ERNICK

MUSICAL INSTRUMENTS

Hand Built Electronic Percussion

XYLOSYNTH®

XS6 – 2

Software Version 2.21

Index

1.0 Introduction

Thank you for choosing a Wernick Xylosynth. You are now the owner of a hand built MIDI compatible tuned percussion controller that's designed to put mallet players in the most comfortable MIDI environment possible. We've asked players like you a lot of questions over the last few years and the information we've gathered together has resulted in many of the unique features of the Xylosynth. Innovations like the wooden playing surface on the Wernick Percussion System keys and the flexible, easy to use software have come from this process. We're proud to be a 'musician led' instrument company and continue to strive to realise the imagination of music makers.

While many of you will be MIDI literate and will understand the various intricacies of velocities and note numbers, others will not be so experienced. Please don't be put off though if this is the case as MIDI driven music can foster creativity never before explored through conventional instruments. We've tried to make this manual as easy to follow as possible so please bear with us in the obvious parts and feel free to call or e-mail if you have any trouble with anything.

First things first and what you'll want to know immediately is what you've got for your money. Your basic Xylosynth package should include the following:

1   2 Octave (F-F or C-C) Xylosynth
1   Power Supply Adapter
1   Four Metre MIDI (5 Pin DIN) Connector
1   Manual
1   Pair of Soft Marimba Mallets

1.1 Sound Sources and Amplification

The Xylosynth is a MIDI controller and the standard instrument has no built in sounds. In order to play the Xylosynth you will need several other pieces of related equipment.

The first thing needed is a sound source. This could be a sound module or soft sampler in your PC or Mac. This, as the name implies, provides the sound. Sound modules with tuned percussion sounds are available from most of the large hi-tech musical equipment manufacturers. Looking further than the traditional tuned percussion sounds, sound modules also often contain several digital sounds with a very fast attack making them mallet friendly. For the individual sound of your choice you need a soft sampler. Many sample libraries with tuned percussion sounds already exist and a sampler also allows you to sample your own unique sounds and play the results on the Xylosynth.

The final link in the chain from Xylosynth to performance is amplification. The simplest thing to do is to plug a pair of good quality headphones into your sound source or Xylosynth with internal sounds. Otherwise use a pair of good quality active speakers. For playing live, to really appreciate the stereo of most of the sounds you'll be using, the best solution is a small mixer with a pair of active speakers. As with all amplification it is important to tailor your system to every possible requirement you can think of. We do advise you should try out the amplification system before you buy or find very good recommendations.

1.2 Setting Up your Xylosynth System

After a bit of practice setting up a Xylosynth system should only take a couple of minutes.

Always make sure you mount your Xylosynth on a solid table or keyboard stand.

Once the Instrument is positioned safely, you may connect the instrument. If you look to the right hand side of the front panel you'll see the connections for Power In, MIDI Out, Blue LED indicator, Dampening Pedal/Button, Sustain Pedal, Transpose Pedal/Button and the two Program Change Pedals/Buttons.
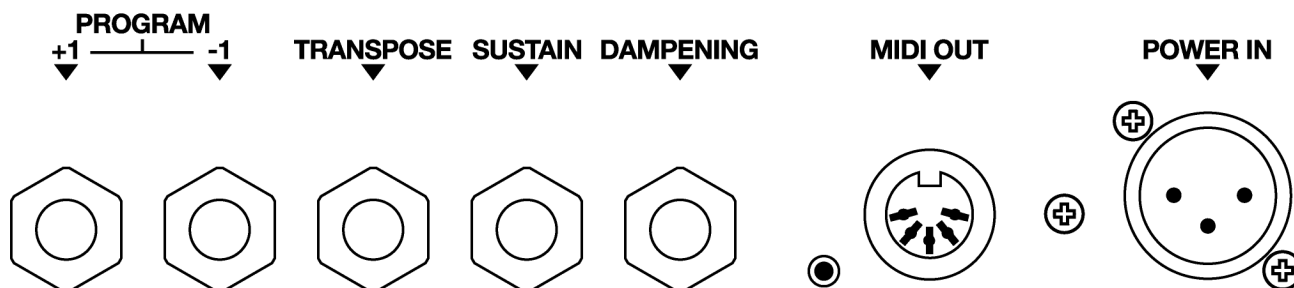
Plug the power supply unit into a wall socket and the XLR connector into the instrument (power in). There is no on/off switch. If you have internal sounds just plug in your headphones or line out to PA and start playing. Or, using the supplied MIDI lead, connect the MIDI Out socket on the Xylosynth to the MIDI In socket on your sound source. Then run up and down the keyboard to make sure all the keys are activated.

