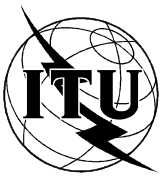

INTERNATIONAL TELECOMMUNICATION UNION

CCITT

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

Z.100 Annex C2

(11/1988)

SERIES Z: LANGUAGES AND GENERAL SOFTWARE ASPECTS FOR TELECOMMUNICATION SYSTEMS

Functional specification and description language (SDL)
Criteria for using formal description techniques (FDTs)

SDL PR SYNTAX SUMMARY

Reedition of CCITT Recommendation Z.100 Annex C2
published in the Blue Book, Fascicle X.1 (1988)

NOTES

1 CCITT Recommendation Z.100 Annex C2 was published in Fascicle X.1 of the *Blue Book*. This file is an extract from the *Blue Book.* While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

2 In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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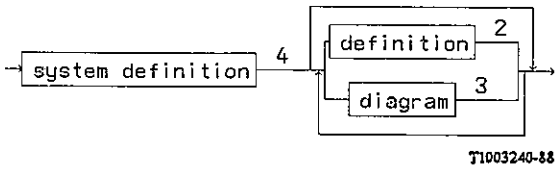
ANNEX C2

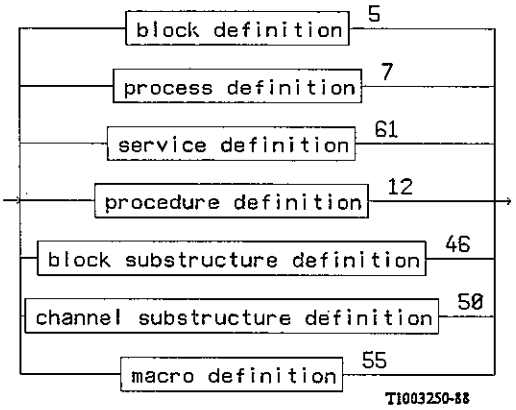
(to Recommendation Z.100)

