

DOEPFER

MIDI Controller

POCKET DIAL

User's Guide



Maintenance, Safety and Warranty Information

There are no user serviceable parts inside the Pocket Dial device. If there will come an update in the future that makes it necessary to replace the programmed microcontroller inside the housing this modification has to be carried out only at the manufacturer or an authorized service company (e.g. one of the authorized representations). Any modification not released by the manufacturer leads to the extinction of the operation permission. With the introduction of a third person the warranty will be lost. In case that the housing of Pocket Dial was opened, any warranty claim will be rejected.

Please follow the given instructions for use of the device because this will guarantee correct device operation. Due to the fact that these instructions touch on Product Liability, it is absolutely imperative that they be read carefully. Any claim for defect will be rejected if one or more of the items was observed. Disregard of the instructions can endanger the warranty.

The device may only be used for the purpose described in this operating manual. Due to safety reasons, the device must never be used for other purposes not described in this manual. If you are not sure about the intended purpose of the device please contact an expert.

The device may only be operated with the voltage written on the power input on the rear panel. Before opening the housing disconnect the power plug.

All possible modifications must only be carried out by a qualified person who will follow the valid safety instructions. Every modification has to be carried out only at the manufacturer or an authorized service company. Any modification not released by the manufacturer leads to the extinction of the operation permission.

With the introduction of a third person the warranty will be lost. In case that the housing of the device was opened, any warranty claim will be rejected.

The device must never be operated outdoors but only in dry, closed rooms. Never use the device in a humid or wet environment nor near inflammables.

No liquids or conducting materials must get into the device. If this should happen the device must be disconnected from power immediately and be examined, cleaned and eventually be repaired by a qualified person.

Never subject the device to temperatures above +50°C or below -10°C. Before operation the device should have a temperature of at least 10°C. Do not place the device into direct sun light. Do not install the device near heat sources.

Keep the top side of the device free in order to guarantee proper ventilation, otherwise the device could be overheated. Never place heavy objects on the device.

All cables connected with the device must be checked periodically. If there is any damage the cables must be repaired or replaced by an authorized person.

Transport the device carefully, never let it fall or overturn. Make sure that during transport and in use the device has a proper stand and does not fall, slip or turn over because persons could be injured.

Never use the device in the immediate proximity of interfering electronic devices (e.g. monitors, computers) since this could create disturbances within the device and corrupt memory data.

The exchange of electronic parts (e.g. EPROMs for software update) is allowed only if the device is disconnected from power supply.

The device should only be shipped in the original packaging. Any devices shipped to us for return, exchange, warranty repair, update or examination must be in their original packaging! Any other deliveries will be rejected. Therefore, you should keep the original packaging and the technical documentation.

When using the device in Germany, the appropriate VDE standards must be followed. The following standards are of special importance: DIN VDE 0100 (Teil 300/11.85, Teil 410/11.83, Teil 481/10.87), DIN VDE 0532 (Teil 1/03.82), DIN VDE 0550 (Teil 1/12.69), DIN VDE 0551 (05.72), DIN VDE 0551e (06.75), DIN VDE 0700 (Teil 1/02.81, Teil 207/10.82), DIN VDE 0711 (Teil 500/10.89), DIN VDE 0860 (05.89), DIN VDE 0869 (01.85). VDE papers can be obtained from the VDE-Verlag GmbH, Berlin.

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Introduction

How long have you wanted to:

- Control your (software) synthesizer without having to use virtual faders, and having to look at a computer screen and use a mouse?
- Use the full capability of your computer's built-in soundcard?
- Have realtime control for synths that have limited or no realtime controls
- Could the control possibilities of your master keyboard be improved?

Now it's time to discover new uses for real time control by using one of the Doepfer Pocket Devices

- Pocket Control
- Pocket Fader
- Pocket Dial

The Pocket series are devices, that everyone could use, such as for the computer in the studio or for live use in professional and semi-professional situations.

What can the Pocket devices do?

They can assign each of the 16 controls to individual Midi events. This Midi event controlled can be selected from a list of preset options (giving over 16,000 different event combinations), such as controllers, mono and poly aftertouch, pitch bend, RPN/NRPN, XG-SysEx, GS/XG controller, program change and even note on/off events.

These events can be from any of the 16 Midi channels, or the master channel (which allows easy selection of the controlling MIDI channel). The permutation of possibilities is therefore up to 17 (channel options) * 16,000 (event combinations), which is over 250,000 possible combinations! The low cost of the pocket devices allows for applications where multiple pocket unit's can be used chained together.

The difference between Pocket Control, Pocket Fader and Pocket Dial is the type of control:

- Pocket Control is equipped with 16 rotary potentiometers
- Pocket Fader is equipped with 16 slide potentiometers (faders)
- Pocket Dial is equipped with 16 endless rotary encoder (sometimes called *alpha dials*)

Special features of Pocket Dial compared with Pocket Control / Fader

Pocket Control and Pocket Fader transmit *absolute* MIDI data in the range 0...127, i.e. the visible position of the controlling element (rotary knob, fader knob) corresponds to the MIDI data sent by the element in question. The only difference between Pocket Control and Pocket Fader is the type of potentiometer. Pocket Control uses rotary potentiometers, Pocket Fader slide potentiometers.

Pocket Dial is able to transmit *absolute* or *relative* MIDI data. In the first case Pocket Dial transmits *absolute* MIDI data in the range 0...127. Because of the type of controlling elements (endless encoders) there is no visible feedback concerning the transmitted data. In the second case Pocket Dial transmits only *relative* increment/decrement messages and does not "know" the absolute value that is generated in the device controlled by Pocket Dial.

If *absolute* MIDI data transmission is used (e.g. MIDI controllers) the device or software controlled by Pocket Dial should be able to transmit the new controller data to Pocket Dial after a preset change (if e.g. the sound was changed). The new data is used by Pocket Dial as starting value for the parameter in question. **This enables a jump-free adjustment of parameters.**

The absolute values generated by Pocket Dial can be stored in the non-volatile preset memory of Pocket Dial and are used if a preset is called-up later.

If *relative* MIDI data transmission is used only increment / decrement information is sent by Pocket Dial. Different types of inc/dec messages are available as there is no MIDI standard for inc/dec of certain controllers available so far.

Attention: Only devices that features the data feedback or inc/dec control should be controlled by POKET DIAL. For other applications we recommend Pocket Control or Pocket Fader.

If you need a Midi controller that is able to generate free programmable Midi system exclusive messages (SysEx) the devices of the Pocket series are not suitable. In this case we recommend DREHBANK (64 rotary potentiometers) or REGELWERK (24 faders). These devices allow the transmission of free user definable Midi strings including SysEx messages.

The main application of Pocket Dial is be the control of different Midi equipment, especially software synthesizers. In this case Pocket Dial is placed in front of the computer screen so that the absolute parameter data and their changes can be seen immediately at the screen.

The features of Pocket Dial at a glance

- 16 high quality endless rotary encoders (alpha dials), manufacturer: ALPS
- 4 banks that can be selected very fast via 4 buttons and LEDs (thus 64 "virtual" controllers are available)
- 32 presets (with 4 banks each, i.e. 128 presets altogether), selected via DIP switch at the rear panel
- Program change button (as long as this buttons is pressed the encoder below no 8 transmits program change messages for fast preset changes of the unit controlled by Pocket Dial)
- Master channel button (for fast adjustment of the MIDI master channel)
- 24 detents/pulses per rotation, i.e. the data change is +/-24 per turn (if the encoder is turned slow)
- Acceleration function, i.e. the data change increases if the encoders are turned faster
- Editor program (PC version) for free download from our web site. With this program you can define the function of each of the 16 controllers in your own 128 presets and you no longer depend on the factory presets.
- Alternatively you may order the OEM version of Emagic's Sounddiver (PC and Mac version on CD ROM) together with Pocket Dial (please look at the current price list for the valid price), available only in connection with Pocket Dial, not a full version of Sounddiver, runs only with Doepfer devices
- Black knobs, about 18 mm diameter, having a good grip
- Distance between the knobs about 30 mm (from center to center)
- Measures about 25 x 9.5 x 4.5 cm
- Solid blue metal case with black and yellow printing

Connections



Pocket Dial - Rear View

Power Supply

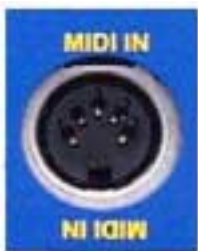
The Pocket Dial does not have a built-in power supply. Instead it uses a plug-in type external power supply (DC adapter). The connector is labelled **9V DC 100mA**. The primary reason for this feature is the fact that line voltages and plug types vary considerably from country to country. Using a plug-in external supply the Pocket Dial can be used anywhere with a locally purchased power supply, thus keeping the cost down. The Pocket Dial is switched ON by plugging the supplied AC adapter into a wall outlet and connecting it to the appropriate jack on the back of the case. There is no separate ON/OFF switch. The Pocket Dial includes an AC adapter for 230V mains supply with a European type mains plug. We

recommend to use only the power supply that is supplied together with the Pocket Dial.



In countries with different mains plug types or voltages a suitable power supply has to be purchased locally by the user. The power supply must be able to deliver a voltage of 7V to 12V (not stabilized), as well as a minimum current of 100mA. The connection polarity is positive inner (see the sketch near the power supply socket). Although the Pocket Dial has a built in protection diode for protection against incorrect polarity, the Pocket Dial can still be damaged by using an incorrect adaptor, so only use an approved adaptor and avoid using multi-polarity type adaptors with voltage level and polarity switching, as inadvertant settings can cause problems.

MIDI



Midi Out
← **Keyboard/ Computer etc.**

Connect the MIDI OUT of the Pocket Dial to the MIDI IN of the device controlled by Pocket Dial (e.g. software synthesizer, sound generator, sequencer). At this output appear the MIDI data generated by Pocket Dial. If the MIDI input is wired too the Pocket Dial merges the incoming data with it's own data, so the MIDI OUT is a data merge of MIDI IN and data generated by the Pocket Dial. There is no use for a separate MIDI thru with this type of device. If incoming MIDI data do not appear at the MIDI probably the MIDI Thru is switched off (only possible by the editor software). In this case the Pocket Dial has to be reprogrammed using the editor program with MIDI Thru switched On !



Midi-In
→ **Expander/ Computer etc.**

The connection of the MIDI IN socket is required only in these cases:

- For **data feedback** to set the new starting values after a preset change of the device controlled by Pocket Dial if absolute MIDI control data are used (e.g. MIDI controllers)
- To **merge** any MIDI data (e.g. from a keyboard) with the data generated by Pocket Dial
- To **change** the selected **preset** of Pocket Dial with incoming MIDI **Program Change** messages from another MIDI device
- To **program** the **presets** of Pocket Dial with an **editor program** (e.g. the free editor for PC or the Sounddiver)
- To **change** some basic **parameters** of the Pocket Dial with an editor program (e.g. the MIDI Thru on/off option)

If none of these items applies the MIDI IN socket remains unconnected.

Note that if extremely large Sys-Ex dumps are passed through the Pocket Dial then it is advisable not to move any Pocket Dial knobs whilst this transmission is taking place, as the merge abilities of the Pocket Dial were not intended to work whilst this kind of intense transmission is taking place.

If multiple Pocket devices (Pocket Dial/Control/Fader) are being used then the MIDI connections can be chained together so that all the Pocket devices produce one composite data from the last MIDI out in the chain.

Operation

Power On

The Pocket Dial is switched ON by plugging the AC adapter into a wall outlet and connecting the DC output cable of the adapter to the appropriate jack on the rear panel of Pocket Dial. There is no separate ON/OFF switch.



After **power on** the four LED's at the upper left side light up one after another ("running light"). Then the first LED turns on indicating that **bank #1** is selected. If this does not take place the power supply used is defective, unsuitable or has the wrong polarity.

After power on the **4 presets** defined by the DIP switch setting are transferred into the four **bank memories**, the **MIDI master channel** and the **Thru mode options** are called up from the non-volatile memory.

LED Display

Under normal operation the LEDs indicates **MIDI in activity**, and also **MIDI out activity** when moving the knobs on the Pocket Dial. Thus the LEDs can be used to check the basic functions of Pocket Dial, i.e. to test if actually MIDI data are received or transmitted.

The LED's are also used to display certain conditions:

- Which of the four banks is selected and consequently - .
- Which of the four buttons can be used to call-up a snapshot (i.e. transmit the 16 absolute values corresponding to the 16 controls, works only if absolute MIDI data are transmitted)
- Master channel mode for adjusting the MIDI master channel of Pocket Dial
- Program change mode for transmitting program change messages with control #8
- Storage mode for storing the present absolute values of the 16 controls non-volatile in the memory
- MIDI In error

Details about these subjects follow in the next chapter "Functions of the buttons".

Functions of the buttons

The setting of the different operation modes takes place with the four buttons with assigned LEDs labeled Bank 1 to 4 at the left upper side and the two buttons labeled CHN and PRG (no LEDs) at the right upper side.



These buttons are used to

- (1) select one of four *Banks*.
- (2) trigger a *Snapshot*.
- (3) store the 16 absolute values of the currently selected bank in the non-volatile memory



These buttons are used to

- (4) select the *Master Channel Mode* for adjusting the MIDI master channel of Pocket Dial.
- (5) select the *Program Change Mode* to transmit MIDI program change messages with control knob #8.

- (6) clear the *Error State* if necessary (e.g. triggered by a MIDI overflow at the MIDI input)

(1) Selecting a new bank

Operate briefly the button of the new bank to be selected. All four LEDs light up briefly while the new bank is selected. As soon as only the LED of the new selected bank turns on the 16 new MIDI messages of the new bank are assigned to the 16 controls. The LED will light up permanently until another bank is chosen.

(2) Triggering a snapshot

Operate briefly the button of the bank that is already selected. This triggers a snapshot, i.e. the present 16 values corresponding to the 16 controls are transmitted to the MIDI output.

(3) Storing the present absolute values

Hold the button of the bank that is already selected down for at least one second and keep it held down until the 4 LEDs light up inverted, i.e. the LED of the currently selected bank turns off and the remaining three LEDs turn on until the button is released. The present values of the 16 controls are stored into the non-volatile memory as soon as the button is released.

