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Before you start assembling this set, in the form of a kit or ready-built and tested, we advise you to first read this manual in its entirety.

Disclaimer

Before you start building any of the projects on this website, keep in mind that I can't be held responsible for any damage that is caused by building and using the designs related to the GINO-MIDI Interface. All effort has been done to make the schematics and instructions as correct as possible and the whole project is successfully tested and used by not only me, but also by others then me.

Partlist Main PCB

Semiconductors

- IC1 µA7805 (voltage regulator) 1A (Vin=max 9V)
- IC2 74HCT04 Hex Inverter
- IC3 ATMEGA8535 (Pre-programmed GINO-Core IC)
- IC4 74HCT138 (8 to 1 address decoder IC)

Resistors

- R1 220 ohm 1/4 watt
- R2 470 ohm 1/4 watt
- R3 220 ohm 1/4 watt
- R4 150 ohm 1/4 watt
- R5 470 ohm 1/4 watt
- R6 10K ohm 1/4 watt
- RN1 Resistor network, 8 x 22K , common out (1/4 watt)

Capacitors

- C1 100nF (ceramic or disc)
- C2 100nF (ceramic or disc)
- C3 100nF (ceramic or disc)
- C4 100nF (ceramic or disc)
- C5 100uF/25v (Electrolytic or tantalum)
- C6 22uF/16v (Electrolytic or tantalum)
- C7 100nF (ceramic or disc)
- C8 100nF (ceramic or disc)
- C9 33pF (ceramic or disc)
- C10 33pF (ceramic or disc)

Crystal

Q1 X-tal 4 Mhz

Diode's

- B1 Bridge rectifier 1A 140 VAC
- LED1 Standard green led
- LED2 Standard red led

Several parts

- 1 IC socket (40 pin) for the ATMEGA8535 processor
- 1 IC socket 16 pin for the 74HCT138
- 1 IC socket 14 pin for the 74HCT04
- 1 20 Pin Shrouded Male Headers
- 1 14 Pin Shrouded Male Headers
- 1 10 Pin .100" Polarized Header Connector
- 3 Krimpkous zwart, rood, blauw
- 1 entree voor voeding pen 2,5 mm
- 1 DIN 5 Pin Right Angle PCB Mount Socket
- 1 Koellichaam
- 4 Afstandsbusjes
- 4 Parkers
- 1 PCB GINO NG210315-3

Introduction

General

The Big-MIDI is the bigger brother of the (first) GINO-MIDI interface, now called the Small-Midi, and is designed for the console of an organ to be equipped with a midi output. Via a midi output it is possible to control and play an expander or a personal computer. Especially the last application now offers many possibilities to play a truly digital organ on the personal computer.

On the Internet you can download applications with which you can build a virtual organ on the personal computer. Examples include jOrgan of Sven Meier and Grand Orgue. Both freeware software. Furthermore is called Hauptwerk. This software is not free, but does have a demo version. The configuration of the Big-MIDI consists of up to eight ports on each 64 switches to distribute as desired on 5 keyboards (61 notes), a pedal(32 notes) and two stop panels of 64 registers each. It is also possible for six keyboards to use a volume control and one can change various parameters and store them in the permanent memory of the microcontroller. Through three function buttons and an LCD screen you can change these parameters. There is also a LED that shows each "MIDI event".

The circuit

The heart of the Big-MIDI consists of the circuit around the microcontroller ATMEGA8535. The microcontroller reads keystrokes, hence goes to work and translates it to midi codes. The diagram around this microcontroller can be found on the last page of this description. This diagram shows the power circuit, the circuit of the microcontroller and the midi output.

The keyboards and the register panel are connected through a flat cable to this circuit, through the IDC connector SV2. This flat cable we call in this guide the GINO BUS. Q1 and two capacitors C9 and C10 provide a continuous clock signal of 4 MHz.

The TXD output of the microcontroller (PD1) gives the midi signal and is inverted by IC2. IC4 is an address decoder that determines which of the eight ports (keyboard and registry panels) will be read.

The power supply consists of a μ A7805. This is a 5 volt voltage regulator that can deliver up to 1000 mA. To connect the supply voltage it must not exceed 12 volts DC. Preferably a bit lower, 9 volt also complies excellent. Many adapters provide a much higher voltage so that with a load the voltage finally is issued. The Big-MIDI uses very little power, not more than 19 mA and together with the LCD&Switch PCB 90 mA. The adapter is in most cases not fully loaded, so the voltage remains high. This may give some heat in the μ A7805. So consciously choose an adapter that goes unloaded measured no higher than 12 volts DC.

The program of the ATMEGA8535 read in a very fast pace the state of the switches of the keyboards and the registerpanels. This data is stored in the memory of the microcontroller and converted into MIDI data.

In the original design we use for the keyboards and register a diode matrix. This diode matrix makes a division of key contacts in groups of 8 keys. So for a five octave keyboard matrix you have 8 sections of 8 keys needed. In total, we can read 64 keys. Sufficient, for a five-octave keyboard that has a size of 61 keys.

Before a diode array can be read, we must first have a decoder circuit between the diode matrix and the ATMEGA8535. This decoder is controlled by the ATMEGA8535 and IC4 and provides eight pulses per cycle. For each pulse the AT reads a portion of the diode matrix.



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To reduce the wiring from the main board to the keyboards and register panels the decoder PCBs are placed at the keyboards and their matrix. The main board and the decoder PCB's are connected by the GINO BUS.

Assembly kit

Assembly of the PCB

This paragraph can be skipped in case you have purchased the built version. Then read the paragraph **Midi-channels and port numbers**.

An important tip

Components such as resistors, capacitors, diodes, transistors, short cuts etc. have long connection wires. These components are bent to the right size and inserted into the PCB. Now it is wise to bend the connecting wires of these components after the insertion in the PCB along the PCB, preferably in line with the copper track. These connecting wires are then cut off as short as possible so that only the soldering island with the abbreviated connection wire remains.

Then you start soldering.

