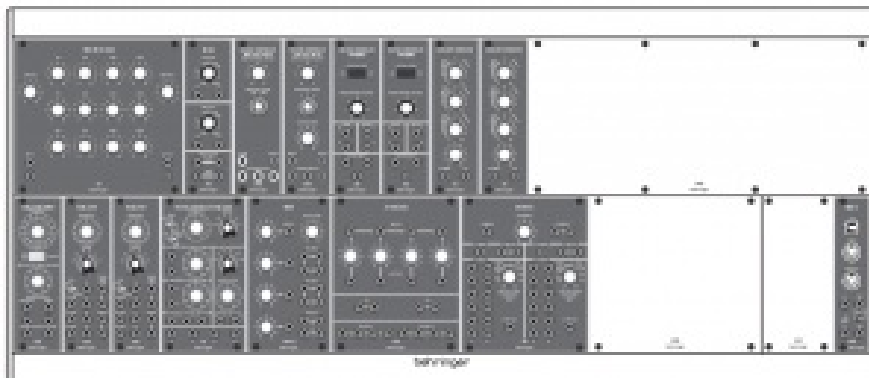


# behringer SYSTEM 15 Complete "System 15" Modular Synthesizer User Guide

[Home](#) » [Behringer](#) » behringer SYSTEM 15 Complete "System 15" Modular Synthesizer User Guide 

## behringer SYSTEM 15 Complete "System 15" Modular Synthesizer



### Contents

#### [1 Important Safety Instructions](#)

##### [1.1 LEGAL DISCLAIMER](#)

#### [2 LIMITED WARRANTY](#)

#### [3 Modules](#)

#### [4 Getting Started](#)

##### [4.1 Patches](#)

##### [4.2 Space Rock](#)

##### [4.3 Expressive Lead #2](#)

##### [4.4 Percussive Lead](#)

#### [5 Other important information](#)

#### [6 Documents / Resources](#)

##### [6.1 References](#)

#### [7 Related Posts](#)

## Important Safety Instructions



Terminals marked with this symbol carry electrical current of sufficient magnitude to constitute risk of electric shock. Use only high-quality professional speaker cables with 1/4" TS or twist-locking plugs pre-installed. All other installation or modification should be performed only by qualified personnel.



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.



### **Caution**

To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel.



### **Caution**

To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.



### **Caution**


These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Use only attachments/accessories specified by the manufacturer.



12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.
16. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.



17.  Correct disposal of this product: This symbol indicates that this product must not be disposed of with household waste, according to the WEEE Directive (2012/19/EU) and your national law. This product should be taken to a collection center licensed for the recycling of waste electrical and electronic equipment (EEE). The mishandling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the efficient use of natural resources. For more information about where you can take your waste equipment for recycling, please contact your local city office, or your household waste collection service
18. Do not install in a confined space, such as a book case or similar unit.
19. Do not place naked flame sources, such as lighted candles, on the apparatus.
20. Please keep the environmental aspects of battery disposal in mind. Batteries must be disposed-of at a battery collection point.
21. This apparatus may be used in tropical and moderate climates up to 45°C.

## LEGAL DISCLAIMER

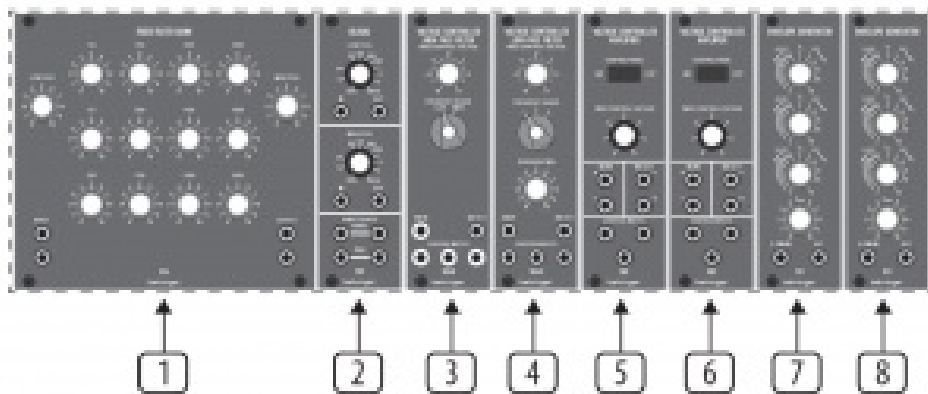
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## LIMITED WARRANTY

