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 alllways 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 flaggs
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 misssing
procedure END_identifier do not match	identifier names at the start and at the end of a procedure declaration do not match