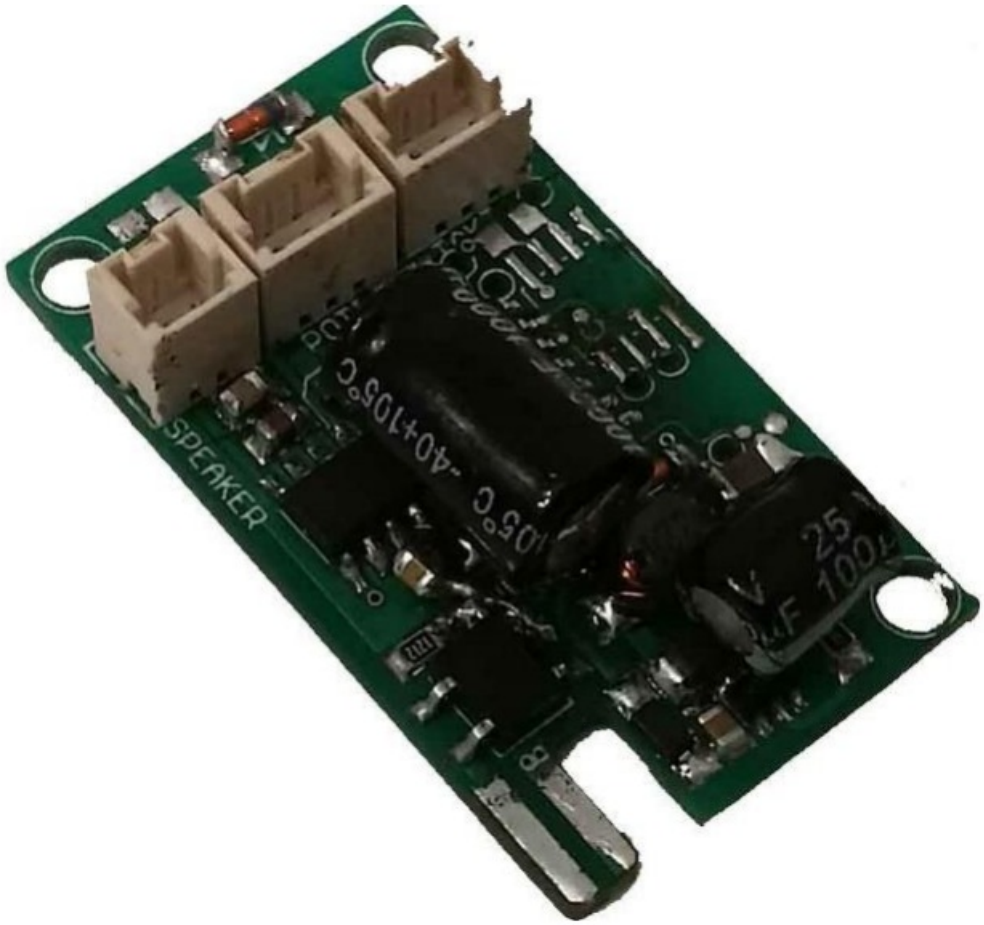
mxion BASIC Simple Sound Module User Manual

mXion

BASIC User manual



Contents

Introduction

Dear customer, we strongly recommend that you read these manuals and the warning notes thouroughly before installing and operating your device. The device is not a toy (15+).
NOTE: Make sure that the outputs are set to appropriate value before hooking up any other device. We can't be responsible For any damage if this is disregarded.

General information

We recommend studying this manual thoroughly before installing and operating your new device.
Place the decoder in a protected location.
The unit must not be exposed to moisture.
NOTE: Some funktions are only available with the latest firmware.
Please make sure that your device is programmed with the latest firmware.