SDL PR syntax summary

1 *system*



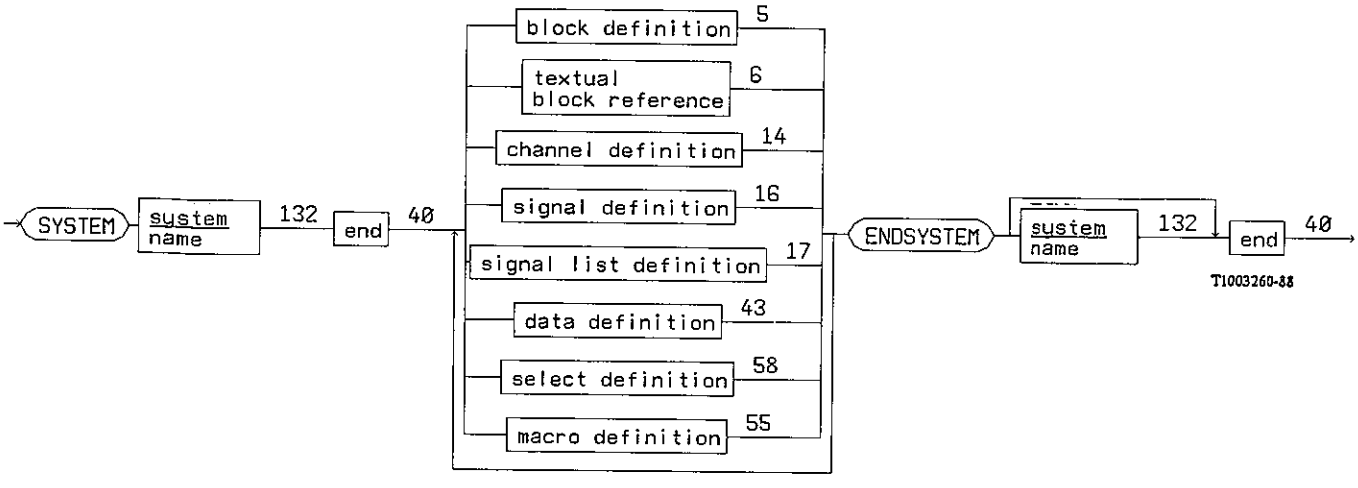
2 *definition*



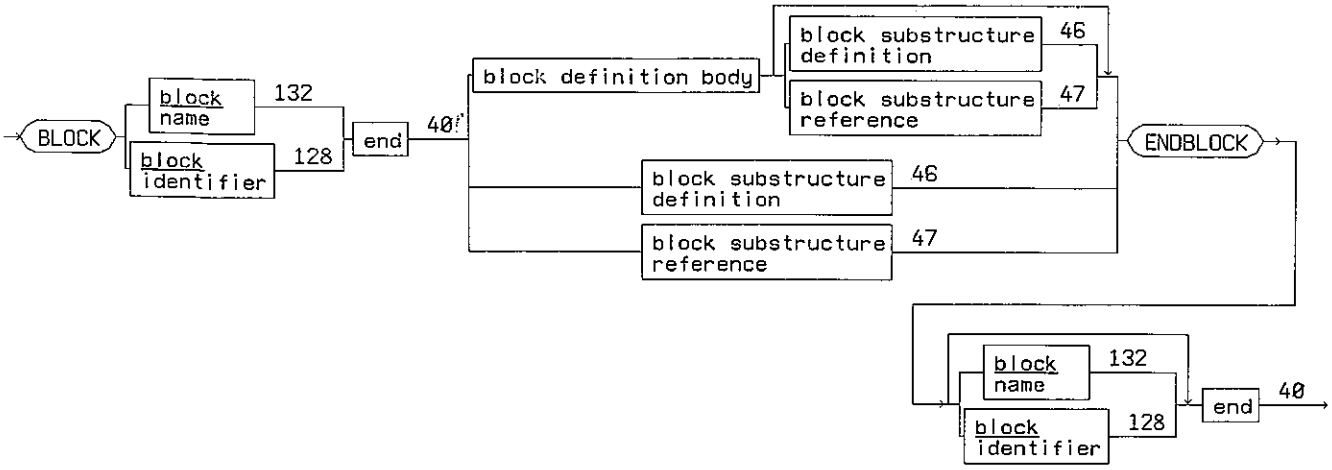
3 *diagram*

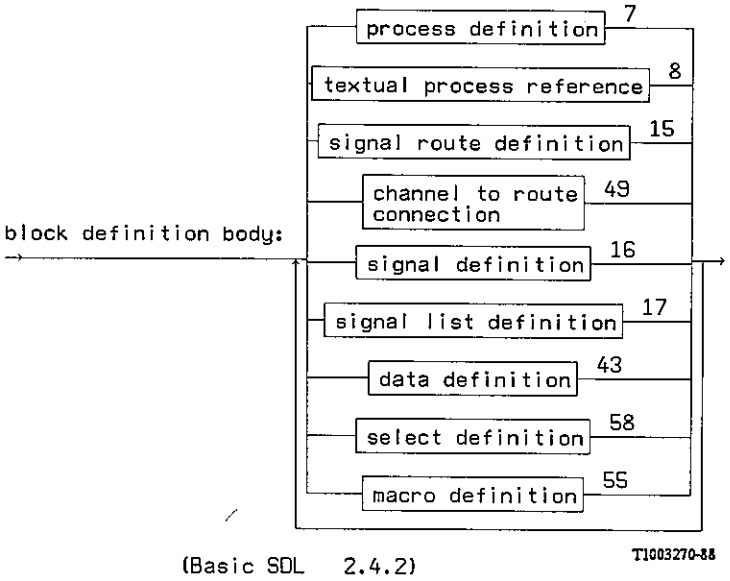
Diagram is defined in GR syntax summary.

