

# BUILDING ELECTRONICALLY LABELLED STOP JAMBS

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There has been quite a lot of interest in my Electronic Labelling Projects for Hauptwerk Organs. As a result I am making available a **Core Kit of Components** which forms an integrated approach to building the project and which most Hauptwerk organ users should be able to complete. Here are the components (all per stop plate):

## 1. Stop Plates (right & left: available in Black Acrylic or quality Beech Ply) (Essential)

These hold all of the components except the MIDI Encoder and Decoder, which should be mounted inside your stop jamb housing. You have to build the housing yourself but dimensions and a design are offered. It supports up to 60 stops, and 64 texts, 60 texts for stops and 4 texts for organ and divisional information. The stop plates may be cut vertically to support only 20 or 40 stops. The plates are laser-cut by a professional laser operator.

## 2. The Micro-controller and *kasLABS* software (Essential)

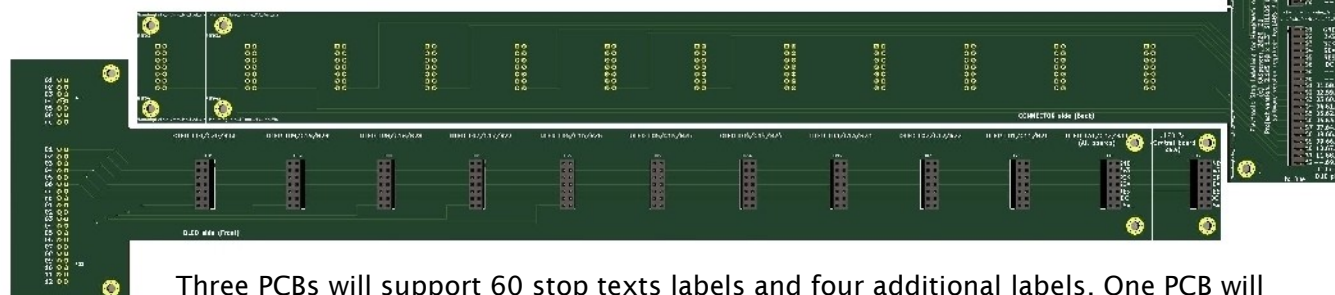


The labelling system is controlled by an Arduino microcomputer, on which is installed the *kasLABS* software v3.3x – the current version is 3.31.

Version 3.2x will also work with this hardware and the PCBs. Each PCB connects to the Arduino via cables which you may easily make up yourself, but they can also be supplied. The

Arduino can be fixed to the lower section on the back of the stop plate.

## 3. Printed Circuit Boards (PCBs) (Essential)



Three PCBs will support 60 stop texts labels and four additional labels. One PCB will support 20 stop texts and two additional texts, two will support 40 stop texts and three additional texts. Six PCBs on two plates will support 120 stops and their text labels, and eight other label texts for organ & divisional information. For Hauptwerk users who may be unable to solder the sockets onto the boards, PCBs can be supplied with sockets fitted. The PCBs are shown above: the OLED side, shown with sockets fitted, is the lower image. The upper image shows the main connectors for cabling from the PCB to the micro-controller.

## 4. The Construction Handbook (Essential)

This booklet explains how this project works, and, in detail, how to build it, including populating and connecting the PCBs, making up the necessary cables, and configuring Hauptwerk. It contains many photographs to help you to get it right!

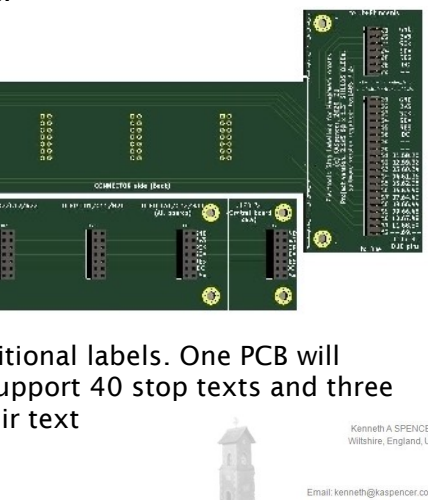
## 5. Other Components (Optional – source your own or buy from me)

As well as the essential components from me, you may source these additional general components for yourself - full details are provided. I can often supply, but I am not always able to specify lead times.

**Components include:** 2x7 DIL PCB sockets (x34); 2x7 DIL PCB boxed pin headers (x3); 2x7 DIL IDC plugs (x3); 2x20 DIL PCB boxed pin headers (x3); 2x20 DIL IDC plugs (x3); 2x10 DIL IDC boxed pin headers (x6); SH1106 7-pin SPI 1.3" OLEDs (x34); 1.3" round chrome effect illuminated switch bodies plus SP-NO micro-switch & 12v LED in holder tube (x60); 1m 40-core 0.05" pitch ribbon cable; red & blue 6.3mm spade connectors (120 of each colour); 60cm 3mm heat shrink sleeve.

**Not available from me:** MIDI Encoder & Decoder 60 port. E.g OrgautoMatech or MIDI Boutique. Require appropriate connectors for 40-core 0.05" pitch ribbon cable with 2x10 DIL IDC plugs (x6).

**Basic tools:** soldering iron; v. fine conical bit (x5); Stanley knife; screwdrivers; pliers; scissors.



ELECTRONIC STOP LABELLING  
for  
HAUPTWERK VIRTUAL PIPE ORGANS



How to add Automatic Electronic Stop Labelling to your Hauptwerk Virtual Organ with a Kit of Core Components by Kenneth A Spencer. PCB(s), Laser Cut Stop Plate(s), and Software supplied. Complete assembly and configuration instructions inside!