Summary of Funktions

DC/AC/DCC operation	For all 4 – 16 Ω speakers
Analog & digital	Reset function for all CV v
Compatible NMRA-DCC module	Control via real model trai
Very small module	Easy function mapping
3W Class-D Audio Amplifier	28 function keys programı
Simple Sound module	14, 28, 128 speed steps (a
Digital called additional sounds	Multiple programming opti
Ready-to-use Sounds (steam, diesel, e)	(Bitwise, CV, POM)
Buffer compatible	Needs no programming lo

Scope of supply

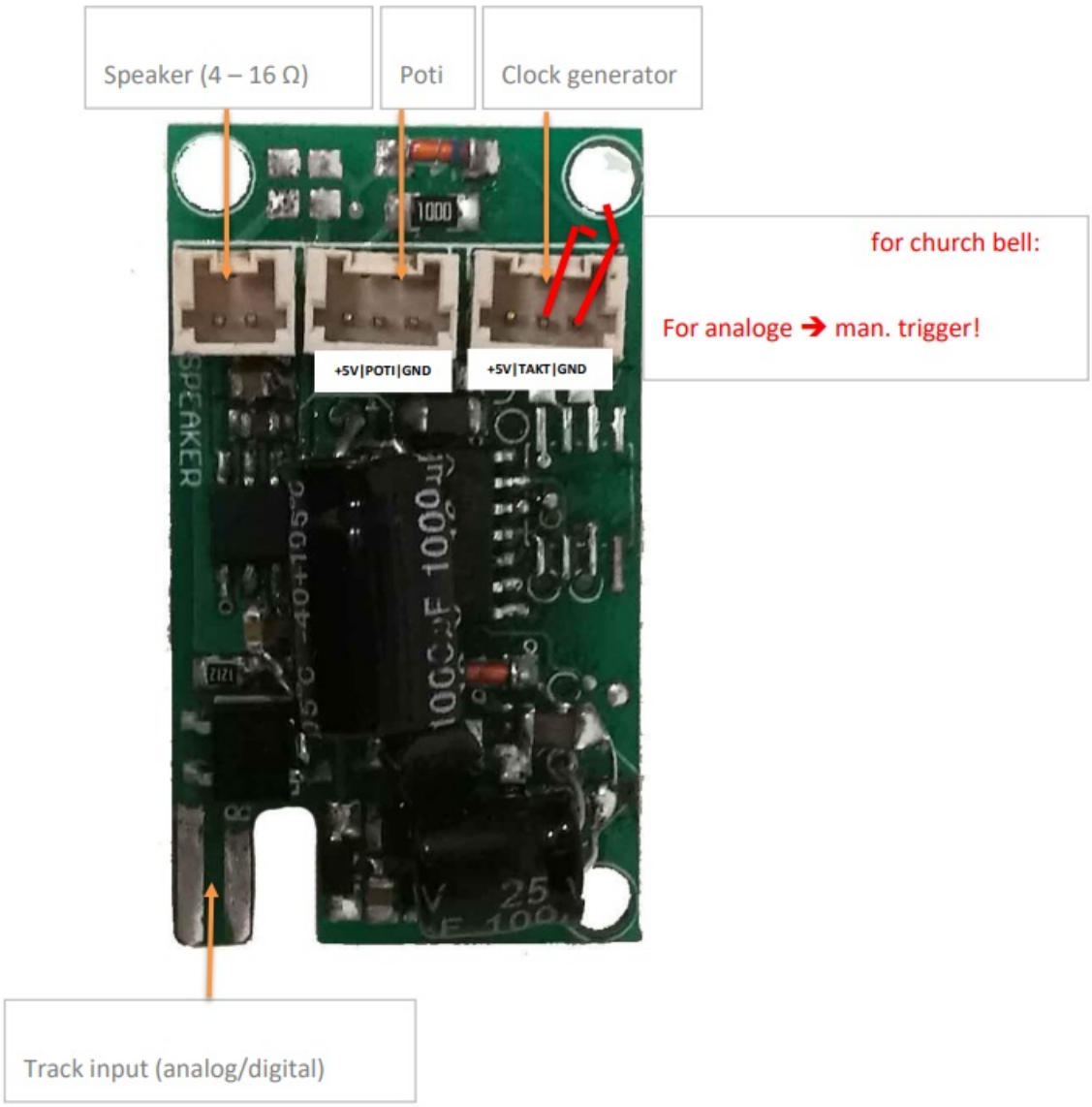
Manual
mXion BASIC-S

Hook-Up

Install your device in compliance with the connecting diagrams in this manual.
The device is protected against shorts and excessive loads. However, in case of a connection error e.g. a short this safety feature can't work and the device will be destroyed subsequently.

Make sure that there is no short circuit caused by the mounting screws or metal.
NOTE: Please note the CV basic settings in the delivery state.