4 *system definition* (Basic SDL 2.4.1)



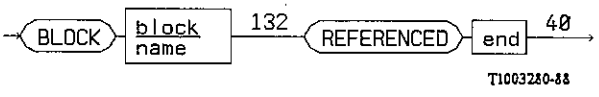
5 *block definition* (Basic SDL 2.4.2)

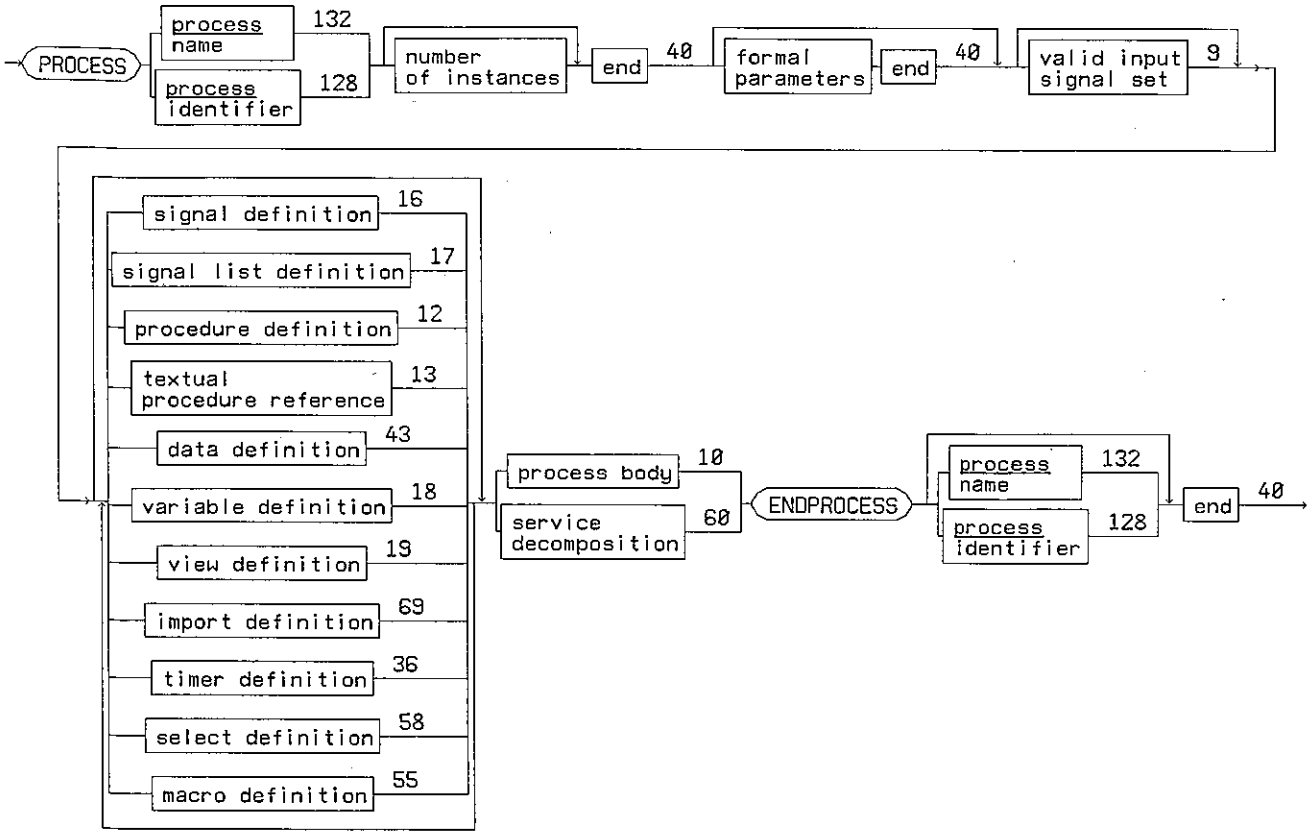


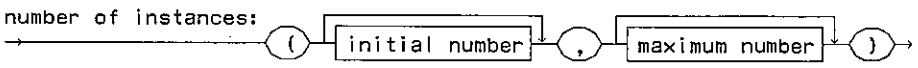


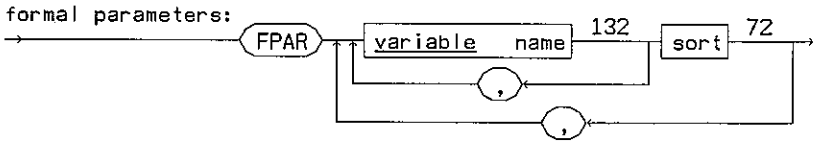
(Basic SDL 2.4.2)