For the applicable warranty terms and conditions and additional information regarding Music Tribe's Limited Warranty, please see complete details online at [musictribe.com/warranty](https://musictribe.com/warranty)

## Modules

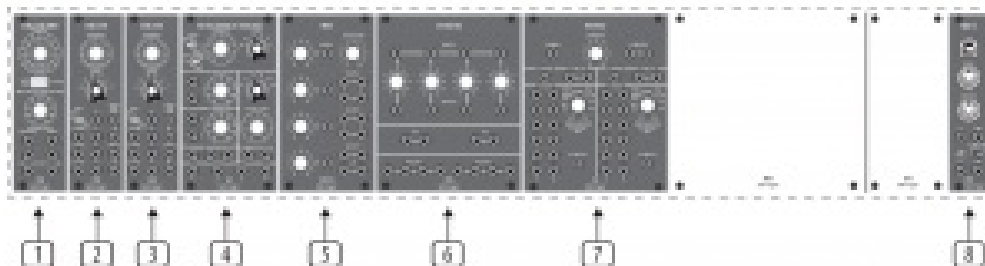
Your System 15 has two rows of modules



### Top Row

1. (914 Fixed Filter Bank (FFB).
2. 923 Filters and Noise Sources.
3. 904B High Pass Filter (HPF
4. 904A Low Pass Filter (LPF).
5. & (6) 902 Voltage Controlled Amplifiers (VCA).
6. & (8) 911 Envelope Generators (EG).

### Bottom Row



1. 921A Oscillator Driver.
2. & (3) 921B Voltage Controlled Oscillators (VCO).
3. 921 Voltage Controlled Oscillator (VCO/LFO).
4. CP3A – M
5. CP35 Attenuator / Voltage Source / Multiple.
6. 961 Interface.
7. CM1A – MIDI interface.

Further information on all modules can be found on their individual Quick Start Guides at [www.behringer.com/downloads.html](http://www.behringer.com/downloads.html)

## Getting Started

### CONNECTION

To connect the System 15 to your system, please consult the connection guides in specific patches.

### HARDWARE SETUP

Make all the connections in your system. Keep the System 15 power turned off when making any connections. Ensure your sound system is turned down. Turn on the System 15 before turning on any power amplifiers and turn

it off last. This will help prevent any turn on or turn off “pops or thumps” in your speakers.

### **WARM UP TIME**

We recommend leaving 30 minutes or more time for the System 15 to warm up before recording or live performance. (Longer if it has been brought in from the cold.) This will allow the precision circuits time to reach their normal operating temperature and tuned performance.

### **Patches**

#### **Expressive Lead 1**



Voltage Control (pitch)

Source	Destination
External MIDI Keyboard – MIDI Out	CM1A MIDI Interface MIDI In
CM1A CV Output	CM1A CV Output
921A Frequency Output	921B Frequency Link (in series)
<b>Audio</b>	
921B Waveform outs (three of four)	CP3A-M Inputs
CP3A-M Output	904A Signal Input
904A Signal Output	902 Signal Input
902 Signal Output	Your mixer/amplifier/DAW
<b>Voltage Control (amplitude)</b>	
CM1A s-trigger Output	Multiple
Multiple Output (two of)	2 x 911 s-trigger Input
1st 911 Output	1st 902 Control Input

