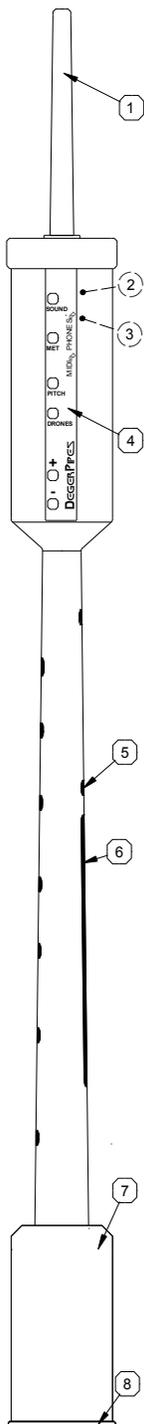


# DEGERPIPES

## ELECTRONIC BAGPIPE CHANTER

### Operating Manual



### Overview

- ① Mouthpiece
- ② PHONES Jack
- ③ MIDI-Jack
- ④ Front Panel
- ⑤ Power On Sensor
- ⑥ Thumb Contact
- ⑦ Battery Compartment
- ⑧ Lid

### Precautions

The DegerPipes Chanter will give you years of reliable service if you follow the simple precautions below:

#### ***LOCATION***

Keep the instrument away from locations where it might be exposed to high temperatures (such as direct sunlight) or humidity. Also avoid locations which are subject to excessive dust accumulation or vibration capable of causing mechanical damage.

#### ***HANDLE THE CHANTER WITH CARE***

Although the Chanter has been constructed to withstand the rigors of normal use for optimum sturdiness and reliability, avoid subjecting it to strong physical shocks (such as dropping or hitting it). Just handle the DegerPipes Chanter as you would a precision-made musical instrument.

#### ***SWITCH OFF THE CHANTER BEFORE PLUGGING OR UNPLUGGING CABLES***

To prevent damage, always switch the Chanter off before plugging or unplugging cables or headphones.

#### ***DON'T OPEN THE CASE OR TRY REPAIRING THE INSTRUMENT YOURSELF***

The DegerPipes Chanter contains no user-serviceable parts. Never open the case or tamper with the internal circuitry in any way, since doing so may result in damage to the instrument. Refer all servicing to your dealer or the manufacturer.

**DegerPipes will not be held responsible for any damage caused by handling or operation. Opening the case voids warranty.**

## Getting Started

### *Insert the Battery*

The DegerPipes Chanter works with one 9 Volt Battery (6LR61). The battery compartment ⑦ is accessible by removing the Lid ⑧. An appropriate rechargeable battery may also be used. When the battery is low, the Chanter plays the first two bars of ‘Amazing Grace’.

### *Connecting Headphones*

Connect the Headphones to the upper jack ②. It is possible to connect all standard headphones as used for example with portable disc players. It is also possible to connect a set of powered speakers to this jack.

### *Power On*

For power, touch the Power-On sensor ⑤ and one of the common contacts (thumb contact ⑥ or mouthpiece ①) at the same time. Touching again switches off the Chanter. If the upper hand does not touch the sensors, only the Drones are sounding. As soon as the upper hand touches the sensors, the chanter sound is added.

The Chanter switches itself off if there is no activity for more than half a minute. The time for power-off can be changed to eight minutes (see below).

All adjustments (volume, pitch, etc.) are stored in a non-volatile memory and will not be lost by changing the battery.

### *Volume*

The volume can be adjusted by pressing the + and - keys. To adjust the drones volume, hold down the DRONES key and then adjust with the + and - keys.

### *Pitch*

The default Pitch of the DegerPipes Chanter is B-Flat. This is the sounding pitch of most of the modern Highland pipes. The pitch can be adjusted with the + and - keys while holding the PITCH key. Holding the PITCH key and pressing the + and - key at the same time resets the pitch to the default of B-Flat.

The pitch of the drones follows the pitch of the chanter. Since the drones are always perfectly tuned, there is no need to tune them separately.

It is also possible to select a key directly. To change the key, touch the corresponding sensor and press the PITCH button. The key selection also affects the MIDI output. The following table shows the keys and the corresponding fingering:

Fingering												
Key	Eb	D	C#	C	B	Bb	A	Ab	G	F#	F	E
Alteration of the MIDI note number	+5	+4	+3	+2	+1	0	-1	-2	+9	+8	+7	+6

Due to an internal restriction, the **Eb** is the highest pitched key at the phones output. At the MIDI output the keys F, F# and G are higher pitched.

By using the following fingerings the corresponding key sounds an octave lower:

Fingering					
Key	F	Eb	D	C	Bb
Alteration of the MIDI note number	-5	-7	-8	-10	-12

## ***The Metronome***

The built-in metronome is started by pressing the MET key twice. After pressing the key the first time, the metronome waits for two seconds for another press. If the MET key is pressed during this time, the metronome clicks on, using this time interval. To stop the metronome, simply press the MET key once. If the MET key is pressed and held while switching the Chanter on, the metronome starts at the same speed as used last time.

