advanced  
 PRODIGY.MC - 6 x MIC8.HD.I, RAV.IO - System license: Essential

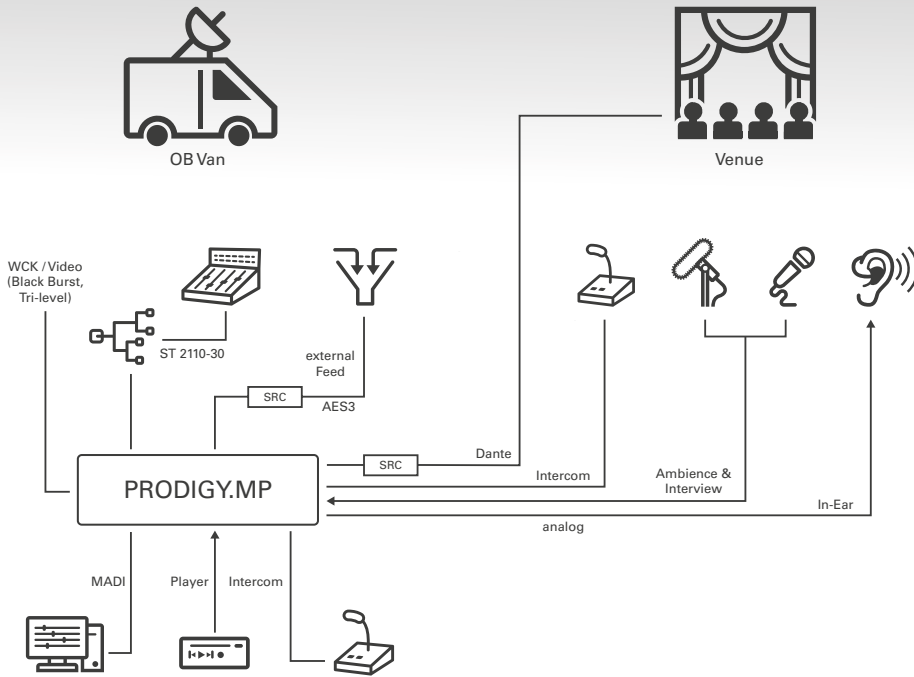


PRODIGY.MP acts as core of the PA system. All signal paths to the particular speaker positions are run through mix matrices and processed by internal EQs, Dynamics and Delay compensation.

Interfacing with the guest consoles is granted via the local IOs and the audio network connection. Digital signals are ran through low latency sample rate conversion (FastSRC™) granting clock independence.

A Waves Plugin server may be shared for additional signal processing.

Configuration: PRODIGY.MP - 3 x MIC8.LINE.IO, AES4.SRC.IO, SG.IO, DANTE.IO, SFP.IO, BNC.IO - System license: Advanced



A small OB van joining a live venue with its own local moderation setup (ambience, in-ear, intercom). The venue's signal is connected via Dante and sample rate converted.

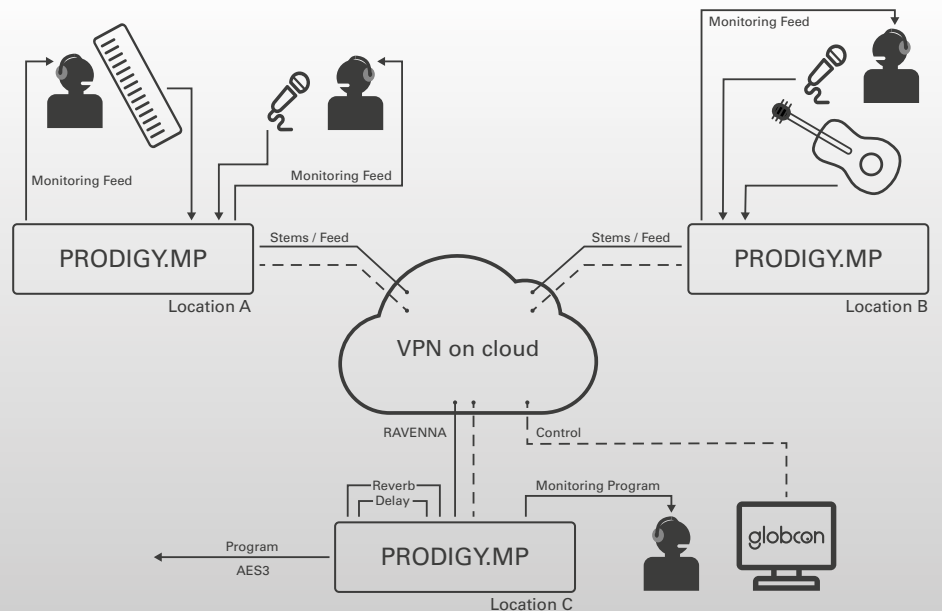
The local IOs of PRODIGY.MP interface with the van's infrastructure and the external moderation setup.