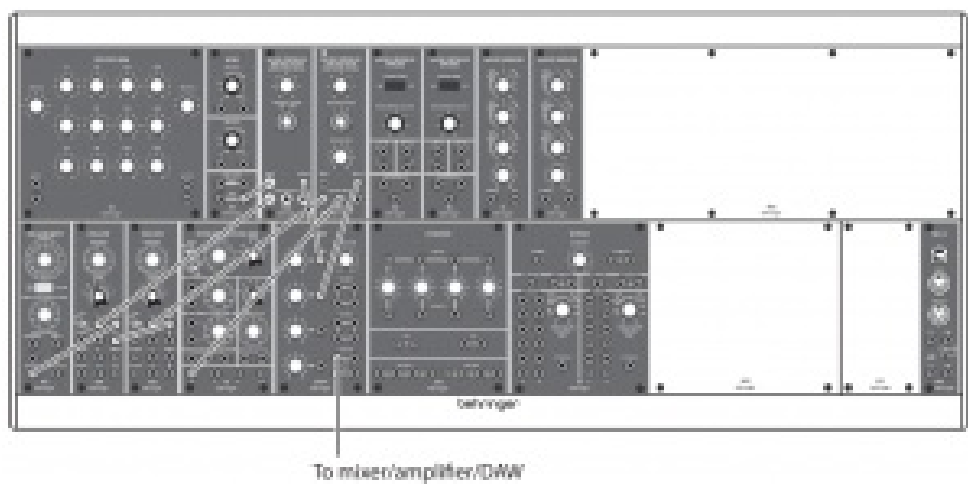
#### **Voltage Control (modulation)**

921 Aux Sine Output	2nd 902 Signal Input
2nd 902 Signal Output	921B DC Mod Inputs via Multiple
2nd 911 Output	2nd 902 Control Input

This patch allows a delayed vibrato effect to fade in when a note is held. The external keyboard controls the pitch and triggering of notes via the CM1A MIDI Interface. As this can be switched between v-trigger and s-trigger then s trigger should be selected and the 961 Interface need not be used. Pitch CV is fed to one of the 921As, which daisy chain to the 921B VCOs. The selected waveform from each oscillator is fed to the CP3A-M mixer; which then feeds the 904A LPF. S-triggers are fed to a multiple, and then to the 911s' s-trigger inputs. The output of the 904A LPF is fed to one of the 902 VCAs, which feeds out to your mixer, amplifier or DAW. This VCA is controlled by the first 911 EG. The second 911 EG controls the second 902 VCA. The second 902 VCA signal input is fed from the 921 LFO. Its output is fed to one of the CP35 multiples, whose outputs feed the DC Modulation inputs of the 921B VCOs. The second 911 should have a long attack time and full sustain. So long as the first 911 has a long sustain time, when a note is held a vibrato effect will fade in slowly. When notes are played legato there is

little or no vibrato

Space Rock



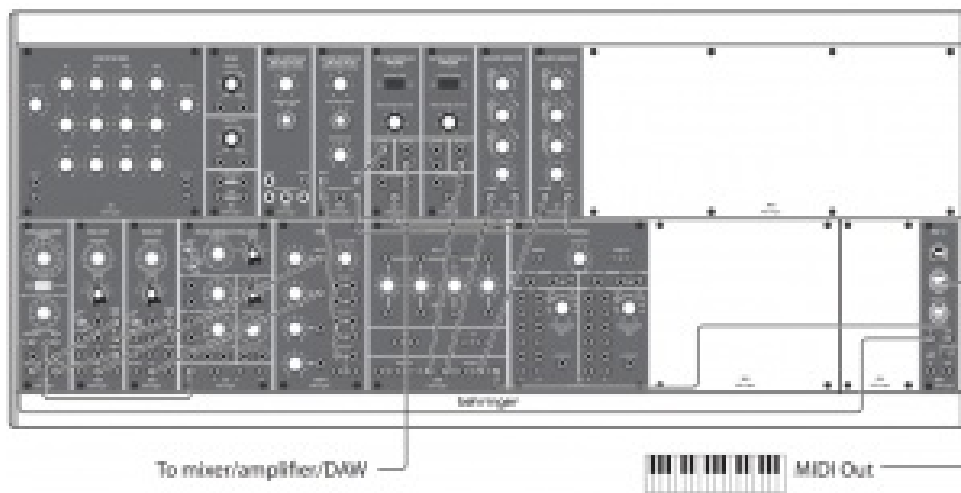
This patch creates two of the classic ‘space rock’ sounds, and allows them to be mixed together.