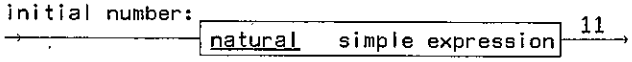
6 *textual block reference* (Basic SDL 2.4.2)

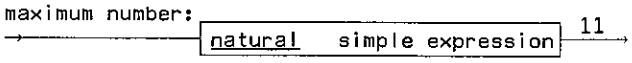



PROCESS
process name
132
process identifier
128
number of instances
end
40
formal parameters
end
40
valid input signal set
9
signal definition
16
signal list definition
17
procedure definition
12
textual procedure reference
13
data definition
43
variable definition
18
view definition
19
import definition
69
timer definition
36
select definition
58
macro definition
55
process body
10
service decomposition
60
ENDPROCESS
process name
132
process identifier
128
end
40


number of instances:
(
initial number
,
maximum number
)

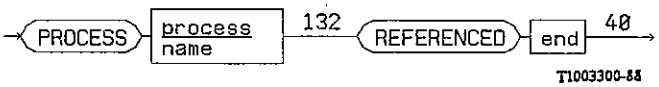

formal parameters:
FPAR
variable name
132
sort
72
,
,


initial number:
natural simple expression
11

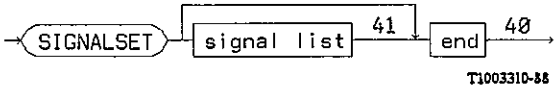

maximum number:
natural simple expression
11

T1003290-88

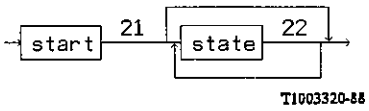
8 *textual process reference* (Basic SDL 2.4.3)



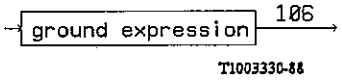
9 *valid input signal set*



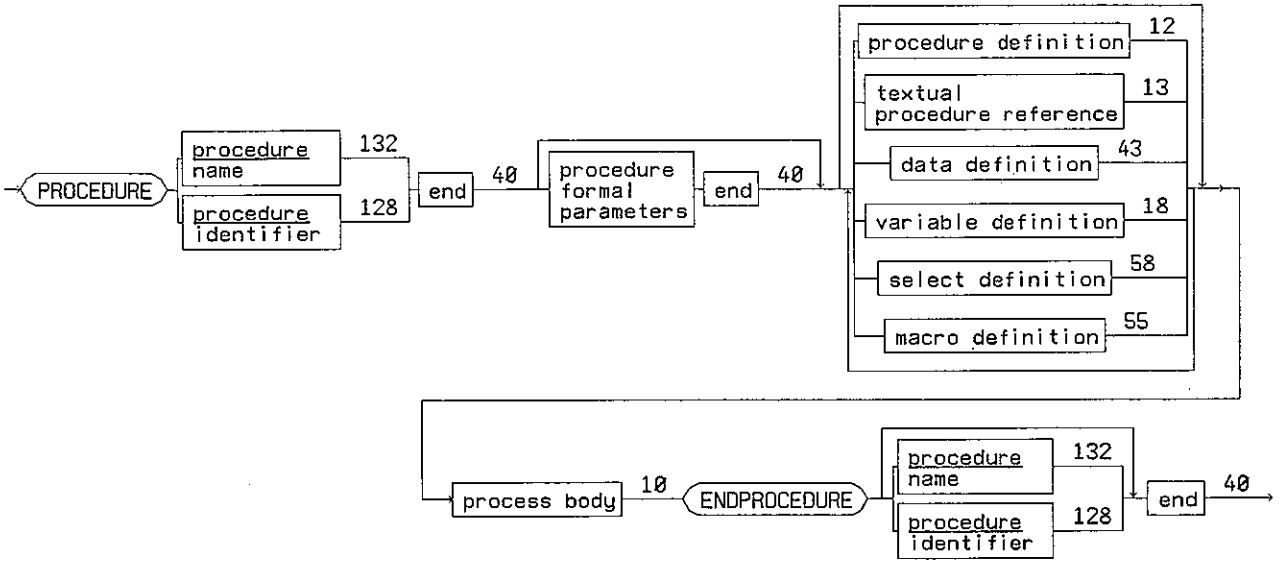
10 *process body* (Basic SDL 2.4.3)

