

TECHNOPIPES OPERATION MANUAL

EARPHONES

Use a pair of ordinary Walkman stereo earphones. (Typically 16 Ohm impedance and Ø3.5mm plug.)

! DO NOT USE MONO EARPHONES AS THIS MIGHT DAMAGE THE CIRCUITRY.

SWITCHING ON/OFF

The chanter is switched on by connecting the earphones to the upper end of the chanter **1** and switched off by disconnecting the earphones.

! REMEMBER TO DISCONNECT THE EARPHONES TO SAVE THE BATTERY WHEN THE CHANTER IS NOT BEING PLAYED.

SETTINGS

All settings are controlled by the +control **2** and the -control **3** together with a specific fingering combination for each setting. The chanter is reset to its default state every time the chanter is switched on. (The default settings are marked with **bold** font in the chart below.)



	fingering combination	+control 2	-control 3	both 2 3
Drones on		turn drones on		
Chanter on / Recording		increase playback speed	decrease playback speed	recording mode / normal mode
Sound off		turn sound off / stop recording / pause playback		
Sensitivity		increase	decrease	-
Pitch		increase	decrease	key A > Bb > C > D >
Metronome		increase tempo	decrease tempo / add sub-beat	two times to turn on third time turns off
Drones		increase volume	decrease volume	tuning A > A+E > A+D > E > D >
Sound		smallpipes 2 <-> smallpipes 1 <-> highland pipes		-
Scale		chromatic equal temperament <-> chromatic harmonic tuning <-> GHB/SP harmonic tuning	-	
Volume		increase	decrease	start volume
MIDI		increase chanter channel no.	decrease chanter channel no.	enter MIDI mode

VOLUME

The output volume depends to some extent on the type of earphone plugged in.

! PLAYING AT HIGH VOLUME MIGHT DAMAGE YOUR HEARING.

PLAYING

The contacts of the chanter are electrical and not mechanical, meaning they do not have to be pressed down to become activated. The grip does not have to be any firmer than that on the pipe chanter.

Start-up sequence:

- 1) Start drones by playing the *Drones on* fingering combination.
- 2) Start chanter by playing the *Chanter on* fingering combination.

SENSITIVITY

It could happen, from time to time, that your fingers are very dry, causing them to become poor conductors. The chanter, being dependant of electrical conductivity, may then have some trouble playing the note your fingers indicate, instead producing a squeaky sound, or the wrong note. You then need to increase the sensitivity. Sometimes, on the other hand, your fingers may be very warm, and short-circuit the chanter through a very thin film of sweat, causing the chanter to, for example, play a low A when in fact you play an E. You then need to decrease the sensitivity. The sensitivity can be set to five different levels.

PITCH

With *Sound* set to Smallpipes, the chanter starts in the key of A (220Hz), and the low A goes from 92Hz up to 369Hz in steps of 0.1 to 0.7Hz. With *Sound* set to Highland Pipes, the chanter starts in the key of Bb (466Hz), and the low A goes from 185Hz up to 738Hz. The key of the chanter can easily be set to A, Bb, C, or D. The accuracy is within ± 3 Hz.

METRONOME

The metronome does not start at any given tempo. You set the tempo like this:

- 1) Hold the *Metronome* fingering combination.
- 2) Think of a tempo in you head.
- 3) Beat the tempo once on the +/-controls (both contacts at the same time).
- 4) (OPTIONAL) Add sub-beats by touching the -control.
- 5) Beat the tempo again on the +/-controls to set the main beat.
- 6) The metronome continues in that tempo.
- 7) Touch +/-controls again holding the *Metronome* fingering combination: the metronome turns off.

RECORDING

The chanter can record more than 1200 notes. You can play along with the recorded notes to practice phrases, seconds, etc. When recording, the first note and the last note preceding the *Sound off* note are not stored for simplifying the creation of loops. The recorded track is played back on the right channel, and you play along on the left channel. The playback speed can be set between $\frac{1}{4}$ and 2 times the recorded speed.

Typical recording sequence:

- 1) Start drones and chanter.
- 2) Play the *Recording* fingering combination.
- 3) Put your lower hand thumb on both the +control and -control. A high pitched beep indicates recording mode.
- 4) Record as long as you like, or until the memory is full (indicated by a low pitched beep).
- 5) Play the *Sound off* note.
- 6) Start playback by turning drones on.
- 7) Start chanter and play along.
- 8) Exit recording mode by 2) and 3) above. A low pitched beep indicates normal mode.

