SPREADSHEET TESTING

There are many ways in which a spreadsheet can contain mistakes. The most common are

- Incorrect use of brackets.
- Wrong use of operators.
- Using the wrong function.
- Incorrect logic.
- Mistakes in formulae.

You should never assume that your spreadsheet is correct until you thoroughly test it.

A table similar to the following is a useful way of testing a spreadsheet:

<table>
<thead>
<tr>
<th>Result obtained from the actual spreadsheet</th>
<th>Expected result from manual calculation</th>
<th>Explanation of difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

GENERAL RULES

These rules may help to cut down on the frequency of errors.

- Type labels in cells first.
- Type raw data in cells.
- Use formulas whenever possible.
- Use cell locations rather than numbers in formula references.
- Use functions rather than formulas when possible.
- Use the copy commands or fill commands to copy formulas.
- Do not type anything that the spreadsheet will type for you.
- Check formulas using test values.
- Format the spreadsheet to make it readable, attractive and easy to use.
- Use comments to help the user with data entry.
- Create validation checks.
- Make sure that your spreadsheet does what the user asks for.
- Be careful when using comments, VAT is currently 17.5% not 13.5%.
DOES THE SPREADSHEET COPE WITH NORMAL, EXTREME AND ABNORMAL DATA?

- Normal data is the general data for which the spreadsheet was designed.
- Extreme data is that data which is outside of the normal data and should be rejected by the validation checks.
- Abnormal data is that data which would not normally be entered into that cell, for example a negative order quantity. Your spreadsheet must be able to handle such cases in which abnormal or illegal data is entered either accidentally or on purpose.

CAN OTHER PEOPLE USE THE SOLUTION?

Let others use your spreadsheet, the more the better. Find out what they think – use the feedback to spot major errors, problems or improvements.

IS THE SPREADSHEET ROBUST OR CAN IT BE MADE TO FAIL?

Most novice users are afraid of damaging either the software or the computer. Make sure that your spreadsheet doesn’t get the user into a situation that they cannot get out of.

Part of the testing process is to find out if the spreadsheet crashes, freezes or does something unexpected.

TEST SPECIFICATION

The test specification should outline the tests that the spreadsheet will be put through during the testing process. The following should be included:

- Acceptable data input values (both maximum and minimum).
- Unacceptable data values that should be rejected automatically.
- A method of independently checking that all formulas and functions work correctly.
- A way of checking that the developed system meets the users requirements.

SORTING OUT ERRORS

Excel provides many ways to help identify and track down errors. The following should be looked at:

- Error codes.
- Error checking tools – available on the auditing toolbar