Connectors



Product description

The mXion BASIC-S is a very simple one sound module for analog and digital systems.
There are a number of ready-made sounds for the BASIC-S (on request at any time expandable). By the using a single processor without external memory chips this module is one very attractive price available.
The prefabricated sounds (steam, diesel, and electric) are kept simple and have none noise.
But it is possible in digital up to 3 additional sounds (horn, bell and whistle) retrieve.
Even different settings, f-key assignment is programmable. In addition, the volume via CV and poti set a clock connected and the sound (in digital mode) on/off. Even mute is possible and poti will be automaticly known.
The clock simulation (or external clock) is adjustable.
Ideally, this sound module is also possible for „fun“ sounds like Coca-Cola® songs, chicken dance, christmas songs and much more. The library is being continually expanded so you can chosse from a wide selection can.
Do you have a wish? No problem, we like to produce a sound file for you.

Church bell sound

A special feature is the church sound. This realistic, high quality bell sound one european small church offers various tax possibilities. For one thing, quite normally via a function key and locomotive address as usual. But the

control is special by chance (CV127) and can be via CV129 the minimum time interval can be adjusted. CV130 indicates how long the playing time of the bell sounds is running. Control via the digital is special (accelerated) model train time. Here sends the head office (if it supports it) one (possibly accelerated) model train time. The module can be configured based on this time be and it is therefore a pinpoint triggering after the model train time such as every modelt rain hour or every 6 hours. This can be set in CV128. This CV indicates the division factor. Speak a value of 6 would trigger every 6 hours correspond.
If you add 128 (in this case 134) would trigger every 6 minutes be called.

Note: Not all digital central stations support the model train time (e.g. like our 30Z will do it). Unless it supports the digital control, the module itself counts the time at system start high in real time (1 sec = 1 sec).
In analoge, the bell came with random, also also can be triggered by manuel.

Programming lock

To prevent accidental programming to prevent CV 15/16 one programming lock. Only if CV 15 = CV 16 is a programming possible. Changing CV 16 changes automatically also CV 15.
With CV 7 = 16 can the programming lock reset.

STANDARD VALUE CV 15/16 = 130

Programming options

This decoder supports the following programming types: bitwise, POM and CV read & write and register-mode.
There will be no extra load for programming.
In POM (programming on maintrack) the programming lock is also supported.
The decoder can also be on the main track programmed without the other decoder to be influenced. Thus, when programming the decoder can not be removed.
NOTE: To use POM without others decoder must affect your digital center POM to specific decoder adresses

Programming binary values
Some CV's (e.g. 29) consist of so-called binary values. The means that several settings in a value. Each function has a bit position and a value. For programming such a CV must have all the significances can be added. A disabled function has always the value 0.
EXAMPLE: You want 28 drive steps and long loco address. To do this, you must set the value in CV 29 2 + 32 = 34 programmed.

Buffer control
Connect buffer directly DEC+ and DEC-.
The capacitors need, provided no charging electronics is included, with a resistor of 120 ohms and a diode in parallel between DEC+ and the port (+) of the buffer be switched. The dash on the diode (cathode) must be connected to DEC+ become. The decoder contains none buffer control unit.

Programming loco adress
Locomotives up to 127 are programmed directly to CV 1. For this, you need CV 29 Bit 5 „off“ (will set automaticly). If larger addresses are used, CV 29 – Bit 5 must be „on“ (automaticly if change CV 17/18). The address is now in CV 17 and CV 18 stored. The address is then like follows (e.g. loco address 3000):
3000 / 256 = 11,72; CV 17 is 192 + 11 = 203.
3000 – (11 x 256) = 184; CV 18 is then 184.