MIDI

MIDI (Musical Instrument Digital Interface) is an electronic communications protocol that enables electronic musical instruments, computers, and synthesizers etc. to communicate with each other. MIDI does not transmit an audio signal - it transmits digital data messages defining parameters such as pitch and volume of the musical notes to play. See <http://www.midi.org> for further reading.

MIDI mode is entered if MIDI combination is fingered at the time the MIDI cable is connected. The chanter is initially set to channel 1, but can be set between 1 and 14. The bass is fixed on channel 15 and the tenor fixed on channel 16. The default Low A is MIDI note number 69 (A5). In MIDI mode, the volume settings for chanter and drones affect the note velocity. It is up to the receiver to interpret the velocity data. With *Sound* set to Smallpipes, all notes have equal velocity. With *Sound* set to Highland Pipes, the low notes have higher velocity than the high notes, simulating the characteristics of the Highland chanter. The sound is set to Smallpipes as default. (In MIDI mode, metronome and recording are not available.)

SCALE/TUNING

The chanter can play three different scales:

- 1) The standard GHB/SP scale, tuned to harmonise with the drones: so called harmonic tuning.
- 2) A chromatic scale, also with harmonic tuning.
- 3) A chromatic scale with equally tempered tuning. This tuning is usually the best for playing together with other instruments. N.B. With this tuning some notes may seem out of tune with the drones.

low G	low A	Bb	B	C natural	C	D	Eb	E	F natural	F natural	F natural	F	high G	high Ab	high A
●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○
●	●	●	●	●	●	●	●	●	○	○	●	●	○	●	v○
●	●	●	●	●	●	●	○	○	●	●	○	○	v○	○	○
●	●	●	●	●	○	○	●	v●	●	●	○	v●	v●	●	v●
●	●	○	○	○	v○	v○	●	●	●	○	●	●	●	●	●
●	○	●	v○	○	●	●	○	○	○	○	○	○	○	○	○

v = vibrato

SP	●	●		●		●	●		●				●	●		●
GHB	●	●		●	●	●	●		●	●	●	●	●	●		●
Chromatic	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

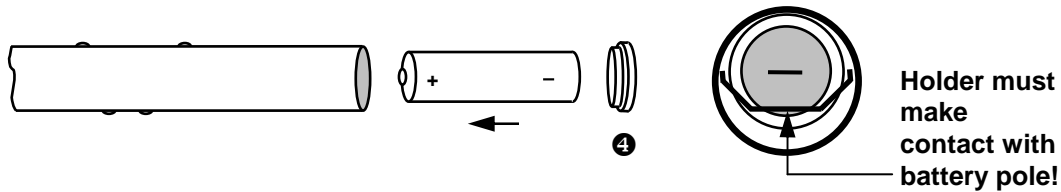
BATTERY

The chanter uses one 1.5Volt AAA/LR03 alkaline battery, or one 1.2Volt AAA/HR03 NiMH rechargeable battery. The chanter will run approx. 10 hours on a 1000mAh NiMH rechargeable battery, or 20 hours in MIDI mode. A rechargeable battery is recommended as it will be cheaper in the long run.

If the chanter does not start correctly, or runs only for a few minutes before shutting itself off, the chanter needs a new battery.

CHANGING THE BATTERY

Remove the end cap ④ from the chanter by firmly pulling it outwards. Move the battery holder to the side to allow the battery to slide out slightly. Tap the battery end of the chanter against the palm of your hand in order to get the battery out. Insert the new battery with the **negative** pole towards the end cap. Make sure the battery holder makes **electrical contact with the negative pole**. Put the end cap back on.



PRECAUTIONS

Do not expose the chanter to high temperatures (e.g. in a car during daytime). High temperatures can damage the battery and distort plastic parts.

Handle the chanter carefully. Dropping it can damage the circuit board and housing, and can cause the chanter to malfunction.

Keep out of reach of small children. Product contains small parts.

TROUBLESHOOTING

Symptom: Chanter does not start at all.

Solution: Make sure the battery is ok. Make sure the battery holder makes electrical contact with the battery pole.

Symptom: Chanter does not start correctly, or runs only for a few minutes before shutting itself off.

Solution: Change/charge the battery.

Symptom: Chanter makes a clicking noise on one channel, and sounds with a low pitch on the other.

Solution: Chanter is in MIDI mode. Disconnect and reconnect the earphones without fingering the combination for MIDI mode.

Symptom: Chanter gets hot by the bottom end.

Solution: Battery is inserted the wrong way. Insert the battery the correct way.

MAKER

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This device complies with the following standards:
FCC part 15, subpart B,
EN 55 013, EN 55 020,
AS/NZS CISPR 13