MSCAN

the full console MIDI encoder for organbuilders or advanced organ-dedicated hobbists.

With **MSCAN** you can build an brand new console with all the accessories, or rebuild an old one. **MSCAN** can be used to drive a pipe organ, or build an electronic church organ, or a mixed one. Very simple to install, with a minimum of wiring, it can be adapted to every keyboard and stops you prefer.

Let's see what we can connect:

1) Up to 3 keyboards with max 64 keys each (typicall organ keyboards are 61 keys). You can use new keyboards with "matrix" connections, or old style "61 + 1 common" contacts. If you prefer, you can use optical sensors, Hall-sensors, or whatever "contact" you have. You can use a small single ribbon cable to connect all 3 keyboards. Of course you can use 58 or 56 or non-standard historical keyboards.
As for every church electronic organ, keyboards are typically encoded on MIDI channels 1, 2 & 3, unless other channels needed.

2) You can use a pedalboard up to 32 pedals.Any smaller pedalboard can be used. No problem for contacts, as for keyboards you can use whatever "contact" you prefer. Pedalboard is typically encoded on MIDI channel 4.

3) There is a 19 step transposer in range -9 semitones to +9 semitones from center. Transposer control consists of two digit LED display and two momentary buttons – "*Transpose Up*" and "*Transpose Down*". At start transposer is always on Zero-position (no transposition), so if you prefer an encoder without transposer, simply do not install it. Transposing can be applied even while while pressing keys or pedals.

4) **MSCAN** can control up to 64 tilting lighted tablets : 58 stops plus 6 couplers. Adding a small circuit would allow controlling classical tablets with 2 solenoids, or drawstops with 2 solenoids. Stops are typically encoded on MIDI channel 5, and can be decoded by standard note decoder since these are encoded simpy as notes on channel 5. On demand some stops can be programmed to control Ahlborn expanders as well as another electronic organs by customer's specification. This approach would allow using **MSCAN** - based console for controlling electronic church organs, or a mixed pipes & electronic .

5) Stops combinations can be memoryzed in one of 500 presets (yes, five hundred). To recall preset you need, you have 6 switches: 2 for fast, 2 for slow memory scan. The memory LED display has 4 digits showing the number of the currently selected preset, with the "-" sign showing whether you are using memory preset or manual one. When you recall a preset, tilting tablets lights accordingly , and then, if you want, you can change stops in use pressing tablets.

No battery is necessary for presets memory. A special non-volatile memory is used for prrsets that can retain data for more than 100 years!
6) There are some momentary switches just below keyboards to control presets : +1 and -1, memoryze, recall, and “all tablets off”.You can use a security key for “memorize”.

7) Every toe piston can be duplicated as thumb piston, you can use a normal momentary switch or a lighted one.

8) There are up to six left side toe pistons, used as couplers, and they reverse the state of tablets used as couplers. For every toe piston there is a led, or a small lamp if you prefer.