The speed of the metronome can be adjusted subsequently. For modifying the speed use the + and - keys while holding the PITCH and DRONES keys simultaneously.

## ***Switching between Highland Pipe and Smallpipe Sound***

Pressing the SOUND key switches the sound from Highland Pipe to Smallpipe and vice versa.

The adjustments for the drones volume and pitch are stored separately for the two sounds. If you wish to use the present pitch for the other sound, hold the PITCH key while switching the sound. Or else hold the DRONES key if you would like to use the same volume of the drones for the other sound.

## The MIDI Output

MIDI stands for Musical Instrument Digital Interface. No sound is transmitted through the MIDI interface, only data about the sound. The sound will be generated at the connected MIDI tone generator according to the transmitted data. So you may play the Chanter with any sound the connected tone generator is capable of producing.

With the DegerPipes Chanter an adapter cable is also provided which can be plugged into the lower (MIDI) jack. The DIN plug meets the MIDI standard and may be connected to any MIDI equipment (also personal computers which are equipped with a MIDI interface).

One MIDI interface is capable of transmitting 16 MIDI channels. The DegerPipes Chanter uses channel 1 for the data of the chanter, and channels 2 and 3 for the drones.

MIDI Channel	Note Number
1	Chanter (see fingering table below)
2	58 (Tenor Drones)
3	46 (Bass Drone)

## Volume

The volume of the chanter at the MIDI output is fixed and can be adjusted at the connected tone generator. The drones volume is the same as used for the PHONES output.

## Switching between the Well-Tempered and the Pipe Scale

The scale of the bagpipe chanter does not use the modern “well-tempered” scale mostly used for today’s musical instruments. The chanter uses a Pythagorean scale to fit every note perfectly to the drones. Only few MIDI tone generators can produce such a scale by itself. The DegerPipes Chanter, however, is able to generate the pipe scale by sending pitch bend data to the tone generator. To work correctly, the pitch bend range of the connected tone generator must be set to two semitones. Since this is the default value for most tone generators, it is rarely necessary to make any adjustments.

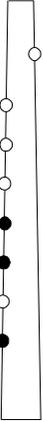
It is sometimes better to play the well-tempered scale, especially when playing together with other instruments. The DegerPipes Chanter only sends pitch bend data when the sound is switched to Highland Pipe. Switching to Smallpipe stops sending pitch bend data and returns to the standard tempered scale.

## Using MIDI and PHONES outputs simultaneously

MIDI and headphones can be used at the same time. Sending MIDI data causes slight clicking noises at the PHONES output at every note change. This noise disappears when the MIDI cable is removed from the Chanter.

## **Extended MIDI data output (RAW-Mode)**

For special purposes, it is possible to activate an extended data output via the MIDI connection. When activated, all activities of the Chanter are put on output via control change information. This information could be used for computer programs or additional external gear. A complete specification of this RAW-Mode can be found on the DegerPipes website ([www.deger.com](http://www.deger.com)).



The RAW-Mode is activated by holding this fingering while switching on the Chanter. This mode is retained until a 'Reset' (holding + and – while switching on) is performed.

**Please note:** If the RAW-Mode is activated and the power-off time is set to eight minutes, the Chanter does not play 'Amazing Grace' when the battery gets low. It signals an empty battery only by sending the information through the MIDI output.

## Technical Details

### Sensor Contacts

The function of the sensor contact is based on the circuit capacity of the skin. A sensor is activated by connecting the sensor to one of the two common contacts (Mouthpiece ① or Thumb Contact ②) with the skin. Each sensor is equipped with an amplifier that works down to a current of 1  $\mu$ A (one millionth of an Ampere). This results in a very high sensitivity of the sensors.

This very small current flows even when the chanter is dirty or moist. In particular, sweat is a relatively good conductor for electrical current. If the sensors act as if they were constantly active, clean and dry the Chanter carefully. Do not use solvents or benzine to clean the chanter.

If the sensors act with a delay or not at all, this may be due to very dry hands. Use a little cream to solve the problem.

### Power Supply

The DegerPipes Chanter uses a 9 Volt battery for power supply. After removing the lid ③ the battery compartment is accessible. Instead of a battery, it is also possible to use a rechargeable accumulator. If the Chanter is not used for a longer time, the battery should be removed.