1.3 A Quick MIDI Lesson

Before we go on to setting up the Xylosynth it might be useful if you are completely in the dark about MIDI to include a short section on the basics. You don't have to be a rocket scientist but a little knowledge will make things easier.

MIDI stands for Musical Instrument Digital Interface and is a digital computer code that all manufacturers in the music industry use. It means that the Xylosynth and any other MIDI device can 'talk to each other'. It has become a world wide standard so you will be able to find MIDI equipment that is compatible with the Xylosynth everywhere. We could go on for pages but there are many volumes dedicated to the subject and to be honest all you really need to understand to use your Xylosynth are the following four parameters:

MIDI Channel Number

There are 16 Channels in MIDI and these are the codes used to allow different MIDI devices to talk to each other or playing different tracks within software programs.

MIDI Program Number

The Program Number is the code number for the sound that comes from the sound source you're using and there are 128. Normally the sound source will have a name for each sound displayed on its screen. Some sound sources have several banks of sounds with 128 different sounds in each.

MIDI Note Number

There are 128 Note Numbers in MIDI and these define the pitch of any sound you have accessed. If you like it's like having a keyboard with 128 keys. Generally a three octave Xylosynth configured F to F starts at MIDI Note Number 41 and goes to MIDI Note Number 77. An easy reference point to remember is Middle C (C4) which is MIDI Note Number 60. Tuned A (440-442Hz) is MIDI Note Number 69.

MIDI Velocity Number

There are 128 levels of velocity in MIDI. The Velocity Number defines the amount of expression that can be applied to a MIDI sound. For example if you play a Vibe bar really hard the sound is very loud compared to if you give it a gentle stroke. Basically the same thing applies in MIDI and is defined within 128 levels from 0 to 127. A level of 0 is equivalent to a note off message. The Xylosynth actually has 256 levels which are divided down to 128 before the Midi message is sent.

2.0 Pedal/Button Controls

Using a pedal with ¼" Jack and plugging into the pedal inputs at the front of the Xylosynth or using the buttons can access many controls. The pedal must be 'normally open' logic. That is, an open circuit and when pressing the pedal making a closed circuit or short. Some pedals will have a switch on the back to change the logic from normally closed to normally open. The Xylosynth will not work with the wrong logic pedal and **Note: Do not plug anything other than non-powered pedals. You will damage a chip inside that will have to be replaced if you plug a signal output jack or other device that is carrying a Voltage.**

2.1 Program +1 and -1 Pedal/Button

Pedal inputs/buttons +1 and –1 can be considered as up or down or moving forwards or backwards in a sequence. There are four modes of control that these can control in a live situation or just editing. These modes are described in further detail in section **3.0**

2.2 Transpose Pedal/Button

Pedal input/button 'Transpose' will change the range of the keyboard layout. On start up the instrument's range is from C2-C5 for C-C Xylosynth or F2-F5 for F-F Xylosynth. By pressing the pedal/button and striking a key you are setting C3 or F3 respectively. This means you can have a Midi range from C0-C6 or F0-F6. This happens in 'real time' so that notes from the previous setting are allowed to play on even though you are in the process of setting or are actually in a new range.
However this Transpose can be redundant with newer or more expensive sound sources as you can program them in different octave ranges for different programs and use the 'Program+1' and 'Program-1' pedal inputs/buttons to change the octave ranges.
As you can strike any key to set where C3 or F3 is you can transpose lets say a third or fifth etc.