(4) Adjusting the MIDI master channel

To set the MIDI master channel, hold the button labeled CHN at the right side and keep it held down. The LEDs of bank 1 and 2 will light up (do not let go of the button until the required value has been selected). In this mode the control knobs become channel selectors, and do not transmit the normal control data. To select a channel, simply move one of the control knobs that relates to the channel required (to set channel 5, move control knob 5). As soon as one of the knobs is moved all LEDs turn off to indicate that the new master channel is adjusted. If you accidentally move the wrong knob, just move the correct one, as it is the last knob moved that determines the actual MIDI master channel set. The new master channel is stored into the non-volatile memory as soon as the CHN button is released. After the next power on this channel will be used as MIDI master channel.

The master channel is used to select which channel the Pocket Dial will transmit on when using relevant presets. In some presets (such as the MIDI volume - preset 0) each knob is assigned to a different channel, whilst other presets have all knobs on the same channel, it is on these presets that the master channel is used. The master channel is also the channel which the Pocket Dial will receive and transmit MIDI program change data on.

(5) Transmitting MIDI program change messages

To transmit MIDI program change messages, hold the button labeled PRG at the right side and keep it held down. The LEDs of bank 3 and 4 will light up (do not let go of the button until the desired program change messages has been sent). In this mode the **control knobs #8** is used to transmit program change messages on the MIDI master channel, and does not transmit the normal control data. The knobs 1 ~ 7 and 9 ~ 16 have no function while the PRG button is held down.

(6) Clearing an error

As soon as the Pocket Dial recognizes an **MIDI overflow** (too much data in one go) **all four LEDs turn on** (i.e. error display). To clear an error, press one of the 6 buttons.

The error display indicates that the merge capacity of Pocket Dial was exceeded or that SysEx messages destined for Pocket Dial could not be processed because they were sent too fast. In both cases probably wrong or incomplete MIDI data have been received by Pocket Dial and/or transmitted to the MIDI output of Pocket Dial. To avoid errors the transfer of the MIDI data should be repeated at a lower transmission rate.

Functions of the DIP switches (rear panel)



The eight rear panel DIP switches determine the start-up preset, i.e. the number of the preset that is called-up after power on. This preset and the three subsequent presets are assigned to the 4 banks of Pocket Dial.

The settings can be looked upon as a binary number where each switch can be either on or off, this allows up to 256 numbers to be selected from the eight DIP switches. The switch is referred to ON or 1, when set towards the top panel, and referred to OFF or 0 when set towards the bottom panel:

- **On = 1**, when set towards the top panel
- **Off = 0**, when set towards the bottom panel

Only seven of the switches are used to select one of the 128 presets. The eighth switch is not used at present (as of fall 2001) and has no functions so far, but it is good practice to leave it in the OFF position, as a future update may make use of this switch position.

The switches are numbered one to eight on the switch block itself, when relating the switch positions to a binary number, then the least significant bit is towards the middle of the Pocket Dial (or to the field for the serial number) and numbered 1 on the switch. It is switch number 8 that is not used.

The factory shipped default setting is Preset number 0, which is all switches off (towards bottom) which is defined as MIDI Volume across all MIDI channels.

The listing on the next page lists all the presets that are shipped in the Pocket Dial, note that the switch settings are shown with the least significant bit to the right (as would normally be shown with a binary number), so note the switch numbering which is eight to the left and one to the right, this relates to the switch position when looking at the rear panel of the Pocket Dial. If holding the Pocket Dial, you tip the unit up at the back to look into the DIP switches that way, you will be looking at the DIP switches the other way with one to the left and eight to the right, when doing this remember that the switch order will be the reverse. The list of presets shows the switch position split into two groups of four, as this should help reading the switch code.

At first sight the adjustment of the DIP switches may look a little bit complicated. But normally you will not have to change this setting very often. Rather the DIP switch setting is used to load the favorite 4 presets into the bank memories after power on.

In operation you may change the preset even with incoming MIDI program change messages provided that these are sent on the MIDI master channel of Pocket Dial. But this adjustment is volatile, i.e. after the next power on the preset defined by the DIP switch setting is loaded.

Of course one may change the preset with the DIP switch too, e.g. as no suitable MIDI device for transmission of program change messages is available.

Changing the preset with the DIP switch is indicated by a short lighting up of all four LEDs. During this moment no incoming MIDI program change messages are recognized.

List of presets (short form)

1234 5678	PresetName	1234 5678	PresetName
0000 0000	Preset 1: Volume Channel 1 - 16	0000 0100	Preset 33: XG Level Chn 1 - 16
1000 0000	Preset 2: Panorama Channel 1-16	1000 0100	Preset 34: XG Pan Chn 1 - 16
0100 0000	Preset 3: Cutoff Channel 1-16	0100 0100	Preset 35: XG Reverb Chn 1 - 16
1100 0000	Preset 4: Resonance Chan. 1-16	1100 0100	Preset 36: XG Chorus Chn 1 - 16
0010 0000	Preset 5: Volume/Pan Ch.1 - 8	0010 0100	Preset 37: XG Dry Chn 1 - 16
1010 0000	Preset 6: Volume/Pan Ch.9 - 16	1010 0100	Preset 38: XG Var Chn 1 - 16
0110 0000	Preset 7: Cutoff/Reson. Ch.1-8	0110 0100	Preset 39: XG Low EQ Gain Chn 1 - 16
1110 0000	Preset 8: Cutoff/Reson. Ch.9-16	1110 0100	Preset 40: XG Low EQ Chn 1 - 16
0001 0000	Preset 9: Ctrl 0-15 Masterchn	0001 0100	Preset 41: XG High EQ Gain Chn 1 - 16
1001 0000	Preset 10: Ctrl 16-31 Masterchn	1001 0100	Preset 42: XG High EQ Chn 1 - 16
0101 0000	Preset 11: Ctrl 32-47 Masterchn	0101 0100	Preset 43: XG Mpart-Effect Masterchn
1101 0000	Preset 12: Ctrl 48-63 Masterchn	1101 0100	Preset 44: XG Level AD1/2,W1-12
0011 0000	Preset 13: Ctrl 64-79 Masterchn	0011 0100	Preset 45: XG Pan AD1/2,W1-12
1011 0000	Preset 14: Ctrl 80-95 Masterchn	1011 0100	Preset 46: XG Reverb AD1/2,W1-12
0111 0000	Preset 15: Ctrl 96-111 Masterchn	0111 0100	Preset 47: XG Chorus AD1/2,W1-12
1111 0000	Preset 16: Ctrl 112-127 Masterchn	1111 0100	Preset 48: XG Var AD1/2,W1-12
0000 1000	Preset 17: GS/XG Masterchn	0000 1100	Preset 49: XG Dry AD1/2,W1-12
1000 1000	Preset 18: AWE/SB 1 Masterchn	1000 1100	Preset 50: XG EQ
0100 1000	Preset 19: AWE/SB 2 Masterchn	0100 1100	Preset 51: XG Reverb
1100 1000	Preset 20: AWE/SB 3 Masterchn	1100 1100	Preset 52: XG Chorus
0010 1000	Preset 21: AWE/SB 4 Masterchn	0010 1100	Preset 53: XG Variation
1010 1000	Preset 22: AWE/SB 5 Masterchn	1010 1100	Preset 54: XG Insertion 1
0110 1000	Preset 23: GS/XG Drum Pitch	0110 1100	Preset 55: XG Insertion 2
1110 1000	Preset 24: GS/XG Drum Level	1110 1100	Preset 56: GS Reverb/Chorus
0001 1000	Preset 25: GS/XG Drum Pan	0001 1100	Preset 57: Strings
1001 1000	Preset 26: GS/XG Drum Reverb	1001 1100	Preset 58: Rebirth Mchn
0101 1000	Preset 27: GS/XG Drum Chorus	0101 1100	Preset 59: CS1x Masterchn
1101 1000	Preset 28: GS/XG Drum Delay/Var	1101 1100	Preset 60: Waldorf Pulse Mchn
0011 1000	Preset 29: XG Drum Cutoff	0011 1100	Preset 61: ASR-X Masterchn
1011 1000	Preset 30: XG Drum Reson.	1011 1100	Preset 62: Doepfer MAQ 1 Mchn
0111 1000	Preset 31: XG Drum Attack	0111 1100	Preset 63: Doepfer MAQ 2 Mchn
1111 1000	Preset 32: XG Drum Decay	1111 1100	Preset 64: K5000 MCB10 Mchn

0000 0010	Preset 65: Yamaha Promix Mchn	0000 0110	Preset 97: Crusher-X Cloud
1000 0010	Preset 66: ProFive Osz/LFO	1000 0110	Preset 98: Crusher-X Mixer
0100 0010	Preset 67: ProFive Mix/Filt./ADSR	0100 0110	Preset 99: Crusher-X DCO's Mchn
1100 0010	Preset 68: Cubase VST Vol 1-16	1100 0110	Preset 100: Crusher-X Sampler Mchn
0010 0010	Preset 69: Cubase VST Pan 1-16	0010 0110	Preset 101: Crusher-X 3D Mixer Mchn
1010 0010	Preset 70: Cubase VST Vol/Pan 1-8	1010 0110	Preset 102:
0110 0010	Preset 71: B4 Console/TubeAmp/Pedal	0110 0110	Preset 103:
1110 0010	Preset 72: B4 Rotator	1110 0110	Preset 104:
0001 0010	Preset 73: B4 Upper Manual 1	0001 0110	Preset 105: AWE/SB 1&2 IncDec
1001 0010	Preset 74: B4 Upper/Lower 1	1001 0110	Preset 106: GS/XG IncDec Drum Level
0101 0010	Preset 75: Sherman Filterbank Chn16	0101 0110	Preset 107: Rel. Ctrl (signed bit)64-79
1101 0010	Preset 76: Sherman Filterbank Mchn	1101 0110	Preset 108: Rel. Ctrl (signed bit)80-95
0011 0010	Preset 77:	0011 0110	Preset 109: Rel. Ctrl (signed bit)96-111
1011 0010	Preset 78:	1011 0110	Preset110: Rel.Ctrl (signed bit)112-127
0111 0010	Preset 79:	0111 0110	Preset 111: Rel. Ctrl (two compl.)64-79
1111 0010	Preset 80:	1111 0110	Preset 112: Rel. Ctrl (two compl.)80-95
0000 1010	Preset 81: MSB/LSB Ctrl 0-7 Mchn	0000 1110	Preset113: Rel. Ctrl (two compl)96-111
1000 1010	Preset 82: MSB/LSB Ctrl 8-15 Mchn	1000 1110	Preset114: Rel.Ctrl (two cpl.)112-127
0100 1010	Preset 83: MSB/LSB Ctrl 16-23 Mchn	0100 1110	Preset 115:
1100 1010	Preset 84: MSB/LSB Ctrl 24-31 Mchn	1100 1110	Preset 116:
0010 1010	Preset 85: Reaktor 0-15 Mchn	0010 1110	Preset 117:
1010 1010	Preset 86: Reaktor 16-31 Mchn	1010 1110	Preset 118:
0110 1010	Preset 87: Reaktor 32-47 Mchn	0110 1110	Preset 119:
1110 1010	Preset 88: Reaktor 48-63 Mchn	1110 1110	Preset 120:
0001 1010	Preset 89: IncDec Ctrl 0-15 Mchn	0001 1110	Preset 121:
1001 1010	Preset 90: IncDec Ctrl 16-31 Mchn	1001 1110	Preset 122:
0101 1010	Preset 91: IncDec Ctrl 32-47 Mchn	0101 1110	Preset 123:
1101 1010	Preset 92: IncDec Ctrl 48-63 Mchn	1101 1110	Preset 124:
0011 1010	Preset 93: IncDec Ctrl 64-79 Mchn	0011 1110	Preset 125:
1011 1010	Preset 94: IncDec Ctrl 80-95 Mchn	1011 1110	Preset 126:
0111 1010	Preset 95: IncDec Ctrl 96-111 Mchn	0111 1110	Preset 127:
1111 1010	Preset 96: IncDec Ctrl 112-127 Mchn	1111 1110	<i>Preset 128: attention – see remarks</i>

Presets printed **bold** are new or modified presets compared with Pocket Control or Pocket Fader. They mainly contain functions that are available only for Pocket Dial (e.g. Inc/Dec messages). Presets without commentary are left blank while this manual was written but they already may be used in the Pocket Dial you received. Please look at our web site www.doepfer.com for the current state of the factory presets. New presets will be developed, and these will become available free on our web site too.

Controlling Pocket Dial with incoming Midi messages

Some functions of Pocket Dial may be controlled with incoming MIDI messages. The MIDI output of the device generating these messages (e.g. a computer) has to be connected to the MIDI input of the Pocket Dial. The LEDs of Pocket Dial may be used to check if MIDI events appear at the MIDI input of Pocket Dial.

The following functions can be controlled with incoming MIDI messages:

- a) **Changing the preset** takes place with an incoming **MIDI program change** message provided that the MIDI channel matches with the **MIDI master channel** of Pocket Dial. The number of the new preset corresponds to the program change number received. For example prg # 35 selects preset # 35. Pay attention that there are two different modes of counting: 0 ~ 127 or 1~128. In this manual the counting mode 1 ~ 128 is used. If the device that transmits the program change messages uses the counting mode 0 ~ 127 one has to add 1 to obtain the corresponding preset number of Pocket Dial.
- b) The 128 non-volatile presets of Pocket Dial cannot be edited with the Pocket Dial itself. Rather an external **editor** has to be used to generate the SysEx messages required to program the presets of Pocket Dial. Two types of editor programs are available: The Pocket Dial editor for PC that can be downloaded for free from our web site www.doepfer.com. (PC with MS Windows 95/98/2000 required). The OEM version of **Emagic's** universal editor **Sounddiver** can be purchased at a small extra charge together with the Pocket Dial (CD with both version for PC and Mac, including all adaptations for Doepfer devices). OEM means that this version of Sounddivers works only in combination with Doepfer devices and is not a full version of the program. For details please refer to the appendix. The presets are available as MIDI standard files that can be processed by MIDI standard applications (e.g. record and play back with MIDI file players or sequencers).

Presets

As mentioned several times Pocket Dial features 128 presets that can be selected with the DIP switch at the rear panel or with incoming MIDI program change messages on the MIDI master channel of Pocket Dial.

You will find a detailed specification of all presets on our web site www.doepfer.com in case that the information in this manual is not sufficient for your application.

Preset management

Pocket Dial has available 128 presets. Preset means in this connection the data set in the memory that contains the information about the assignment of the 16 controls to MIDI messages including the stored 16 absolute values for these controls.

Four of these presets can be selected quickly with the bank buttons at the top of the case. The DIP switch at the rear panel resp. the incoming MIDI program change message is used to define the preset number that is assigned to bank button 1. The 3 succeeding presets are assigned to the bank buttons 2 ~ 4.

