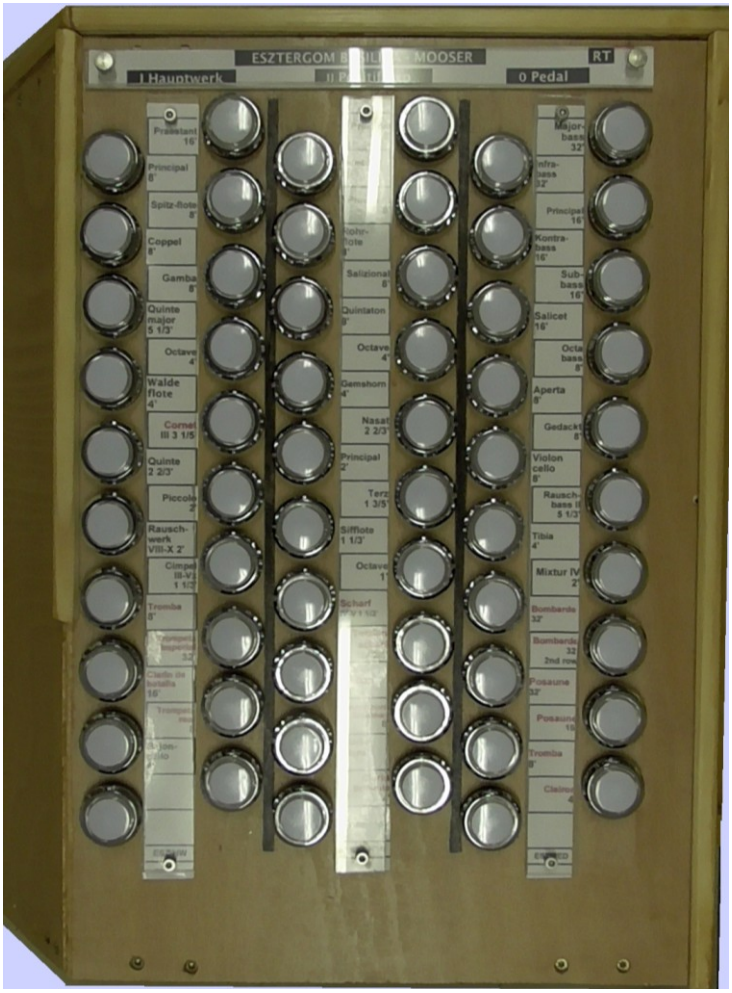
PROTOTYPE STOP JAMBS

for

HAUPTWERK VIRTUAL PIPE ORGANS

WITHOUT

ELECTRONIC LABELLING



ADVICE TO PROSPECTIVE PURCHASERS

This document describes a prototype design of Stop Jamb which is being offered for sale for use with Hauptwerk Virtual Pipe Organ Consoles

These Stop Jambs all feature illuminated Stop Switches, but do NOT feature Electronic Stop Labelling.

A pair, left & right of Mk II Stop Jambs are offered, fully constructed with enclosures, but without MIDI Encoders or Decoders. However, the Switches and their LEDs are wired so that suitable connection arrangements to MIDI Encoder and Decoder devices may be made by the purchaser.

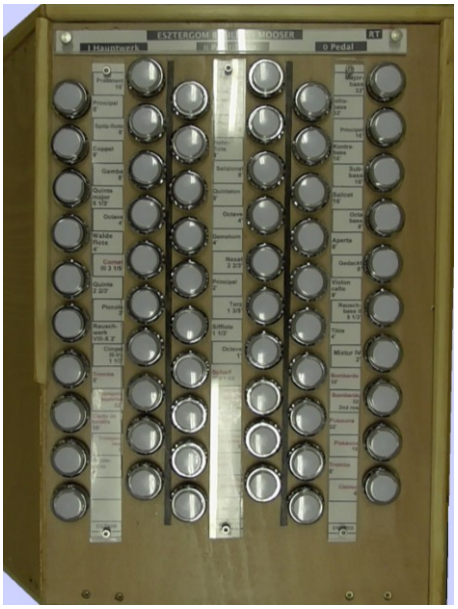
Prospective purchasers should note that a degree of experience and knowledge of how to connect switches to MIDI Encoders, and LEDs to MIDI Decoders will be necessary to complete the installation. The processes are briefly explained in this document. Where a prospective purchaser lives within travelling distance, a visit to discuss the Jambs is welcome. Otherwise email and Zoom communications will enable any questions to be resolved.

