

Appendix A: Hardware and Software Requirements

CAT can be run on any 100 % compatible PC with a 386- or 486 CPU with MS Windows 3.1, MS Windows / NT and OS/2 2.1 in the windows box.

4 Megabytes RAM are the absolute minimum required, 8, better 12 or 16 Megabytes advisable. High CPU speed (> 25 MHz) and an accelerated (S)VGA card are a good means to speed up CAT's graphic output.

Appendix B: Installation of CAT

Make a subdirectory in your DOS/Windows environment by e.g

```
md c:\cat
```

Copy all files of the CAT distribution diskette from the floppy drive to the newly created subdirectory. This might be achieved by an operation simular to

```
copy a:*. * c:\cat\
```

Start or return to MS Windows and integrate by means of the Windows-Setup : Setup Applications function the program c:\cat\cat.exe to your Windows applications.

After that, you can start CAT by doubleclicking the CAT icon (see p. 5).

Appendix C: Troubleshooting

CAT event buttons seem not to work

You have to click on the right part of the different kinds of event controlling buttons (run, single step, stop button). Due to some MS Windows properties other regions of these buttons are not sensible.

Slow reaction on user input

Be patient if things go on in the cell matrix when you have already clicked a new control button. Often, it will last some time until all already triggered events are carried out.

CAT environment doesn't react on mouse clicks anymore

There are several known cases where the CAT environment crashes and is no more controllable:

- a negative integer as parameter for the Random procedure,
- a ShowPlane instruction inside a PARALLEL DO OD statement.

Press the CTRL, ALT and DEL keys simultaneously. You are then prompted whether you want to terminate CAT.EXE. Confirm this by hitting the RETURN key. However, all changes of your current CARP program will be lost.

Appendix D: Known bugs

Events not defined in the CARP program are carried out

Workaround: do not click the corresponding event buttons.

Message "Window too small to display color mapping" comes late.

Workaround: no workaround, but enlarging the STATE or CAT main window removes preconditions for this program error.

Erroneous display of cell matrix on high XYSize and high Zet values

Workaround: reduce the corresponding values.

User defined CAP file doesn't occur in Palette menu

Workaround: load the equivalent color palette using *Palette | Load* (see p. 22).

Prompt for saving changed files before quitting CAT sometimes missing

Workaround: leave and reenter CAT.

SetLattice procedure doesn't work properly

No workaround

Maximize / minimize button do not always work properly

Workaround: leave and reenter CAT.

Dialogbox 'Editor buffer is full' doesn't work

Workaround: click the close button (-) of the dialogbox in the upper left corner. Bring up the LIST window and the local menu by clicking the right mouse button. Select *New* to delete all contents of the LIST window. You are now able to continue your work.

Appendix E: Runtime Message List

| | |
|-----------------|---|
| Runtime | Runtime system is currently controlling the execution of an event - (a control message). |
| ShareWare | Run limit of an event was exceeded due to the restrictions of the public domain version of CAT. |
| Plane too large | Limitations of the program have been exceeded. Reduce XYSize (eventually Zet) value. |

Appendix F: Compiler Error Message List

| Message | Possible reason or solution |
|--|--|
| expression cannot begin with this Symbol | '), '<', '>' etc. at the beginning |
| unknown identifier | mismatch of VAR or CONST names with used identifiers |
| '=' expected | assignment of a value to a constant needs the '=' |
| unknown character or symbol | undefined characters like '/', '!' used |
| no source | CAR file is empty |
| end of program, period expected | '.' or keyword 'END' missing |
| end of comment "*" without begin "(" | '(' omitted |
| too many "("; comment not closed | nested comment flags |
| too many digits in number | number beyond maxint (= 32767) |
| number too large | same as above |
| wrong chars in number | number contains characters |
| too many digits in hex number | limit for hexadecimal numbers exceeded |
| hex number too large | limit for hexadecimal numbers exceeded |
| wrong chars in hex number | hexadecimal number contains wrong characters |
| too many digits in binary number | limit for binary numbers exceeded |
| binary number too large | limit for binary numbers exceeded |
| wrong chars in binary number | binary number contains characters |
| identifier too long | identifier exceeds 31 characters |
| string too long | string exceeds limits |
| expression expected | control structure or assignment misses expression |
| factor expected | multiplication misses operand |
| cannot access proc. within expression | procedure cannot be recursive |
| cannot access this object within expression | expression cannot be resolved at compiletime |
| ")" expected | '(' was used without closing ')' |
| expression cannot begin with this symbol | identifier begins with number, punctuation character etc. |
| cannot evaluate this object | expression can not be resolved at compiletime |
| factor cannot begin with this Symbol | |
| number too large | number exceeds maxint (32767) |
| too many identifiers | only 40 identifiers may be contained in one CARP program |
| X-parameter out of range | valid X-parameter was exceeded |
| Y-parameter out of range | valid Y-parameter was exceeded |
| duplicate identifier | variable with the same identifier declared two or more times |
| unknown identifier *** | identifier name mismatch |
| wrong symbol in Statement | statement contains undefined chars |
| "," expected | statement or procedure heading misses ',' |
| END expected | a 'BEGIN' statement sequence was not terminated by 'END' |
| cannot assign, read only object | referenced cell or CONST with assignment |
| ":=" expected | assignment of a CONST during declaration by '=' expected |
| only assignment to "Self" is feasible | assignment to a referenced cell |
| statement expected | loop body empty or THEN or ELSE statement missing |