Example: The DIP switch is set to preset number 42. With the four bank buttons the presets 42 (bank button 1), 43 (bank button 2) , 44 (bank button 3) and 45 (bank button 4) can be selected.

The memory management of Pocket Dial is very similar to Pocket Control and Pocket Fader. The main difference are the four bank buttons that enable a fast selection of four succeeding presets.

Consequently 64 *virtual* controls are available with Pocket Dial. This additional feature makes sense only with the Pocket Dial as the encoders allow a jump-free data control. The new data can be calculated relative to the last value of the encoder in question. For Pocket Control or Pocket Fader this would not be possible as the potentiometers transmit absolute values leading to parameter jumps when a new preset with different assignments of the controls to MIDI messages is selected.

List of presets (detailed)

In the following you will find a more detailed list with explanations of all the presets that are shipped in the Pocket Dial. Presets not mentioned in this manual already may be used in the Pocket Dial you received. Please look at our web site www.doepfer.com for the current state of the factory presets. New presets will be developed, and these will become available free on our web site too.

The name of a presets tells the coarse function of the preset. You also will find the information is the controls are assigned to fixed MIDI channels or to the MIDI master channel of Pocket Dial.

Especially for those devices that do not recognize one of the inc/dec messages in the latest column the term *feedback* is specified if the parameters of the preset (e.g. MIDI controllers) can be updated with suitable incoming MIDI data. In this case the device controlled by Pocket Dial has to transmit the new data after any change (e.g. if the sound of the device was changed). Please look into the manual of your device or software controlled by Pocket Dial if this applies. If your device does not support this feature the feedback/update will not work! If you are not sure, please contact the manufacturer of the device. We (Doepfer) cannot give information if the device X by the manufacturer Y has this feature available. For more details please refer to the appendix.

Example: If a knob is assigned to MIDI controller #17 on MIDI channel 5 any incoming MIDI controller #17 data on channel 5 will be used as new starting value for this knob. The incoming controller message updates the value for this knob.

The presets 1 ~ 64 are very similar to those of Pocket Control and Pocket Fader. Normally only the feedback/update feature was added.

Basic presets (same as Pocket Control and Pocket Fader)

Preset 1	Volume	Controller 7	channels 1- 16	<i>feedback</i>
Preset 2	Panorama	Controller 10	channels 1- 16	<i>feedback</i>
Preset 3	Cutoff Channel	Controller 74	channels 1- 16	<i>feedback</i>
Preset 4	Resonance	Controller 71	channels 1- 16	<i>feedback</i>

Presets 1 ~ 4 use a single controller type, with each knob relating to it's corresponding MIDI channel, this allows full control of 16 parts within a multitimbral sound generator, or realtime mixing in sequencer automation.

Preset 5	Volume/Pan	Controller 7/10	channels 1- 8	<i>feedback</i>
Preset 6	Volume/Pan	Controller 7/10	channels 9- 16	<i>feedback</i>
Preset 7	Cutoff /Resonance	Controller 74/71	channels 1- 8	<i>feedback</i>
Preset 8	Cutoff/Resonance	Controller 74/71	channels 9- 16	<i>feedback</i>

Presets 5 ~ 8 use two controllers, one across the top row of knobs and the other across the bottom row. With Preset 5, the top row is MIDI controller 7 (Volume) with the MIDI channel corresponding to the knob number, whilst the lower row is MIDI controller 10 (Pan) on the same channel as the knob above it, hence knob 9 is channel 1, knob 10 is channel 2 etc. Preset 6 follows the same idea except the MIDI channel is channels 9 to 16, so the actual MIDI channel relates to the lower knob numbers. Preset 7, again follows the same idea as Preset 5 except the top row is MIDI controller 74 (Filter Cut off) and the lower row is controller 71 (Filter Resonance), and finally Preset 8 is the same as Preset 7 except the channels are 9-16.

Preset 9	general controllers	Controllers 0 - 15	master channel	<i>feedback</i>
Preset 10	general controllers	Controllers 16 - 31	master channel	<i>feedback</i>
Preset 11	general controllers	Controllers 32 - 47	master channel	<i>feedback</i>
Preset 12	general controllers	Controllers 48 - 63	master channel	<i>feedback</i>
Preset 13	general controllers	Controllers 64 - 79	master channel	<i>feedback</i>
Preset 14	general controllers	Controllers 80 - 95	master channel	<i>feedback</i>
Preset 15	general controllers	Controllers 96 - 111	master channel	<i>feedback</i>
Preset 16	general controllers	Controllers 112 - 127	master channel	<i>feedback</i>

Presets 9 ~ 16 are general controller sets, which transmit on the Master Channel. Where the receiving MIDI device can be programmed to any controller it can receive, these presets maybe the only presets needed, although preset 9 is perhaps best avoided for general use as it includes controller 0 (could trigger MIDI program bank changes) and controller 1 which is the modulation wheel, although of course there may be instances when MIDI controller 1 is required, such as adding a modulation wheel function to a keyboard (such as a digital piano). Preset 13 also needs to be used with caution, as controller 64 is defined as the sustain/damper pedal function, and most devices will always receive this controller as Damper or Hold.

Preset 17	GS/XG general controls	NRPN/controllers	Channel	Remark
Control 1	Filter Cutoff	NRPN	master channel	<i>(no feedback)</i>
Control 2	Filter Resonance	NRPN	master channel	<i>(no feedback)</i>
Control 3	Vibrato Rate	NRPN	master channel	<i>(no feedback)</i>
Control 4	Vibrato Depth	NRPN	master channel	<i>(no feedback)</i>
Control 5	Vibrato Delay	NRPN	master channel	<i>(no feedback)</i>
Control 6	EG- Attack	NRPN	master channel	<i>(no feedback)</i>
Control 7	EG Decay	NRPN	master channel	<i>(no feedback)</i>
Control 8	EG Release	NRPN	master channel	<i>(no feedback)</i>
Control 9	Pitch Bend	PitchBend	master channel	<i>(no feedback)</i>
Control 10	Modulation	Controller 1	master channel	feedback
Control 11	Portam.Time	Controller 5	master channel	feedback
Control 12	Reverb Send	Controller 9	master channel	feedback
Control 13	Chorus Send	Controller 93	master channel	feedback
Control 14	Delay/Var Send	Controller 94	master channel	feedback
Control 15	Pan	Controller 10	master channel	feedback
Control 16	Volume	Controller 7	master channel	feedback

Preset 17 is an GS / XG general control preset [NRPN / controllers]. It has the top row of knobs transmitting relevant NRPN controller data for GS/XG instruments, and the lower row is used for general controllers.

Preset 18	AWE/SB 1 Masterchn	NRPN/controllers	Channel	Remark
Control 1	Filter Cutoff Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 2	Filter Resonance Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 3	Vibrato Rate Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 4	Vibrato Depth Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 5	Vibrato Delay Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 6	EG- Attack Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 7	EG Decay Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 8	EG Release Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 9	Filter Cutoff Fine	NRPN	master channel	<i>(no feedback)</i>
Control 10	Filter Resonance Fine	NRPN	master channel	<i>(no feedback)</i>
Control 11	Vibrato Rate Fine	NRPN	master channel	<i>(no feedback)</i>
Control 12	Vibrato Depth Fine	NRPN	master channel	<i>(no feedback)</i>
Control 13	Vibrato Delay Fine	NRPN	master channel	<i>(no feedback)</i>
Control 14	EG- Attack Fine	NRPN	master channel	<i>(no feedback)</i>
Control 15	EG Decay Fine	NRPN	master channel	<i>(no feedback)</i>
Control 16	EG Release Fine	NRPN	master channel	<i>(no feedback)</i>

Preset 19	AWE/SB 2	NRPN/controllers	Channel	Remark
Control 1	LFO 1 Delay Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 2	LFO 1 Freq Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 3	Env1 Delay Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 4	Env1 Attack Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 5	Env1 Hold Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 6	Env1 Decay Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 7	Env1 Sustain Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 8	Env1 Release Coarse	NRPN	master channel	<i>(no feedback)</i>
Control 9	LFO 1 Delay Fine	NRPN	master channel	<i>(no feedback)</i>
Control 10	LFO 1 Freq Fine	NRPN	master channel	<i>(no feedback)</i>
Control 11	Env1 Delay Fine	NRPN	master channel	<i>(no feedback)</i>
Control 12	Env1 Attack Fine	NRPN	master channel	<i>(no feedback)</i>
Control 13	Env1 Hold Fine	NRPN	master channel	<i>(no feedback)</i>
Control 14	Env1 Decay Fine	NRPN	master channel	<i>(no feedback)</i>
Control 15	Env1 Sustain Fine	NRPN	master channel	<i>(no feedback)</i>
Control 16	Env1 Release Fine	NRPN	master channel	<i>(no feedback)</i>

Preset 20	AWE/SB 3	NRPN/controllers	Channel	Remark
Control 1	LFO 2 Delay Coarse	NRPN	master channel	(no feedback)
Control 2	LFO 1 Freq Coarse	NRPN	master channel	(no feedback)
Control 3	Env2 Delay Coarse	NRPN	master channel	(no feedback)
Control 4	Env2 Attack Coarse	NRPN	master channel	(no feedback)
Control 5	Env2 Hold Coarse	NRPN	master channel	(no feedback)
Control 6	Env2 Decay Coarse	NRPN	master channel	(no feedback)
Control 7	Env2 Sustain Coarse	NRPN	master channel	(no feedback)
Control 8	Env2 Release Coarse	NRPN	master channel	(no feedback)
Control 9	LFO 2 Delay Fine	NRPN	master channel	(no feedback)
Control 10	LFO 2 Freq Fine	NRPN	master channel	(no feedback)
Control 11	Env2 Delay Fine	NRPN	master channel	(no feedback)
Control 12	Env2 Attack Fine	NRPN	master channel	(no feedback)
Control 13	Env2 Hold Fine	NRPN	master channel	(no feedback)
Control 14	Env2 Decay Fine	NRPN	master channel	(no feedback)
Control 15	Env2 Sustain Fine	NRPN	master channel	(no feedback)
Control 16	Env2 Release Fine	NRPN	master channel	(no feedback)

Preset 21	AWE/SB 4	NRPN/controllers	Channel	Remark
Control 1	Master Tuning Coarse	NRPN	master channel	(no feedback)
Control 2	LFO 1 to Pitch Coarse	NRPN	master channel	(no feedback)
Control 3	LFO 2 to Pitch Coarse	NRPN	master channel	(no feedback)
Control 4	Env1 to Pitch Coarse	NRPN	master channel	(no feedback)
Control 5	LFO 1 to Volume Coarse	NRPN	master channel	(no feedback)
Control 6	LFO 1 to Cutoff Coarse	NRPN	master channel	(no feedback)
Control 7	Env 1 to Cutoff Coarse	NRPN	master channel	(no feedback)
Control 8	undefined	NRPN	master channel	(no feedback)
Control 9	Master Tuning Fine	NRPN	master channel	(no feedback)
Control 10	LFO 1 to Pitch Fine	NRPN	master channel	(no feedback)
Control 11	LFO 2 to Pitch Fine	NRPN	master channel	(no feedback)
Control 12	Env1 to Pitch Fine	NRPN	master channel	(no feedback)
Control 13	LFO 1 to Volume Fine	NRPN	master channel	(no feedback)
Control 14	LFO 1 to Cutoff Fine	NRPN	master channel	(no feedback)
Control 15	Env 1 to Cutoff Fine	NRPN	master channel	(no feedback)
Control 16	undefined	NRPN	master channel	(no feedback)

Preset 22	AWE/SB 5	NRPN/Controller	Channel	Remark
Control 1	Filter Cutoff Coarse	NRPN	master channel	(no feedback)
Control 2	Filter Resonance Coarse	NRPN	master channel	(no feedback)
Control 3	Modulation	Controller1	master channel	feedback
Control 4	Reverb Send Coarse	NRPN	master channel	(no feedback)
Control 5	Chorus Send Coarse	NRPN	master channel	(no feedback)
Control 6	Portamento	Controller5	master channel	feedback
Control 7	Balance	Controller8	master channel	feedback
Control 8	Expression	Controller11	master channel	feedback
Control 9	Filter Cutoff Coarse	NRPN	master channel	(no feedback)
Control 10	Filter Resonance Coarse	NRPN	master channel	(no feedback)
Control 11	Mono Aftertouch	MonoAftertouch	master channel	feedback
Control 12	Reverb Send Fine	NRPN	master channel	feedback
Control 13	Chorus Send Fine	NRPN	master channel	feedback
Control 14	Portamento Off/On	Controller65	master channel	(no feedback)
Control 15	Pan	Controller10	master channel	(no feedback)
Control 16	Volume	Controller7	master channel	(no feedback)

Presets 16 ~ 22 are specific NRPN controllers that control the specified functions on the Sound Blaster AWE 32/64 soundcards.

Preset 23	GS/XG Drum Pitch	NRPN	master channel	<i>(no feedback)</i>
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Preset 24	GS/XG Drum Level	NRPN	master channel	<i>(no feedback)</i>
Preset 25	GS/XG Drum Pan	NRPN	master channel	<i>(no feedback)</i>
Preset 26	GS/XG Drum Reverb	NRPN	master channel	<i>(no feedback)</i>
Preset 27	GS/XG Drum Chorus	NRPN	master channel	<i>(no feedback)</i>
Preset 28	GS/XG Drum Delay/Var	NRPN	master channel	<i>(no feedback)</i>

Presets 23 ~ 28 control the drum kit, which would normally require the master channel to be set to channel 10. The knobs all relate to the same drums on these presets as shown below, with each preset controlling Pitch, Level, Pan, Reverb Send, Chorus Send or Delay/Var. Send depending on the preset selected.

Preset 29	XG Drum Cutoff	NRPN	master channel	<i>(no feedback)</i>
Preset 30	XG Drum Reson.	NRPN	master channel	<i>(no feedback)</i>
Preset 31	XG Drum Attack	NRPN	master channel	<i>(no feedback)</i>
Preset 32	XG Drum Decay	NRPN	master channel	<i>(no feedback)</i>

Presets 29 ~ 32 control the drum kit, which would normally require the master channel to be set to channel 10. The knobs all relate to the same drums on these presets as shown above, with each preset controlling Filter Cut Off, Filter Resonance, Envelope Attack or Envelope Decay depending on the preset selected.

