

CHANCE  
RANDOM NOTE GENERATOR  
ZX SPECTRUM 16k/48k\*  
MANUAL

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## Contents

1. About the software
2. Loading the programs
3. CHANCE-Free Spirit Edition.
4. CHANCE-Jail Bird Edition.
5. Inputting values/program feedback
6. Reference tables/additional information

## About the software.

Decade Bridge “CHANCE” is a random note generator software package for the 16k/48k ZX Spectrum home computer.

The tape comes with two programs that utilise the spectrum’s crude BEEP function to create random note runs and sequences.

Side A – Free Spirit Edition is a free running generator with 4 different options.

Side B – Jail Bird Edition offers 6 options. These represent different scale types.

A nice little package for creating chip tune melodies, running through modular systems, adding effects to create drones or pads or creating random rhythms when note lengths are extremely short. Simple, quick, dirty little sound generators from an iconic machine.



Fig 1.

CHANCE can be bought online through our onsite store [here](#).

## Loading the programs.

Loading both of the programs that come on the CHANCE cassette tape follow the same process as other spectrum software.

Type LOAD"" into the spectrum boot screen and press ENTER. Press play on your cassette tape deck. The programs will load automatically and take you to the start screen/main menu.

Side A - Free Spirit Edition will run on 48k and 16k Spectrums and has been tested on both.\*

Side B - Jail Bird Edition will run on the 48k system but not the 16k due to the size of the program.\*

When using the program plug the jack output into an amplifier or your DAW sound card or other equipment (modular setup, effects, instrument amp etc) to get a better sound. The program can be run through the spectrum speaker only but will not provide a decent volume. The programs work well when in conjunction with other processes or feeding them into different audio manipulators.



Fig 2.

## CHANCE-Free Spirt Edition.

After loading the software you will be presented with Free Spirit Edition's main menu. Here you can select and open 1 of 4 options that differ slightly in their generation of random note values.

All of the 4 options require the same parameters to be input by the user. Note range and note length.

### 1. Random note.

The bottom of the interface displays the parameter and the value/range that needs to be input into CHANCE. The first parameter represents the length of the note and the user is prompted to enter this value below the green 'action' bar, denoted by the flashing 'L'. If 1 is entered the length of the note will be set to 1 second and will be the same for all notes generated. The lowest value that can be used is 0.002. At it's lowest value notes at the bottom end of the range will become inaudible which will create frantic choppy rhythms and erratic pitched clicking that work well for percussive sounding loops. The larger the value after this the more lower notes will be introduced into the sequence. All notes should be audible at a length of 0.035 and above. After entering a value press enter to move to the next action.

The second value is for note pitch. CHANCE requests that you enter the range of the random notes. This ranges from 0 to 120. If 0 is entered CHANCE will continually play back the lowest note available over and over. If 20 is entered CHANCE will choose random notes between 0 and 20. If 120 is entered CHANCE will randomly select notes between 0 and 120 and so on. As with the note length press enter after entering the pitch range value.

After both values have been entered CHANCE will immediately start playing back random notes based upon the parameters input by the user. The note's values that are played back will then be printed in the middle of the screen. Below this the note length will also be displayed.



To exit the current instance of CHANCE and return to the main menu, hold down the 'shift' key and 'A' (STOP). The Spectrum's BEEP function stops the processor while playing back. The Spectrum will only pick up the key input command (STOP) in between beeps.

Fig 3.

## 2. Random note microtonal.

Option 2, Random note microtonal, plays back randomly generated microtonal notes over a user defined range at a fixed length also defined by the user.

Random note microtonal follows exactly the same principles as option 1 the only difference being that instead of semitones being played the spectrum plays random microtonal notes.*Fig 3.*

Inputting the values/ranges are exactly the same as option 1.

## 3. Random note/length

Option 3 is exactly the same as option 1. The user defines the length and the pitch range. CHANCE then plays back random whole notes within the ranges selected. The only difference here is that the length of the note also becomes randomly dictated by the Spectrum. When entering the value for length you enter the maximum value it can be. CHANCE will then select between 0 and that value e.g. If you enter the length value of 1 second, CHANCE will select between 0 and 1 seconds randomly for each note.

## 4. Random note microtonal/length

The last option is random note/length microtonal. This mirrors option 2 in it's note generation and includes the random length operation of option 3.