Prototype Mark II Stop Jambs
for the
Hauptwerk Virtual Pipe Organ

Kenneth A. Spencer

PAIR: MARK II (right jamb is shown)

UNLABELLED ILLUMINATED SWITCH STOP JAMBS



Unlike most of the Prototype Stop Jambs which we are making available, the Mark II Jambs were in use in the console – from around July 2018 to May2019. However, the MIDI encoders & decoders have been removed and are no longer available. The Purchaser must accept full responsibility for connecting the Stop Switches and their LEDs to the MIDI devices. Some advice on this is given below, more may be available by email or via Zoom.

This offer is for a pair of Stop Jambs, Left and Right. As these devices were designed for use in a console with a 30-note pedalboard, there was slightly more space available on the right side than the left – the jambs are not therefore both of equal dimensions.

Labelling strips for several organs and a template for others can be supplied with these jambs.

A1. Switch & LED Numbers

Switches/LEDs of the stop jambs should be considered to be numbered with Switch/LED 01 being at the top of the jamb, and nearest to the keyboard stack. Number 02 is at the top on the next column in the first column pair. Thus number 21 is at the top of the centre column pair, and number 41 at the top of the outer column pair.

The diagram on the right shows the arrangement on the two Jambs. On the Left Jamb, Switch/LED 01 will also be at the top of the jamb, and also nearest the keyboard stack. In other words, Stop Switch 01 is always towards the centre of the console, and towards the Top of the Jamb.

42	41	22	21	02	01
60	59	40	39	20	19

Left Jamb

01	02	21	22	41	42
19	20	39	40	59	60

Right Jamb

A2. Components Used

Sixty 1.3" round illuminated stop switches are mounted on a stop plate in six columns, the columns being in three pairs.

A2.1 Switch Contacts

Each switch body carries a micro-switch which includes a normally open (N/O) contact - some may also include a normally closed contacts (N/C) too) - and a common contact.

The commons of all switches are already connected together, and terminate in a single wire to connect to the common input of a MIDI Encoder (not supplied).

The Switch N/O contacts are already connected to the cores of ribbon cables some of which may have connectors fitted. The connectors should be removed as they are

unlikely to match the current requirements. Each ribbon cable core must be connected to the input of a MIDI Encoder corresponding to the Switch number connected via the core.

MIDI Encoders usually have Pin Header sockets onboard. If yours are thus, you will need to source and fix matching 20-way 2x10 DIL IDC plugs to the Switch Cables.

A2.2 LED Contacts

Each Switch also contains an LED and a ballast resistor, usually for 12V. The LEDs are polarised – hence the input polarities matter. The LEDs are in white plastic holders which are easily removed from the switch body, in case of a problem.

The connections to the LEDs depend upon the polarity of the MIDI Decoder used: some are *Common Positive* and others *Common Negative*. They are already connected but should be tested as they must match your decoder polarisation.