Reset functions
The decoder can be reset via CV 7. Various areas can be used for this purpose.
Write with the following values:
11 (basic functions)
16 (programming lock CV 15/16)

CV-Table
S = Default, A = Analog operation usable

CV	Description	S	A	Range	Note
1	Loco address	3		1 – 127	if CV 29 Bit 5 = 0 (automatically reset)
7	Software version	–		–	read only (10 = 1.0)
7	**Decoder reset functions**				
	2 ranges available			11 16	basic settings programming lock (CV 15/16)
8	Manufacturer ID	160		–	read only
7+8	**Register programming mode**				
	Reg8 = CV-Address Reg7 = CV-Value				CV 7/8 don't changes his real value CV 8 write first with cv-number, then CV 7 write with value or read (e.g.: CV 49 should have 3) → CV 8 = 49, CV 7 = 3 writing
11	Analog timeout	30		30 – 255	1ms each value
15	Programming lock (key)	130		0 – 255	to lock only change this value

16	Programming lock (lock)	130		0 – 255	changes in CV 16 will change CV 15
17	Long loco address (high)	128		128 – 10239	activ only if CV 29 Bit 5 = 1 (automatically set if change CV 17/18)
18	Long loco address (low)				
19	Traction address	0		1 – 127 /255	loco address for multi traction 0 = deactive, +128 = invers

29	**NMRA configuration**	**6**	√		**bitwise programming**

Bit	**Value**	**OFF (Value 0)**	**ON**
1	2	14 speed steps	28/128 speed steps
2	4	only digital operation	digital + analog operation
5	32	short loco address (CV 1)	long loco address (CV 17 /18)
7	128	loco address	switch address (from V. 1 .1)

44	Clock divider	0	√	0 – 255	divides the clock through the CV val ue
48	Clock simulation correction	45	√	0 – 65	correction for simulated clock (1s /va le)

49	**mXion configuration**		**12**	√		**bitwise programming**
	Bit	**Value**		**OFF (Value 0)**		**ON**
	0	1		clock simulation		clock extern
	1	2		extern clock normal		extern clock invers
	2	4		poti deactive		poti active
	3	8		steam not blending		steam blending

CV	Description	S	A	Range	Note
120	Sound 1 function key (horn)	1			siehe attachment 1
121	Sound 2 function key (bell)	2			siehe attachment 1
122	Sound 3 function key (whistle)	3			siehe attachment 1
123	drive sound function key	5			siehe attachment 1
124	mute function key	6			siehe attachment 1
125	Lautstärke	255	√	0 – 255	
126	Bell sound lenght	2	√	0 – 255	time base 10ms/value
127	Random chime	0	√	0/1	Only with church bell sound! Triggered by chance
128	Bell chime per time	0	√	0 – 255	Only with church bell sound! Control via DCC model train time Tripping ever y hour (e.g. 1 è every hour) +128 triggers per minute (e.g. 130 → every 2 minutes)
129	Random time minimum	30	√	0 – 255	Only with church bell sound! Minimum distance for coincidence in minutes
130	Carillon time	20	√	0 – 255	Only with church bell sound! Playing time of the chime in seconds

ATTACHMENT 1 – Command allocation		
Value	**Application**	**Note**
0 – 28	0 = Switch with light key 1 – 28 = Switch with F-key	Only if CV 29 Bit 7 = 0
+64	permanent off	
+128	permanent on	

Technical data

Power supply: 4-27V DC/DCC
3-18V AC
Current: 10mA (with out sound)
Maximum current: 1 Amps.
Temperature range: -20 up to 65°C
Dimensions L*B*H (cm): 2.4*4*2.5
NOTE: In case you intend to utilize this device below freezing temperatures, make sure it was stored in a heated environment before operation to prevent the generation of condensed water. During operation is sufficient to prevent condensed water.

Warranty, Service, Support

micron-dynamics warrants this product against defects in materials and workmanship for one year from the original date of purchase. Other countries might have different legal warranty situations. Normal wear and tear, consumer modifications as well as improper use or installation are not covered.
Peripheral component damage is not covered by this warranty. Valid warrants claims will be serviced without charge within the warranty period. For warranty service please return the product to the manufacturer. Return shipping charges are not covered by micron-dynamics. Please include your proof of purchase with the returned good. Please check our website for up to date brochures, product information, documentation and software updates. Software updates you can do with our updater or you can send us the product, we update for you free.
Errors and changes excepted.

Hotline
For technical support and schematics for application examples contact:
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https://www.youtube.com/@micron-dynamics

RoHS Compliant

Documents / Resources

	**mxion BASIC Simple Sound Module** [pdf] User Manual BASIC Simple Sound Module, BASIC, BASIC Module, Simple Sound Module, Sound Module, Module

References

- **Top Fahrradbekleidung für Damen & Herren - Ride your Style**
- **micron-dynamics**
- **micron-dynamics**