The screenshot, *Fig 3*, is taken from random note/length microtonal.

## CHANCE-Jail Bird Edition.

Like Free Spirit Edition, CHANCE Jail Bird Edition plays back randomly select notes however, Jail Bird Edition is restricted to the notes within a user defined scale. After the loading the software on side B you will be presented with a main menu offering 6 options. Each option represents a different musical scale to select from. *Fig 4.* All of the options require the same parameters be input by the user.

Note lengths can be set to random or fixed by selecting Y or N when prompted. The user is then required to define the note length (if random is not selected) or the range (if random is selected) as the first parameter to be input.

After note length has been input CHANCE requests that the user input the root note of the scale as a numerical value. Please refer to the tables on page 12.

### 1. Major

Selects the notes of a Major scale over 2 octaves at random e.g. If the root note is set to C then CHANCE will select from the following notes at random:-  
C, D, E, F, G, A, B, C+1 octave, D+1 octave, E+1 octave, F+1 octave, G+1 octave, A+1 octave, B+1 octave.

### 2. Minor

Selects the notes of a Minor scale over 2 octaves at random e.g. If the root note is set to C then CHANCE will select from the following notes at random:-  
C, D, Eb, F, G, Ab, Bb, C+1 octave, D+1 octave, Eb+1 octave, F+1 octave, G+1 octave, Ab+1 octave, Bb+1 octave.

### 3. Dorian

Selects the notes of a Dorian scale over 2 octaves at random e.g. If the root note is set to C then CHANCE will select from the following notes at random:-  
C, D, Eb, F, G, A, Bb, C+1 octave, D+1 octave, Eb+1 octave, F+1 octave, G+1 octave, A+1 octave, Bb+1 octave.

### 4. Mixolydian

Selects the notes of a Mixolydian scale over 2 octaves at random e.g. If the root note is set to C then CHANCE will select from the following notes at random:-  
C, D, E, F, G, A, Bb, C+1 octave, D+1 octave, E+1 octave, F+1 octave, G+1 octave, A+1 octave, Bb+1 octave.

### 5. Byzantine

Selects the notes of the exotic Byzantine scale over 2 octaves at random e.g. If the root note is set to C then CHANCE will select from the following notes at random:-  
C, D, Eb, F, Gb, G, Ab, B, C+1 octave, D+1 octave, Eb+1 octave, F+1 octave, Gb+1 octave, G+1 octave, Ab+1 octave, B+1 octave.

## 6. Oriental

Selects the notes of an Oriental scale over 2 octaves at random e.g. If the root note is set to C then CHANCE will select from the following notes at random:-

C, Db, E, F, Gb, A, Bb, C+1 octave, Db+1 octave, E+1 octave, F+1 octave, Gb+1 octave, A+1 octave, Bb+1 octave.