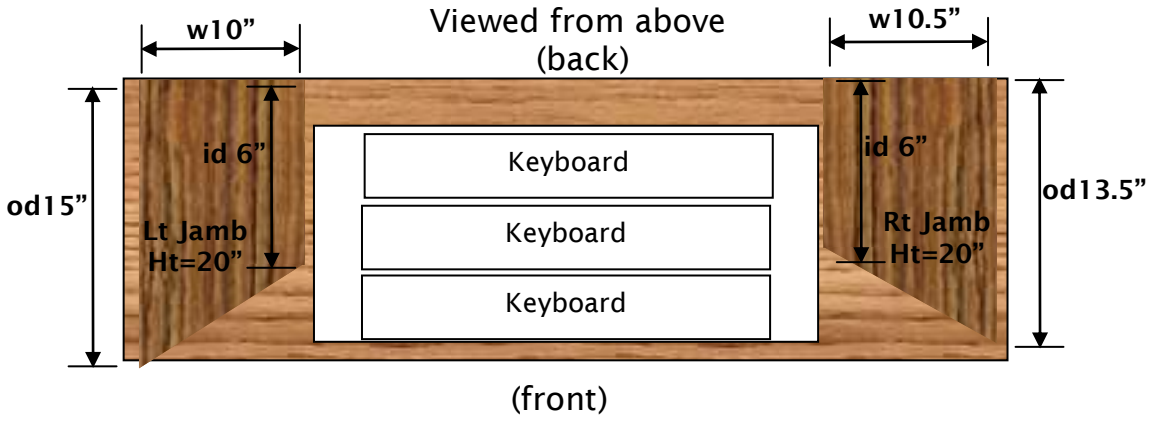
If you are in doubt about the orientation of the LED positive and negative connections, remove an LED holder from the switch body. Use a battery (3-5V) and check which way round the +ve and –ve poles of the battery must be connected to light the LED. Then orientate all LED holders similarly in their switch bodies. LEDs have one thin and one thicker wire, use those to orientate each LED the same way in its holder.

The LED Commons Connect the appropriate terminal of each LED, +ve or –ve, to a common line which must in turn connect to the Decoder common according to whether the Decoder is of common +ve or common –ve specification.

The LED "live" contacts each of these is connected either to a core of 8-way CAT5 cable, or 0.5" 20-way ribbon cable. At the other end, each core must connect to an output of the MIDI Decoder corresponding to the position of the LED-Switch on the stop plate.

Power Supplies The Encoders & Decoders require a 9v-12v DC power supply. You may safely supply the En/De/coders in each stop jamb from one supply. Each Decoder also requires a 5v DC supply to power the LEDs. Connect these to the Decoders according the polarisation indicated in the Decoder documentation.

A3. Dimensions and Fixing (of Stop Jambs only)



The measurements in the diagram above show the height (Ht), outside depth (od), inside depth (id), and width (w) of the stop jambs. They are not quite identical because, when a 30-note pedalboard is used, the keyboard stack is not exactly central in console.

Assuming that your console has a keyboard stack platform, the stop jambs will sit on top of that. You may drill a hole through the platform on each side under the cover of the stop jambs, and feed the MIDI cables from the Encoder and Decoder down into the console. If you do not already have a MIDI Hub (at least 2IN, 2OUT, so-called 2x2) you will need one. Connect the Right Jamb MIDI Enc. to IN1 and Dec. to OUT1, and the Left Jamb MIDI Enc. to IN2 and Dec. OUT2.

A4. Cost and Logistics

I am offering the pair for **£275 each**. I would advise that the buyer collects, if at all possible, as packing and sending these large objects will expensive and not risk-free. Collecting in person also presents the opportunity to ask any technical questions.

B. CONFIGURATION

B .1 Configuring the Stop Switches and LEDs

This process is quite simple and is as described in my book "*All about Hauptwerk*" and in the Hauptwerk User Guide.

First, you may wish to use the configuration software of your MIDI Encoders and Decoders to set the *MIDI Channel* and *Note Numbers* - we use Channel 01 and Notes 01-60 in accordance with the Switch/LED numbers in section A.1. (However, those two adjustments are not essential – just much tidier and easier to debug).
Note numbers 01– 60 match the Switch & OLED Label text arrangement (01=top inner and 60=bottom outer). The MIDI Decoders will have different MIDI Ports, as they must use different MIDI Hub sockets – this avoids all conflicts with MIDI Channel numbers.