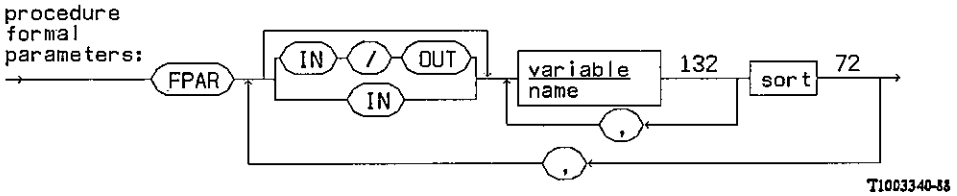


11 *simple expression*

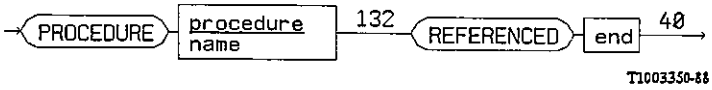


12 *procedure definition* (Basic SDL 2.3.4)

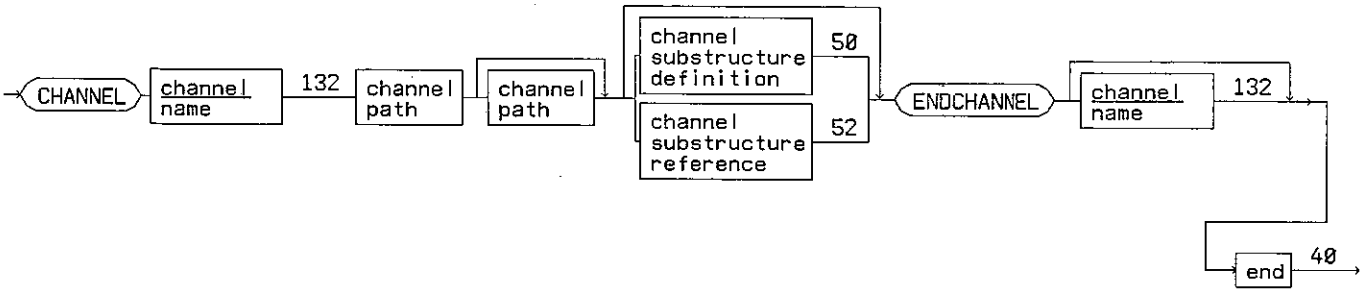


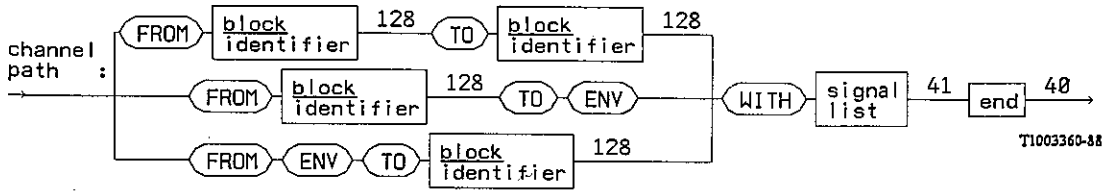


13 *textual procedure reference* (Basic SDL 2.3.4)

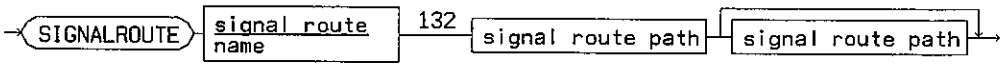


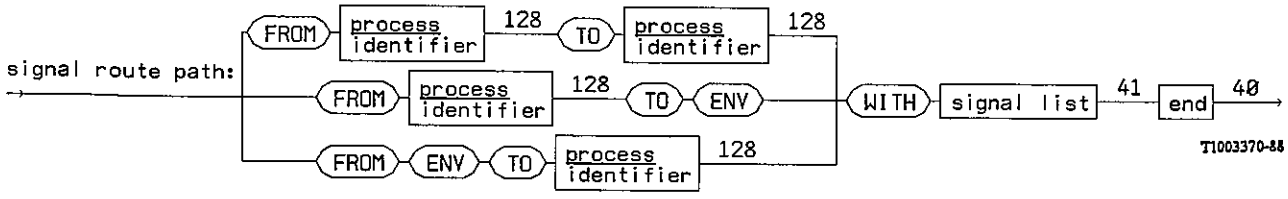
14 *channel definition* (Basic SDL 2.5.1)