2.3 Sustain Pedal

Pedal input 'Sustain' will sustain all notes playing when you press the pedal. When you release the pedal all the notes will switch off. The sound you are playing will have to sustain or be looped for the sustain pedal to be effective. For example Vibes sound will sustain but not Marimba. And if you are fast with using this pedal you can play monophonic pieces by quickly releasing the sustain pedal after each note (or select monophonic mode on your sound source).

2.4 Dampening Pedal/Button

Pedal input/button 'Dampening' will turn off individual notes if it is pressed and individual notes are hit. Dampening can not be used in conjunction with the sustain pedal.

Dampening of keys can be achieved by striking a note gently a second time (there is a technique to this) and if the sound is set quiet for light hits.

3.0 Selecting Incremental Program Number, Program Control Change, Channel and Song List and Editing Song List.

In this section we are able to change modes for the Program +1 and -1 inputs and edit the Song List. Importantly the Xylosynth will send you to the beginning of the sequence when selecting or re-selecting a mode but under normal power down and power up the Xylosynth will remember which mode and where you were in the sequence. (On the pedal version you only need one pedal to edit and set the Xylosynth by simply plugging/unplugging it in the correct order). We ask you to press the pedal input/button (and tell you which input) on power up. To do this you first need to unplug the power lead then with a pedal instrument plug the pedal into the correct pedal input. Then hold down or press the Pedal/Button. Then **wait a good few seconds** to ensure the instrument has completely powered down before plugging in the mains plug or XLR to the Xylosynth. The Blue light should momentarily light up on the front of the Xylosynth and as soon as the blue light disappears you can release the Pedal/Button. If the blue light stays on then you didn't allow the instrument to fully power down. Power down again and repeat the process ensuring enough time has elapsed.

3.1 Incremental Program Number Change

Pedal inputs/buttons 'Program +1 and -1' will incrementally change to the next or previous Program Number. If you were in another Mode (eg Channel Number change) you have to reset the Xylosynth to incremental program number mode. **To reset to this mode press the pedal input/button 'Program -1' on power up**. This will also set you to the first number (0 or 1).
Changing Program Number happens in 'real time' so notes from the previous program are allowed to play on even though you are in a new program. If you reach 127 or 128 when selecting Program +1 and go up it will cycle you to 0 or 1 or if at 0 or 1 and you go down 1 you will cycle to 127 or 128. There are a maximum of 128 program numbers. Individual sound sources vary so if you have unwanted ringing notes after a program change you can twist the length of note knob as a panic button as this sends an 'all notes off' message of this particular channel. However some soft samplers and sequencers may not act on an 'all notes off' message.

3.2 Song List Control

Pedal inputs/buttons 'Program +1 and -1' will go to the next or previous Program Number in the Song List sequence. When the Xylosynth is powered up for the first time the Song List is the default mode and there is a simple Song List that gives Glockenspiel, Vibraphone, Xylophone and Marimba in General Midi (GM) when pressing the pedals /buttons Program +1 or –1. If you were in another Mode you have to reset the Xylosynth to Song List mode. **To reset to this mode press the pedal input/button 'Transpose' on power up**.
Changing Program Number happens in 'real time' so notes from the previous program are allowed to play on even though you are in a new program. If you reach the end of the sequence and go up it will cycle you to the start of the sequence or if at the beginning of the sequence and you go down 1 you will cycle to the end of the sequence. There are a maximum of 50 programs in a Song List. Individual sound sources vary so if you

accidentally change program and you have unwanted ringing notes you can twist the length of note knob as a panic button as this sends an 'all notes off' message of this particular channel. However some soft samplers and sequencers do not act on an 'all notes off' message.