The presets 29 ~ 32 use the same assignment of controls to drum instruments:

Control 1	Bass Drum Pitch	Control 9	Bongo Pitch
Control 2	Snare Drum Pitch	Control 10	Conga Pitch
Control 3	Tom Pitch	Control 11	Timbale Pitch
Control 4	Hi-Hat Pitch	Control 12	Hi Q Pitch
Control 5	Hand Clap Pitch	Control 13	Seq Click Pitch
Control 6	Rim Shot Pitch	Control 14	Finger Snap Pitch
Control 7	Crash Pitch	Control 15	Click Noise Pitch
Control 8	Ride Pitch	Control 16	Tambourine Pitch

Preset 33	XG Multi-Part Volume Level	SysEx	channels 1 - 16	<i>(no feedback)</i>
Preset 34	XG Multi-Part Pan	SysEx	channels 1 - 16	<i>(no feedback)</i>
Preset 35	XG Multi-Part Reverb Send	SysEx	channels 1 - 16	<i>(no feedback)</i>
Preset 36	XG Multi-Part Chorus Send	SysEx	channels 1 - 16	<i>(no feedback)</i>
Preset 37	XG Multi-Part Dry Level	SysEx	channels 1 - 16	<i>(no feedback)</i>
Preset 38	XG Multi-Part Variation Send	SysEx	channels 1 - 16	<i>(no feedback)</i>
Preset 39	XG Multi-Part Low EQ Gain	SysEx	channels 1 - 16	<i>(no feedback)</i>
Preset 40	XG Multi-Part Low EQ Frequ.	SysEx	channels 1 - 16	<i>(no feedback)</i>
Preset 41	XG Multi-Part High EQ Gain	SysEx	channels 1 - 16	<i>(no feedback)</i>
Preset 42	XG Multi-Part High EQ Frequ.	SysEx	channels 1 - 16	<i>(no feedback)</i>

Presets 33 ~ 42 are similar to the presets 1~4 and control the XG parts with SysEx messages (nearl all Yamaha instruments). The 16 knobs control the parameter of the 16 MIDI channels. Each preset controls either Part volume, pan, reverb send, chorus send, dry level, variation effect send, low eq gain, low eq frequency, high eq gain or high eq frequency.

Preset 43	XG Mpart-Effect	Controller	Channel	Remark
Control 1	High EQ Frequency	SysEx	-	(no feedback)
Control 2	Low EQ Frequency	SysEx	-	(no feedback)
Control 3	<i>undefined</i>			
Control 4	Dry	SysEx	-	(no feedback)
Control 5	<i>undefined</i>			
Control 6	<i>undefined</i>			
Control 7	<i>undefined</i>			
Control 8	<i>undefined</i>			
Control 9	Hi Eq Gain	SysEx	-	(no feedback)
Control 10	Lo Eq Gain	SysEx	-	(no feedback)
Control 11	<i>undefined</i>			
Control 12	Reverb	SysEx	-	(no feedback)
Control 13	Chorus	SysEx	-	(no feedback)
Control 14	Variation	SysEx	-	(no feedback)
Control 15	Pan	SysEx	-	(no feedback)
Control 16	Level	SysEx	-	(no feedback)

Preset 43 is similar to preset 16 and offers general effects control for an XG instrument.

Preset 44	XG AD & Wave Level	SysEx	master channel	<i>(no feedback)</i>
Preset 45	XG AD & Wave Pan	SysEx	master channel	<i>(no feedback)</i>
Preset 46	XG AD & Wave Reverb Send	SysEx	master channel	<i>(no feedback)</i>
Preset 47	XG AD & Wave Chorus Send	SysEx	master channel	<i>(no feedback)</i>
Preset 48	XG AD & Wave Variation Send	SysEx	master channel	<i>(no feedback)</i>
Preset 49	XG AD & Wave Dry Level	SysEx	master channel	<i>(no feedback)</i>

Presets 44 ~ 49 control the A/D inputs 1 and 2 as well as the 12 wave channels on relevant Yamaha sound cards. These relevant controls are shown below. Note that knobs 15 and 16 have no defined function for these presets.

Control 1	AD Input 1	Control 9	W7
Control 2	AD Input 2	Control 10	W8
Control 3	W1	Control 11	W9
Control 4	W2	Control 12	W10
Control 5	W3	Control 13	W11
Control 6	W4	Control 14	W12
Control 7	W5	Control 15	<i>undefined</i>
Control 8	W6	Control 16	<i>undefined</i>

Preset 50	XG Effects - EQ	Controller	Channel	Remark
Control 1	EQ Gain 1	SysEx	master channel	(no feedback)
Control 2	EQ Frequency 1	SysEx	master channel	(no feedback)
Control 3	EQ Q1	SysEx	master channel	(no feedback)
Control 4	EQ Gain 2	SysEx	master channel	(no feedback)
Control 5	EQ Frequency 2	SysEx	master channel	(no feedback)
Control 6	EQ Q2	SysEx	master channel	(no feedback)
Control 7	EQ Gain 5	SysEx	master channel	(no feedback)
Control 8	EQ Frequency 5	SysEx	master channel	(no feedback)
Control 9	EQ Gain 3	SysEx	master channel	(no feedback)
Control 10	EQ Frequency 3	SysEx	master channel	(no feedback)
Control 11	EQ Q3	SysEx	master channel	(no feedback)
Control 12	EQ Gain 4	SysEx	master channel	(no feedback)
Control 13	EQ Frequency 4	SysEx	master channel	(no feedback)
Control 14	EQ Q4	SysEx	master channel	(no feedback)
Control 15	EQ Q5	SysEx	master channel	(no feedback)
Control 16	EQ Type	SysEx	master channel	(no feedback)

Preset 51	XG Effects - Reverb	Controller	Channel	Remark
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Control 1	Reverb Type	SysEx	master channel	<i>(no feedback)</i>
Control 2	Reverb Parameter 1	SysEx	master channel	<i>(no feedback)</i>
Control 3	Reverb Parameter 2	SysEx	master channel	<i>(no feedback)</i>
Control 4	Reverb Parameter 3	SysEx	master channel	<i>(no feedback)</i>
Control 5	Reverb Parameter 4	SysEx	master channel	<i>(no feedback)</i>
Control 6	Reverb Parameter 5	SysEx	master channel	<i>(no feedback)</i>
Control 7	Reverb Parameter 6	SysEx	master channel	<i>(no feedback)</i>
Control 8	Reverb Parameter 7	SysEx	master channel	<i>(no feedback)</i>
Control 9	Reverb Parameter 8	SysEx	master channel	<i>(no feedback)</i>
Control 10	Reverb Parameter 9	SysEx	master channel	<i>(no feedback)</i>
Control 11	Reverb Parameter 10	SysEx	master channel	<i>(no feedback)</i>
Control 12	Reverb Parameter 11	SysEx	master channel	<i>(no feedback)</i>
Control 13	Reverb Parameter 13	SysEx	master channel	<i>(no feedback)</i>
Control 14	Reverb Parameter 15	SysEx	master channel	<i>(no feedback)</i>
Control 15	Reverb Return	SysEx	master channel	<i>(no feedback)</i>
Control 16	Reverb Pan	SysEx	master channel	<i>(no feedback)</i>

Preset 52	XG Chorus	Controller	Channel	Remark
Control 1	Chorus Type	SysEx	master channel	<i>(no feedback)</i>
Control 2	Chorus Parameter 1	SysEx	master channel	<i>(no feedback)</i>
Control 3	Chorus Parameter 2	SysEx	master channel	<i>(no feedback)</i>
Control 4	Chorus Parameter 3	SysEx	master channel	<i>(no feedback)</i>
Control 5	Chorus Parameter 4	SysEx	master channel	<i>(no feedback)</i>
Control 6	Chorus Parameter 6	SysEx	master channel	<i>(no feedback)</i>
Control 7	Chorus Parameter 7	SysEx	master channel	<i>(no feedback)</i>
Control 8	Chorus Parameter 8	SysEx	master channel	<i>(no feedback)</i>
Control 9	Chorus Parameter 9	SysEx	master channel	<i>(no feedback)</i>
Control 10	Chorus Parameter 10	SysEx	master channel	<i>(no feedback)</i>
Control 11	Chorus Parameter 11	SysEx	master channel	<i>(no feedback)</i>
Control 12	Chorus Parameter 12	SysEx	master channel	<i>(no feedback)</i>
Control 13	Chorus Parameter 13	SysEx	master channel	<i>(no feedback)</i>
Control 14	Chorus to Reverb	SysEx	master channel	<i>(no feedback)</i>
Control 15	Chorus Return	SysEx	master channel	<i>(no feedback)</i>
Control 16	Chorus Pan	SysEx	master channel	<i>(no feedback)</i>

Preset 53	XG Variation	Controller	Channel	Remark
Control 1	Variation Type	SysEx	master channel	<i>(no feedback)</i>
Control 2	Variation Parameter 1	SysEx	master channel	<i>(no feedback)</i>
Control 3	Variation Parameter 2	SysEx	master channel	<i>(no feedback)</i>
Control 4	Variation Parameter 3	SysEx	master channel	<i>(no feedback)</i>
Control 5	Variation Parameter 4	SysEx	master channel	<i>(no feedback)</i>
Control 6	Variation Parameter 6	SysEx	master channel	<i>(no feedback)</i>
Control 7	Variation Parameter 7	SysEx	master channel	<i>(no feedback)</i>
Control 8	Variation Parameter 11	SysEx	master channel	<i>(no feedback)</i>
Control 9	Variation Parameter 12	SysEx	master channel	<i>(no feedback)</i>
Control 10	Variation Parameter 13	SysEx	master channel	<i>(no feedback)</i>
Control 11	Variation Parameter 14	SysEx	master channel	<i>(no feedback)</i>
Control 12	Variation Parameter 15	SysEx	master channel	<i>(no feedback)</i>
Control 13	Variation to Reverb	SysEx	master channel	<i>(no feedback)</i>
Control 14	Variation to Chorus	SysEx	master channel	<i>(no feedback)</i>
Control 15	Variation Return	SysEx	master channel	<i>(no feedback)</i>
Control 16	Variation Pan	SysEx	master channel	<i>(no feedback)</i>

Preset 54	XG Insertion 1	Controller	Channel	Remark
Control 1	Insert1 Type	SysEx	master channel	<i>(no feedback)</i>
Control 2	Insert1 Parameter 1	SysEx	master channel	<i>(no feedback)</i>
Control 3	Insert1 Parameter 2	SysEx	master channel	<i>(no feedback)</i>
Control 4	Insert1 Parameter 3	SysEx	master channel	<i>(no feedback)</i>
Control 5	Insert1 Parameter 4	SysEx	master channel	<i>(no feedback)</i>
Control 6	Insert1 Parameter 5	SysEx	master channel	<i>(no feedback)</i>
Control 7	Insert1 Parameter 6	SysEx	master channel	<i>(no feedback)</i>
Control 8	Insert1 Parameter 7	SysEx	master channel	<i>(no feedback)</i>

Control 9	Insert1 Parameter 8	SysEx	master channel	(no feedback)
Control 10	Insert1 Parameter 9	SysEx	master channel	(no feedback)
Control 11	Insert1 Parameter 10	SysEx	master channel	(no feedback)
Control 12	Insert1 Parameter 11	SysEx	master channel	(no feedback)
Control 13	Insert1 Parameter 12	SysEx	master channel	(no feedback)
Control 14	Insert1 Parameter 13	SysEx	master channel	(no feedback)
Control 15	Insert1 Parameter 14	SysEx	master channel	(no feedback)
Control 16	Insert1 Parameter 15	SysEx	master channel	(no feedback)

Preset 55	XG Insertion 2	Controller	Channel	Remark
Control 1	Insert2 Type	SysEx	master channel	(no feedback)
Control 2	Insert2 Parameter 1	SysEx	master channel	(no feedback)
Control 3	Insert2 Parameter 2	SysEx	master channel	(no feedback)
Control 4	Insert2 Parameter 3	SysEx	master channel	(no feedback)
Control 5	Insert2 Parameter 4	SysEx	master channel	(no feedback)
Control 6	Insert2 Parameter 5	SysEx	master channel	(no feedback)
Control 7	Insert2 Parameter 6	SysEx	master channel	(no feedback)
Control 8	Insert2 Parameter 7	SysEx	master channel	(no feedback)
Control 9	Insert2 Parameter 8	SysEx	master channel	(no feedback)
Control 10	Insert2 Parameter 9	SysEx	master channel	(no feedback)
Control 11	Insert2 Parameter 10	SysEx	master channel	(no feedback)
Control 12	Insert2 Parameter 11	SysEx	master channel	(no feedback)
Control 13	Insert2 Parameter 12	SysEx	master channel	(no feedback)
Control 14	Insert2 Parameter 13	SysEx	master channel	(no feedback)
Control 15	Insert2 Parameter 14	SysEx	master channel	(no feedback)
Control 16	Insert2 Parameter 15	SysEx	master channel	(no feedback)

Preset 56	GS Reverb/Chorus	Controller	Channel	Remark
Control 1	Reverb Preset	NRPN	master channel	(no feedback)
Control 2	Reverb Charakter	NRPN	master channel	(no feedback)
Control 3	Reverb Low PassFilter	NRPN	master channel	(no feedback)
Control 4	Reverb Level	NRPN	master channel	(no feedback)
Control 5	Reverb Time	NRPN	master channel	(no feedback)
Control 6	Reverb Delay Feedback	NRPN	master channel	(no feedback)
Control 7	Reverb to Chorus	NRPN	master channel	(no feedback)
Control 8	<i>undefined</i>	NRPN	master channel	(no feedback)
Control 9	Chorus Preset	NRPN	master channel	(no feedback)
Control 10	Chorus LoPass Filt.	NRPN	master channel	(no feedback)
Control 11	Chorus Level	NRPN	master channel	(no feedback)
Control 12	Chorus Feedback	NRPN	master channel	(no feedback)
Control 13	Chorus Delay	NRPN	master channel	(no feedback)
Control 14	Chorus Rate	NRPN	master channel	(no feedback)
Control 15	Chorus Depth	NRPN	master channel	(no feedback)
Control 16	Chorus to Reverb	NRPN	master channel	(no feedback)

