

```
600A 0A
600B 0B
600C 0C
600D 0D
600E 0E
600F 0F
```

(The values entered into these locations are purely for a demonstration of the Insert and Delete commands, and, if run, will cause the ZX SPECTRUM to crash).

In the above example, the start of the imaginary routine is 6000 and the end is 600F. We will now insert 5 bytes, the first new byte to be at 6004.

```
Type X      to restore the prompt and cursor.
Type I      to get into the Insert mode.
Type 6004   the address of the first byte of the insertion.
Type 600F   the address of the highest byte to be moved.
Type 05     the number of bytes to be inserted (Hex).
```

At any time up to this point, you can type X to escape from this command mode, as no change to RAM has occurred yet. Indeed, if you make a typing error at any time, you must type X, and start the command again.

If you have entered the Insert example correctly, you can now type ENTER to effect the insertion. The screen will scroll up one line, and the prompt and cursor will return to the bottom line. The insertion has been completed.

Using the M command, check through the 21 locations from 6000. Addresses 6004 to 6008 inclusive will now contain the value 00, and 6009 to 6014 will contain the values 04 through to 0F.

When using the Insert command, any absolute addresses in the remainder of the routine that referred to the area that has been relocated, will have to be changed to maintain correct operation of the routine.

D - Delete

This command has the opposite effect to Insert, and takes the form 'D aaaa bbbb nn', where D is the Delete command mode, aaaa is the address of the first byte to be deleted, bbbb is the address of the

Highest byte to be moved down RAM, and nn is the number of bytes to be deleted.

Assuming that the result of the Insert example is still in memory, let us now move the area of RAM from 6009 to 6014 back to its original place.

```
Type X      to restore the prompt and cursor.
Type D      to enter the Delete command.
Type 6004   the start of the area to be deleted.
Type 6014   the end address of the area to be moved.
Type 05     the number of bytes to be deleted (Hex).
Type ENTER  to effect the deletion.
```

The prompt and cursor will reappear on the bottom line, and the deletion will be complete.

Now check through addresses 6000 to 6014, using the M command. The contents of these locations will be as they were before the Insert example, and locations 6010 to 6014 will have been loaded with the value 00.

Again, any absolute addresses relating to the area of RAM that has been moved by Delete, will now need to be changed.

A - Area Relocate

The 'A' command block moves a specified area of RAM, and takes the form: 'A aaaa bbbb cccc' where A is the Area Relocate command, aaaa is the present start address, and bbbb is the present end address of the area to be moved, and cccc is the new starting address.

Assuming that the example used for the I and D commands is still in memory, let us now move the whole area from 6000 to 600F up memory, to start at 6200.

```
Type X      to restore the prompt and cursor.
Type A      to enter the Area Relocate mode.
Type 6000   the start address of the area to be moved.
Type 600F   the end address of the area to be moved.
Type 6200   the new start address.
Type ENTER  to effect the move.
```