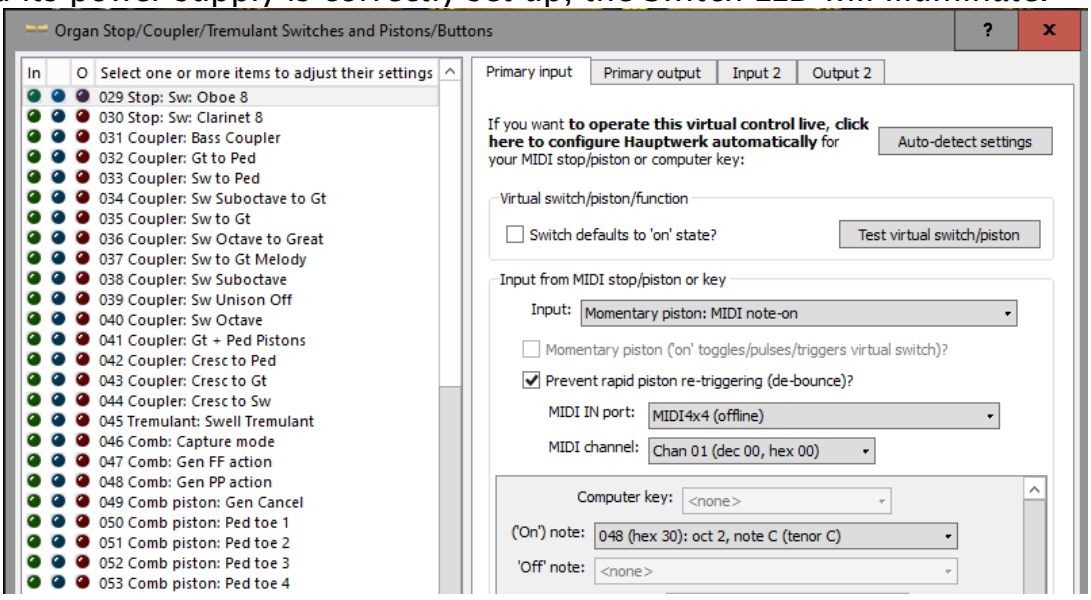
If you have installed MIDI-OX (a downloadable free utility) you may start it, and press each button in turn to demonstrate that your connections are all correct. If you have configured the MIDI Encoder correctly, you should be able to confirm the expected MIDI Port device, MIDI Channel, and Note number.

Start Hauptwerk, and be sure to set up the ports of your MIDI Hub for MIDI Input and MIDI Output, in the "*General Settings => MIDI Ports*" dialogue.

Load the organ sample set to be configured, and then right click on any virtual stop and select "*Adjust MIDI trigger ...*". The "*Organ/Stop ...*" dialogue shown overleaf will open: study it.

Select the first stop from the left hand pane, and then click on the "*Auto-detect*" button. Follow the instructions carefully, after which you will return to "*Organ/Stop ...*" dialogue. You will note that the right pane now has settings for the selected stop. These will normally be "*Momentary ... MIDI note-On*" and "*Prevent ...* ". The *Port* will accord with the socket in your MIDI Hub, and the *Channel* will be as you have set up in the earlier paragraph. If you have also defined the *Note Number* range the *Note Number* will accord with the Stop Switch number, 01-60. To enable the Switch LED, click on the *Primary Output* tab. Select "*Auto MIDI output*" with the *Output Port* corresponding to the MIDI Hub socket used for the MIDI Decoder of the Stop Jamb.

In the image on the right, the Auto-Detect results for the Swell Oboe 8' stop are shown. Press the Switch chosen for the stop, and check that the virtual stop on the screen responds accordingly.
If your Decoder and its power supply is correctly set up, the Switch-LED will illuminate.



Note that OrgauMatech MIDI Encoder/Decoder boards may need several presses of each stop to begin functioning correctly.

When you are content with your settings, select the next Stop from the left pane and repeat this process.

Finally, a note:

We have not included the Encoder, Decoder, nor their power supplies and cable connections, because their positions and arrangements will depend upon your chosen devices and their layout in the enclosures.

If you are anywhere near the southern half of the UK you would be welcome to visit to see the Stop Jambs working (Mark IV only), and have a little more explanation about any of the prototypes.

We are happy to offer further advice should you need it.

Thank you for your interest in the
Prototype Stop Jambs
and
Electronic Stop Labelling System
for Hauptwerk Organs

Kenneth A. Spencer

For support or questions, email *ESL@KASpencer.com*