Source	Destination
921 Sine Wave Output	904A Control Input
921A Frequency Output	2 x 921B Frequency Link (in series)
1st 921B Sine Wave Output	904A Control Input
2nd 921B Sine Wave Output	904B Control Input
923 Pink Noise Output	904B Signal Input
904A Signal Output	CP3A-M Input 1
904B Signal Output	CP3A-M Input 2
CP3A-M Output	Your mixer, amplifier, DAW

Control settings are very important for this patch.  
Regeneration on the 904A must be set to 9 or 10 to force the filter to self oscillate  
The 921A should have Octave selected and the frequency control set to -6  
The 921Bs should be set to ‘Lo’ – these oscillators provide the sweep to the filters  
The 921 should be set to ‘Sub’ – this is the main modulation for the self oscillating filter, and manual alteration of the Frequency control helps to produce the classic sound.

The pink noise feeding the 904B produces a swept wind effect, that can be altered with the Fixed Control Voltage  
Altering the Fixed Control Voltage of the 904A also produces interesting effects  
The CP3A-M balances the two signals, as an alternative feed the outputs of the two filters direct to two mixer or amplifier channels. Both sounds benefit from a lot of echo!

Expressive Lead #2



A simple, two oscillator lead sound with a hard front end and timbral development which is also suitable for melodic sequencing

### Voltage Control (pitch)

Source	Destination
External MIDI Keyboard – MIDI Out	CM1A MIDI Interface MIDI In
921A Frequency Output	921B Oscillator Frequency Link (in series)
921A Width Output	921B Oscillator Width Link (in series)
<b>Audio</b>	
2 x 921B Square Wave Output	CP3A-M Inputs 1 & 2
CP3AM Output	904A Signal Input
904A Signal Output	902 Signal Input
902 Signal Output	Your Mixer/Amplifier/DAW
<b>Voltage Control (Amplitude)</b>	



CM1A s-trigger Output via Multiple	2 x 911 s-trigger Input
1st 911 Output	1st 902 Control Input
<b>Voltage Control (Modulation)</b>	
921 sine wave Output	921A Width Input
921A Width Link	2 x 921B Width Link (in series)
2nd 911	904A Control Input

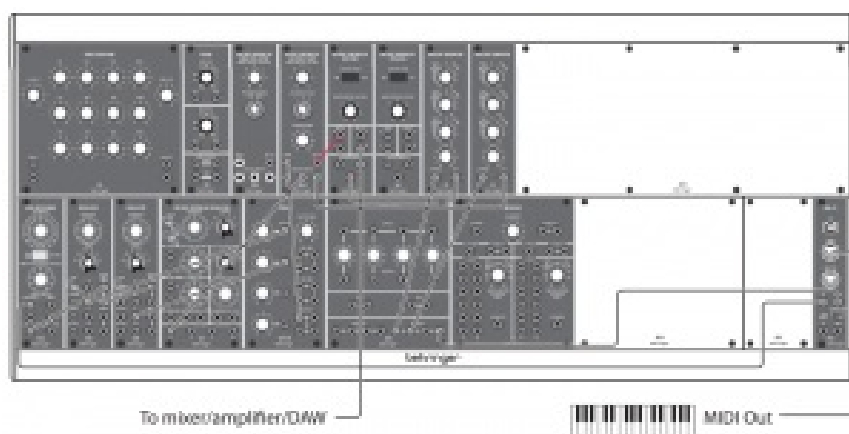
The detuned 921B VCOs give a fat sound, whose timbre changes constantly at the speed of the 921 sine wave – the 921 should be in Sub mode, speed can be adjusted to suit.