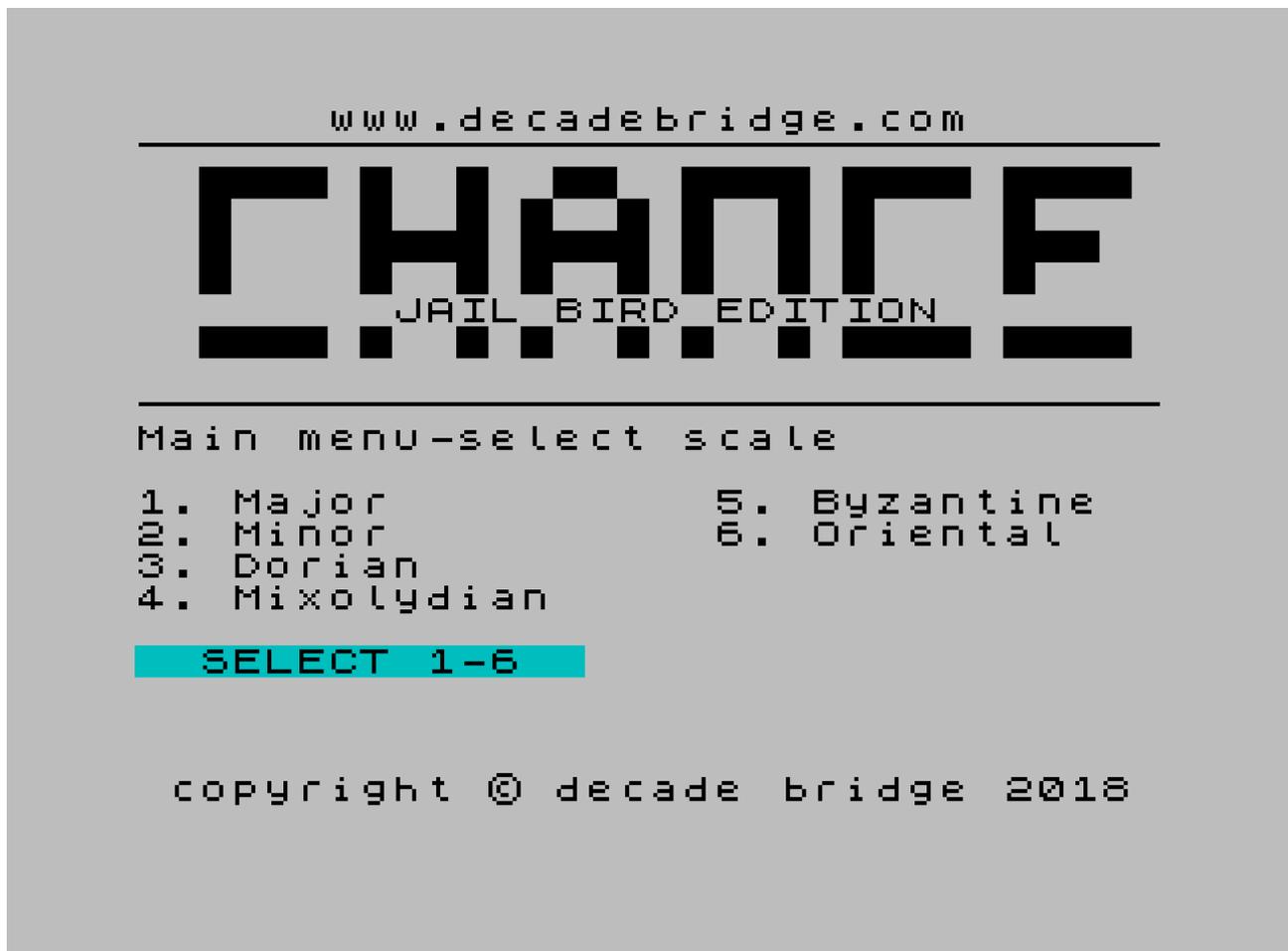


Fig 4.

## Inputting values, program feedback.

Both versions of CHANCE inform the user of invalid input information in the same manner.

### 1. Main menu

If a selection is made that does not exist in the main menu CHANCE will print the message **INVALID ENTRY** below the menu items. The program will pause for a second before clearing this message and letting you select again. *Fig 5.*



```
4. Mixolydian
INVALID ENTRY
```

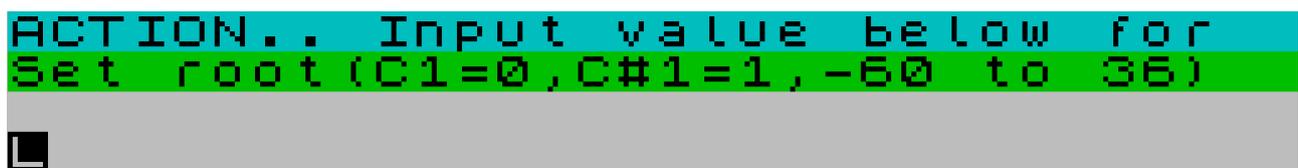
Fig 5.

After choosing a valid item from the menu CHANCE will jump straight into the selected program.

### 2. Generator values

CHANCE prints a prompt at the bottom of the screen for the value that it is waiting to receive. The information requested by the program is printed on a green background, this will also include the limits within which the values have be made.

If a value outside of the defined range is input CHANCE will print an error message on a red background informing you that the value was out of range and remind you of the limits. After a second CHANCE will then return to it's request for the erroneous value to be re-input before moving on to the next parameter. *Fig 6/7.*



```
ACTION.. Input value below for
Set root (C1=0,C#1=1,-60 to 36)
█
```

Fig 6.



```
ACTION.. Input value below for
OUT OF RANGE (-60 to 36)
```

Fig 7.

Once valid values have been entered the program will automatically start playing audio. The program will print the note pitch/length information on the screen.