This method is recommended, because soldering is much easier, after all, the solder islands are more easily accessible, but last but not least, the flux that is released with the soldering now also flows over the entire solder island including the cut-off connection wire and is hermetically sealed. and any corrosion has no chance.

Assembly.

At first we mount the resistors and the IC sockets. Observe the IC sockets on the mark of pin1, and the diode on the cathode sign. There is also a resistor network, which is RN1. Again, be careful, what is the common pin.

The rectifier bridge cell is mounted. Pay attention to the correct polarity.

Then we mount capacitors and electrolytic capacitors (capacitors). Observe the electrolytic capacitors polarity. The crystal and LED's are the last of the components. The LED also has a polarity. The short leg of an LED is the cathode. On the PCB is indicated, the "A" and "K".

Then the voltage regulator is mounted. This is first provided with the snap-cooling body. You can slide the μ A7805 into the heat sink, so you get an element with four pins. This corresponds with the PCB. The cooling body is provided with a solderable lip.

Then we mount the connectors.

To know:

- entrance for the power adapter, J1
- connector for the LCD & Switch board, SV1
- connector for the GINO-Bus, SV2
- connection for the potentiometers, J3 (there is no J2)
- 5 pin connector for the MIDI OUT, X1

The connectors

Power supply J1

For the power supply we use a DC plug of 2.5 mm. You do not have to pay attention to the polarity here: the bridge rectifier ensures the correct polarity. Please note the previously mentioned height of the supply voltage.

IDC connectors SV1, SV2

We use IDC connectors for the connection of the GINO-Bus and the connection of the LCD&Switch print. The male headers are now mounted on the main PCB. Pay close attention to the numbering of pin 1 indicated on the mounting diagram. This corresponds to a small triangle on the male header.

For the GINO-Bus we use the 20 pin header and for the LCD&Switch print we use the 14 pin header. The advantage of the IDC connectors is that they are sturdy and that the female part is always correctly



inserted into the male header.

Connecting potentiometers J3

The potentiometers we use to control the volume of the 6 channels should have a value of 10K linear and they are connected to the polarized header J3. The wire ends connected to the female connector have the following colors and functions.

Pinnr.	Color	Function	Remarks
1	Black	+ 5 volt = leftside potentiometer	Highest position volume
2	Brown	+ 5 volt = leftside potentiometer	Highest position volume
3	Red	Runner potentiometer 6	
4	Orange	Runner potentiometer 5	
5	Yellow	Runner potentiometer 4	
6	Green	Runner potentiometer 3	
7	Blue	Runner potentiometer 2	
8	Violet	Runner potentiometer 1	
9	Grey	GND = rightside potentiometer	Lowest position volume
10	White	GND = rightside potentiometer	Lowest position volume

It will not often happen that all six channels are provided with a potentiometer. In the case you will not connect a potentiometer the volume of that channel will be on the maximum. You don't have to make an interconnection.

The volume is controlled from 0 to 127 or in hexadecimal from 00H to 7FH with an interval of two steps. This interval is created because when a volume level is chosen for instance between 10 and 11 (09H and 0AH) the system will send out undesirable midi messages.

Now first, determine the length between the location of the main board and the place where you want to place the potentiometers in the organ case. The wires from the polarized header are not long enough to go to a potentiometer in for instance an expression pedal. Therefore it is necessary to extend the wiring. It is important to make a nice thin weld, which must later be isolated. For this purpose heat shrink tubing is provided to isolate these welds.

Slide the shrink tubing over the thin weld and heat the shrink tubing. For this example, use a lighter, but hold the lighter remotely, the tubing just need to be heated, so do not let it come into contact with the flame. The shrink tube will, as its name indicates, form an insulation on the weld.

Just pay attention:

- When this connector is used it is important that the wire ends that are not used sufficiently be isolated or the non-insulated ends cut off, or else there may occur easily a short cut.
- Be careful when taking apart the female part of these polarized header always the body of the female part, and doe not pull on the wires to disconnect the connector.
- The loose take of the female portion will initially be quite difficult. The crimp contacts are still new. Use a small and sharp screwdriver to lift the female part from below while you push the lock on the header back slightly.

Testing the circuit.

It is possible to test the circuit without the use of a keyboard. First of all we will check if the supply voltage is correct. Do not place any integrated circuit in the sockets. For the power supply you can use a DC adapter which gives a voltage from 8 till 12 volt DC. Notice that the voltage of 12 volt should not be exceeded. If there is no load on the adapter the output voltage will be soon 15 volt and because this circuit draws almost no current, no supply voltage will be reduced by the load.

Measure the supply voltage for example on pin 16 and pin 8 of the IC socket of IC4. There must be a 5 volts DC on it. If this is not the case, then inspect the circuit again thoroughly. Is IC1, the voltage regulator, connected properly? There are some of those easy mistakes. If the supply voltage is correct you can put the IC2, IC3 and IC4 in the sockets. Notice the direction of the ICs. Then connect the MIDI Out to the PC or with a midi instrument. Switch the power on. The green LED will light and the red LED will indicate a MIDI event briefly. The Big-MIDI send all midi codes out. Namely the codes for All Notes Off. More on that later.

We are now going to simulate a keyboard. Make a short cut between for instance pin SV2-6 and pin SV2-17 of the GINO-Bus (IDC connector).

You will hear now a reaction of you midi equipment. We simulate now that we are pressing the first key of every matrix. This sound is composed of many tones and we can not hear which tones, but it is a way to see that the heart of the midi interface is working. If you have a **midi monitor** available on your computer, then you can follow these actions on the screen of your PC or laptop.

Is there no reaction, or output at all, then you have to examine the circuits once again. You can also monitor if the first midi signal (All-Notes-Off) is transmitted by the midi interface. For each of the 16 channels the code All-Notes-Off is transmitted and you can follow this on a midi monitor. Underneath you find a link where you can find a very good midi monitor.

www.midi-ox.com

It is very useful to have this kind of software on the PC. On the Internet you can find many applications.

<u>Port 8</u>

The observant reader will see that the connection of 8th array (port 8) in the GINO Bus not is included. That's right: there was quite simply no place to include these (mostly obsolete) terminal in the GINO BUS. In the case of using this port, a loose connection must laid between TP1 and TP9 of that particular decoder print.