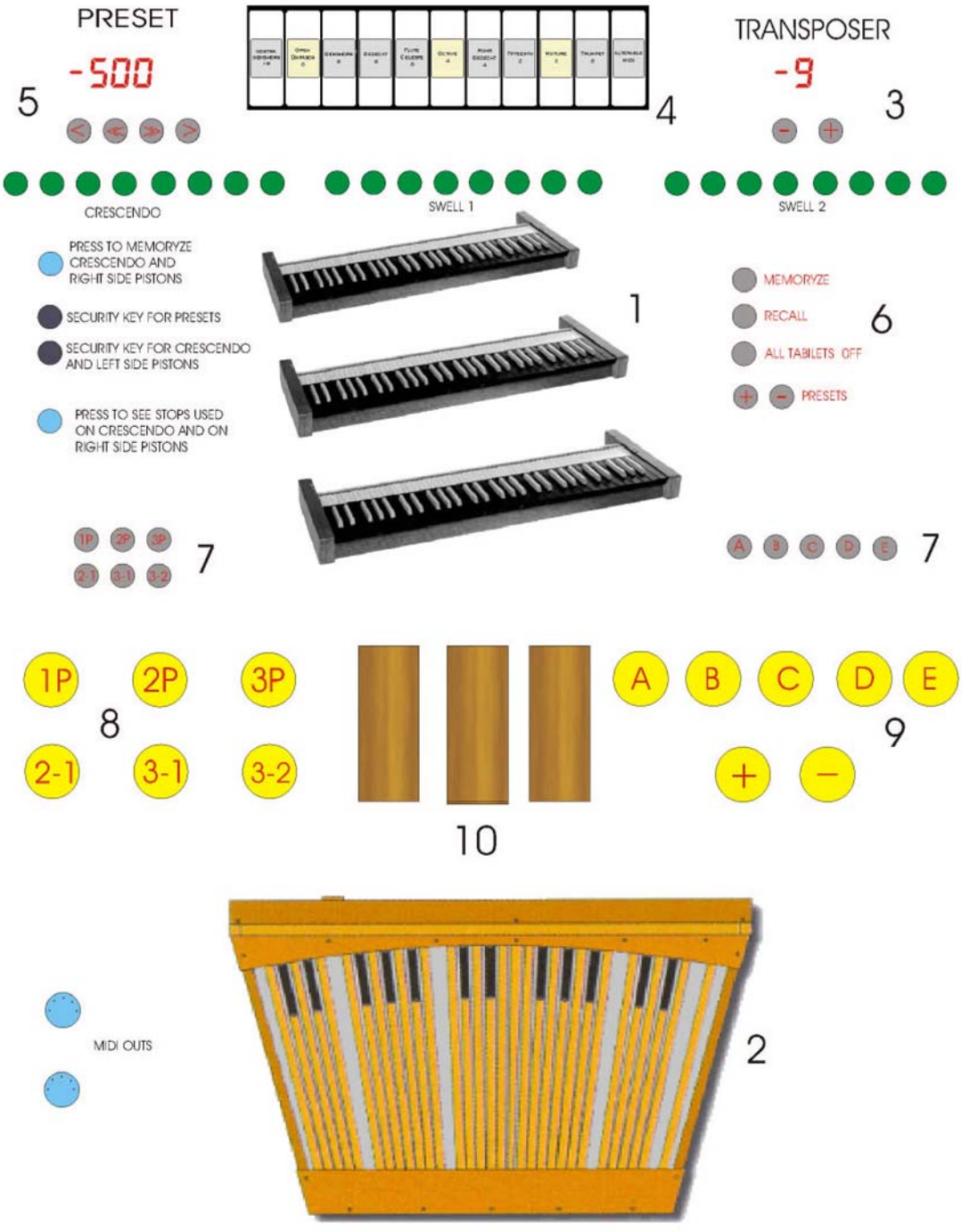
9) Up to five right side toe pistons (called builder presets) can be used to recall groups of stops, as reed, all, mixture, etc. The player can memoryze the stops he needs, and they are memorized in non-volatile memory just like presets. Pushing a momentary switch, you can light tablets of stops used on toe pistons. Like in presets memorizing (programming), you can use a security switch to memoryze these pistons. Two of right side toe pistons you can act like “*Preset+*” and “*Preset-*“ buttons.

10) For crescendo and swellers you do not need expensive and unreliable contacts, but simple sliding or rotary potentiometers installed on console or installed in pedals. LED bars are used for displaying the the Swell1 and Swell2 position. Crescendo position is displayed by singe-digit LED segment display, in range 0 - 8. Each position of Crescendo (except 0) can be programmed to activate its own stops preset. On actiaving these presets, they superpose on stops being currently active. Swellers generate MIDI messages decoded by a new *MIDI-to-servo* decoder, to move shutters: simple, reliable, noiseless and inexpensive.

AND MORE:
On special request **MCAN** may have more than one MIDI output, that can be used for controlling another expander, or recording in PC/sequencer etc. Very long cable, far exeeding the MIDI standard specifications (30m) can be used with such encoider. The system is tested with cables up to 100 meters in length.
At switch-on, **MSCAN** performs an internal test, lighting every LED, and waits 3 seconds to allow bellows to go up.

<u>And finally, **MSCAN** has full online support, from:</u>

- the programmer*:* midiboutique@lycos.com
- the organbuilder: paulalisson@ticsali.it


PRESET
-500
5
4
TRANSPOSER
-9
3
CRESCENDO
SWELL 1
SWELL 2
PRESS TO MEMORYZE CRESCENDO AND RIGHT SIDE PISTONS
SECURITY KEY FOR PRESETS
SECURITY KEY FOR CRESCENDO AND LEFT SIDE PISTONS
PRESS TO SEE STOPS USED ON CRESCENDO AND ON RIGHT SIDE PISTONS
1
MEMORYZE
RECALL
ALL TABLETS OFF
PRESETS
6
1P 2P 3P 2-1 3-1 3-2
7
A B C D E
7
1P 2P 3P 2-1 3-1 3-2
8
A B C D E
9
+ −
10
MIDI OUTS
2