3.3 Incremental Program Control Change

Pedal inputs/buttons 'Program +1 and -1' will send a control change increment or decrement (control 96 or 97) message. **To set to this mode press the pedal input 'Sustain' on power up**. This function happens in 'real time' so notes from the previous program are allowed to play on even though you are in a new program. Some sound modules will not recognize this function or will need to be programmed. But this function is useful for some software programs as there is no limitation like 'program number' which is limited to 128. Individual sound sources vary so if you accidentally change program and you have unwanted ringing notes you can twist the length of note knob as a panic button as this sends an 'all notes off' message of this particular channel.

3.4 Incremental Channel Number Control

Pedal inputs/buttons 'Program +1 and -1' will change the Channel Number in the sound source up by one or down by one. You have to set the Xylosynth to this mode but the Xylosynth will remember which mode and Channel number you were in before power down. **To set in this mode press the pedal input/button 'Dampening' on power up**. This will also set you to the beginning of the sequence (in this mode is Channel 1).
Generally you will just want to set the Xylosynth to a particular Channel number and then leave for sometime. We would then suggest that after setting (by pressing the Program +or –1 Pedal inputs) you then change the mode to Song List or incremental Program Number so the Channel Number cannot be changed accidentally. The Incremental Channel Number Control works similarly to the Incremental Program Number Control. Changing Channel happens in 'real time' so notes from the previous Channel are allowed to play on even though you are in a new Channel. If you reach 16 and go up it will cycle you to the start at 1 or if at 1 and you go down 1 you will cycle to the top at 16. Care must be taken as Individual sound sources vary so if you accidentally change Channel and you have unwanted ringing notes you may have to hit the panic button on the sound source. Using the Length of Note knob as a panic button will have no effect unless you are in the correct channel.

3.5 Editing Song List

Song List editing is very easy if you have the sound module plugged into the Xylosynth so do this first. This is not required if you have internal sounds. You should also have the sound module or Xylosynth display in view and have the song list preferably written down to follow. Make sure no one is going to hit the keys as you will be using them to select the Program Numbers. If you have a display option on your Xylosynth you can just use this. Now you are ready to edit and follow these instructions:

Press the pedal input/button 'Program +1' on power up. You are now in Edit mode. Strike a white key about an octave down from the top key and you should see a new program number displayed on the sound module. It should read either 60,70 or 80. Hit the key quite hard if it did not show on the sound module (in edit mode the keys are not working so quickly). If it showed 59,69 or 79 then we need to change the logic (some sound sources work on Program Numbers 0-127 and some 1-128). To change the logic simply press the two pedal input/buttons 'Program –1' and 'Sustain' on power up. Then press the pedal input/button 'Program +1' on power up to get back into Edit mode.

To select the first number in your song list lets say program number 125 you will have to

strike a white key to get 120 and a black key to get the 5 to make 125. There are 13 white keys in the top two octaves that will give you the decades (0,10,20,30,.....120) and all the black keys that will give the digits (0,1,2,3,....9). You can find the white key that gives 120 by either trial and error or by counting up from the start of the second octave **but do not hit the top white key as you will exit the Edit mode**. You should be able to see the numbers on the sound module display and do not worry if you make a mistake as nothing is saved until you want to save (unless you exit the edit mode).

Once you have the correct program number displayed on the sound source you can then save by simply pressing the Program +1 pedal/button and releasing. The Xylosynth is now waiting for the second in the Song List. (You could exit here by either hitting the top white key or unplugging the Xylosynth but you would only have a song list of one program). Lets say you wanted program 6. You could achieve this by just hitting a black key as before corresponding to Program 6 or hit a White Key corresponding to 00 and a Black Key corresponding to 6. You can hit White Keys followed by Black Keys or the other way around. Once you see the correctly displayed Program number then press the Program +1 pedal/button to save this.