End of kit description

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Portnumbers.

About midi codes and all details in that field you can find a lot of data on the Internet. Here we will not go into details in this description. However we will discuss in this article the use of port numbers.

The Big-MIDI has eight port numbers that we can select with the jumpers. These are the ports numbered 1, 2, 3, 4, 5, 6, 7 and 8

Port 1 is used for e.g. the first set of 64 stops Port 2 is used for e.g. the main manual Port 3 is used for e.g. the second manual Port 4 is used for e.g. the pedal Port 5 is used for e.g. the second set of 64 stops Port 6 is used for e.g. the third manual Port 7 is used for e.g. the fourth manual Port 8 is used for e.g. the fourth manual

The ports 2, 3, 4 and 6, 7, 8 can be freely mixed, but the ports 1 and 5 and are reserved for the registry switches, the stops. Thus, one can through the little interconnections or **blue jumpers** on each matrix decoder select the desired port number. Through the software, we can for each port choose the desired MIDI channel number.

Diode array

In the proposed diagram you can see that we use a diode matrix to read the keys and stop switches. A diode matrix is controlled by a decoder circuit. This decoder circuit receives signals from the mainboard to activate the right matrix part.

The disadvantage of a diode matrix is, that we have to divide the key contacts in groups of 8 keys. The key-contact rail can not be in one piece, but should be divided into 8 short pieces of 8 keys. The advantage is that we only need one diode per key and these diodes (1n4148 =) are relatively inexpensive.

GINO BUS

Pinnr IDC	Name	Description
connector		
SV2-20	PORT 1	Signal
SV2-18	PORT 2	Signal
SV2-16	PORT 3	Signal
SV2-14	PORT 4	Signal
SV2-12	PORT 5	Signal
SV2-10	PORT 6	Signal
SV2-8	PORT 7	Signal
SV2-6	A2	Adress 2 for decoders
SV2-4	A1	Adress 1 for decoders
SV2-2	A0	Adress 0 for decoders
SV2-1	GND	Ground
SV2-3	D7	Data 7
SV2-5	D6	Data 6
SV2-7	D5	Data 5
SV2-9	D4	Data 4
SV2-11	D3	Data 3
SV2-13	D2	Data 2
SV2-15	D1	Data 1
SV2-17	D0	Data 0
SV2-19	+ 5 VOLT	Supply + 5 volt

The GINO BUS connects all the decoder circuits with the main board. Underneath you find a specification of this bus.

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Use of current.

The circuit uses a current of 90 mA including LCD & Switch board. Most of the current is consumed by the backlight of the LCD screen.

If the 74HCT138 decoder circuits with array of keyboards and / or pedal and stop switches is connected, the current will not increase. This type of HCT uses almost no current.

Finally

We have tried in this guide to mention many items according to building this GINO-MIDI interface. If you have remarks and comments, please let us know. Also our English is a little bit poor, so feel free to correct us. This allows other users to take advantage of them. Good luck with the construction of the **Big-MIDI-3.1 Interface**

