

The Tones of a Vangoa MAE 02 Electronic Wind Instrument, Version 1.1.0

By R. G. Sparber

Protected by Creative Commons.¹

Scope

I used the Tuner-Pitched app on my iPhone to identify the note as I pressed each combination of keys for a given pitch² (PIT button) on my Vangoa MAE 02 Electronic Wind Instrument (EWI).

The appendix contains additions, clarifications and corrections to the manual.

Disclaimer

I am a beginner piano player who wants to pick up a new instrument. This EWI was my choice, and I am happy with the instrument. I'm not satisfied with the incomplete and sometimes incorrect documentation.

¹ This work is licensed under the Creative Commons Attribution 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/> or send a letter to Creative Commons, PO Box 1866, Mountain View, CA 94042, USA.

² Vangoa call this a pitch but I see it as the scale being transposed.

What the Manual Say

-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0
C	#C	D	bE	E	F	#F	G	bA	A	bB	B	C

1	2	3	4	5	6	7	8	9	10	11	12
#C	D	bE	E	F	#F	G	bA	A	bB	B	C

This table³ is correct but requires some explanation. The note under each number is the note near the *center* of the range. For example, -12 shows C. By direct measurements, I found:

F2 G2 A2 B2 **C3** D3 E3 F3

Each increment of the offset number advances the set of notes by a half step.

Since I understand only the piano keyboard, I'll use it to explain this point:

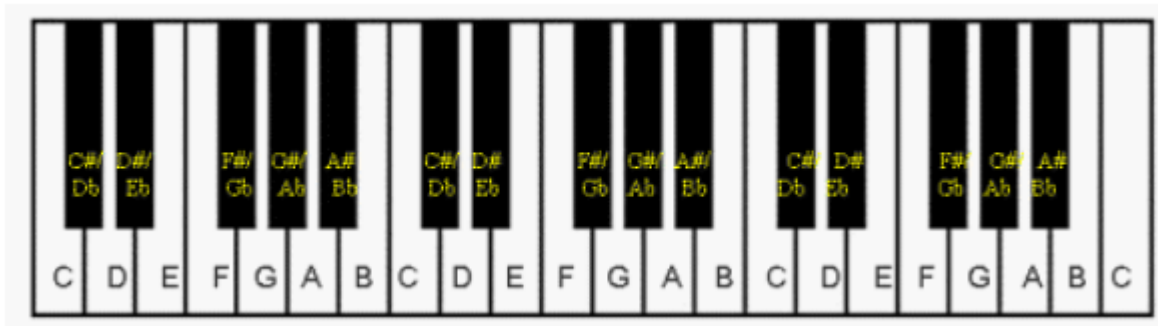


Looking at any C key, we know that a half step up is from C to C# because C has a black key to its right. However, from B, a half step up is to C because there is no black key between them. We go from C to #C which is a half step. Then from #C to D is a half step. D to bE (Eb) is the same as saying D to #D. Therefore, the above picture shows how the EWI increments in half steps. There are a total of 25 half steps⁴.

³ The picture shows #C, which is the same as my C#.

⁴ The user's guide says we can move "up 12.5 pitch and down 12 pitch" which is not correct.

Note Pattern



After looking at the notes I measured, I was initially confused by the pattern. Only when my friend Chuck Gearler explained it to me did it make sense.

Returning to the piano keyboard, we have on the white keys as we move up: full step (C to D), full step (D to E), half step (E to F – no black key between them), full step (F to G), full step (G to A), full step (A to B), half step (B to C). The notes from the EWI follow this same pattern of **full step**, **full step**, **half step**, **full step**, **full step**, **full step**, **half setp**.

Button Nomenclature

My left hand has access to three buttons near the top of the instrument: the top, middle, and bottom buttons—all of these select notes. I can also reach the upper and lower bars, which are used for sharp and flat, respectively.

My right hand has access to three buttons near the bottom of the instrument: the top, middle, and bottom buttons, plus a bar—all of these select notes.

My Results

I will present the notes I measured. In all cases, I started with all six fingers down, then lifted one finger at a time, starting with my right hand's finger on the bar. When I reach the middle button with my left hand, only the top button is pressed. Then I press only the second button from the top. For example:

Alto Sax

Fingering		notes						
buttons	F2	G2	A2	B2	C3	D3	E3	F3
LH TOP	X	X	X	X	X	X	X	
LH MIDDLE	X	X	X	X	X	X		X
LH BOTTOM	X	X	X	X	X			
ULH bar								
LLH bar								
RH TOP	X	X	X	X				
RH MIDDLE	X	X	X					
RH BOTTOM	X	X						
RH bar	X							
FG: flute								
PIT: F tone -12								

In all cases, I used the Alto Sax as my tone. I did find that some other tones gave slightly different notes, but I didn't want this to turn into a massive job.