Preset 57	Strings	Controller	Channel	Remark
Control 1	GM-Reset	Strings	-	(no feedback)
Control 2	GS-Reset	Strings	-	(no feedback)
Control 3	XG-Reset	Strings	-	(no feedback)
Control 4	All-Sounds Off	Controller 120	master channel	feedback
Control 5	All Ctrl Reset	Controller 121	master channel	feedback
Control 6	All Notes Off	Controller 123	master channel	feedback
Control 7	OMNI Off	Controller 124	master channel	feedback
Control 8	OMNI On	Controller 125	master channel	feedback
Control 9	Mono On	Controller 126	master channel	feedback
Control 10	Poly On	Controller 127	master channel	feedback
Control 11	<i>undefined</i>	-	-	-
Control 12	<i>undefined</i>	-	-	-
Control 13	<i>undefined</i>	-	-	-
Control 14	<i>undefined</i>	-	-	-
Control 15	<i>undefined</i>	-	-	-

Control 16	<i>undefined</i>	-	-	-
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Preset 58	Rebirth	Controller	Channel	Remark
Control 1	Synth 1 Cutoff	Controller 25	master channel	feedback
Control 2	Synth 1 Resonance	Controller 26	master channel	feedback
Control 3	Synth 1 Envelope Mod	Controller 27	master channel	feedback
Control 4	Synth 1 Decay	Controller 28	master channel	feedback
Control 5	Synth 2 Cutoff	Controller 32	master channel	feedback
Control 6	Synth 2 Resonance	Controller 33	master channel	feedback
Control 7	Synth 2 Envelop Mod	Controller 34	master channel	feedback
Control 8	Synth 2 Decay	Controller 35	master channel	feedback
Control 9	Synth 1 Accent	Controller 29	master channel	feedback
Control 10	Synth 2 Accent	Controller 36	master channel	feedback
Control 11	Drum BD Tone	Controller 39	master channel	feedback
Control 12	Drum BD Decay	Controller 40	master channel	feedback
Control 13	Drum SD Snappy	Controller 43	master channel	feedback
Control 14	Synth 1 Mix Level	Controller 11	master channel	feedback
Control 15	Synth 2 MixLevel	Controller 14	master channel	feedback
Control 16	Drum Mix Level	Controller 17	master channel	feedback

Preset 59	Yamaha CS1x	Controller	Channel	Remark
Control 1	Filter Cutoff	Controller 74	master channel	feedback
Control 2	Filter Resonance	Controller 71	master channel	feedback
Control 3	Vibrato Rate	NRPN	master channel	<i>(no feedback)</i>
Control 4	Vibrato Depth	NRPN	master channel	<i>(no feedback)</i>
Control 5	Vibrato Delay	NRPN	master channel	<i>(no feedback)</i>
Control 6	EG- Attack	Controller 73	master channel	feedback
Control 7	AEG Decay	NRPN	master channel	<i>(no feedback)</i>
Control 8	EG Release	Controller 72	master channel	feedback
Control 9	Pitch Bend	PitchBend	master channel	<i>(no feedback)</i>
Control 10	Knob 3 Par	Controller 17	master channel	feedback
Control 11	Konb 6 Par	Controller 18	master channel	feedback
Control 12	Reverb Send	Controller 91	master channel	feedback
Control 13	Chorus Send	Controller 93	master channel	feedback
Control 14	Delay/Variation Send	Controller 94	master channel	feedback
Control 15	Pan	Controller 10	master channel	feedback
Control 16	Volume	Controller 7	master channel	feedback

Preset 60	Waldorf Pulse	Controller	Channel	Remark
Control 1	Filter Cutoff	Controller 50	master channel	feedback
Control 2	Filter Resonance	Controller 56	master channel	feedback
Control 3	Cutoff Keytrack	Controller 51	master channel	feedback
Control 4	Env 1 Sens	Controller 52	master channel	feedback
Control 5	Env 1 Attack	Controller 14	master channel	feedback
Control 6	Env 1 Decay	Controller 15	master channel	feedback
Control 7	Env 1 Sustain	Controller 16	master channel	feedback
Control 8	Env 1 Release	Controller 17	master channel	feedback
Control 9	LFO 1 Speed	Controller 24	master channel	feedback
Control 10	LFO 2 Speed	Controller 26	master channel	feedback
Control 11	VCF Mod Amount	Controller 25	master channel	feedback
Control 12	Port. Time	Controller 5	master channel	feedback
Control 13	Env 2 Attack	Controller 18	master channel	feedback
Control 14	Env 2 Decay	Controller 19	master channel	feedback
Control 15	Env 2 Sustain	Controller 20	master channel	feedback
Control 16	Env 2 Release	Controller 21	master channel	feedback

Preset 61	Ensoniq ASR-X	Controller	Channel	Remark
Control 1	Filter Cutoff	Controller 74	master channel	feedback
Control 2	Filter Resonance	Controller 71	master channel	feedback
Control 3	Vibrato Rate	Controller 75	master channel	feedback
Control 4	Vibrato Depth	NRPN	master channel	<i>(no feedback)</i>
Control 5	Vibrato Delay	NRPN	master channel	<i>(no feedback)</i>

Control 6	Filt Env Attack	NRPN	master channel	<i>(no feedback)</i>
Control 7	Filt Env Decay	NRPN	master channel	<i>(no feedback)</i>
Control 8	Filt Env Release	NRPN	master channel	<i>(no feedback)</i>
Control 9	Pitch Bend	PitchBend	master channel	<i>(no feedback)</i>
Control 10	Modulation	Controller 1	master channel	feedback
Control 11	EG Attack	Controller 73	master channel	feedback
Control 12	EG Decay	Controller 76	master channel	feedback
Control 13	EG Release	Controller 72	master channel	feedback
Control 14	Vel. Sense	NRPN	master channel	<i>(no feedback)</i>
Control 15	Port.Time	Controller 5	master channel	feedback
Control 16	Volume	Controller 7	master channel	feedback

Preset 62	Doepfer MAQ 1 Mchn	Controller	Channel	Remark
Control 1	Velocity Row 1	Controller 0	master channel	feedback
Control 2	Velocity Row 2	Controller 1	master channel	feedback
Control 3	Velocity Row 3	Controller 2	master channel	feedback
Control 4	Gate Time Row1	Controller 7	master channel	feedback
Control 5	Gate Time Row2	Controller 8	master channel	feedback
Control 6	Gate Time Row3	Controller 9	master channel	feedback
Control 7	Prg Chng Row 3	Controller 30	master channel	feedback
Control 8	Tempo	Controller 3	master channel	feedback
Control 9	Step Pos Row 1	Controller 4	master channel	feedback
Control 10	Step Pos Row 2	Controller 5	master channel	feedback
Control 11	Step Pos Row 3	Controller 6	master channel	feedback
Control 12	Note Time Row 1	Controller 10	master channel	feedback
Control 13	Note Time Row 2	Controller 11	master channel	feedback
Control 14	Note Time Row 3	Controller 12	master channel	feedback
Control 15	Prg Chng Row 1	Controller 28	master channel	feedback
Control 16	Prg Chng Row 2	Controller 29	master channel	feedback

Preset 63	Doepfer MAQ 2	Controller	Channel	Remark
Control 1	First Step Row 1	Controller 13	master channel	feedback
Control 2	First Step Row 2	Controller 14	master channel	feedback
Control 3	First Step Row 3	Controller 15	master channel	feedback
Control 4	Run Mode Row1	Controller 19	master channel	feedback
Control 5	Run Mode Row2	Controller 20	master channel	feedback
Control 6	Run Mode Row3	Controller 21	master channel	feedback
Control 7	Prg Chng Row 3	Controller 30	master channel	feedback
Control 8	Tempo	Controller 3	master channel	feedback
Control 9	Last Step Row 1	Controller 16	master channel	feedback
Control 10	Last Step Row 2	Controller 17	master channel	feedback
Control 11	Last Step Row 3	Controller 18	master channel	feedback
Control 12	Midi-Chan Row 1	Controller 22	master channel	feedback
Control 13	Midi-Chan Row 2	Controller 23	master channel	feedback
Control 14	Midi-Chan Row 3	Controller 24	master channel	feedback
Control 15	Prg Chng Row 1	Controller 28	master channel	feedback
Control 16	Prg Chng Row 2	Controller 29	master channel	feedback

Presets 62 ~ 63 provide the MAQ16/3 with advanced realtime control with features that may not have been apparent that the MAQ16/3 could do. Converts an MAQ16/3 into a Super MAQ16/3 !

Preset 64	K5000 MCB10 Mchn	Controller	Channel	Remark
Control 1	Cutoff	Controller 74	master channel	feedback
Control 2	Resonance	Controller 77	master channel	feedback
Control 3	FF Speed	Controller 19	master channel	feedback
Control 4	FF Depth	Controller 75	master channel	feedback
Control 5	FF Bias	Controller 18	master channel	feedback
Control 6	Attack	Controller 73	master channel	feedback
Control 7	Decay	Controller 78	master channel	feedback
Control 8	Release	Controller 72	master channel	feedback
Control 9	Hrm Lo	Controller 16	master channel	feedback
Control 10	Hrm Hi	Controller 17	master channel	feedback
Control 11	Even / Odd	Controller 71	master channel	feedback
Control 12	Velocity	Controller 76	master channel	feedback
Control 13	User 1	Controller 80	master channel	feedback
Control 14	User 2	Controller 81	master channel	feedback
Control 15	User 3	Controller 82	master channel	feedback
Control 16	User 4	Controller 83	master channel	feedback

Preset 65	Yamaha Promix	Controller	Channel	Remark
Control 1	Stereo In Level	Controller 16	master channel	feedback
Control 2	Stereo Out Level	Controller 21	master channel	feedback
Control 3	Stereo Out Balance	Controller 67	master channel	feedback
Control 4	Stereo Out 2 Cue	Controller 82	master channel	feedback
Control 5	Stereo In to Cue	Controller 75	master channel	feedback
Control 6	Send 4 Level	Controller 20	master channel	feedback
Control 7	Send 3 Level	Controller 19	master channel	feedback
Control 8	Intrn FX 1 Type	Controller 20	master channel	feedback
Control 9	Send 3 to Cue	Controller 80	master channel	feedback
Control 10	Sned 4 to Cue	Controller 81	master channel	feedback
Control 11	Send 3/4 Bal	Controller 66	master channel	feedback
Control 12	FX Rtn 1 Level	Controller 17	master channel	feedback
Control 13	FX Rtn 2 Level	Controller 18	master channel	feedback
Control 14	FX Rtn 1 to Cue	Controller 78	master channel	feedback
Control 15	Fx Rtn 2 to Cue	Controller 79	master channel	feedback
Control 16	Intrn FX 2 Type	Controller 21	master channel	feedback

Preset 66	ProFive Osz. / LFO	Controller	Channel	Remark
Control 1	Poly-Mod Filt Env	Controller 20	master channel	feedback
Control 2	Poly-Mod Osc B	Controller 21	master channel	feedback
Control 3	Osc A Frequ	Controller 40	master channel	feedback
Control 4	Osc A Shape-Saw	Controller 41	master channel	feedback
Control 5	Osc A Shape Pulse	Controller 42	master channel	feedback
Control 6	Osc A Pulse Width	Controller 43	master channel	feedback
Control 7	Osc A Sync	Controller 44	master channel	feedback
Control 8	Osc A Glide	Controller 5	master channel	feedback
Control 9	Wheel Mod Source Mix	Controller 34	master channel	feedback
Control 10	LFO Freq	Controller 26	master channel	feedback
Control 11	Osc B Frequ	Controller 50	master channel	feedback
Control 12	Osc B Frequ Fine	Controller 51	master channel	feedback
Control 13	Osc B Shape-Saw	Controller 52	master channel	feedback
Control 14	Osc B Shape-Triangle	Controller 53	master channel	feedback
Control 15	Osc B Shape Pulse	Controller 54	master channel	feedback
Control 16	Osc B Pulse Width	Controller 55	master channel	feedback

Preset 67	Pro Five Mix/Filt./ADSR	Controller	Channel	Remark
Control 1	Filt. Cutoff	Controller 70	master channel	feedback
Control 2	Filt. Resonance	Controller 71	master channel	feedback
Control 3	Filt. En Amount	Controller 72	master channel	feedback
Control 4	Filt. Kbd	Controller 73	master channel	feedback
Control 5	Mixer Osc A	Controller 45	master channel	feedback
Control 6	Mixer Osc B	Controller 46	master channel	feedback

Control 7	Noise	Controller 47	master channel	feedback
Control 8	Volume	Controller 7	master channel	feedback
Control 9	Filt. Attack	Controller 75	master channel	feedback
Control 10	Filt. Decay	Controller 76	master channel	feedback
Control 11	Filt. Sustain	Controller 77	master channel	feedback
Control 12	Filt. Release	Controller 88	master channel	feedback
Control 13	Osc B Attack	Controller 80	master channel	feedback
Control 14	Osc B Decay	Controller 81	master channel	feedback
Control 15	Osc B Sustain	Controller 82	master channel	feedback
Control 16	Osc B Release	Controller 83	master channel	feedback

Preset 68	Cubase VST (Vol 1-16)	Controller	Channel	Remark
Control 1	Vol 1	Controller 64	channel 16	feedback
Control 2	Vol 2	Controller 65	channel 16	feedback
Control 3	Vol 3	Controller 66	channel 16	feedback
Control 4	Vol 4	Controller 67	channel 16	feedback
Control 5	Vol 5	Controller 68	channel 16	feedback
Control 6	Vol 6	Controller 69	channel 16	feedback
Control 7	Vol 7	Controller 70	channel 16	feedback
Control 8	Vol 8	Controller 71	channel 16	feedback
Control 9	Vol 9	Controller 16	channel 16	feedback
Control 10	Vol 10	Controller 17	channel 16	feedback
Control 11	Vol 11	Controller 18	channel 16	feedback
Control 12	Vol 12	Controller 19	channel 16	feedback
Control 13	Vol 13	Controller 20	channel 16	feedback
Control 14	Vol 14	Controller 21	channel 16	feedback
Control 15	Vol 15	Controller 22	channel 16	feedback
Control 16	Vol 16	Controller 23	channel 16	feedback

Preset 69	Cubase VST (Pan 1-16)	Controller	Channel	Remark
Control 1	Pan 1	Controller 72	channel 16	feedback
Control 2	Pan 2	Controller 73	channel 16	feedback
Control 3	Pan 3	Controller 74	channel 16	feedback
Control 4	Pan 4	Controller 75	channel 16	feedback
Control 5	Pan 5	Controller 76	channel 16	feedback
Control 6	Pan 6	Controller 77	channel 16	feedback
Control 7	Pan 7	Controller 78	channel 16	feedback
Control 8	Pan 8	Controller 79	channel 16	feedback
Control 9	Pan 9	Controller 24	channel 16	feedback
Control 10	Pan 10	Controller 25	channel 16	feedback
Control 11	Pan 11	Controller 26	channel 16	feedback
Control 12	Pan 12	Controller 27	channel 16	feedback
Control 13	Pan 13	Controller 28	channel 16	feedback
Control 14	Pan 14	Controller 29	channel 16	feedback
Control 15	Pan 15	Controller 30	channel 16	feedback
Control 16	Pan 16	Controller 31	channel 16	feedback