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Mounting scheme



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Electronic scheme



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Connecting scheme

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Blokschema



MIDI Messages

Midi Messages BIGMIDI P-C Modus = OFF

Mid: Observation			_	Manual an Dadal an Daviatana (Otana	MIDI Karat	Oshalislaan (audtah #
Midi Channel 1	JI	umper positie	1	Manual or Pedal or Registers/Stops	MIDI Key#	Schakelaar / switch #
Note On	90	24	75		02	
Note On	00	24	75	Cia Groot	C#2	1
Note Off	90	23	75	Cis Groot	C#2	2
NOLE OII	00	25	71	Cis Cibbi	0#2	2
		1				
Note On	90	60	7F	c4	C7	61
Note Off	80	60	7F	c4	C7	61
Midi Channel 2	JI	umper positie	2	Manual or Pedal or Registers/Stops		Schakelaar / switch #
Note On	91	24	/F	C Groot	C2	1
Note On	01	24	75	C Groot	C2 C#2	1
Note Off	81	25	7F	Cis Groot	C#2	2
		20			0#2	2
Note On	91	60	7F	c4	C7	61
Note Off	81	60	7F	c4	C7	61
Volume	B1	07	XX	XX = Volume form 00 - 7F in steps of 2		
Midi Channel 3	JI	umper positie	3	Manual or Pedal or Registers/Stops	00	Schakelaar / switch #
Note On Note Off	92	24	75	C Groot	C2	1
Note On	02 Q2	24	7F 7F	Cis Groot	C#2	2
Note Off	82	25	7F	Cis Groot	C#2	2
		_0				-
	I	I	I	I		I
Note On	92	60	7F	c4	C7	61
Note Off	82	60	7F	c4	C7	61
Volume	B2	07	XX	XX = Volume form 00 - 7F in steps of 2		
Midi Channel 4	6	Imper positie	4	Manual or Pedal or Registers/Stope		Schakelaar / switch #
Note On	93	24	7F	C Groot	C2	1
Note Off	83	24	7F	C Groot	C2	1
Note On	93	25	7F	Cis Groot	C#2	2
Note Off	83	25	7F	Cis Groot	C#2	2
	1	I.	1	1		
Nata On	02	, ,	75	- 4	07	1
Note On Note Off	93	60	75	C4	C7	61
Volume	B3	07	XX	XX = Volume form 00 - 7E in steps of 2	07	01
Midi Channel 5	Jı	umper positie	5	Manual or Pedal or Registers/Stops		Schakelaar / switch #
Midi Channel 5 Note On	94	umper positie 24	5 7F	Manual or Pedal or Registers/Stops	C2	Schakelaar / switch #
Midi Channel 5 Note On Note Off	94 84	umper positie 24 24	5 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot C Groot	C2 C2	Schakelaar / switch # 1 1
Midi Channel 5 Note On Note Off Note On	94 84 94 84	umper positie 24 24 25 25	5 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot	C2 C2 C#2 C#2	Schakelaar / switch # 1 1 2 2
Midi Channel 5 Note On Note Off Note On Note Off	94 94 84 94 84	umper positie 24 24 25 25	5 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot Cis Groot	C2 C2 C#2 C#2	Schakelaar / switch # 1 1 2 2
Midi Channel 5 Note On Note Off Note On Note Off	94 94 94 84 84 	umper positie 24 24 25 25 25	5 7F 7F 7F 7F 	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot Cis Groot	C2 C2 C#2 C#2 C#2	Schakelaar / switch # 1 2 2
Midi Channel 5 Note On Note Off Note On Note Off Note On	94 94 94 84 94	umper positie 24 24 25 25 60	5 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot Cis Groot I c4	C2 C2 C#2 C#2 C#2	Schakelaar / switch # 1 2 2 61
Midi Channel 5 Note On Note Off Note On Note On Note On Note Off	94 94 94 84 94 84 94 84	Umper positie 24 24 25 25 60 60	5 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot Cis Groot Cis Groot Cis Groot I c4 c4	C2 C2 C#2 C#2 C7 C7	Schakelaar / switch # 1 2 2 61 61
Midi Channel 5 Note On Note Off Note On Note Off Note On Note Off	94 94 94 84 94 84 94 84	umper positie 24 24 25 25 60 60	5 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot Cis Groot I c4 c4 c4 Manual or Pedal or Pedictors/Stops	C2 C2 C#2 C#2 C#2 C7 C7	Schakelaar / switch # 1 2 2 1 61 61 5056kologr / switch #
Midi Channel 5 Note On Note Off Note On Note Off Note On Note Off Midi Channel 6 Note On	Ji 94 84 94 84 94 84 94 84	umper positie 24 24 25 25 1 60 60 60 umper positie 24	5 7F 7F 7F 7F 7F 7F 7F 6 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot is Groot i c4 c4 Manual or Pedal or Registers/Stops C Groot	C2 C2 C#2 C#2 C#2 C7 C7	Schakelaar / switch # 1 2 2 1 61 61 Schakelaar / switch #
Midi Channel 5 Note On Note Off Note On Note Off Midi Channel 6 Note Off	Ji 94 84 94 84 94 84 94 84 95 85	<u>umper positie</u> 24 25 25 60 60 <u>umper positie</u> 24	5 7F 7F 7F 7F 7F 7F 6 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot is Groot i c4 c4 c4 Manual or Pedal or Registers/Stops C Groot C Groot C Groot	C2 C2 C#2 C#2 C#2 C7 C7 C7 C7 C2 C2 C2	Schakelaar / switch # 1 2 2 1 61 61 Schakelaar / switch # 1
Midi Channel 5 Note On Note Off Note On Note Off Mote On Note Off Midi Channel 6 Note On Note Off Note On	U Ju 94 94 84 94 84 94 84 95 85 95	umper positie 24 25 25 1 60 60 60 umper positie 24 25 25 25 25 25 25 25 25 25 25	5 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4 C5 C Groot C G G Groot C G G G G G G G G G G G G G G G G G G G	C2 C2 C#2 C#2 C#2 C7 C7 C7 C7 C2 C2 C2 C#2	Schakelaar / switch # 1 2 2 1 61 61 Schakelaar / switch # 1 2
Midi Channel 5 Note On Note Off Note On Note Off Midi Channel 6 Note Off Note Off Note On Note Off	94 94 94 84 94 84 94 84 95 85 95 85 95 85	umper positie 24 25 25 1 60 60 0 0 0 0 24 24 24 24 25 25 25 25 25 25 25 25 25 25	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4	C2 C2 C#2 C#2 C#2 C7 C7 C7 C7 C2 C2 C2 C#2 C#2 C#2	Schakelaar / switch # 1 2 2 1 61 61 Schakelaar / switch # 1 2 2 2 2
Midi Channel 5 Note On Note Off Note On Note Off Note Off Midi Channel 6 Note Off Note Off Note Off Note Off	Ji 94 84 94 84 94 84 95 85 95 85 85	<u>umper positie</u> 24 24 25 25 1 60 60 0 <u>umper positie</u> 24 24 25 25 1 1	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I C4 C4 C4 Manual or Pedal or Registers/Stops C Groot I I I I I I I I I I I I I I I I I I	C2 C2 C#2 C#2 C7 C7 C7 C7 C7 C2 C2 C2 C42 C42 C42	Schakelaar / switch # 1 2 2 61 61 Schakelaar / switch # 1 2 2 1 1 2 1 1 2 1 1 2 1 1 2 2 1 2 2 1 2 2 1 2 2 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2