Carry on doing these operations until you have built up your song list. Once you have the last Program number of your song list displayed press the Program +1 pedal/button for the last time. Then hit the top white key and you will see Program 0 displayed. You have now exited the Edit mode and you are now in Song List mode where you can play normally. Hit a few keys to test and then test the song list by simply pressing the Program +1 pedal/button. It should correctly flick through the Song List and will be remembered until you go back into this Edit mode.

4.0 Analogue Settings
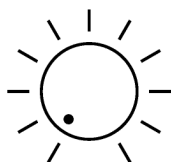
SENSITIVITY
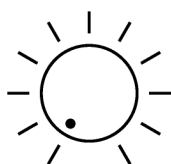
NOTE LENGTH

4.1 Length of Note

Often called Gate Time, Note Length control enables each individual note to be precisely controlled allowing you to exactly define your sound. The control begins with Instant Note Off at 0.03 seconds (30 Milliseconds) and goes up to 8 seconds.   Really tight control is available on the very short times where it's needed most with increments of 0.080 seconds (80 Milliseconds) up to 0.4 seconds and then less control over the long lengths used more commonly for sampled sounds. The Length of Note is set by the analogue knob on the right on the upper right of the playing surface. If you adjust the knob when notes are still playing these will be individually switched off and an 'all notes off' message is also sent so it can be used as a 'panic button'. Only when you stop adjusting the knob will notes be played normally.

4.2 Sensitivity

This is the master sensitivity control and affects all the keys equally and no matter which Patch you are in. It can be used to adapt the Xylosynth's playing characteristics exactly to your style. Sensitivity is set by the analogue knob on the upper right of the playing surface. Turning the sensitivity knob to its lowest setting will make the hardest hits of the Keys only achieve about 25% Midi velocity. Increase about a half of a turn and hard Key hits will produce maximum Midi velocity. So in effect the sensitivity control can act as a volume control knob.

For the second half of the adjustment that gives the full 127 note velocity values you can adjust to your playing characteristics/mallets you use. Start with the sensitivity knob set to its maximum setting and then when striking a Key to the hardest you are likely to play, turn the knob anticlockwise. When the sound heard starts to drop from your sound source stop turning the sensitivity knob. Or otherwise just set the knob to halfway and get used to this dynamic range. We strongly advise you use soft Marimba mallets to give a good range and to keep the acoustic contact sound minimal. These mallets will also protect the sensors. Note that whatever setting of the sensitivity knob, the lightest of Key hits and corresponding low Midi velocity numbers will not be affected.

5.0 General Care

Make sure that the mallets you use are clean with no grit as this will scratch the surfaces. The Birch surfaces are coated with a hard polyurethane varnish that should last for years. The Bubinga keys can be re-varnished using **Rustins Danish Oil** if necessary. It is strongly advisable not to subject the Bubinga keys to sudden changes in temperature. If you have to leave your instrument in a large auditorium over night we strongly advise you insulate the keys by placing a thick padded cover over them (maybe a soft bag you have for the instrument) or putting the whole instrument into a flight case. Never leave next to a radiator. Cleaning between keys can be done using 10mm external diameter plastic tubing attached with gaffa tape to the hose of a vacuum cleaner. Do not store vertically for long periods unless in a flightcase. Preferably store flat to avoid key disturbance.

6.0 For Xylosynths with Extra Options

The Xylosynth has evolved from an idea into a very versatile instrument suiting many different applications. It has evolved by taking on board requests from would be owners. However the philosophy of keeping it as simple as possible for the user means that we are offering optional extras rather than only producing one model with a lot of unused features. In conclusion we make custom built instruments to suit your needs.

6.1 Buttons

This feature was developed for outside use of a drum corps as it eliminates the need for pedals to carry out the functions of +1, -1 transpose and dampening as described in **Section 2.**

6.2 Display

This feature gives the player information as to which mode the Xylosynth is currently set to for the +1 and -1 button control, which could be Incremental Program Number, Program Control Change, Channel or Song List and shows the current relevant Midi number if

applicable. It will also aid in the editing Song List if setting for internal sounds or a sound module that it not present or out of view. Also whichever mode you are in you can find out what Midi channel number the Xylosynth has been set to.