| | |
|---|--|
| FOR variable expected | FOR ..OD statement doesn't close by repeating the loop var |
| ":=" expected | variable or Self at the beginning are not followed by ':=' |
| TO expected | FOR .. OD statement lacks 'TO limit' element |
| (FOR) DO expected | FOR .. OD statement lacks 'DO' |
| (FOR) OD expected | FOR .. OD statement lacks 'OD' |
| FOR_identifier do not match | mismatch of loop variable |
| EVENT identifier expected | EVENT declaration without identifier |
| duplicate EVENT declaration | the same EVENT identifier occurs twice |
| ";" expected | statement or procedure heading lacks ';' |
| END. of RECIPE expected | 'END.' at the end of a recipe missing |
| DO expected | 'PARALLEL' or 'FOR' statement not followed by keyword 'DO' |
| OD expected | 'PARALLEL' or 'FOR' statement not followed by keyword 'OD' |
| UNTIL expected | 'REPEAT' loop not followed by keyword 'UNTIL' |
| THEN expected | 'IF' statement missing 'THEN' |
| ELSE or FI expected | 'IF' statement missing 'FI' or 'ELSE' |
| "(" expected | expression having an ')' misses '(' |
| ")" expected | expression starting with '(' misses ')' |
| too many actual parameters | demanded parameters not present |
| "," or ")" expected | parameter list missing ',' or ')' |
| ")" expected | expression starting with '(' misses ')' |
| not enough actual parameters | demanded parameters not present |
| nested PARALLEL DO | PARALLEL DO statement cannot be nested |
| (PARALLEL DO) OD or express. expected | PARALLEL DO statement missing 'OD' or expression |
| (PARALLEL DO) OD expected | PARALLEL DO statement missing 'OD' |
| identifier expected, after CONST | CONST declaration missing identifier |
| "=" expected, after CONST identifier | CONST declaration missing assignment |
| semicolon expected (in declaration) | ';' missing in declaration |
| VAR_identifier expected | after keyword VAR identifier expected |
| REF_identifier expected | after keyword REF identifier expected |
| "[" expected, after REF identifier | after keyword REF '[' expected |
| "," expected)' | parameter list missing ',' or ')' |
| "]" expected, in REF declaration | after keyword REF ']' expected |
| identifier expected, after VAR | VAR declaration without identifier |
| ")" expected |)' expected after opening '(' |
| PROC expected | keyword 'PROC' expected |
| maximum depth of block nesting exceeded | maximum depth of block nesting exceeded |
| cannot declare REFS in procedure | REF may only be declared at the beginning of a CARP program |
| identifier expected, after PROC | PROC declaration missing identifier |
| semicolon expected | statement or procedure heading missing semicolon |
| "RECIPE" expected | keyword 'RECIPE' missing at the beginning of a CARP program |
| "=" expected | '=' expected after Colors, XYBound, XYSize, Colors, Zet or CONST declaration |
| ";" expected | ';' expected |
| BEGIN, VAR, CONST or PROC expected | PROC declaration missing BEGIN, VAR, CONST |
| END (of procedure) expected | keyword 'END' at the end of a procedure declaration missing |
| PROC_identifier expected | keyword 'PROC' not followed by an identifier |
| procedure END_identifier expected | END as terminal symbol for a procedure declaration missing |
| procedure END_identifier do not match | identifier names at the start and at the end of a procedure declaration do not match |