Midi Channel 5 Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off	JI 94 84 94 84 94 84 95 85 95 85 95 85 95	Jumper positie 24 25 25 1 60 60 0 0 24 25 25 26 27 28 24 24 25 26 27 28 29 24 24 25 25 1 60	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4 c4 c4 Manual or Pedal or Registers/Stops C Groot C G G G G G G G G G G G G G G G G G G G	C2 C2 C#2 C#2 C7 C7 C7 C7 C2 C2 C#2 C#2 C#2 C#2	Schakelaar / switch # 1 2 2 61 61 Schakelaar / switch # 1 2 2 1 61 61 61 61 61 61 61 61 61
Midi Channel 5 Note On Note Off Note On Note Off Midi Channel 6 Note On Note Off Note On Note Off Note On Note Off	Ju 94 84 94 84 94 84 95 85 95 85 95 85 95 85	umper positie 24 25 25 1 60 60 0 0 0 0 0 60 60 60 60	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4 c4 Manual or Pedal or Registers/Stops C Groot C Groot C Groot C Groot C Groot I c4 c4 c4 c4	C2 C2 C#2 C#2 C7 C7 C7 C7 C2 C2 C#2 C#2 C#2 C#2 C7 C7	Schakelaar / switch # 1 2 2 1 61 61 Schakelaar / switch # 1 2 2 1 61 61 61 61
Midi Channel 5 Note On Note Off Note On Note Off Midi Channel 6 Note Off Note On Note Off Note Off Note On Note Off Volume	Ju 94 84 94 84 94 84 95 85 95 85 95 85 95 85 95 85 85 85	umper positie 24 25 25 1 60 60 0 0 0 0 0 24 25 25 25 25 25 24 25 25 25 1 60 60 60 60 60 60 60 60 60 60	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4 c4 Manual or Pedal or Registers/Stops C Groot X = Volume form 00 - 7E in steps of 2	C2 C2 C#2 C#2 C7 C7 C7 C2 C2 C2 C42 C#2 C#2 C7 C7	Schakelaar / switch # 1 2 4 61 61 Schakelaar / switch # 1 2 2 1 61 61 61 61 61 61 61
Midi Channel 5 Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off	Ju 94 84 94 84 94 84 95 85 95 85 95 85 95 85 85 85 85 85 85 85 85 85	umper positie 24 25 25 1 60 60 0 umper positie 24 25 25 25 25 1 60 60 60 60 07	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4 C4 C4 Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot Cis Groot I c4 c4 c4 XX = Volume form 00 - 7F in steps of 2	C2 C2 C#2 C#2 C7 C7 C7 C2 C2 C2 C#2 C#2 C#2 C7 C7 C7	Schakelaar / switch # 1 2 2 61 61 Schakelaar / switch # 1 2 2 61 61 61 61 61 61 61 61 61
Midi Channel 5 Note On Note Off Note Off	Ju 94 84 94 84 94 84 95 85 95 85 95 85 95 85 85 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85	umper positie 24 25 25 1 60 60 00 07 Umper positie 60 60 07 Umper positie	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4 c4 c4 C Groot Cis Groot Cis Groot I c4	C2 C2 C#2 C#2 C7 C7 C7 C2 C2 C#2 C#2 C#2 C7 C7 C7	Schakelaar / switch #
Midi Channel 5 Note On Note Off Note On Note Off Midi Channel 6 Note On Note Off Note On Note Off	Ju 94 84 94 84 94 84 95 85 85 85 85 85 85 85 85 85 85 85 95 85 85 95 85 85 95 85	Jumper positie 24 25 25 1 60 0 0 Jumper positie 24 25 24 25 24 25 25 1 60 60 00 00 07 Jumper positie 24 25 26 07 Jumper positie 24 25 26 27	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4 C4 C4 Manual or Pedal or Registers/Stops C Groot C Groot C Groot C Groot C Groot I c4 C4 C4 XX = Volume form 00 - 7F in steps of 2 Manual or Pedal or Registers/Stops C Groot C Groot I C4	C2 C2 C#2 C#2 C#2 C7 C7 C2 C#2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7	Schakelaar / switch #
Midi Channel 5 Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Volume Midi Channel 7 Note On Note Off Note On Note Off	U 94 84 94 84 94 84 95 85 95 85 95 85 95 85 1 95 85 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 85 95 85 85 94 84 94 94 94 94 94 94 94 94 94 94 94 94 94	Jumper positie 24 25 25 26 1 60 00 24 25 26 1 60 24 24 24 25 25 1 60 60 60 60 60 60 60 60 60 25 24 25 26 27	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4 c4 c4 Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4 c4 c4 XX = Volume form 00 - 7F in steps of 2 Manual or Pedal or Registers/Stops C Groot C Groot I c4 c4 c4 XX = Volume form 00 - 7F in steps of 2	C2 C2 C#2 C#2 C7 C7 C7 C2 C2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7	Schakelaar / switch # 1 2 2 61 61 5chakelaar / switch # 1 2 61 61 5chakelaar / switch # 1 2 1 2 2 1 5chakelaar / switch # 1 2 5chakelaar / switch # 1 1 5chakelaar / switch # 5chakelaar / switch # 5chakelaar / switch # 5chakelaar / switch
Midi Channel 5 Note On Note Off Note On Note Off Midi Channel 6 Note Off Note On Note Off Note On Note Off Volume Midi Channel 7 Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off	JI 94 84 94 94 84 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 85 85 85 85 85 85 85 85 85 85 85 85	umper positie 24 25 25 1 60 60 24 24 25 25 1 60 60 07 umper positie 24 25 25 25 25 25 25 25 25 25 25	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C S Groot C Groot	C2 C2 C#2 C#2 C7 C7 C7 C2 C2 C#2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7	Schakelaar / switch # 1 2 4 61 61 5chakelaar / switch # 1 2 2 1 61 61 61 Schakelaar / switch # 1 2 2 1 5chakelaar / switch # 1 2 2 2 2 2 2 2 2 2 2 2 2
Midi Channel 5 Note On Note Off Note On Note Off Midi Channel 6 Note Off Note On Note Off Note Off Note Off Note Off Volume Midi Channel 7 Note Off Note Off Note On Note Off Note Off Note On Note Off Note Off Note On Note Off Note Off Note On Note Off	JI 94 84 94 84 94 84 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 85 95 85 85 96 86 94 84 95 85 85 85 95 85 85 85 95 85 85 85 85 85 85 85 85 85 85 85 85 85	Jumper positie 24 25 25 1 60 60 Jumper positie 24 25 26 27 28 29 1 60 60 07 Jumper positie 24 25 25 26 27 90 07 24 25 24 25 24 25 25 24 25 24 25 25 25 25 25 25 25 25 25 25	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Gis Groot I Cat	C2 C2 C#2 C#2 C7 C7 C7 C2 C2 C#2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7	Schakelaar / switch #