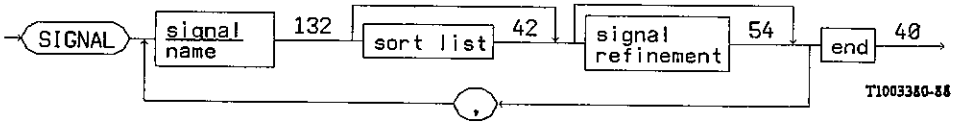


15 *signal route definition* (Basic SDL 2.5.2)

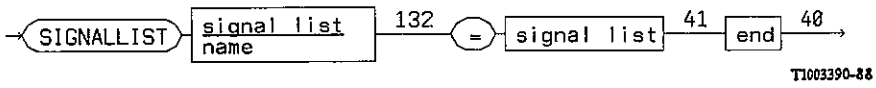




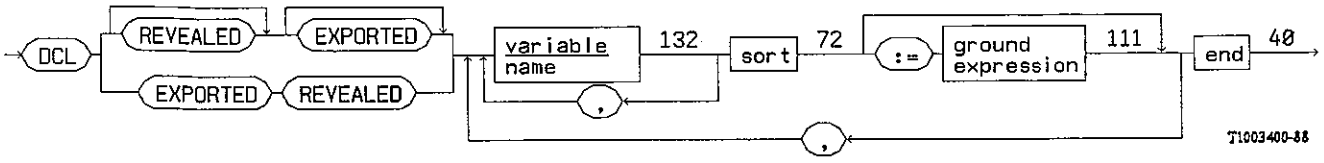
16 *signal definition* (Basic SDL 2.5.4)



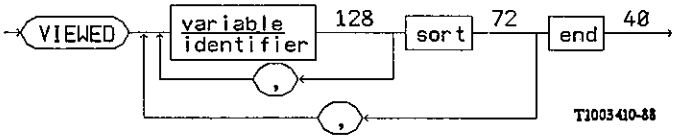
17 *signal list definition* (Basic SDL 2.5.5)



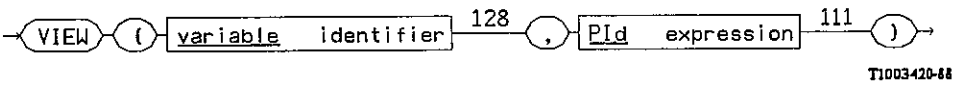
18 *variable definition* (Basic SDL 2.6.1.1)



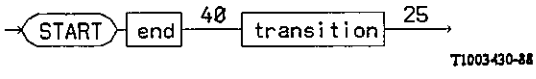
19 *view definition* (Basic SDL 2.6.1.2)



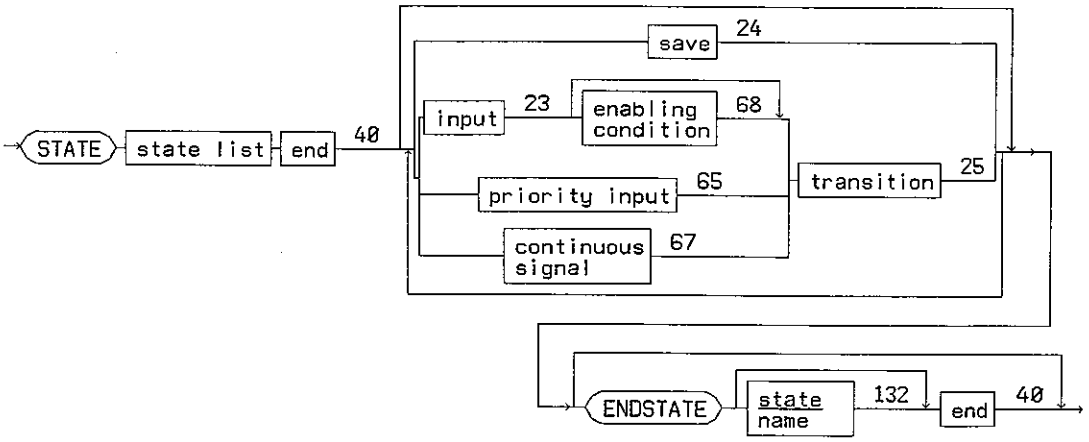
20 *view expression* (Data 5.5.4.4)



