

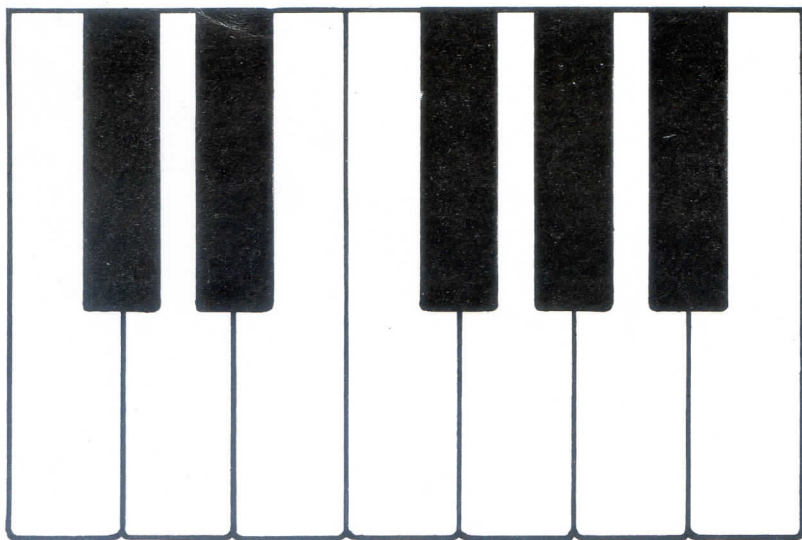
— ZX SPECTRUM —

SPECTSOUND

— by —

pdq

software



INSTRUCTION MANUAL

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NOTE: Whilst the package has been designed to be as durable as possible, we do realise that replacement Overlays, Beep Charts and Instruction Booklets may be required. These are available upon request, at the following prices which all include postage and packing.

Overlays	—	95 pence for 2
Beep Chart	—	95 pence each
Instruction Booklet	—	75 pence each

All orders to PDQ Software, Parsley Rye, Hilders Lane, Edenbridge, Kent, England.

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SPECTSOUND

1.0. INTRODUCTION

Spectsound enables the user to make music using the sound facilities available from the ZX Spectrum. A 9 octave range of notes is immediately accessible via the keyboard without Beep commands. The sounds, tunes or notes made can be automatically recalled and re-played and cancelled when required. The notes are displayed on the T.V. screen whilst composing (**not in musical notation**), together with their Beep No. Tunes can also be saved on cassette and printed on the ZX Printer.

1.1 USES

Spectsound is ideal for composing music for later incorporation into, or adding sound to, your programmes. A permanent (or temporary) record of notes played is available. It may also be used as an elementary teaching aid showing how notes form octaves, and how different effects can be obtained from various durations of notes. By comparing these against traditional musical notation (crotchets, quavers, demi-semi-quavers etc.) it can be seen how mathematics affect the form Western music takes.

If you can read music, this program performs an automatic conversion from sheet music to Spectrum Beep Nos.

1.2. HARDWARE

Written mainly for 16K machines. The Spectsound program will run on either 16K or 48K ZX Spectrum microcomputers. A cassette recorder for loading and recording tunes (if desired) is also required. An overlay forming a 'Keyboard' accompanies the program.

1.3. OPERATION

Spectsound when loaded, and the overlay placed on the keyboard, converts input keys into more than one octave of piano style keys. Various commands are available which enhance the program during use; these are briefly described on the overlay and more fully in the notes which follow.

2.0. SETTING UP

Loading the program is straightforward and should give no problems on the ZX Spectrum. The program is recorded twice on the cassette under the title "SPECTSOUND".

2.1. LOADING

Loading should be carried out as per your Spectrum operating manual and loaded as "SPECTSOUND". When OK appears on the screen after loading, press RUN followed by ENTER as usual.

2.2. IMPORTANT

Ensure the CAPS LOCK is ON — This should happen automatically. CAPS only can run the program, this is because the INKEY\$ function is used extensively. Lower case will not produce any of the effects. If somehow you inadvertently RUN the program with CAPS LOCK off, BREAK into the program and put CAPS LOCK on, RUN and press ENTER again.

2.3. PROGRAM MODE

Upon running the program the main title page will be displayed, which briefly reminds you how to alter the octave range. Do not touch these keys yet, press ENTER as requested. The Spectrum will then invite you to input a figure which will represent the duration of a note. This affects all notes played thereafter, but can also be altered during the program for any duration between five seconds and .009 second. (See Key Functions — 3.0.) Upon pressing ENTER again the Spectrum will invite you to play any note. Upon doing this the screen will show the note played (A, B, C, etc) and its corresponding Beep No. Play some more notes and make up a tune.

3.0. KEY FUNCTIONS

When the program is running most of the keys operate as musical notes. There are a few exceptions. As well as being shown on the overlay the functions are listed below.

