## KIWICORDER

## 8-BIT

## $8: 09$



## by Judith Bell

## 8-BIT

## Teaching notes

## 8-Bit

for 3 descant recorders (one easy and two semi-advanced), easy alto, tenor and bass.

The title of this piece has two meanings - it is based on the old 8 -bit electro gaming style of music, and it also has 8 -bit binary coded messages in the advanced recorder part and the opening drum solo.

With the 8 -bit gaming style music, listen out for the looping, and for the bass drop just coming into letter D.

Because the advanced part is so repetitive, students could take turns' playing the 8 bar section.

Each bar in the advanced part is a code for a letter.
Binary representation is part of the NZ digital technologies curriculum, and a key and worksheet are on the advanced descant pages to aid decoding!

In this piece the low unaccented notes are representing 0's and the higher accented notes are representing 1 s .

For example, the second bar (bar 9) would be 00000101. The last 5 quavers (all we need) are shown by a bracket in the example below and represent 16, $8,4,2,1$.
In this example (00101) only the 4 and the 1 digits have a 1 (a higher note).
This adds up to 5 , which represents E, the 5 th letter of the alphabet. (See the chart example).


| letter | number | $\mathbf{1 6}$ | $\mathbf{8}$ | $\mathbf{4}$ | $\mathbf{2}$ | $\mathbf{1}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |
|  | 5 | 0 | 0 | 1 | 0 | 1 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |



You can find more detail on how this works on the CS Unplugged website, with the general idea of binary numbers and coding messages (for primary school students) explained at https://www.csunplugged.org/en/topics/binary-numbers/, and some more detail on using it in music at
https://www.csunplugged.org/en/topics/binary-numbers/integrations/binary-tunes/ .


8 Bit


13 B

$\theta$ F


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BINARY CODE:
RH notes (or rest) $=0$
LH notes $=1$
The coded message can be found in the last 5 quavers of each bar!
Can you decode it?

| letter | number | 16 | 8 | 4 | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
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| 1 | A | 10 | J | 19 | S |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | B | 11 | K | 20 | T |
| 3 | C | 12 | L | 21 | U |
| 4 | D | 13 | M | 22 | V |
| 5 | E | 14 | $N$ | 23 | W |
| 6 | F | 15 | 0 | 24 | X |
| 7 | G | 16 | P | 25 | Y |
| 8 | H | 17 | Q | 26 | Z |
| 9 | I | 18 | R |  |  |



BINARY CODE:
Notes below B, or a rest $=0$
Notes above B =1
A coded message can be found in the last 5 quavers of each bar!
Can you decode it?

| letter | number | 16 | 8 | 4 | 2 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |


| 1 | A | 10 | J | 19 | S |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | B | 11 | K | 20 | T |
| 3 | C | 12 | L | 21 | U |
| 4 | D | 13 | M | 22 | V |
| 5 | E | 14 | N | 23 | W |
| 6 | F | 15 | 0 | 24 | X |
| 7 | G | 16 | P | 25 | Y |
| 8 | H | 17 | Q | 26 | Z |
| 9 | I | 18 | R |  |  |

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Easy Descant Recorder, Descant Recorder Melody

(D) $\oiint$


E


F $\phi$

Alto Recorder 8 Bit


Tenor Recorder

## 8 Bit

Judith Bell



D. Rec.
D. Rec.
D. Rec.
A. Rec.
T. Rec.
B. Rec.


B

D. Rec.
D. Rec.
D. Rec.
A. Rec.
T. Rec.
B. Rec.


C
D. Rec.
D. Rec.
D. Rec.
A. Rec.
T. Rec.

D. Rec.
D. Rec
D. Rec.
A. Rec.
T. Rec.

D. $\$$

D. Rec.
D. Rec.
D. Rec.
A. Rec.
T. Rec.
B. Rec

D. Rec.
D. Rec.
D. Rec.
A. Rec.
T. Rec.
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E
D. Rec.
D. Rec.
D. Rec.
A. Rec.
T. Rec.
B. Rec.

D.S. al Coda


$$
F \quad \theta
$$


D. Rec.


Piano
Bass Synth

Judith Bell


C


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## Kiwicorder Descant 1 - note glossary