Both editions of CHANCE print the note pitch as the first value to the screen and the note length below that. *Fig 3 (page 6)*.

Depending on the option that has been selected from the main menu CHANCE will display the information in a slightly different way e.g.

If Random note has been selected the spectrum will print whole notes (no decimal point) as note feedback. These will appear in the range of -60 to 60.

If random note microtonal has been selected the values printed to screen will have decimal points as they will most likely be generated between whole notes.

*For the purpose of easier operation we have scaled the input to a range of 0 to 120. When playing back CHANCE will display 0 as -60 (the lowest note) and 120 as 60 (the highest note). See the tables and references section to understand the notes that the numerical values represent. Page 12*

If a random note length option has been selected CHANCE will display the length as varying from 0 to the value that was input by the user. If random length was not selected from the main menu the note length will retain the value input by the user and stay static throughout.

## Reference tables/additional information

The table below can be used as a reference guide as to the notes output by CHANCE. Free Spirit Edition and Jail Bird Edition act slightly differently in the way they display information.

Free Spirit Edition's pitches are as follows.

| Note | Numerical value displayed by CHANCE |     |     |     |     |    |    |    |    |    |
|------|-------------------------------------|-----|-----|-----|-----|----|----|----|----|----|
| C    | -60                                 | -48 | -36 | -24 | -12 | 0  | 12 | 24 | 36 | 48 |
| Db   | -59                                 | -47 | -35 | -23 | -11 | 1  | 13 | 25 | 37 | 49 |
| D    | -58                                 | -46 | -34 | -22 | -10 | 2  | 14 | 26 | 38 | 50 |
| Eb   | -57                                 | -45 | -33 | -21 | -9  | 3  | 15 | 27 | 39 | 51 |
| E    | -56                                 | -44 | -32 | -20 | -8  | 4  | 16 | 28 | 40 | 52 |
| F    | -55                                 | -43 | -31 | -19 | -7  | 5  | 17 | 29 | 41 | 53 |
| Gb   | -54                                 | -42 | -30 | -18 | -6  | 6  | 18 | 30 | 42 | 54 |
| G    | -53                                 | -41 | -29 | -17 | -5  | 7  | 19 | 31 | 43 | 55 |
| Ab   | -52                                 | -40 | -28 | -16 | -4  | 8  | 20 | 32 | 44 | 56 |
| A    | -51                                 | -39 | -27 | -15 | -3  | 9  | 21 | 33 | 45 | 57 |
| Bb   | -50                                 | -38 | -26 | -14 | -2  | 10 | 22 | 34 | 46 | 58 |
| B    | -49                                 | -37 | -25 | -13 | -1  | 11 | 23 | 35 | 47 | 59 |

Jail Bird Edition only displays the values from 0 to 23. This is due to the fact that the software only outputs notes over 2 octaves (24 notes-0 to 23).

When asked to input a root note into Jail Bird Edition the software will display the root as 0 and the other corresponding notes to the scale as pitch increments in a numerical value.

*If you select a major scale and type the root note as 0 the root note will be set to C (refer to the table above). CHANCE will then select random notes from that scale and print the increments to the screen C=0, D=2, E=4, F=5, G=7, A=9, B=11, C1=12, D1=14, E1=16, F1=17, G1=19, A1=21, B1=13.*

*If you wanted the root note to be B you would refer to the table and type in -1 as the root note. CHANCE would then print to screen the same values as above but would decrement the scale by a semitone. B=0, Db=2, Eb=4, E=5, Gb=7, Ab=9, Bb=11, B1=12, Db1=14, Eb1=16, E1=17, Gb1=19, Ab1=21, Bb1=13.*

As Jail Bird Edition works over 2 octaves the lowest note value that can be input is -60 (C-5). This is because the root note is set as the lowest in the list of possible selections. The highest note that can be input is 36 (C3) as the highest possible note is 60.  $C3=36 + 12 (2 \text{ octaves}) = 60$ .

CHANCE for the ZX spectrum 16k/48k is available now from the Decade Bridge online store [here](#).

For more information or support contact [support@decadebridge.com](mailto:support@decadebridge.com)



*We are currently working on more audio software for the ZX spectrum. For more information on spectrum software and other Decade Bridge products please contact [info@decadebridge.com](mailto:info@decadebridge.com)*

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