Midi Channel 5 Note On Note Off Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Volume Midi Channel 7 Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off	JI 94 84 94 84 94 84 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 85 95 85 85 96 86 86	Jumper positie 24 25 25 1 60 60 Jumper positie 24 25 26 27 28 29 1 60 70	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4 C4 C4 Manual or Pedal or Registers/Stops C Groot Cis Groot Cis Groot I C4 C4 C4 XX = Volume form 00 - 7F in steps of 2 Manual or Pedal or Registers/Stops C Groot C G G G G G G G G G G G G G G G G G G G	C2 C2 C#2 C#2 C7 C7 C7 C2 C2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7	Schakelaar / switch #
Midi Channel 5 Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Volume Midi Channel 7 Note On Note Off Note On Note Off	JI 94 84 94 84 94 84 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 96 86 96	Jumper positie 24 25 25 1 60 60 Jumper positie 24 25 26 27 28 29 1 60 60 60 60 60 07 Jumper positie 24 24 24 25 25 1 60 60 60	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4 c4 c4 C Groot C Groot C Groot C Groot C Groot C Groot Cis Groot Cis Groot I c4 xX = Volume form 00 - 7F in steps of 2 Manual or Pedal or Registers/Stops C Groot Cis Groot C Groot	C2 C2 C#2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7	Schakelaar / switch #
Midi Channel 5 Note On Note Off Note On Note Off Midi Channel 6 Note Off Note On Note Off	Ju 94 84 94 84 94 84 95 85 85 85 85 85 95 85 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 85 85 85 85 85 85 85 85 85 85 85	Jumper positie 24 25 25 1 60 Jumper positie 24 25 24 25 24 25 25 1 60 60 07 Jumper positie 24 25 25 24 25 25 1 60 60 60 60 60 60 60 60 60 60 60 60	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4 c4 c4 C Groot I Groot I Groot C Groot C Groot C Groot C Groot C Groot C 4 C4 C4	C2 C2 C#2 C#2 C#2 C7 C7 C7 C7 C7 C7 C2 C2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7	Schakelaar / switch #
Midi Channel 5 Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Volume Midi Channel 7 Note On Note Off Note On	JI 94 84 94 84 94 84 95 85 85 95 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 95 85 95 85 85 85 95 85 85 85 95 85 85 85 95 85 85 85 95 85 85 85 85 85 85 85 85 85 85 85 85 85	Jumper positie 24 25 25 1 60 60 24 25 1 60 24 25 26 1 60 60 07 24 25 25 1 60	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot l c4 c4 <td>C2 C2 C#2 C#2 C7 C7 C2 C2 C#2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7</td> <td>Schakelaar / switch # 1 2 4 61 61 5chakelaar / switch # 1 2 4 61 61 5chakelaar / switch # 1 2 2 1 61 61 61 61 61 61 61</td>	C2 C2 C#2 C#2 C7 C7 C2 C2 C#2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7	Schakelaar / switch # 1 2 4 61 61 5chakelaar / switch # 1 2 4 61 61 5chakelaar / switch # 1 2 2 1 61 61 61 61 61 61 61
Midi Channel 5 Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Volume Midi Channel 7 Note On Note Off Note On Note Off	Ju 94 84 94 84 94 84 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 85 95 85 85 85 85 85 85 85 85 85 85 85 85 85	umper positie 24 25 25 1 60 60 24 25 1 60 24 25 24 25 24 25 1 60 07 umper positie 24 25 25 26 60 60 60 60 60 07	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot l c4 c4 c4 c4 c6 C Groot Volume form 00 - 7F in steps of 2	C2 C2 C#2 C#2 C7 C7 C7 C2 C#2 C#2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7	Schakelaar / switch # 1 2 4 61 61 5chakelaar / switch # 1 2 4 61 61 5chakelaar / switch # 1 2 4 61 61 61 61 5chakelaar / switch # 1 2 61 61 61 5chakelaar / switch # 1 2 2 1 5chakelaar / switch # 1 2 1 5chakelaar / switch # 1 2 1 5chakelaar / switch # 1 5chakelaar / switch # 5c
Midi Channel 5 Note On Note Off Note On Note Off Midi Channel 6 Note On Note Off Note On Note Off Note On Note Off Volume Midi Channel 7 Note Off Note On Note Off Note Off Note On Note Off Note	Ju 94 84 94 84 94 84 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 85 95 85 85 85 95 85 85 95 85 85 85 85 85 95 85 85 85 85 85 85 85 85 85 85 85 85 85	Jumper positie 24 25 25 1 60 60 24 25 24 25 24 25 25 1 60 60 07 umper positie 24 25 25 1 60 07 contraction of the set of t	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot l c4 c4 c4 C Groot XX = Volume form 00 - 7F in steps of 2 Manual or Pedal or Registers/Stops C Groot Cis Groot C Groot L G4 c4 c4 <t< td=""><td>C2 C2 C#2 C#2 C7 C7 C7 C2 C2 C#2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7</td><td>Schakelaar / switch # 1 2 4 61 61 5chakelaar / switch # 1 2 2 1 61 61 61 5chakelaar / switch # 1 2 2 1 61 61 61 5chakelaar / switch # 1 2 2 1 5chakelaar / switch # 1 2 2 1 5chakelaar / switch # 1 2 2 1 5chakelaar / switch # 5chakelaar / switch #</td></t<>	C2 C2 C#2 C#2 C7 C7 C7 C2 C2 C#2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7	Schakelaar / switch # 1 2 4 61 61 5chakelaar / switch # 1 2 2 1 61 61 61 5chakelaar / switch # 1 2 2 1 61 61 61 5chakelaar / switch # 1 2 2 1 5chakelaar / switch # 1 2 2 1 5chakelaar / switch # 1 2 2 1 5chakelaar / switch # 5chakelaar / switch #