Preset 70	CubaseVST (Pan/Vol 1-8)	Controller	Channel	Remark
Control 1	Pan 1	Controller 72	channel 16	feedback
Control 2	Pan 2	Controller 73	channel 16	feedback
Control 3	Pan 3	Controller 74	channel 16	feedback
Control 4	Pan 4	Controller 75	channel 16	feedback
Control 5	Pan 5	Controller 76	channel 16	feedback
Control 6	Pan 6	Controller 77	channel 16	feedback
Control 7	Pan 7	Controller 78	channel 16	feedback
Control 8	Pan 8	Controller 79	channel 16	feedback
Control 9	Vol 1	Controller 64	channel 16	feedback
Control 10	Vol 2	Controller 65	channel 16	feedback
Control 11	Vol 3	Controller 66	channel 16	feedback
Control 12	Vol 4	Controller 67	channel 16	feedback
Control 13	Vol 5	Controller 68	channel 16	feedback
Control 14	Vol 6	Controller 69	channel 16	feedback

Control 15	Vol 7	Controller 70	channel 16	feedback
Control 16	Vol 8	Controller 71	channel 16	feedback

Preset 71	B4 Console/TubeAmp/Pedal	Controller	Channel	Remark
Control 1	Percussion Volume	Controller 70	channel 1	feedback
Control 2	Percussion Decay	Controller 71	channel 1	feedback
Control 3	Percussion Harmonic	Controller 72	channel 1	feedback
Control 4	Tube Amp Drive	Controller 76	channel 1	feedback
Control 5	Tube Amp Volume	Controller 7	channel 1	feedback
Control 6	Pedal Keyboard 16'	Controller 33	channel 1	feedback
Control 7	Pedal Keyboard 5 1/3'	Controller 34	channel 1	feedback
Control 8	Pedal Keyboard 8'	Controller 35	channel 1	feedback
Control 9	Vibrato Mix	Controller 73	channel 1	feedback
Control 10	Vibrato Depth	Controller 74	channel 1	feedback
Control 11	Vibrato Amount	Controller 75	channel 1	feedback
Control 12	Tube Amp Body	Controller 78	channel 1	feedback
Control 13	Tube Amp Bright	Controller 79	channel 1	feedback
Control 14	Pedal Keyboard 4'	Controller 36	channel 1	feedback
Control 15	Pedal Keyboard 2 2/3'	Controller 37	channel 1	feedback
Control 16	Pedal Keyboard 2'	Controller 38	channel 1	feedback

Preset 72	B4 Rotator	Controller	Channel	Remark
Control 1	Treble Rotor Slow	Controller 81	channel 1	feedback
Control 2	Treble Rotor Fast	Controller 82	channel 1	feedback
Control 3	Treble Rotor Accel	Controller 83	channel 1	feedback
Control 4	Treble Rotor Tone	Controller 80	channel 1	feedback
Control 5	Microphones Balance	Controller 8	channel 1	feedback
Control 6	Microphones Pan	Controller 10	channel 1	feedback
Control 7	Rotator Slow/Fast	Controller 1	channel 1	feedback
Control 8	Rotator Off/On	Controller 68	channel 1	feedback
Control 9	Bass Rotor Slow	Controller 91	channel 1	feedback
Control 10	Bass Rotor Fast	Controller 92	channel 1	feedback
Control 11		Controller 0	channel 1	feedback
Control 12	Bass Rotor Tone	Controller 90	channel 1	feedback
Control 13	Microphones Spread	Controller 9	channel 1	feedback
Control 14	Microphones Distance	Controller 3	channel 1	feedback
Control 15	Swell	Controller 11	channel 1	feedback
Control 16	Vibrato Lower	Controller 30	channel 1	feedback

Preset 73	B4 Upper Manual 1	Controller	Channel	Remark
Control 1	Upper Manual 16'	Controller 12	channel 1	feedback
Control 2	Upper Manual 5 1/3'	Controller 13	channel 1	feedback
Control 3	Upper Manual 8'	Controller 14	channel 1	feedback
Control 4	Upper Manual 4'	Controller 15	channel 1	feedback
Control 5	Upper Manual 2 2/3'	Controller 16	channel 1	feedback
Control 6	Upper Manual 2'	Controller 17	channel 1	feedback
Control 7	Upper Manual 1 3/5'	Controller 18	channel 1	feedback
Control 8	Upper Manual 1 1/3'	Controller 19	channel 1	feedback
Control 9	Upper Manual 1'	Controller 20	channel 1	feedback
Control 10	Rotator Slow/Fast	Controller 1	channel 1	feedback
Control 11		Controller 0	channel 1	feedback
Control 12	Percussion Off/On	Controller 66	channel 1	feedback
Control 13	Drive Off/On	Controller 67	channel 1	feedback
Control 14	Rotator Off/On	Controller 68	channel 1	feedback
Control 15	Swell	Controller 11	channel 1	feedback
Control 16	Select Preset	Prg-Change	channel 1	feedback

Preset 74	B4 Upper/Lower 1	Controller	Channel	Remark
Control 1	Upper Manual 16'	Controller 12	channel 1	feedback
Control 2	Upper Manual 5 1/3'	Controller 13	channel 1	feedback
Control 3	Upper Manual 8'	Controller 14	channel 1	feedback
Control 4	Upper Manual 4'	Controller 15	channel 1	feedback

Control 5	Upper Manual 2 2/3'	Controller 16	channel 1	feedback
Control 6	Upper Manual 2'	Controller 17	channel 1	feedback
Control 7	Upper Manual 1 3/5'	Controller 18	channel 1	feedback
Control 8	Upper Manual 1 1/3'	Controller 19	channel 1	feedback
Control 9	Lower Manual 16'	Controller 21	channel 1	feedback
Control 10	Lower Manual 5 1/3'	Controller 22	channel 1	feedback
Control 11	Lower Manual 8'	Controller 23	channel 1	feedback
Control 12	Lower Manual 4'	Controller 24	channel 1	feedback
Control 13	Lower Manual 2 2/3'	Controller 25	channel 1	feedback
Control 14	Lower Manual 2'	Controller 26	channel 1	feedback
Control 15	Lower Manual 1 3/5'	Controller 27	channel 1	feedback
Control 16	Lower Manual 1 1/3'	Controller 28	channel 1	feedback

Preset 75	Sherman Filterbank	Controller	Channel	Remark
Control 1	Cutoff freq filter 1	Pitch Bend	channel 16	<i>(no feedback)</i>
Control 2	Resonance Filter 1	MonoAftertouch	channel 16	<i>(no feedback)</i>
Control 3	Cutoff freq filter 2	Controller 1	channel 16	feedback
Control 4	Resonance Filter 2	Controller 2	channel 16	feedback
Control 5	FM depth	Controller 4	channel 16	feedback
Control 6	VCA bias	Controller 7	channel 16	feedback
Control 7	AM / ring depth	Controller 11	channel 16	feedback
Control 8	Attack Time ADSR	Controller 5	channel 16	feedback
Control 9	Decay Time ADSR	Controller 16	channel 16	feedback
Control 10	Release Time ADSR	Controller 17	channel 16	feedback
Control 11	Attack Time AR	Controller 18	channel 16	feedback
Control 12	Release Time AR	Controller 19	channel 16	feedback
Control 13	<i>unused</i>			
Control 14	<i>unused</i>			
Control 15	<i>unused</i>			
Control 16	<i>unused</i>			

Preset 76	Sherman Filterbank	Controller	Channel	
Control 1	Cutoff freq filter 1	Pitch Bend	master channel	<i>(no feedback)</i>
Control 2	Resonance Filter 1	MonoAftertouch	master channel	<i>(no feedback)</i>
Control 3	Cutoff freq filter 2	Controller 1	master channel	feedback
Control 4	Resonance Filter 2	Controller 2	master channel	feedback
Control 5	FM depth	Controller 4	master channel	feedback
Control 6	VCA bias	Controller 7	master channel	feedback
Control 7	AM / ring depth	Controller 11	master channel	feedback
Control 8	Attack Time ADSR	Controller 5	master channel	feedback
Control 9	Decay Time ADSR	Controller 16	master channel	feedback
Control 10	Release Time ADSR	Controller 17	master channel	feedback
Control 11	Attack Time AR	Controller 18	master channel	feedback
Control 12	Release Time AR	Controller 19	master channel	feedback
Control 13	<i>unused</i>			
Control 14	<i>unused</i>			
Control 15	<i>unused</i>			
Control 16	<i>unused</i>			

Presets with the new abilities of Pocket Dial

14 bit controllers

Preset 81	MSB/LSB Ctrl 0-7	Controller 0-7/32-39	master channel	<i>feedback</i>
Preset 82	MSB/LSB Ctrl 8-15	Controller 8-15/40-47	master channel	<i>feedback</i>
Preset 83	MSB/LSB Ctrl 16-23	Controller 16-23/48-55	master channel	<i>feedback</i>
Preset 84	MSB/LSB Ctrl 24-31	Controller 24-31/56-63	master channel	<i>feedback</i>

These presets enable the 14 bit control using high and low byte of a controller. The difference of the controller numbers for high and low byte is always 32, e.g. controller 8 and 40. If one of these presets is selected the Pocket Dial checks if the two controllers of a 14 bit controller pair are assigned to two knobs of Pocket Dial. If this applies a possible overrun or underrun of the least significant byte (LSB, i.e. controller 40 in the example) is considered for the calculation of the most significant byte (MSB, i.e. controller 8 in the example). For details please refer to appendix (transmission of absolute data).

Increment / Decrement messages

Preset 85	Reaktor IncDec	Controllers 0 - 15	master channel	<i>not applicable</i>
Preset 86	Reaktor IncDec	Controllers 16 - 31	master channel	<i>not applicable</i>
Preset 87	Reaktor IncDec	Controllers 32 - 47	master channel	<i>not applicable</i>
Preset 88	Reaktor IncDec	Controllers 48 - 63	master channel	<i>not applicable</i>

These are examples for relative controller messages (binary mode) suitable e.g. for Native Instruments 'Reaktor'. For details please refer to appendix (transmission of increment/decrement data).

Preset 89	IncDec controller	Parameter 0 - 15	master channel	<i>not applicable</i>
Preset 90	IncDec controller	Parameter 16 - 31	master channel	<i>not applicable</i>
Preset 91	IncDec controller	Parameter 32 - 47	master channel	<i>not applicable</i>
Preset 92	IncDec controller	Parameter 48 - 63	master channel	<i>not applicable</i>
Preset 93	IncDec controller	Parameter 64 - 79	master channel	<i>not applicable</i>
Preset 94	IncDec controller	Parameter 80 - 95	master channel	<i>not applicable</i>
Preset 95	IncDec controller	Parameter 96 - 111	master channel	<i>not applicable</i>
Preset 96	IncDec controller	Parameter 112 - 127	master channel	<i>not applicable</i>

The presets 89 ~ 96 make available all possible 128 Inc/Dec controller messages in increasing order (8 presets with 16 inc/dec controller messages each). The MIDI channel is the master channel. This preset group was made especially for softsynths and virtual synths that enable the control of parameters with the inc/dec controller messages. Some of these applications include a learning feature that enables to tell the application which knob of Pocket Dial is used to control the desired parameter (e.g. the CronoX software, see 'www.Linplug.com' in the appendix). For details please refer to appendix (transmission of increment/decrement data).

The following 5 presets are adaptations for the programm 'CrusherX-Live' (see www.CrusherX.com in the appendix):

Preset 97	Crusher-X Cloud	Inc/Dec-Controller	Channel	Remark
Control 1	Vol OutL	Parameter 1	master channel	<i>not applicable</i>
Control 2	Direct Vol Ch. 3	Parameter 44	master channel	<i>not applicable</i>
Control 3	Vol Thru L	Parameter 3	master channel	<i>not applicable</i>
Control 4	Vol InpL	Parameter 7	master channel	<i>not applicable</i>
Control 5	Vol DCO	Parameter 9	master channel	<i>not applicable</i>
Control 6	Vol Sampler	Parameter 10	master channel	<i>not applicable</i>
Control 7	Manual X	Parameter 11	master channel	<i>not applicable</i>
Control 8	Manual Y	Parameter 12	master channel	<i>not applicable</i>

Control 9	Generators	Parameter 14	master channel	<i>not applicable</i>
Control 10	Cloud Speed	Parameter 15	master channel	<i>not applicable</i>
Control 11	Cloud Depth	Parameter 16	master channel	<i>not applicable</i>
Control 12	Cloud Phase	Parameter 18	master channel	<i>not applicable</i>
Control 13	Morph Time	Parameter 52	master channel	<i>not applicable</i>
Control 14	Windows Show/Hide	Parameter 20	master channel	<i>not applicable</i>
Control 15	Undo History	Parameter 21	master channel	<i>not applicable</i>
Control 16	LoadList Nr.	Parameter 13	master channel	<i>not applicable</i>

Preset 98	Crusher-X Mixer	Inc/Dec-Controller	Channel	Remark
Control 1	Vol OutL	Parameter 1	master channel	<i>not applicable</i>
Control 2	Vol OutR	Parameter 2	master channel	<i>not applicable</i>
Control 3	Vol InpL	Parameter 7	master channel	<i>not applicable</i>
Control 4	Vol InpR	Parameter 8	master channel	<i>not applicable</i>
Control 5	Vol ThruL	Parameter 3	master channel	<i>not applicable</i>
Control 6	Vol ThruR	Parameter 4	master channel	<i>not applicable</i>
Control 7	Vol CrusherIn	Parameter 5	master channel	<i>not applicable</i>
Control 8	Vol Feed	Parameter 6	master channel	<i>not applicable</i>
Control 9	Vol DCOs	Parameter 9	master channel	<i>not applicable</i>
Control 10	Vol Sampler	Parameter 10	master channel	<i>not applicable</i>
Control 11	Vol Booster	Parameter 22	master channel	<i>not applicable</i>
Control 12	Booster Delay L	Parameter 54	master channel	<i>not applicable</i>
Control 13	Booster Delay R	Parameter 55	master channel	<i>not applicable</i>
Control 14	Windows Show/Hide	Parameter 20	master channel	<i>not applicable</i>
Control 15	Undo History	Parameter 21	master channel	<i>not applicable</i>
Control 16	LoadList Nr.	Parameter 13	master channel	<i>not applicable</i>