The ST 2110-30 network is synced from the RAV.IO's PTP clock which is derived from a video sync signal.

Configuration: PRODIGY.MP - 2 x MIC8.LINE.IO, AES4.SRC.IO, RAV.IO, DANTE.SRC.IO, SFP.IO - System license: Essential

Live remote production via a VPN cloud. The PRODIGY.MP at the artist's location (A&B) fetches the music signals via the local inputs and provides a low latency local monitor feed with individual EQ and Dynamics to the artist. Stereo Stems are mixed internally and sent for cross monitoring at minimum latency to the other artists.

At location C high buffered RAVENNA or SRT streams with the artists' stems are subscribed for the program mix to prevent any packet loss. All PRODIGY devices are controlled via globcon remotely.

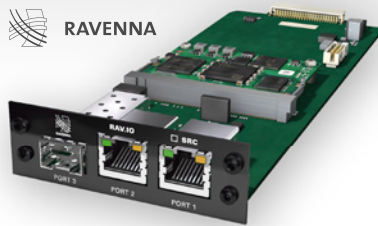


Configuration: PRODIGY.MP [A] - MIC8.HD.IO, RAV.IO - System license: Essential plus Plugin Bundle 8 and Mix & Sum 8  
 PRODIGY.MP [B] - MIC8.HD.IO, RAV.IO - System license: Essential plus Plugin Bundle 8 and Mix & Sum 8  
 PRODIGY.MP [C] - MIC8.LINE.IO, AES4.SRC.IO, RAV.IO - System license: Advanced

## PRODIGY Series - Modules

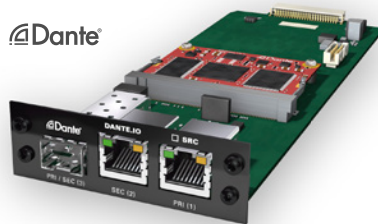
PRODIGY Series interfaces with the latest audio networking technologies.

Each module is available as SRC version with Sample Rate Conversion on board.



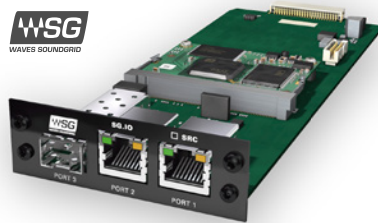
### RAV.IO / RAV.SRC.IO

RAVENNA, 128 ch, 44.1 kHz to 192 kHz  
 Compliant with AES67, ST 2110-30 / -31  
 Features: 500 ms buffer, WAN capable, Stream Redundancy ST 2022-7, NMOS IS-04 (stream discovery) and IS-05 (connection management)



### DANTE.IO / DANTE.SRC.IO

Dante, 64 ch, 44.1 kHz to 192 kHz  
 Compliant with AES67, ST 2110-30 (requires DDM)  
 Features: Stream Redundancy, primary/secondary



### SG.IO / SG.SRC.IO

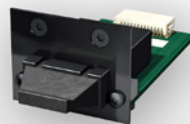
SoundGrid, 128 ch, 44.1 kHz to 96 kHz  
 The SFP port grants optical connection as a plus to the two RJ45 gigabit ethernet ports.

For baseband connections a variety of MADI I/Os are offered. Transceivers for the SFP.IO are available as accessory.



### BNC.IO

64 ch MADI (AES10),  
 coaxial, 75 Ω



### SC.IO

64 ch MADI (AES10), SC optical,  
 single or multi-mode



### SFP.IO

64 ch MADI (AES10),  
 SFP cage

Digital AES3 modules connecting eight audio channels via DSUB-25 connectors according to AES59.



### AES4.IO

4 ports AES3 input / output



### AES4.SRC.IO

4 ports AES3  
 input with SRC / output



Analog converter modules connecting eight audio channels via DSUB-25 connectors according to AES59.



**MIC8.HD.I**

8 ch mic input (High Definition)  
 PAD -30 dB, phantom power (+48 V, switchable),  
 Input sensitivity: -56 dBu to +24 dBu,  
 EIN: -128 dBu, THD @ -1 dBFS: -113 dB  
 Frequency response: -0.15 dB (10 Hz) / -0.15 dB (20 kHz)



**MIC8.LINE.I**

8 ch mic input  
 PAD -9 dB, phantom power (+48 V, switchable)  
 Input sensitivity: -55 dBu to +24 dBu  
 EIN: -118 dBu , THD @ -1 dBFS: -113 dB  
 SNR: -115 dBFS (20 Hz - 20 kHz) / -118 dB(A) @ 0dB Gain  
 Frequency response: -0.5 dB (10 Hz to FS/2)



