

Classic Organ Works

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MIDI Drawknob Controller MDKC-1

Description

The MDKC-1 is a MIDI-based controller board that works with any kind of dual-magnetic drawknobs or tongue tab stops. Up to 48 stops can be controlled using two standard OUTN-1 driver boards that plug into the MDKC-1 board. One OUTN-1 may be omitted if only 24 stops, or fewer, are to be used. If both are omitted, then the board can be used with simple on/off tabs.

The MDKC-1 is designed especially for use with organ consoles used to control Hauptwerk virtual organs via MIDI and is compatible with Hauptwerk versions 3 and 4. It may also be used with MIDI-controlled normal organ consoles.

The drawknob On and Off coils are pulse-driven by the MDKC-1 from MIDI data returned from the organ control system computer (send and receive on the same channel).

An automatic testing facility is included that checks each stop action and adjusts the drive to compensate for reluctant or missing drawknobs.

As each drawknob plugs into a four-pin header, the order of stops can easily be changed.

The two OUTN-1 boards are independently fed from external power so that terminal current ratings are not exceeded when all stops are activated simultaneously. These terminals should be wired independently to the power supply and not simply paralleled. Self-resetting fuses are included.

Mounting is by either clips or screws and the board does not require any special cooling.

The MIDI channel number is configurable by four sections of a DIP-Switch. Two more sections are used to select the Bank (1-48, 49-96 or 97-128) for when multiple boards are used. Another section is for Test/Calibration mode, which occurs once only at power up and only if the switch is set.



MIDI messages are of the form: Tab-On (Bn 51 xx). Tab-Off gives (Bn 50 xx). Channel is 'n' and Tab is 'xx' (in hex).

Features

- Controls up to 48 plug-in drawknobs in 2 groups of 24 via standard OUTN-1 driver boards
- Control via USB is suitable for Linux, MacIntosh or Windows-based systems
- Simultaneous control of stops and another MIDI device such as a keyboard if USB used.
- 'MIDI IN and OUT' ports additional to USB
- MIDI channel selectable 1-16 (Send and Receive on same channel).
- Bank selectable for up to 128 stops.
- Power: +8V to +15V D.C. from console supply, Nominally +12V.
- Drawknobs are energised only for a short period so the board takes minimal current of a few milli-Amps when not being driven
- Current depends on quantity of drawknobs energised together and is nominally a peak maximum of 24A for a quarter-second
- Board dimensions (WxL): 12.0" x 3.85" (30.48 cm x 9.78 cm). Total height 2.5" (6.35 cm)

Applications

The MDKC-1 is for use on organ consoles to provide MIDI control of up to 48 dual-magnetic drawknobs or tongue tabs of typically 25 Ohms.