First of all though you want to find out if your sound source works on 0-127 or 1-128 Midi notation. To change the logic press the pedal input/button 'Program -1' and 'Sustain' on power up. You should be able to see this if the number on the sound module for instance is out by one on your display.

If the Xylosynth has been set to Incremental Program Number (see **Section 3.1** to set to this mode), on power up you will not see a number but when you press the +1 or -1 you will see a number from 0-127 or 1-128 depending on what has been set. The Xylosynth sends a program change followed by the program number. This is useful if you want to go through a selection of sounds. You could be taking a note of what sounds you like to create a song list so that you do not scroll through unwanted sounds.

If the Xylosynth has been set to Program Control Change (see **Section 3.3** to set to this mode), on power up you will not see a number but when you press the +1 or -1 you will see 2 arrows pointing up or down. The Xylosynth sends a Program Control change followed by increment 96 or decrement 97. This is useful for Forte software where more than 128 scene changes can be made.

If the Xylosynth has been set to Incremental Channel Number (see **Section 3.4** to set to this mode), on power up you will not see a number but when you press the +1 or -1 you will see the letter 'C' with a number from 1-16. Then when playing a note you will see the number updated which will be the current Midi channel number. To understand the logic you must understand that every Midi note sent (note on or note off) has a Midi channel number associated with it and the display will show the latest Midi Note message sent. When you press the +1 or -1 an 'all notes off' message of the particular channel is sent and this channel number is displayed but not the new channel number until you play a note. For example, you are in Channel 1 and want to go to Channel 5 then press the +1 four times and you will see the C1,C2,C3,C4 displayed. Only when you strike a key will you then see C5 displayed.

If the Xylosynth has been set to Song List control (see **Section 3.2** to set to this mode), on power up you will not see a number but when you press the +1 or -1 you will see a number from 0-127 or 1-128 depending on what has been set. The Xylosynth sends a program change followed by the program number. You may notice the numbers do not go up incrementally and to edit this see **Section 3.5**

6.3 Internal Sounds

There are two 1/4" Jack outputs for the internal sounds. The sounds can only be accessed by playing the Xylosynth and are of a 'practice' quality only but you may feel they are suitable for performance use as well. There is no direct volume knob but there are several ways of varying the volume. Firstly the most obvious is by hitting the Xylosynth keys softly or hard. Secondly the left hand Jack is designed for headphones and the right hand for line out or to amplification. The headphone output is approximately twice as loud as the line out. And thirdly, the sensitivity knob acts a volume control for the fist half turn (from 25% to 100% of the maximum volume).

The following sounds are accessed from Midi Program numbers 1-128 and Midi Channel Numbers 1-9 and 11-16. Midi Channel 10 is reserved for a set of percussion sounds. The numbers should refer the number on the display. If this out by one then see **Section 6.2**

to change the display.