Preset 99	Crusher-X DCO's	Inc/Dec-Controller	Channel	Remark
Control 1	Vol DCO	Parameter 9	master channel	<i>not applicable</i>
Control 2	DCO 1 Vol	Parameter 33	master channel	<i>not applicable</i>
Control 3	DCO 1 Freq	Parameter 31	master channel	<i>not applicable</i>
Control 4	DCO 1 Mod	Parameter 32	master channel	<i>not applicable</i>
Control 5	DCO 2 Vol	Parameter 36	master channel	<i>not applicable</i>
Control 6	DCO 2 Freq	Parameter 34	master channel	<i>not applicable</i>
Control 7	DCO 2 Mod	Parameter 35	master channel	<i>not applicable</i>
Control 8	DCO 3 Vol	Parameter 39	master channel	<i>not applicable</i>
Control 9	DCO 3 Freq	Parameter 37	master channel	<i>not applicable</i>
Control 10	DCO 3 Mod	Parameter 38	master channel	<i>not applicable</i>
Control 11	DCO 4 Vol	Parameter 42	master channel	<i>not applicable</i>
Control 12	DCO 4 Freq	Parameter 40	master channel	<i>not applicable</i>
Control 13	DCO 4 Mod	Parameter 41	master channel	<i>not applicable</i>
Control 14	Windows Show/Hide	Parameter 20	master channel	<i>not applicable</i>
Control 15	Undo History	Parameter 21	master channel	<i>not applicable</i>
Control 16	LoadList Nr.	Parameter 13	master channel	<i>not applicable</i>

Preset 100	Crusher-X Sampler	Inc/Dec-Controller	Channel	Remark
Control 1	Vol Sampler	Parameter 10	master channel	<i>not applicable</i>
Control 2	File 1 Speed	Parameter 23	master channel	<i>not applicable</i>
Control 3	File 1 Vol	Parameter 24	master channel	<i>not applicable</i>
Control 4	File 2 Speed	Parameter 25	master channel	<i>not applicable</i>
Control 5	File 2 Vol	Parameter 26	master channel	<i>not applicable</i>
Control 6	File 3 Speed	Parameter 27	master channel	<i>not applicable</i>
Control 7	File 3 Vol	Parameter 28	master channel	<i>not applicable</i>
Control 8	File 4 Speed	Parameter 29	master channel	<i>not applicable</i>
Control 9	File 4 Vol	Parameter 30	master channel	<i>not applicable</i>
Control 10	Manual X	Parameter 11	master channel	<i>not applicable</i>
Control 11	Manual Y	Parameter 12	master channel	<i>not applicable</i>
Control 12	Morph Time	Parameter 52	master channel	<i>not applicable</i>
Control 13	Generators	Parameter 14	master channel	<i>not applicable</i>
Control 14	Windows Show/Hide	Parameter 20	master channel	<i>not applicable</i>
Control 15	Undo History	Parameter 21	master channel	<i>not applicable</i>
Control 16	LoadList Nr.	Parameter 13	master channel	<i>not applicable</i>

Preset 101	Crusher-X 3D Mixer	Inc/Dec-Controller	Channel	Remark
Control 1	Vol OutL	Parameter 1	master channel	<i>not applicable</i>
Control 2	Vol OutR	Parameter 2	master channel	<i>not applicable</i>
Control 3	Direct Vol Ch. 3	Parameter 44	master channel	<i>not applicable</i>
Control 4	Direct Vol Ch. 4	Parameter 45	master channel	<i>not applicable</i>
Control 5	Direct Vol Ch. 5	Parameter 46	master channel	<i>not applicable</i>
Control 6	Direct Vol Ch. 6	Parameter 47	master channel	<i>not applicable</i>
Control 7	Direct Vol Ch. 7	Parameter 48	master channel	<i>not applicable</i>
Control 8	Direct Vol Ch. 8	Parameter 49	master channel	<i>not applicable</i>
Control 9	Direct Vol Ch. 9	Parameter 50	master channel	<i>not applicable</i>
Control 10	Direct Vol Ch. 10	Parameter 51	master channel	<i>not applicable</i>
Control 11	Vol Inp L	Parameter 7	master channel	<i>not applicable</i>
Control 12	Vol Inp R	Parameter 8	master channel	<i>not applicable</i>
Control 13	Vol Thru L	Parameter 3	master channel	<i>not applicable</i>
Control 14	Vol Thru R	Parameter 4	master channel	<i>not applicable</i>
Control 15	Undo History	Parameter 21	master channel	<i>not applicable</i>
Control 16	LoadList Nr.	Parameter 13	master channel	<i>not applicable</i>

The following two presets are examples for applications of the NRPN controllers in connection with the inc/dec controllers. So far no device is able to recognize this message type. But from our point of view this would include a lot of advantages. We think that the reason is that so far no lo-cost controllers like Pocket Dial have been available and we hope that the manufacturers will take into consideration this very flexible relative controlling idea.

Preset 105	AWE/SB 1&2 IncDec	NRPN & Inc/Dec	Channel	Remark
Control 1	Filter Cutoff Coarse	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 2	Filter Resonance Coarse	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 3	Vibrato Rate Coarse	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 4	Vibrato Depth Coarse	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 5	Vibrato Delay Coarse	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 6	EG- Attack Coarse	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 7	EG Decay Coarse	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 8	EG Release Coarse	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 9	LFO 1 Delay	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 10	LFO 1 Freq	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 11	Env1 Delay	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 12	Env1 Hold	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 13	Env1 Sustain	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 14	Env2 Attack	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 15	Env2 Decay	<i>see appendix</i>	master channel	<i>not applicable</i>
Control 16	Env2 Release	<i>see appendix</i>	master channel	<i>not applicable</i>

Preset 106	GS/XG Drum Level	NRPN& IncDec <i>see appendix</i>	master channel	not applicable
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The next presets are examples for relative controller data (signed bit mode) and (two complement) suitable e.g. for Emagic's 'Logic' or Steinberg's cubase VST5.
 For details please refer to appendix (transmission of increment/decrement data).

		Relative Controller (signed bit)	Channel	Remark
Preset 107	Relative Ctrl 64-79	<i>see appendix</i>	master channel	<i>not applicable</i>
Preset 108	Relative Ctrl 80-95	<i>see appendix</i>	master channel	<i>not applicable</i>
Preset 109	Relative Ctrl 96-111	<i>see appendix</i>	master channel	<i>not applicable</i>
Preset 110	Relative Ctrl 112-127	<i>see appendix</i>	master channel	<i>not applicable</i>

		Relative Controller (two complement)	Channel	Remark
Preset 111	Relative Ctrl 64-79	<i>see appendix</i>	master channel	<i>not applicable</i>
Preset 112	Relative Ctrl 80-95	<i>see appendix</i>	master channel	<i>not applicable</i>
Preset 113	Relative Ctrl 96-111	<i>see appendix</i>	master channel	<i>not applicable</i>
Preset 114	Relative Ctrl 112-127	<i>see appendix</i>	master channel	<i>not applicable</i>

Preset numbers not mentioned are not used while this manual was written but they already may be used in the device you received. New presets will be developed and we will update the factory presets now and then. Please look at our web site www.doepfer.com for the current state of the factory presets. The factory presets are available for free download from our web site so that you may make them topical in your device provided you want to use the factory presets. The factory presets are subject to change.

In addition you may modify the factory presets with the Pocket Editor of PC (free download from our web site) or the Emagic Sounddiver (small additional charge, CD with both versions for Mac and PC).

Remark: The presets have been made using the available information from the manufacturers. Due to the fullness of data we cannot guarantee that the factory presets are faultless. If you find any error or if you have any suggestion for improvement don't hesitate to contact us (e.g. you could send an email to software@doepfer.de). Certain presets may work only if the device controlled is in the right mode (e.g. XG mode for the XG presets). The preset data are subject to change.

Troubleshooting

There will be times when the Pocket Dial does not seem to be working as expected, before suspecting a faulty Pocket Dial, the checklist below should help resolve the problem. Though there is no separate power indicator on the Pocket Dial at least one of the LEDs is always active.

- Is the Pocket Dial powered up correctly? After power on the four LEDs at the upper left side have to light up one after another ("running light"). Then the first LED has to turn on. When the CHN button is held down the LEDs 1 and 2 have to turn on (master channel adjust mode), when the PRG button is held down the LEDs 3 and 4 have to turn on (program change mode). If this does not happen check the power supply used: right voltage (7V to 12V DC not stabilized), minimum current 100mA, polarity: positive inner (see the sketch near the power supply socket)
- Are suitable cables used for the MIDI connections. Do not use standard 5 pin DIN cables but only cables that are approved for MIDI.
- Do not mix up MIDI In and MIDI Out. MIDI Out of Pocket Dial has to be connected to MIDI In of the device controlled by Pocket Dial. MIDI In of Pocket Dial has to be connected onyl in certain cases (refer to page 6 for details). MIDI Out of the device controlling Pocket Dial has to be connected to MIDI In of Pocket Dial:
 - Correct: Device 1 MIDI Out → Device 2 MIDI In
 - Correct: Device 1 MIDI Out → Device 2 MIDI In
 - Wrong: MIDI Out → MIDI Out
 - Wrong: MIDI In → MIDI In
- Moving one of the knobs will flash the LED above button of the active bank. The LED does not flash if the knob has not been assigned a function or if the uppermost or lowest data is reached already.
- Is the Pocket Dial set to the correct preset? Maybe one of the DIP switches has moved accidentally or a MIDI program change has set a new preset up. Check if the DIP switch settings correspond to the desired preset. There may be DIP switch settings that refer to an empty preset. In this case the Pocket Dial will generate no MIDI data at the output and the LED will not flash!
- Changing the preset with the DIP switch has to be indicated by a short lighting up of all four LEDs.
- Is the Pocket Dial set to the correct MIDI channel? Many presets make use of the Master Channel, there is no way of checking what the Master Channel is set to (other than monitoring the transmitted data), so the best procedure here is to set the Master Channel again to double check if it is correct. Refer to page 8 about how to adjust the Master Channel.
- The active LED has to flash when MIDI data are sent to the Pocket Dial. Otherwise the MIDI cable used might be unsuitable or there is a mistake in the wiring of the devices.
- If incoming MIDI data does not appear at the MIDI output though the LED displays MIDI In activity probably the MIDI Thru is switched off. This can be done only by the editor software. In this case the Pocket Dial has to be reprogrammed by the editor program but with MIDI Thru switched on!
- If one of the knobs will not respond though one has selected a suitable preset maybe the uppermost (127) or lowest (0) data was sent already. E.g. if you turn a knob clockwise and reach the uppermost data value (127) continued turning will cause no more MIDI data as the last possible value was already sent. So change the turning direction if a knob seems to respond no longer (applies only for absolute data type, relative inc/dec data have no upper/lower limit).
- Problems with MIDI loops: remember that the Pocket Dial normally merges it's own data with MIDI input data. This can cause a MIDI loop: e.g. MIDI Out Computer → MIDI In Pocket Dial → MIDI Out Pocket Dial → MIDI In Computer = MIDI loop. So you have to make sure that no MIDI loop appears, e.g. by turning off the MIDI Thru mode of the Pocket Dial (possible only with editor software) or the MIDI Thru of the device controlled by Pocket Control (e.g. computer). In some devices this function is called MIDI echo on/off.
- If all four LEDs turn on the Pocket Dial has recognized an **MIDI overflow**. To clear an error, press one of the 6 buttons. The error display indicates that the merge capacity of Pocket Dial was exceeded or that SysEx messages destined for Pocket Dial could not be processed because they were sent too fast.
- Pay attention that the device controlled by Pocket Dial is in the right mode (e.g. XG mode for XG messages).

Appendix

Rotary encoders

The controls used in the Pocket Dial are so-called rotary encoders (sometimes called alpha dials or incremental encoders or endless encoders) in contrast to Pocket Control or Pocket Fader. These devices are equipped with 16 rotary potentiometers (Pocket Control) or slide potentiometers (Pocket Fader).

An encoder has no absolute position like a rotary or slide potentiometer rather it only outputs incremental data (increment or +1 / decrement or -1) when it is operated. The encoders used in the Pocket Dial feature 24 detents/pulses per rotation, i.e. the data change is +/-24 per turn. The change from one position to the next can be felt with the fingers as the encoders used are equipped with the click feature. A full turn (i.e. 360 degrees) corresponds to +24 resp. -24 detents and consequently ± 24 data difference. But the Pocket Dial has built-in acceleration function, i.e. the data change increases (± 2 , ± 3 , ± 4 ...) if the encoder is turned faster. Only if the encoder is turned slow a full turn corresponds to ± 24 . The required time to cover the full range from 0 ~ 127 is about $\frac{1}{2}$ second due to the acceleration function when the knob is turned fast.

Jump-free parameter change

Thanks to the endless rotary encoders used in pocket Dial jump-free changes of parameters become true provided that some requirements are met. To realize jump-free changes there are 2 fundamental solutions:

1. Pocket Dial transmits absolute data

In this case Pocket Dial transmits absolute MIDI Control change data. After a program change of the device controlled by Pocket Dial (e.g. a SoftSynth) parameter jumps will occur.

Example: The value for *filter frequency* was 95 for the "old" sound and is 23 for the "new" sound. If one operates the control for this parameter there will be a jump to 94 or 96 depending if the control was operated up or down.

This problem can be solved if the device controlled by Pocket Dial outputs the new values (i.e. MIDI controllers) for all parameters after a sound change. Pocket Dial receives these values and uses them as new starting values thus causing no longer parameter jumps.

Example: The value for *filter frequency* was 95 for the "old" sound and is 23 for the "new" sound. After the sound change the device controlled by Pocket Dial outputs the new value 23 for this parameter. Pocket Dial receives this new value and uses it as the new start value for the corresponding knob. If one operates the control for this parameter Pocket Dial will transmit 24 or 22 depending if the control was operated up or down. This means that there is no parameter jump as the data transition is 23 -> 24 or 23 -> 22.