**AN8.I**

8 ch line input,  
 reference levels +15 / +18 / +24 dBu via jumper  
 SNR: < -117,6 dB RMS (20 Hz - 20 kHz) / -119,9 dB(A)  
 THD @ -1 dBFS: < -119 dB  
 Frequency response: < -0,15 dB (10 Hz) / -0,15 dB (20 kHz)



**AN8.O**

8 ch line output  
 reference levels +15 / +18 / +24 dBu via jumper  
 SNR: -116,8 dB RMS (20 Hz - 20 kHz) / -119,5 dB(A)  
 THD @ -1 dBFS: -109 dB  
 Frequency response: -0,5 dB (10 Hz) / -0,15 dB (20 kHz)

All analog input modules are available with the line output option AN8.O.



**MIC8.HD.IO**

8 ch mic input (High Definition)  
 8 ch line output



**MIC8.LINE.IO**

8 ch mic input  
 8 ch line output



**AN8.IO**

8 ch line input  
 8 ch line output

## PRODIGY.MC - Licenses

System licenses include a bunch of features and are available at purchase of the device or via upgrades. ‚Essential‘ and ‚Advanced‘ may add individual licenses on demand at any time. ‚Unlimited‘ includes the full feature set and all future options.



PRODIGY.MC

### Essential

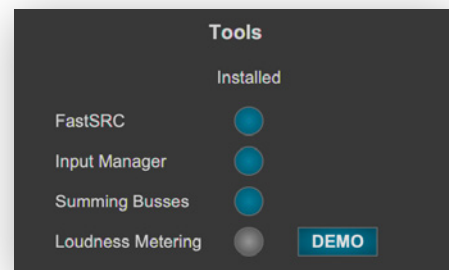
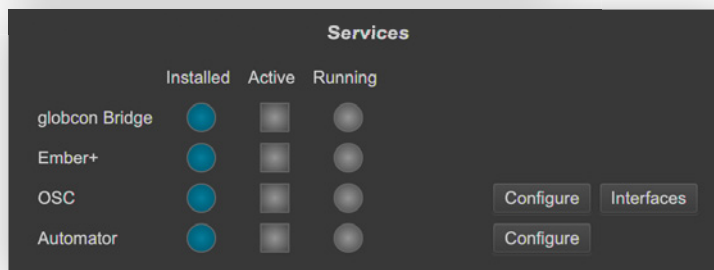
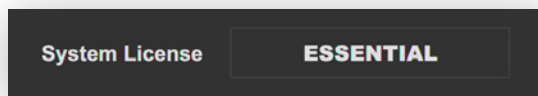
Channel based routing, LTC reader, Clock Redundancy, MADI Redundancy, EARS™

### Advanced

adds Input Manager, Summing Busses and FastSRC™

### Unlimited

adds Loudness Metering, Automator, remote control via Ember+ and OSC plus all future license options



## Licenses - Tools

### FastSRC™

Asynchronous low latency sample rate conversion

### Input Manager

32 Input Managers

### Summing Busses

32 Summing Busses

### Loudness Metering

8 routable channels loudness metering

## Licenses - Services

### EMBER+

Native support of EMBER+ protocol

### OSC

Native support of Open Sound Control (OSC) protocol

### Automator

External and device triggers and actions (boolean algebra - GPIO/TCP/UDP/OSC/MIDI/Snapshots/etc)

Licenses that are not installed may be tested for 30 minutes by clicking the DEMO button.  
To acquire a license please contact your DirectOut representative.



## PRODIGY.MP - Licenses

System licenses include a bunch of features and are available at purchase of the device or via upgrades. ‚Essential‘ and ‚Advanced‘ may add individual licenses on demand at any time. ‚Unlimited‘ includes the full feature set and all future options.

### Essential

Channel based routing, LTC reader, Clock Redundancy, EARS™, MADI Redundancy, Input Manager, FastSRC™

### Advanced

adds Plugin Bundle 32 and Mix & Sum 32

### Unlimited

adds Loudness Metering, AutoMix, Automator, remote control via Ember+ and OSC plus all future license options



PRODIGY.MP

| DSP Plugins    |     |      |       |       |
|----------------|-----|------|-------|-------|
| Flex Channels  | 1-8 | 9-16 | 17-24 | 25-32 |
| FIR Equalizers | 1-8 | 9-16 | 17-24 | 25-32 |
| IIR Equalizers | 1-8 | 9-16 | 17-24 | 25-32 |
| Delays         | 1-8 | 9-16 | 17-24 | 25-32 |
| Dynamics       | 1-8 | 9-16 | 17-24 | 25-32 |

| Mix & Sum   |     |      |       |       |
|-------------|-----|------|-------|-------|
| MatMix 16x4 | 1-2 | 3-4  | 5-6   | 7-8   |
| MatMix 8x8  | 1-2 | 3-4  | 5-6   | 7-8   |
| Sum Busses  | 1-8 | 9-16 | 17-24 | 25-32 |

