

11 pin adapter cable for Hammond XK-3/XK-3c and NEO Instruments Ventilator

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This document brief describes how an 11-pin adapter cable between Hammond XK-3/XK-3c (www.hammond.eu) and Ventilator (www.neo-instruments.de) Leslie simulator can be constructed. This adapter cable should also work with any other Hammond clone that follows the correct 11-pin Hammond standard.

The brand names Hammond® and Leslie® are protected trade-marks of Hammond-Suzuki Corporation. The Ventilator is a product of NEO Instruments.

Disclaimer!

This document only describes how I did make this adapter cable and is not meant to be a user instruction guide how to construct these cables. If however some-one uses the information in this document to make an adapter cable the author of the document takes no responsibility whatsoever for misprint, void warranties, destroyed equipment and what ever harm can happen to equipment, people, animals, buildings, nature etc etc... **The information may be used at your own risk entirely!**

Background

The Hammond XK-3/XK-3c is a very fine instrument but in my opinion the built in Leslie simulator has not given me real feel of a genuine Leslie so therefore I have mostly dragged a real Leslie around when gigging. However in the autumn of 2009, a new Leslie simulator, the “Ventilator” was released by NEO Instruments and I find the Ventilator to be a very good upgrade to XK-3/XK-3c's internal Leslie simulator and also a good Leslie substitute when it's neither possible nor practical to use a real Leslie. At the time of writing this document and in my opinion I would say that the “Ventilator” is without doubt the best Leslie simulator on the market; what's best tomorrow only time will tell.

I am used to using the XK-3/XK-3c's own Leslie controls (hand and/or foot switch) to switch the speed of my Leslie so I wanted a solution where the user interface would be the same whichever I used, be it a real Leslie speaker or the “Ventilator” Leslie simulator and in addition making it easy to setup too.

The adapter cable

After studying the 11-pin output on the XK-3/XK-3c (Fig. 2) and the “Ventilator” speed switching (Fig. 1) plus contacting NEO Instruments about what polarity the “Ventilator” uses, I realized that it would be easy to build an adapter cable (Fig. 3). Only a few parts would be needed (see Parts section) and the connections could be done as described below (see connections section).

Should you decide to make up a similar cable and if you're not familiar with electronics and soldering I would very strongly advise that you have a professional tech build this cable for you; there is no rocket science involved but it is possible to fry your equipment if it is done incorrectly!

With the adapter cable (Fig.3 and 4) it is possible to use the XK-3/XK-3c's own Leslie controls to switch the speed (slow/stop/fast) of the “Ventilator”. The audio signal is also sent through adapter cable and the 12VDC PSU can serve both the Ventilator and the Leslie sensing for XK-3/XK-3c.

Parts

- 11-pin male connector plug.
- 6,3mm mono plug.
- 6,3mm stereo plug.
- A suitable length of high quality shielded microphone audio cable (can be used for both speed switching and audio signal).
- A spare 12V DC power supply or you can use the PSU that comes with the Ventilator (If a spare PSU is used, check for proper volt/ampere rating and polarity).

Connections

Audio signal:

- 11-pin connector pin 1 to the tip on the 6,3mm mono plug (Audio signal)
- 11-pin connector pin 4 to the sleeve on the 6,3mm mono plug (Audio GND)

Speed switching:

- 11-pin connector pin 5 to the sleeve on the 6,3mm stereo plug (Control GND)
- 11-pin connector pin 7 to the ring on the 6,3mm stereo plug (Fast)
- 11-pin connector pin 8 to the tip on the 6,3mm stereo plug (Slow)

Power supply:

- PSU GND goes to the 11-pin connector pin 5 (Control GND) and to PSU plug for Ventilator (GND)
- PSU +12V DC goes to the 11-pin connector pin 11 (+B) and to PSU plug for Ventilator (+12V)

Speed switching notes! When looking at Fig. 1) taken from the Ventilator user manual you get the impression that tip to sleeve gives fast speed on Ventilator, this is however wrong as the opposite applies, (ie) ring to sleeve gives fast speed. Thanks to Thomas Adamson for pointing this out.