1 (Grand) Piano	2 (Bright) Piano	3 (El, Grd) Piano
4 Honky-tonk Piano	5 El. Piano 1	6 El. Piano 2
7 Harpsichord	8 Clavi	9 Celesta
10 Glockenspiel	11 Music Box	12 Vibraphone
13 Marimba	14 Xylophone	15 Tubular Bells
16 Santur	17 Drawbar	18 Percussive Organ
19 Rock Organ	20 Church Organ	21 Reed Organ
22 Accordion (French)	23 Harmonica	24 Tango Accordion
25 Accoustic Guitar (nylon)	26 Accoustic Guitar (steel)	27 El. Guitar (jazz)
28 El. Guitar (clean)	29 El. Guitar (muted)	30 Overdriven Guitar
31 Distortion Guitar	32 Guitar Harmonics	33 Acoustic Bass
34 Finger Bass	35 Picked Bass	36 Fretless Bass
37 Slap Bass 1	38 Slap Bass 2	39 Synth Bass 1
40 Synth Bass 2	41 Violin	42 Viola
43 Cello	44 Contrabass	45 Tremolo Strings
46 Pizzicato Strings	47 Orchestral Harp	48 Timpani
49 String Ensemble 1	50 String Ensemble 2	51 Synth Strings 1
52 Synth Strings 2	53 Choir Aahs	54 Voice Oohs
55 Synth Voice	56 Orchestra Hit	57 Trumpet
58 Trombone	59 Tuba	60 Muted Trumpet
61 French Horn	62 Brass Section	63 Synth Brass 1
64 Synth Brass 2	65 Soprano Sax 97 FX 1 (rain)	66 Alto Sax 98 FX 2 (soundtrack)
67 Tenor Sax 99 FX 3 (crystal)	68 Baritone Sax 100 FX4 (atmosphere)	69 Oboe 101 FX 5 (brightness)
70 English Horn	71 Bassoon	72 Clarinet
73 Piccolo	74 Flute	75 Recorder
76 Pan Flute	77 Blown Bottle	78 Shakuhachi
79 Whistle	80 Ocarina	81 Lead 1 (square)
82 Lead 2 (sawtooth)	83 Lead 3 (calliope)	84 Lead 4 (chiff)
85 Lead 5 (charang)	86 Lead 6 (voice)	87 Lead 7 (fifths)
88 Lead 8 (bass+lead)	89 Pad 1 (fantasia)	90 Pad 2 (warm)
91 Pad 3 (polysynth)	92 Pad 4 (choir)	93 Pad 5 (bowed)
94 Pad 6 (metallic)	95 Pad 7 (halo)	96 Pad 8 (sweep)
97 FX 1 (rain)	98 FX 2 (soundtrack)	99 FX 3 (crystal)
100 FX4 (atmosphere)	101 FX 5 (brightness)	102 FX 6 (goblins)
103 FX 7 (echoes)	104 FX 8 (sci-fi)	105 Sitar
106 Banjo	107 Shamisen	108 Koto
109 Kalimba	110 Bagpipe	111 Fiddle
112 Shanai	113 Tinkle Bell	114 Agogo
115 Steel Drums	116 Woodblock	117 Taiko Drum
118 Melodic Tom	119 Synth Drum	120 Reverse Cymbal
121 Guitar Fret Noise	122 Breath Noise	123 Seashore
124 Bird Tweet	125 Teleph. Ring	126 Helicopter
127 Applause	128 Gunshot	

For Channel 10 and any program number the following sounds are played when striking different keys. The numbers here refer to the note numbers where 60 is middle C.

35 Kick Drum	36 Kick Drum	37 Side Stick
38 Snare Drum 1	39 Hand Clap Brush Slap	40 Snare Drum 2
41 F2 Low Floor Tom	42 Closed Hi Hat [EXC1]	43 High Floor Tom

44 Pedal Hi-Hat [EXC1]	45 Low Tom	46 Open Hi-Hat [EXC1]
47 Low/Mid Tom	48 Hi/Mid Tom	49 Crash Cymbal 1
50 High Tom	51 Ride Cymbal 1	52 Chinese Cymbal
53 Ride Bell	54 Tambourine	55 Splash Cymbal
56 Cowbell Cowbell	57 Crash Cymbal 2	58 Vibraslap
59 Ride Cymbal 2	60 Hi Bongo	61 Low Bongo
62 Mute Hi Conga	63 Open Hi Conga	64 Low Conga
65 High Timbale	66 Low Timbale	67 High Agogo
68 Low Agogo	69 Cabasa	70 Maracas
71 Short Whistle [EXC2]	72 Long Whistle [EXC2]	73 Short Guiro [EXC3]
74 Long Guiro [EXC3]	75 Claves Claves	76 Hi Wood Block
77 Low Wood Block	78 Mute Cuica [EXC4]	79 Open Cuica [EXC4]
80 Mute Triangle [EXC5]	81 Open Triangle [EXC5]	

7.0 How to Replace a Key

Tools Required

'Pozi Drive' Screwdriver. Bit size PZ1 & referred to as cross head and a 7mm socket or spanner for M4 nuts.