PIT				Tones				
-12	F2	G2	A2	B2	C3	D3	E3	F3
-11	F#2	G#2	A#2	C3	C#3	D#3	F3	F#3
-10	G2	A2	B2	C#3	D3	E3	F#3	G3
-9	G#2	A#2	C3	D3	D#3	F3	G3	G#3
-8	A2	B2	C#3	D#3	E3	F#3	G#3	A3
-7	A#2	C3	D3	E3	F3	G3	A3	A#3
-6	B2	C#3	D#3	F3	F#3	G#3	A#3	B3
-5	C3	D3	E3	F#3	G3	A3	B3	C4
-4	C#3	D#3	F3	G3	G#3	A#3	C4	C#4
-3	D3	E3	F#3	G#3	A3	B3	C#4	D4
-2	D#3	F3	G3	A3	A#3	C4	D4	D#4
-1	E3	F#3	G#3	A#3	B3	C#4	D#4	E4
0	F3	G3	A3	B3	C4	D4	E4	F4
1	F#3	G#3	A#3	C4	C#4	D#4	F4	F#4
2	G3	A3	B3	C#4	D4	E4	F#4	G4
3	G#3	A#3	C4	D4	D#4	F4	G4	G#4
4	A3	B3	C#4	D#4	E4	F#4	G#4	A4
5	A#3	C4	D4	E4	F4	G4	A4	A#4
6	B3	C#4	D#4	F4	F#4	G#4	A#4	B4
7	C4	D4	E4	F#4	G4	A4	B4	C5
8	C#4	D#4	F4	G4	G#4	A#4	C5	C#5
9	D4	E4	F#4	G#4	A4	B4	C#5	D5
10	D#4	F4	G4	A4	A#4	C5	D5	D#5
11	D4	F#4	G#4	A#4	B4	C#5	D#5	E5
12	F4	G4	A4	B4	C5	D5	E5	F5

I want the lowest note to be middle C which is C4 so chose PIT -5:

-5 C3 D3 E3 F#3 G3 A3 B3 C4

When I want F3 rather than F#3, I will hold down all of the Left Hand (LH) buttons, the Lower Left Hand (LLH) bar, which flattens the note, and the top RH button.

<u>Fingering</u>	<u>notes</u>								
	<u>buttons</u>	C3	D3	E3	F3	G3	A3	B3	C4
LH TOP	X	X	X	X	X	X	X	X	
LH MIDDLE	X	X	X	X	X	X	X		X
LH BOTTOM	X	X	X	X	X				
ULH bar									
LLH bar					X				
RH TOP	X	X	X	X					
RH MIDDLE	X	X	X						
RH BOTTOM	X	X							
RH bar	X								
FG: flute									
PIT: F tone - 5									

Acknowledgment

Thanks to Chuck Gealer for helping me understand the pattern of notes.

APPENDIX

While I feel that the Vangoa MAE 20 is an excellent instrument, the accompanying manual is lacking. I will limit myself to facts and not discuss the writing style.

Here are my thoughts:

General comment:

1. The manual is physically too small. If printed at twice the size, it would have been readable.
2. There is no mention of how to control Bluetooth (Hold down the FG button until the display shows Bluetooth On. Hold it down again until you see Bluetooth Off.)

Page

1. Items

- a. Introduction: Pitch shifting function -12+12 It should say “from -12 to +12.”
- b. Instructions
 - i. Item 5 says to not press the octave middle button. That is wrong. The octave middle button doesn't do anything other than provide a resting place for your finger when you don't want to shift up or down.

6. Items

- a. It says Pitch but this is really the transpose function because you are shifting notes up or down relative to the keys.
- b. It says “Pitch(PIT): The “PIT” button is used to adjust the pitch function, there is up 12.5 pitch and down 12 pitch for choosing Press the “VOL” first, then press “-” or “+” to choose the pitch you want there is different numbers on the display to meet the pitch”

* the notes can be transposed from -12 half steps to +12 half steps

* Press the “PIT” button, not the VOL button.

- c. What is the user to do with Calibration?
- d. What is the user to do with the Testing mode?

7-10 There is no mention of the Pitch so I couldn't tell if these were correct.