## Licenses - DSP

### Plugin Bundle 8

8 Flex Channels, 8 FIR EQ, 8 IIR EQ, 8 Dynamics, 8 Delays

### Plugin Bundle 16

16 Flex Channels, 16 FIR EQ, 16 IIR EQ, 16 Dynamics, 16 Delays

### Plugin Bundle 32

32 Flex Channels, 32 FIR EQ, 32 IIR EQ, 32 Dynamics, 32 Delays

### Mix & Sum 8

2 MatMix 16x4, 2 MatMix 8x8, 8 Summing Busses

### Mix & Sum 16

4 MatMix 16x4, 4 MatMix 8x8, 16 Summing Busses

### Mix & Sum 32

8 MatMix 16x4, 8 MatMix 8x8, 32 Summing Busses

## Licenses - Tools

### Loudness Metering

8 routable channels loudness metering

### AutoMix

Automated Mixing of different signals

## Licenses - Services

### EMBER+

Native support of EMBER+ protocol

### Automator

External and device triggers and actions (boolean algebra - GPIO/TCP/UDP/OSC/MIDI/Snapshots/etc)

### OSC

Native support of Open Sound Control (OSC) protocol

## PRODIGY Series - Techspecs

|                   | PRODIGY.MC   | PRODIGY.MP  |
|-------------------|--|---|
| Sample rates      | 44.1, 48, 88.2, 96, 176.4, 192 kHz (+/- 12.5%)                             |   |
| MADI              | 48k / 96k Frame, 56 / 57 / 64 channel, S/MUX                               |   |
| DSP               | no   | yes   |
| Phones Out 1      | 1 x 6.3 mm TRS jack, mono / stereo, Output level: max. +18 dBu             |   |
| Phones Out 2      | 1 x 3.5 mm TRS jack, mono / stereo, Output level: max. +12 dBu             |   |
| Word Clock IO     | 1 x coaxial BNC (75 Ω termination switchable), AES11 (DARS also supported) | 2 x coaxial BNC (75 Ω termination switchable), AES11 (DARS also supported), WCK 2 switchable to Video Sync (black burst, tri-level) |
| MIDI              | -  | 2 x DIN socket  |
| GPIO              | 2 x GPI (MOSFET switch), 2 x GPO (MOSFET switch)                           |   |
| USB               | 1 x USB 2.0 for control of ANDIAMO   | 2 x USB 2.0 for control of ANDIAMO  |
| Management Ports  | 1 x RJ45   | 2 x RJ45, 1 x SFP   |
| Remote Software   | globcon / web ui   |   |
| Control Plugins   | JSON API, Ember+, OSC  |   |
| Power Supply      | 2 x 84 V to 264 V AC / 47 Hz to 63 Hz / safety class 1, phase redundant    |   |
| Power Consumption | 20 to 110 W, module dependent  |   |
| Dimensions        | Width 19" (483 mm), Height 2 RU (89 mm), Depth 10" (254 mm)                |   |
| Weight            | About 10 kg  |   |

## Licenses - Overview

| Licenses                    | PRODIGY.MC |          |           | PRODIGY.MP |          |           |
|-----------------------------|------------|----------|-----------|------------|----------|-----------|
|                             | Essential  | Advanced | Unlimited | Essential  | Advanced | Unlimited |
| FastSRC™                    | •          | included | included  | included   | included | included  |
| Input Manager               | •          |          |           | n/a        |          |           |
| Summing Busses              | •          |          |           | •          |          |           |
| Plugin Bundle 8 or 16 or 32 | n/a        | n/a      | n/a       | •          |          |           |
| Mix & Sum 8 or 16 or 32     |            |          |           | •          |          |           |
| AutoMix*                    |            |          |           | •          | •        |           |
| Loudness Metering           | •          | •        | included  | •          | •        |           |
| Ember+                      | •          | •        |           | •          | •        |           |
| OSC                         | •          | •        |           | •          | •        |           |
| Automator                   | •          | •        |           | •          | •        |           |
| Future License Options      | •          | •        |           | •          | •        |           |

System License = Bunch of features included, upgrades to ‚Advanced‘ or ‚Unlimited‘ are available from the local distributor.

License Option [•] = Single feature available for purchase

\* AutoMix with a system license ‚Essential‘ requires ‚Plugin Bundle‘ and ‚Mix & Sum‘