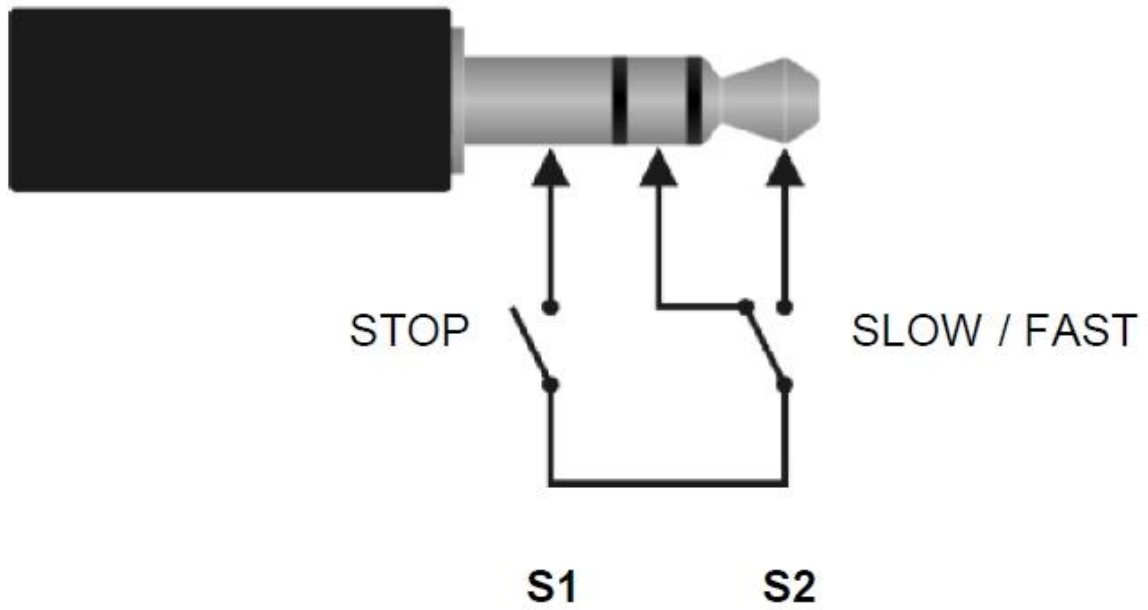


Fig. 1) Instruction from Ventilator user's manual describing the speed switching.

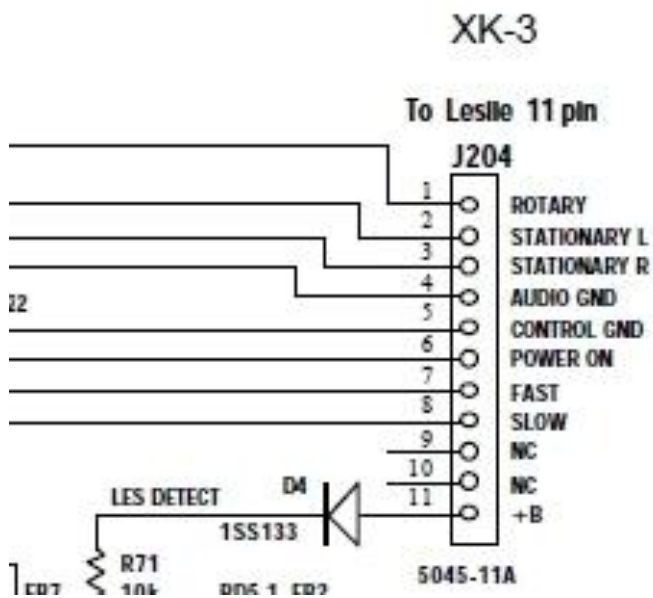


Fig. 2) Description of the Hammond XK-3's 11-pin female output connector.

Pictures



Fig. 3) Picture of the adapter cable



Fig. 4) Picture of the adapter cable in use connected between XK-3 and Ventilator