Musical Notes:

Keys A, W, S, E, D, F, T, G, Y, H, U, J, K, O, L, P.

Clears Screen: Key R — This clears the screen but does not delete the recall function (see Key B). The 'Play any note' invitation will also disappear along with your notes displayed on the screen, but you can still play on and further notes will appear as played.

Random Music: Key Z — This plays random notes and displays their associated Beep No. These random notes appear down the screen rather than across, to differentiate them from Composed music. The random notes cannot be recalled from memory.

Octave Alteration: Key Q — Down
Key I — Up

It is not necessary to press the "Q" or "I" keys for any length of time to change octave. Just a quick press will bring it down or up one octave. If either key is pressed for any time you will end up at either the top of the octave range or the bottom. No matter, you simply press the other key to bring you up or down accordingly. When the program is first run the octave around middle C is operational. A mechanism has been built into the program to prevent the user going "INTEGER OUT OF RANGE".

Alter duration of Note: Key X — This enables you to input a different value for the duration of the notes to be played, whilst still in program mode.

Recall Tune, or Notes Played: Key B — After you have played a few notes press Key B and you will then get an instant replay of the notes you have previously played. This can be recalled any number of times you like, but the next series of notes are added on; unless you cancel by pressing Key N. (Function of Key N described next.)

Clear Memory of Last Tune: Key N — This key erases all the notes or tunes in the memory and allows input of a fresh tune.

3.0 KEY FUNCTIONS (Cont'd.)

Pause: Key M — This permits a pause to be entered. Whilst this is not necessary in the keyboard mode, it is useful to create expression when committing a tune to memory. On replay (Key B) the composition will become less 'mechanical'.

Delete: Key C — Pressing this key deletes from memory the last note played. Any number of notes can be deleted, e.g. 3 presses of Key C will delete the last 3 notes previously played. Note that pressing Key C does not erase the notes displayed on the screen, even though they may have been deleted from memory. To review the notes left in memory, Key V can be used (Function of Key V described next).

Display: Key V — This key permits the user to display on the screen, the Duration and Beep No. of each note of the tune currently held in memory. This function "assembles" the stored tune into a form which enables the Duration and Beep Nos. to be copied for possible inclusion into other programs. It must be remembered to read from left to right rather than down the screen and that using this function clears the screen of previous information. Using SPECTSOUND, the Spectrum will remember up to 200 notes of various durations.

Here is a simple example of how the screen information, called using the Display Command, can be easily incorporated into another program. Perhaps in a subroutine to play an introduction.

```
9000 REM Intro
9010 READ X,Y
9020 BEEP X,Y
9030 GOTO 9010
9040 DATA X,Y,X,Y,X,Y etc.
```

Where X = Duration of note

Y = Frequency of note (Beep No).

This will generate an Error message upon completion of the tune. This can be avoided by inserting a FOR/NEXT LOOP, the value of which will depend on the number of notes required to be played. Refer to your Spectrum Manual.

Keys Not Used: Numerals are not used in this program.

4.0 RECORDING ON CASSETTE

If you wish to record your compositions onto cassette you can utilise the miniature jackplug leads supplied with your ZX Spectrum. The EAR socket has been found to produce a louder note than the MIKE socket, although either can be used.

Connect the EAR lead to the 'input' or 'mike' socket on your recorder (ensure that you have a fresh cassette in the recorder), and when in the record mode any note you play will be recorded; including random music and recalled music if you desire. Useful and interesting effects can be obtained by recording in one octave and playing an accompaniment in another. The possibilities are endless.

5.0 SAVING MUSIC ON CASSETTE VIA SPECTRUM

It is also possible to save your compositions made whilst in program mode, and once your tune has been remembered by the computer, press Key B (recall) to ensure that it is safely stored, then BREAK into the program. The tune can then be saved in the same way a programme is saved. The difference comes when reloading. The saved program is loaded in the usual way but when OK appears do not RUN. Type GO TO 45 and press ENTER, the replay key will then reveal your previously saved master-piece. Pressing RUN or BREAKING into the program may cancel the tune.

5.01 AMPLIFYING YOUR SPECTRUM

The sound output of your Spectrum can be substantially enhanced by amplifying the signal. The output signal is present on both the Mike and Ear sockets of the Spectrum. The output can be taken via a miniature jackplug and lead to an appropriate auxiliary input on your Hi Fi or Stereo System. If in doubt, you are advised to contact a qualified electrical engineer or consult your dealer.