Midi Channel 5 Note On Note Off Note On Note Off Midi Channel 6 Note Off Note On Note Off Note On Note Off Note On Note Off Volume Midi Channel 7 Note Off Note On Note Off No	Ju 94 84 94 84 94 84 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 85 95 85 85 95 85 85 85 85 85 85 85 85 85 85 85 85 85	Jumper positie 24 25 25 1 60 60 Jumper positie 24 25 26 27 60 60 60 60 60 60 60 60 60 60 60 60 7 rbinding van TP1 24 25 26 27 7	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot l c4 c4 c4 C Groot XX = Volume form 00 - 7F in steps of 2 Manual or Pedal or Registers/Stops C Groot XX = Volume form 00 - 7F in steps of 2 Manual or Pedal or Registers/Stops C Groot C Groot	C2 C2 C#2 C#2 C7 C7 C7 C2 C2 C42 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7	Schakelaar / switch # 1 2 2 61 61 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 2 1 2 2 1 2 1 2 1 2 1 61 61 61 61 61 1
Midi Channel 5 Note On Note Off Note Off Note Off Note Off Midi Channel 6 Note Off Note On Note Off Note On Note Off Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note On Note Off Note Off Note Off Note Off Note Off Volume Midi Channel 8 Note Off Note On Note Off Note On	Ju 94 84 94 84 94 84 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 85 95 85 85 95 85 85 85 95 85 85 85 85 85 85 85 85 85 85 85 85 85	Jumper positie 24 25 25 1 60 60 Jumper positie 24 25 26 27 28 29 20 Jumper positie 24 25 25 1 60 60 60 60 60 60 60 60 7 rbinding van TP1 24 24 24 25 25 1 60 60 7	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot l c4 c4 c4 C Groot Cis Groot Manual or Pedal or Registers/Stops C Groot Cis Groot C Groot	C2 C2 C#2 C#2 C#2 C7 C7 C2 C2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7	Schakelaar / switch # 1 2 2 1 2 61 61 1 2 1 2 1 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2
Midi Channel 5 Note On Note Off Note Off Note On Note Off Midi Channel 6 Note Off Note On Note Off	Ju 94 84 94 84 94 84 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 95 85 97 86 86 86 97 87 87	Jumper positie 24 25 25 26 1 60 60 24 25 26 27 28 29 24 25 25 1 60 60 60 07 24 25 25 1 60 60 07 24 25 25 1 60 60 07 rbinding van TP1 24 25 25 25 25 25 25 25	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot I c4 c4 c4 C Groot Lis Groot I c4 c5 Groot C Groot	C2 C2 C#2 C#2 C#2 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7 C7	Schakelaar / switch # 1 2 2 61 61 1 2 1 2 1 2 1 2 1 2 1 2 2 1 2 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 2 1 2 2
Midi Channel 5 Note On Note Off Note On Note Off Midi Channel 6 Note On Note Off Note On Note Off Note On Note Off Volume Midi Channel 7 Note On Note Off Note On Note Off Volume Midi Channel 8 Note On Note Off Note On Note Off Note On Note Off Volume	JI 94 84 94 84 94 84 95 85 85 95 85 85 95 85 85 95 85 85 85 95 85 85 85 85 85 85 85 85 85 85 85 85 85	Jumper positie 24 25 25 26 1 60 60 24 25 26 27 28 29 24 25 25 1 60 60 07 Jumper positie 24 25 25 1 60 60 60 60 60 60 60 60 60 60 60 60 60 7 24 25 25 25 25 1	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot l c4 c4 <td>C2 C2 C#2 C#2 C#2 C7 C7 C2 C#2 C#2 C#2 C#2 C#2 C#2 C#2 C#2 C#2</td> <td>Schakelaar / switch # 1 2 1 2 61 61 1 2 1 2 61 61 61 61 61 61 61 61 61 61 61 61 61 61 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1</td>	C2 C2 C#2 C#2 C#2 C7 C7 C2 C#2 C#2 C#2 C#2 C#2 C#2 C#2 C#2 C#2	Schakelaar / switch # 1 2 1 2 61 61 1 2 1 2 61 61 61 61 61 61 61 61 61 61 61 61 61 61 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1 2 2 1
Midi Channel 5 Note On Note Off Volume Midi Channel 7 Note Off Note On No	Ju 94 84 94 84 94 84 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 95 85 85 85 95 85 85 95 85 85 85 95 85 85 85 95 85 85 85 95 85 85 85 95 85 85 85 95 85 85 85 95 85 85 85 95 85 85 85 96 86 86 96 86 86 96 86 86 96 86 86 96 86 86 96 86 86 96 86 86 96 86 86 96 86 86 96 86 86 96 86 86 86 96 86 86 96 86 86 96 86 86 96 86 86 96 86 86 96 86 86 96 86 86 96 86 86 86 86 86 86 86 97 87 87 97 97 87 97 87 97 87 97 87 97 87 97 87 97 87 97 87 97 87 97 87 97 87 97 87 97 97 97 87 97 97 87 97 97 87 97 97 97 97 97 97 97 97 97 97 97 97 97	umper positie 24 25 25 1 60 60 umper positie 24 25 26 1 60 60 07 umper positie 24 25 26 1 60 07 umper positie 24 25 25 1 60 60 07 rbinding van TP1 24 25 25 1 60 60	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot l c4 c5 Groot C Groot C Groot C Groot cis Groot l c4 c5 Groot	C2 C2 C#2 C#2 C#2 C7 C7 C2 C#2 C#2 C#2 C#2 C#2 C#2 C#2 C#2 C#2	Schakelaar / switch # 1 1 2 2 1 61 61 61 Schakelaar / switch # 1 2 2 1 61 61 Schakelaar / switch # 1 2 2 1 61 61 61 Schakelaar / switch # 1 2 2 1 61 61 61 Schakelaar / switch # 1 2 2 1 61 61 61 Schakelaar / switch # 1 1 2 2 1 61 61 61 Schakelaar / switch # 1 1 2 2 2 1 61 61 61
Midi Channel 5 Note On Note Off Note On Note Off Note On Note Off Midi Channel 6 Note Off Note On Note Off Note On Note Off Volume Midi Channel 7 Note Off Note On Note Off Volume Midi Channel 8 Note On Note Off	Ju 94 84 94 84 94 84 95 85 85 95 85 85 95 85 85 95 85 85 85 95 85 85 85 95 85 85 85 85 85 85 85 85 85 85 85 85 85	Jumper positie 24 25 25 1 60 60 24 25 24 25 24 25 26 1 60 60 07 24 25 25 1 60 60 07 24 25 25 1 60 60 07 rbinding van TP1 24 25 25 25 25 25 25 24 25 24 25 25 1 60 60 60 60	5 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F	Manual or Pedal or Registers/Stops C Groot C Groot Cis Groot l c4 c4 c4 C Groot	C2 C2 C#2 C#2 C#2 C7 C7 C7 C2 C2 C#2 C#2 C#2 C#2 C#2 C#2 C#2 C#2 C	Schakelaar / switch # 1 1 2 1 6 6 6 1 Schakelaar / switch # 1 2 2 1 6 6 1 Schakelaar / switch # 1 2 2 1 6 1 6 1 Schakelaar / switch # 1 2 2 1 6 1 6 1 Schakelaar / switch # 1 2 2 1 6 1 6 1 6 1 6 1 6 1 6 1 6 1 6