General Notes

Replacing a Key should take less than 20 minutes if you have carried out this operation before. This time can be reduced if you use a Pozi (PZ1) bit with a battery operated drill to remove & fix screws that hold the Bottom Panels. But only use a battery operated drill if you are proficient with using one. If using a battery powered drill take special care by engaging the bit properly & starting slowly with some end pressure to stop the bit slipping but also not too hard to damage the threads. Make sure not to over tighten the screws that hold the bottom cover and this means carrying out the final tightening of the screws by hand if necessary. If using a battery powered drill you will have to stop before the screws 'bottom out' i.e. slowing down well before then. You cannot rely on any torque limiter that comes with the drill. Hand tightening means just 'nipping up' the screws.

Description

1/ Find a suitable area to carry out the task. You can set up on a fine carpet if the carpet is clean (so as not to scratch the wooden bars when resting on the carpet). If the floor does not have a suitable carpet then use cloth 120cm x 30cm (48" x 12") minimum. Or you can work on a table top with a table cloth.

2/ Now place the Xylosynth upside down onto the work area.

3/ Undo & remove, with the battery powered drill if you if you are able to, all cross head screws securing the bottom panel. Make a note of the two (or 3 on a 4/5 octave) types of screw so you can replace them correctly.

4/ Lift off bottom panel.

5/ Locate the key to be replaced. Gently pull off the white plastic housing after releasing the springy plastic clip holding it in place. Now undo & remove the two nuts and crinkle washers.

6/ To remove the Key you will need to do two operations at once. Get your hand under the

Key to be removed & work the Key out with your other hand. You may find this operation easier if you are able to raise the instrument onto its front or back edge. You may need to coax the connector housing through the hole. Take care not to pull the wires unduly.

7/ Re assembly is the opposite process but concern yourself with the points below as well as the general notes at the top. When putting the new Key in be careful not to trap any wires coming from the Key. Compare the wire loop with keys nearby as they should all be the same. Also you can test this before putting the crinkle washers & nuts by moving the wires into & out of the hole noticing that they are free to move. If not tease the wires so that they become free. Now place and tighten up the nuts so the crinkle washers grip into the circuit board and Aluminium but do not over tighten to completely flatten the crinkle washers. Clean with tissue or cloth the two gold plated pins of the connector block to remove any grease/oil that may have come from your fingers prior to pushing the the key connector housing back onto the block. The housing only fits on one way. Place the bottom cover back on and place and tighten a couple of screws in the Holes. Carefully tighten the screws. Then turn the Xylosynth the correct way up and test the key to see if it working properly. You can just look at the Blue LED and tap the key when the power lead is plugged in. If OK then put the remaining screws into the bottom cover.

8.0 Physical Specifications

	2 Octave
Overall Length:	845mm (33.25")
Height:	82mm (3.552")
Depth:	360mm (14")
Weight:	7.2Kg (16lb)
Keys:	25

9.0 Help

We are a small and friendly electronic percussion company and we will help in any way we can with any queries. You are never more than a phone call or e-mail away from expert advice and in our experience 99% of problems can be solved this way. If something more urgent happens we can help you assess the problem and find the best way forward as quickly as possible. As well as this we are happy to give advice on other related equipment and keep our web-page up to date with new developments so you'll always know what's new with Wernick.

10.0 How to Contact Us

	+44 (0) 116-255 6225
Telephone:	**+44 (0) 116-212 8045**
Fax:	
e-mail:	info@wernick.net
URL:	htttp://www.wernick.net
Contact Name:	Will Wernick, Julie-Ellen John
Patents:	United States 5854436
	UK & France (EP) 0732683
	Germany 69610518