The internal power supply of the DegerPipes Chanter works with a regulated voltage of 3 Volts. So the Chanter works with a battery voltage of less than 4 Volts. If the battery voltage is too low, the Chanter plays the first two bars of the tune 'Amazing Grace'. Though the sound does not change due to the voltage regulation, the battery should be changed immediately. To remind you that the battery is empty, the Chanter repeats the two bars of that *nice* tune after two minutes of playing. The sensitivity of the sensors decreases slightly when the battery becomes empty. If the MIDI output is used, a weak battery may also cause problems at the connected tone generator. Because of the low voltage, the tone generator may misinterpret the data.

The following table shows the approximate durability of several types of batteries:

Type	Alkaline	Standard	Accumulator
Lifetime using Headphones	70 h.	45 h.	10 h.
Lifetime using only MIDI	100 h.	65 h.	15 h.

### The PHONES Jack

The PHONES jack can be connected to all standard head- or earphones as well as amplified speakers or a stereo. Speakers without an amplifier should not be connected directly to the PHONES jack because this may overload the internal amplifier.

The actual durability of the battery greatly depends on the load and the volume at the PHONES jack. Amplified speakers or stereos draw very little power off the Chanter.

## Fingering

The fingering of the DegerPipes Chanter is the same as on the Scottish Highland Pipe. In addition, the DegerPipes Chanter is capable of generating a fully chromatic scale by using ‘false fingering’. The extensions can be disabled because it may sometimes cause a crossing noise (good for practising anyway) or unwanted semitones while playing grace notes.

The extended fingering is activated when the + key is hold while switching on the Chanter. To deactivate the extensions, hold the - key while switching on. The extensions are disabled by default.

If the natural C is unwanted as well (e.g. for some piobaireachd movements), hold the DRONES key while switching on. This gives a plain fingering with only the piobaireachd high G enabled. This setting is memorised until a different fingering is selected. Some of the additional semitones of the extended scale are not perfectly tuned due to technical restrictions of the internal tone generator.

The following tables show the fingering of the DegerPipes Chanter. The holes (sensors) which have no meaning for the respective note are shown shaded in gray.

### ***Standard Fingering (Extensions disabled):***

Fingering											
Note	low-G	low-A	B	nat. C	C	D	E	F	high. G	Piob. high G	high. A
Note Number (MIDI)	56	58	60	61	62	63	65	67	68	68	70
Note Number Seconds	53	55	56	58	58	60	62	63	65	65	67

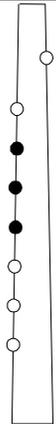
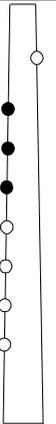
## Extended Fingering:

Fingering							
Note	low-G	low-A	B-Flat	B	nat. C	C	D
Note Number (MIDI)	56	58	59	60	61	62	63
Note Number Seconds	53	55	56	56	58	58	60

Fingering								
Note	E-Flat	E	nat. F	F	hgh. G	Piob. high G	high. A	high. B
Note Number (MIDI)	64	65	66	67	68	69	70	72
Note Number Seconds	61	62	62	63	65	65	67	68

## Lengthening of the Power-Off time

The time for automatic Power-Off can be changed from the default value of 30 seconds to eight minutes. This is especially useful if the Chanter is only used only for drones sound. To select the Power-Off time, use the following fingerings while switching on the Chanter:

Fingering		
Power-Off time	30 seconds (default value)	8 Minutes

The selected value will be retained after power is off.

## G Sharp (G#)

The ‘normal’ G (low-G as well as high-G), which is a whole note below the A, can be replaced by a sharp G. This replacement can be activated by holding down the DRONES and the SOUND buttons while switching on the Chanter. To deactivate this feature hold down the DRONES and PITCH buttons while switching on.

## Reset to Defaults

To set all adjustments (volume, pitch, etc.) to their default value, hold both+ and - keys while switching on the Chanter.

## Trouble Shooting

Problem	Possible Cause	Solution
• No sound at the PHONES jack	No battery or empty battery	Insert new battery
	Adjustment for volume is too low	Increase the volume
	Headphones defective or not connected properly	Check headphones and contacts
	The internal microprocessor is in an undefined state	Remove the battery for a while and insert it again
	Others	Contact your dealer or the manufacturer
• No sound from the connected MIDI device	No battery or empty battery	See above, also check if the Chanter works with earphones
	Cables not connected properly	Check cables
	The connected MIDI devices are not adjusted to receive on MIDI channel 1 or volume too low	Check adjustment at the MIDI device, check corresponding owners manual
	The internal microprocessor is in an undefined state	See above
• Sensors respond delayed or not at all	Very dry skin	Use cream to increase the circuit capacity of the hand
	the battery is low	try a new battery
• Sensors seem to ‘hang’, i.e. after take the finger away nothing happens	The Chanter is moist or dirty	Dry or clean the sensor area carefully. If necessary use a bit soap and water. (clean the sensor area all around)

This Product complies with the requirements of the EMC Directive 89/336/EEC, and carries the CE marking accordingly.

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