Midi kanaal nummers kunnen gewijzigd worden met de LCD&SWITCH print Midi channel numbers can be changed by the LCD&SWITCH print.

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Midi Messages BIGMIDI P-C Modus = ON

				1									
Midi Channel 1		Jumper positie 1		Registers / stops	MIDI Key#	Schakelaar / switch #							
Program Change	CO	00		Register/Stop 1		1							
Program Change	C0	01		Register/Stop 2		2							
Program Change	C0	02		Register/Stop 3		3							
	1	1		I		1							
	-	_				I							
Program Change	C0	3F		Register/Stop 64		64							
				1		<u> </u>							
Midi Channel 2	01	Jumper positie 2	75	Manual or Pedal	00	Schakelaar / switch #							
Note On	91	24	76		02	1							
Note Off	81	24	75	C Groot	62	1							
Note On	91	25	76	Cis Groot	0#2	2							
Note Off	81	25	/F	CIS Groot	6#2	2							
			1										
Noto On	01	60	75	o4	C7	61							
Note Off	91 Q1	60	75	C4	C7	61							
Volumo	01 B1	07	<u></u>	XX Volume form 00 ZE in stops of 2	07	81							
Volume	Ы	07	~~										
Midi Channel 3		Jumper positie 3		Manual or Pedal		Schakelaar / switch #							
Note On	92	24	7F	C Groot	C2	1							
Note Off	82	24	7F	C Groot	C2	1							
Note On	92	25	7F	Cis Groot	C#2	2							
Note Off	82	25	7F	Cis Groot	C#2	2							
			I										
Note On	92	60	7F	c4	C7	61							
Note Off	82	60	7F	c4	C7	61							
Volume	B2	07	XX	XX = Volume form 00 - 7F in steps of 2									
Midi Channel 4		Jumper positie 4		Manual or Pedal	-	Schakelaar / switch #							
Note On	93	24	7F	C Groot	C2	1							
Note Off	83	24	7F	C Groot	C2	1							
Note On	93	25	7F	Cis Groot	C#2	2							
Note Off	83	25	7F	Cis Groot	C#2	2							
	1	1	1			1							
Nata On		00	-	'	07								
Note On	93	60	75	64	07	61							
Note Off	03	07		VX Volumo form 00 7E in stops of 2	67	01							
Volume	03	0/	~~										
				· · · · · · · · · · · · · · · · · · ·									
Midi Channel 1		Jumper positie 5		Registers / stops		Schakelaar / switch #							
Midi Channel 1 Program Change	C0	Jumper positie 5 40		Registers / stops Register/Stop 65		Schakelaar / switch # 65							
Midi Channel 1 Program Change Program Change	C0 C0	Jumper positie 5 40 41		Registers / stops Register/Stop 65 Register/Stop 66		Schakelaar / switch # 65 66							
Midi Channel 1 Program Change Program Change Program Change	C0 C0 C0	Jumper positie 5 40 41 42		Registers / stops Register/Stop 65 Register/Stop 66 Register/Stop 67		Schakelaar / switch # 65 66 67							
Midi Channel 1 Program Change Program Change Program Change	C0 C0 C0	Jumper positie 5 40 41 42	<u>.</u>	Registers / stops Register/Stop 65 Register/Stop 66 Register/Stop 67		Schakelaar / switch # 65 66 67							
Midi Channel 1 Program Change Program Change Program Change	C0 C0 C0 	Jumper positie 5 40 41 42 	<u> </u>	Registers / stops Register/Stop 65 Register/Stop 66 Register/Stop 67		Schakelaar / switch # 65 66 67 							
Midi Channel 1 Program Change Program Change Program Change Program Change	C0 C0 C0 C0	Jumper positie 5 40 41 42 7F	1	Registers / stops Register/Stop 65 Register/Stop 66 Register/Stop 67 Register/Stop 128		Schakelaar / switch # 65 66 67 128							
Midi Channel 1 Program Change Program Change Program Change Program Change	C0 C0 C0 C0	Jumper positie 5 40 41 42 7F	i	Registers / stops Register/Stop 65 Register/Stop 66 Register/Stop 67 I Register/Stop 128		Schakelaar / switch # 65 66 67 128							
Midi Channel 1 Program Change Program Change Program Change Program Change Midi Channel 6	C0 C0 C0 C0	Jumper positie 5 40 41 42 7F Jumper positie 6		Registers / stops Register/Stop 65 Register/Stop 66 Register/Stop 67 Register/Stop 128		Schakelaar / switch # 65 66 67 128 Schakelaar / switch #							
Midi Channel 1 Program Change Program Change Program Change Program Change Midi Channel 6 Note On	C0 C0 C0 C0 95	Jumper positie 5 40 41 42 7F Jumper positie 6 24	7F	Registers / stops Register/Stop 65 Register/Stop 66 Register/Stop 67 Register/Stop 128 Manual or Pedal C Groot	C2	Schakelaar / switch # 65 66 67 128 Schakelaar / switch # 1							
Midi Channel 1 Program Change Program Change Program Change Program Change Midi Channel 6 Note On Note Of	C0 C0 C0 C0 95 85	Jumper positie 5 40 41 42 7F Jumper positie 6 24 24	7F 7F	Registers / stops Register/Stop 65 Register/Stop 66 Register/Stop 67 Imanual or Pedal C Groot C Groot	C2 C2 C2	Schakelaar / switch # 65 66 67 128 Schakelaar / switch # 1 1							
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Midi kanaal nummers kunnen gewijzigd worden met de LCD&SWITCH print Midi channel numbers can be changed by the LCD&SWITCH print.