But it is essential for this type of control that the device controlled by Pocket Dial transmits the new MIDI controller data after a sound change. Pocket Dial will receive these data and check out if one of the controller numbers assigned to the 16 encoders matches with one of these controller numbers. If this applies the controller data value will be used as the new starting data for this controller. Pocket Dial and the device controlled by Pocket Dial have to be connected via MIDI in both directions:

MIDI Out of Pocket Dial -> MIDI In of the device controlled by Pocket Dial
MIDI Out of the device controlled by Pocket Dial -> MIDI In of Pocket Dial

Actually Pocket Dial does not only check the 16 controller of the current bank but even the controllers of the remaining 3 banks. Thus actually 64 controls (16 in each bank) are updated.

Even 14 bit controller update is possible. In this case the Pocket Dial checks if a 14 bit controllers pair exists, i.e. if the two controllers of a 14 bit controller pair are assigned to two knobs of Pocket Dial. If this applies a possible overrun or underrun of the least significant byte (LSB, i.e. controller 40 in the example) is considered for the calculation of the most significant byte (MSB, i.e. controller 8 in the example). It is essential that the MSB and the LSB controllers are arranged one below the other.

Example: controller 1 (i.e. MSB Modulation) → knob 1
 controller 33 (i.e. LSB Modulation) → knob 9

The factory presets 81 ~ 84 contain some examples for 14 bit controllers. In any case 2 knobs are used: one for the coarse value (MSB) and one for the fine value (LSB). In the MIDI standard the controllers 0~31 and 32~63 are defined as 14 bit controller pairs (with 0~31 = 32 MSBs and 32~63 = 32 LSBs).

2. Pocket Dial transmits Increment / Decrement Data

In this case Pocket Dial does not "know" the absolute value of the parameter but transmits only the information *data increment* (abbreviation: *inc*) or *data decrement* (abbreviation: *dec*).

- a) Unfortunately there is no MIDI message available "*increase data of MIDI Controller XX*" or "*increase data of MIDI Controller XX*". There is only a general *Data increment* (Controller #96 decimal, resp. #60 hexadecimal) and *Data decrement* message (Controller #97 decimal, resp. #61 hexadecimal) available. The third byte of these messages is - as far as we know - not used so far. In the MIDI spec we found no statement concerning this byte. Remember: each MIDI control change message consists of 3 bytes. We want to solve this problem by "hiding" the controller number, to which the inc/dec is related to, in the third byte of these messages. This modified inc/dec messages would enable to increase or decrease the value of a specific MIDI controller. We hope that other companies will agree to this proposal and adjust their software/hardware to this amendment of the MIDI *Data increment/decrement* message (controller #96/97). The "new" MIDI messages are:

Controller Increment: BnH 60H xxH
Controller Decrement: BnH 61H xxH

with n = MIDI channel (0...F) and xx = MIDI Controller No (00...77H, 78H...7FH is reserved for Channel Mode Messages). H means hexadecimal values.

The factory presets 89 ~ 96 contain all possible 128 inc/dec messages of this type in groups of 16. The factory presets 97~101 use this type of controllers too but with modified order for the *program Crusher-X* (refer to chapter www.crusherx.com).

- b) The second possibility is the usage of non-registered parameter messages (NRPN) in connection with the inc/dec controller described in a). The basic procedure for altering a parameter value is to first send the non-registered parameter number corresponding to the parameter to be modified, followed by the data increment or data decrement message. This is a MIDI standard procedure and described in the MIDI 1.0 specification. The parameter number consists of LSB (= MIDI controller 98_D / 62_H) and MSB (= MIDI controller 99_D / 63_H, _D and _H means decimal resp. hexadecimal). The data increment message is the MIDI controller 96_D / 60_H and the data decrement is the MIDI controller 97_D / 61_H. Such a message consists of 3 controller messages, i.e. 9 MIDI bytes. A typical complete NRPN message looks like this (all values are hexadecimal):

B0 63 7F B0 62 15 B0 60 XX

In this example the first three bytes are the MSB controller of the NRPN. The data for this message is 7F (often used with AWE Soundblaster devices). The second three bytes are the LSB controller of the NRPN. The data for this message is 15 (= cutoff frequency for AWE devices). The last three bytes are the controller message for data increment. XX is the increment value (e.g. 04 for a data

increase of 4, i.e. adding 4 to the current value). The XX value is sent in the *signed bit* mode (see next paragraph).

The factory presets 105 and 106 contain examples for this message type. The presets 105 und 106 control the same parameters as the presets 17 and 18 resp. 23. But these presets use absolute data. So far (as of fall 2001) no device is able to recognize this message type. But from our point of view this type of parameter control would include a lot of advantages. We think that the reason is that so far no lo-cost controllers like Pocket Dial have been available and we hope that the manufacturers will take into consideration this very flexible relative controlling idea in the future.

- c) For some little time another type of relative parameter control is used by some programs or devices. In this case relative data is derived from an - in the true sense - absolute data. Certain MIDI message combinations are interpreted differing from the MIDI standard. As this message type is not included with MIDI specification there is no standard available (like the message suggestions in paragraph a and b suggested by Doepfer).

For example Native Instrument's REAKTOR uses the following type of relative parameter control. The normal MIDI controller messages are read in this way:

controller data value (third controller byte) = 63 → decrement one step
controller data value (third controller byte) = 65 → increment one step

Pocket Dial is able to generate these data types as well. The presets 85~88 contain some examples. We call this message type "relativ binary mode".

Some hardware mixers transmit data in the so-called "signed bit mode" or "two's complement mode". Preset 107 ~ 110 shows "signed bit mode" and 111 ~ 114 "two complement" examples.

Pocket Dial features supports all these message types. Consequently the number of devices that may be controlled by Pocket Dial will significantly increase in the future.

Pocket Dial web site

A lot of additional information in different file formats not available in this manual can be found on our web site

www.doepfer.com

Simply click to the PRODUCTS button on the left side of the page and then to the Pocket Dial picture in the main page. From here you will find the corresponding links. Even in the FAQ section (FAQ button on the left side) additional information concerning Pocket Dial may appear in the future.

Pocket Dial tools or compatible software

Pocket Control / Pocket Fader / Pocket Dial - editor program



These PC based programs are available for free as download from our web site www.doepfer.com. Even the current state of factory presets is available on our web site.

The editor program is not essential for Pocket Dial operation. But it may be used to

- modify the factory presets or
- to program completely presets or
- to transfer the current state of factory presets to the Pocket Dial

These programs are freeware and not included with the Pocket Dial shipment. Doepfer does not warrant that the software is error free. Doepfer disclaims all other warranties with respect to the software, either express or implied, including but not limited to implied warranties of merchantability, quality, fitness for a particular purpose and non infringement of third party rights. In no event shall Doepfer or its suppliers be liable for any consequential, special, incidental or indirect damages of any kind arising out of the delivery, performance or usage of the software, even if Doepfer has been advised of the possibility of such damages.



Time is relative. The CronoX Sample Synthesizer features a Sample Oscillator with independent time stretch and pitch shift. And of course in realtime with all modulations options you can expect from a GakStoar series synthesizer.



Most synthesizers offer various waveforms. CronoX offers you an endless source of waveforms. Load any sample you like and process it like you've never done before.

- VST 2.0 sample based synthesizer for PC
- 24 voice polyphonic (CPU dependent) and 64 sound programs
- Samples (WAV/AIFF up to 96kHz/24bit) can be time stretched and pitch shifted independently in realtime.
- Additional Analogue modelled oscillator
- Analogue modelled multimode filters with cutoff and resonance, full modulatable

- Works with Doepfer Pocket Dial, the reasonable priced alpha dial.
- Fully recognized Velocity, Aftertouch, Pitch bend , Modwheel and various other controllers
- ADSFR type envelope for Amplitude, Cutoff and a free assignable Modulation Envelope Unique
- GakStoar type 8x8 Modulation Matrix
- Two full equipped LFOs with many waveforms, tempo sync and symmetry adjustment
- Sample accurate timing, full automation and settings are saved with your song

High End Sample Processing

You know what you can expect from a LinPlug instrument. The sample processing that has made the RM 2 famous. And Modulation options on the Delta Level. Combined in the CronoX sample synth. Allowing you to mangle samples in a way not seen before in a VST instrument. To get an idea of what you can do with the Sample Oscillator of CronoX we highly recommend to listen to the examples*.

Taking the step ahead

Beside all those cutting edge sample processing and modulation options you will find many more unique features: A complete delay section per sound program, a Spread parameter allowing you to play polyphonic unisono sounds with low CPU usage and the LinPlug ECS* the easiest way of setting up MIDI controllers (including alpha dials!).

Powerful Modulation Matrix

Creativity loves options. CronoX's modulation matrix offers more than 200 modulation routings. So you can route velocity, Aftertouch, controller and internal sources like the powerful LFOs or Modulation Envelope to whatever destination you want. And in CronoX you can modulate many parameters that are not accessible in other synth! So you can modulate the pitch and time base of a sample independently of each other.

Requirements

VST2.0-capable host software (see compatibility list*) and a PC that matches the host software requirements (min. 300 MHz)

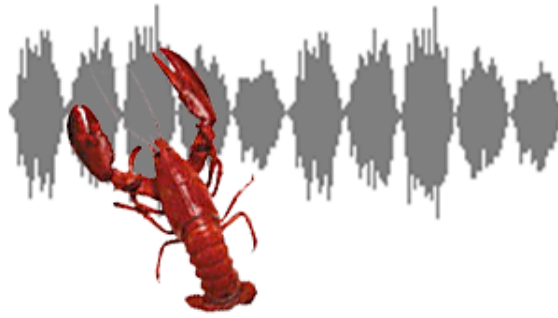
Install the demo from the homepage*

Purchasing Information:

The license fee is 45 US \$, you can purchase directly from our shop*. Delivery typically in less than 24 hours

* Note: All links and information you will find at www.linplug.com

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crusherX-Live! featuring Pocket Dial!

Welcome to a new world of sound synthesis! Welcome to the worlds first real-time multichannel, granular, morphing vapor synthesizer! Use your Pocket Dial to interact live with the famous shareware crusherX-Live! Please feel free to download the demo on www.crusher-x.de or use the attached demo version.

In cooperation with Doepfer Musikelektronik GmbH crusher-X implements special MIDI Inc-/Dec-Controllers that allows you to control nearly every crusher-X interaction element via your Pocket Dial.

crusher-X is a shareware program whose powerful vapor synthesis algorithm enables you to synthesize very complex and cool waves. crusher-X does distill and transform sounds quite radically. Based on traditional granular synthesis, crusher-X can be used as a synthesizer or as a versatile effects unit. You can create sounds with the internal oscillators or samplers as well as real-time stereo input sound (e.g. a microphone). Internal feedback loops allows self-oscillation within crusher-X! Multichannel ASIO Outputs allows extreme impressive sound installations and multichannel compositions up to 10 independent channels.

A overall multidimensional morphing system morphs the sound between each parameter changing (e.g. on Loading, on Undo/Redo, on MIDI-Event, on turning the pocket dial knob etc.). This creates clouds of sweeping, shifting and graining sounds. The morph time can be ranged from 1ms up to 1 hour!

Try it ... and hear the result! It's more than sound, it's more than music, it's really fun!

To set up the demo for using with pocket dial crusher-X presets follow the following steps:

1. Run the crusher-X installer that you find on www.crusher-x.de or the CD and follow the installation instructions
2. Start the crusher. You may like to set up the Direct-X or ASIO Engine (take a quick look at the help)
3. Load the file "pocketdial.crx". This set up the MIDI-Controller Tab matching the pocket dial crusher-X presets.
4. Set up the following checkboxes (if you use the crusher the first time they will be checked correctly):
Uncheck: Edit | Options | Load/Undo|Change on Loading/Undo/Redo | Midi Settings
Check : Crusher | MIDI Setup | General | Hardware Support
5. Also check, that you have defined a Midi-In device, which is connected with pocketDial and also a legal Midi-Out device (otherwise the IncDec-controller maybe will not work)
6. Close the doors and windows, order a pizza, turn up your amps, start the crusher-X engine, run thru the demo Loadlist and turn the pocket dial knobs! Fasten your seatbelts! No warranty for becoming addicted ;-)

Please register on www.crusher-x.de if you like that experience and need more features.

Additional technical information

Merge capacity

In case of a high data density at the MIDI input the Pocket Dial will not be able to add its own data as the MIDI transmission rate is limited and cannot be increased by the Pocket Dial. To avoid this the MIDI In data should be reduced to a lower transmission rate.

Scanning rate of the encoders

The scanning rate was adjusted to a value that allows a good fine resolution for slow movements but no plugging up of the MIDI transmission for fast movements. Besides most of the MIDI devices would not be able to process such high data rates without problems.

Data feedback

Pay attention to two restrictions concerning data feedback for absolute data:

- **Only MIDI controllers** (control change messages) are processed, i.e. no pitch bend, after touch, NRPN, XG SysEx strings can be updated. Please refer to the preset descriptions for details.
- For the feedback function all controllers must have the **same MIDI channel assignments in the 4 presets** (bank 1~4) that have to be updated. This means that the MIDI channel for knob 1 has to be the same in all 4 presets, the MIDI channel for knob 2 has to be the same in all 4 presets and so on. To simplify matters we recommend to use the same MIDI channel for all controllers (e.g. the master channel) or to assign the MIDI channels 1~16 to the 16 knobs. If the feedback/update function seems not to work correct please check if the same channel assignments are made in the 4 presets to be updated. In the factory presets this is not true in every case as we wanted to keep the first 64 presets compatible with Pocket Control and Pocket Fader (e.g. presets 5,6,7,8). If you want to use one of these preset sets please modify the MIDI channel assignments with the editor program so that they correspond to the above remarks.

Memory for absolute values

As described in the chapter 'Functions of the buttons' the 16 absolute values of the 16 knobs can be stored in the preset – if desired. When a preset is called up (by DIP switch changing of incoming MIDI program change message) this value is transferred into the 16 work buffers of the 16 knobs. But the data are not yet sent via MIDI. If this is desired one has to trigger a snapshot (see chapter 'Functions of the buttons') or to operate the knob(s) in question. This was made intentionally as it might be desirable to select a new preset without transmitting the new absolute data but to update the new data from the device controlled by the Pocket Dial after the preset selection.

Of course the storage of absolute data has no meaning if relative data (inc/dec) are used.

The storage of absolute data may be used to obtain a small sound preset management. In this case the presets contain the same assignments knobs to MIDI controllers and only the stored absolute values are different – provided the number of available presets (128) is sufficient for this application.

No storage of absolute data in preset 128

The set of absolute data in preset 128 is used for internal purposes and cannot be used to store absolute data. If this part of the memory is read out (e.g. with an editor program) of a snapshot is triggered always the value 127 appears.

Doepfer

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