The sound comes from the 904A LPF, whose Fixed Control Voltage and Regeneration can be set to whatever suits your aim, plus modulation from the second 911 EG.

EG settings can be adjusted to suit for the main part of the sound, although medium to high levels on T2 (decay), T3 (release) and E sus(tain) are recommended.

The second EG should have a medium length T1 (attack), medium T2 (decay) and minimal T3 (release) and E sus(tain)

### Percussive Lead



A simple, two oscillator lead sound with a hard front end and timbral development which is also suitable for melodic sequencing.

### Voltage Control (pitch)

Source	Destination
External MIDI Keyboard – MIDI Out	CM1A MIDI Interface MIDI In
CM1A CV Out via Multiple	921A Frequency Input
921A Frequency Output	921B Frequency Link (in series
<b>Audio</b>	
1st 921B Triangle wave Output	CP3A-M mixer Input 1
2nd 921B Saw tooth wave Output	CP3A-M mixer Input 2
CP3A-M Output	904A Signal Input
904A Signal Output	902 VCA
902 Signal Output	Your Mixer/Amplifier/DAW
<b>Voltage Control (Amplitude)</b>	
CM1A s-trigger out via Multiple	2 x 911 s-trigger Input
1st 911 Output	902 Control Input
<b>Voltage Control (Modulation)</b>	
921 Sine Wave Out	904A Control Input
2nd 911 Output	904A Control Input

This sound uses two 921B VCOs, with different waveforms, and sounds best if one is slightly detuned. They both feed the 904A LPF, and their relative levels can be adjusted with the CP3A-M mixer as required. The 904A's output is fed to a 902 VCA, whose amplitude is controlled by the 1st 911 EG

To obtain the percussive edge the 911's settings should be T1 (attack) 2ms, T2 (decay) 200ms, T3 (release) 200ms, E sus(tain) 4 seconds

The 904A is modulated by a slow sine wave from the 921 LFO and by the 2nd 911 EG, which should have settings around T1 (attack) 1 second, T2 (decay) 50ms, T3 (release) 4 seconds, E sus(tain) 9

### Other important information


1. **Register online.** Please register your new MusicTribe equipment right after you purchase it by visiting

musictribe.com. Registering your purchase using our simple online form helps us to process your repair claims more quickly and efficiently. Also, read the terms and conditions of our warranty, if applicable.



2. **Malfunction.** Should your MusicTribe Authorized Reseller not be located in your vicinity, you may contact the MusicTribe Authorized Fulfiller for your country listed under “Support” at musictribe.com. Should your country not be listed, please check if your problem can be dealt with by our “Online Support” which may also be found under “Support” at [musictribe.com](https://musictribe.com). Alternatively, please submit an online warranty claim at musictribe.com BEFORE returning the product.
3. **Power Connections.** Before plugging the unit into a power socket, please make sure you are using the correct mains voltage for your particular model. Faulty fuses must be replaced with fuses of the same type and rating without exception.



## Documents / Resources

 <p>SYSTEM 15 Complete System 15 Modular Synthesizer with 16 Modules BEHRINGER SYSTEM 15 MODULAR SYNTHESIZER</p>	<p><a href="#">behringer SYSTEM 15 Complete "System 15" Modular Synthesizer</a> [pdf] User Guide SYSTEM 15, Complete System 15 Modular Synthesizer, Modular Synthesizer with 16 Modules</p>
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## References

-  [Music Tribe](#)
-  [Behringer | Downloads](#)