6.0 SUMMARY

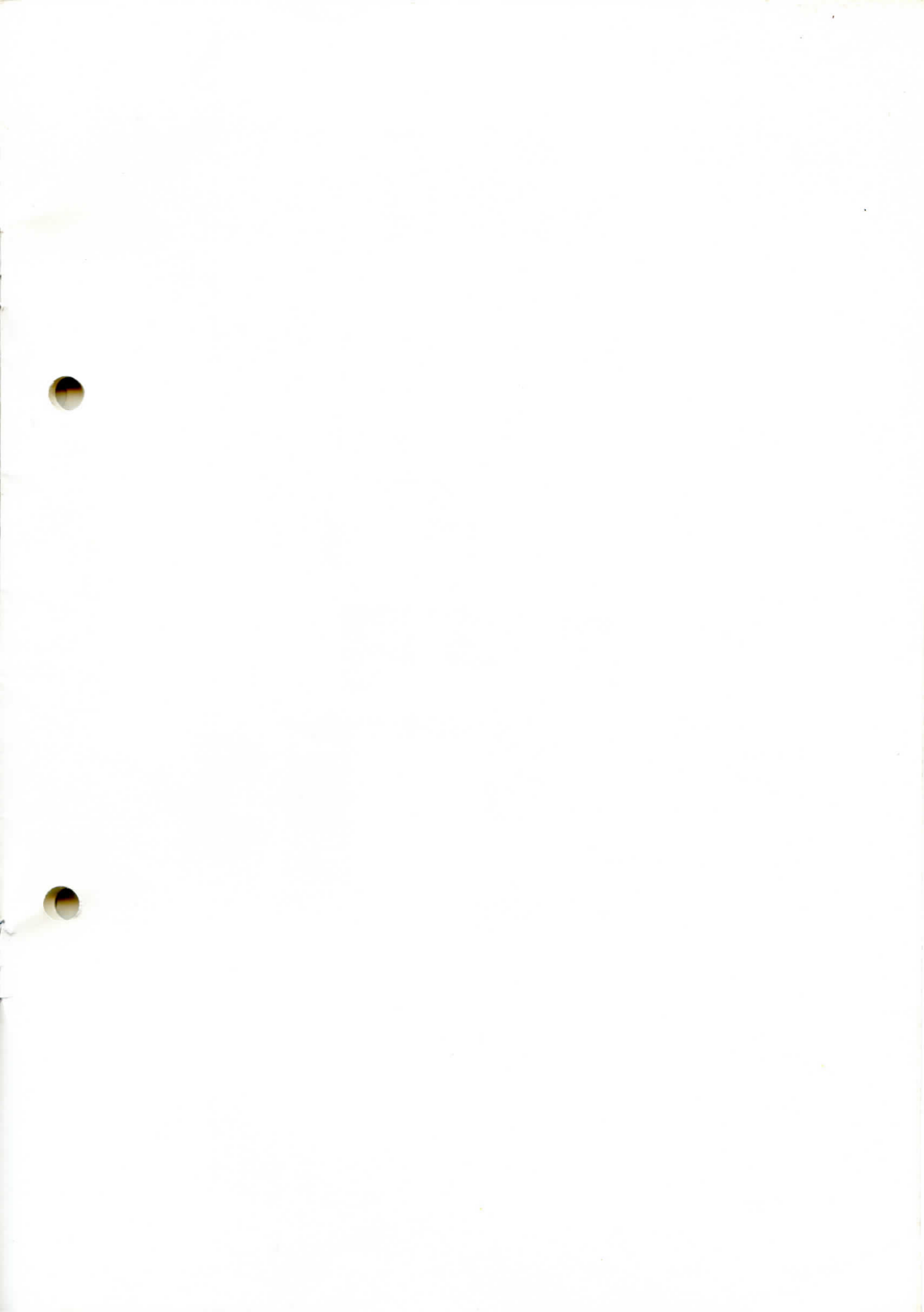
One problem you will find with producing this type of electronic music is the lack of feeling available. The Spectrum unfortunately is not capable of envelope shaping, i.e. attack or decay, like conventional instruments. By careful playing and the input of appropriate pauses, a reasonable degree of 'feel' to the music can, however, be obtained. On the other hand, this does have its uses, e.g. for artificial drum effects, BASS accompaniment, or enhancing Computer games. By using a two track tape recorder and multi-tracking, some incredible effects can be obtained. This seems to be the basis of much of today's modern music and is what micro-processors are particularly good at.

We hope that you enjoy using this program which, we believe, 'opens up' some further areas in the serious use of your ZX Spectrum. Any suggestions or comments that you have would be useful to us so that any necessary alterations or improvements can be made.

7.0 BEEP CHART

In conclusion, if you are remotely interested in using your Spectrum to make music or enhance your programs, we feel sure that you will find the Beep Chart invaluable. It is self-explanatory and simplicity itself.

Our policy is one of continuous development. P.D.Q. Software, therefore, reserve the right to alter or amend this software package in any way it may feel necessary.



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