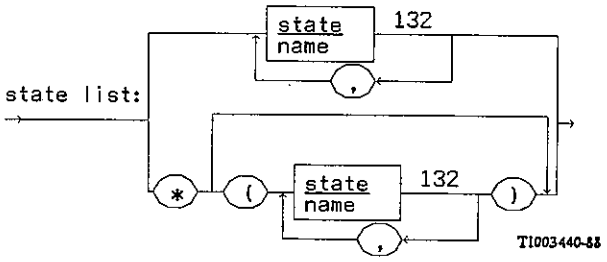
21 *start* (Basic SDL 2.6.2)



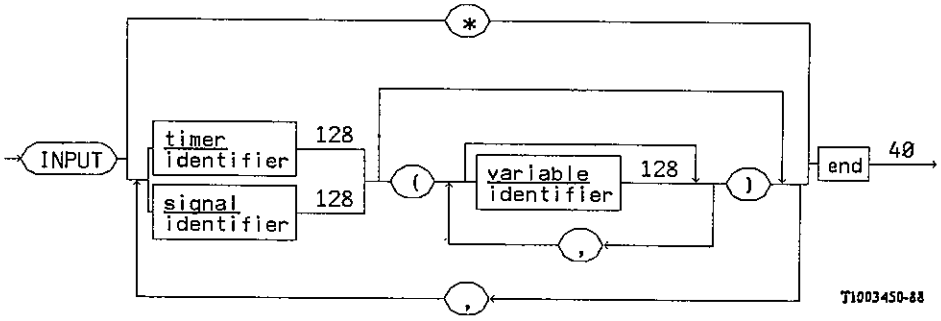
22 *state* (Basic SDL 2.6.3)



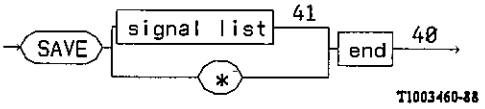
(Additional concepts 4.4)



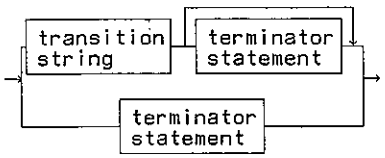
23 *input* (Basic SDL 2.6.4)

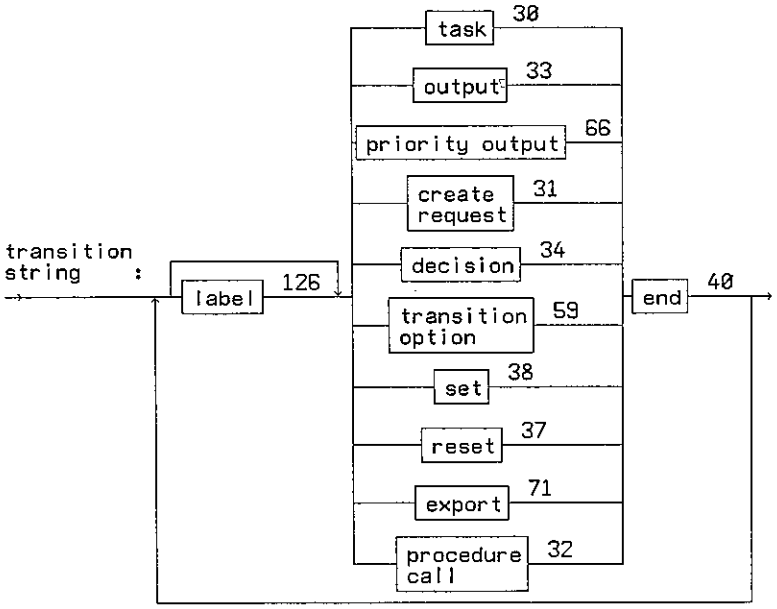


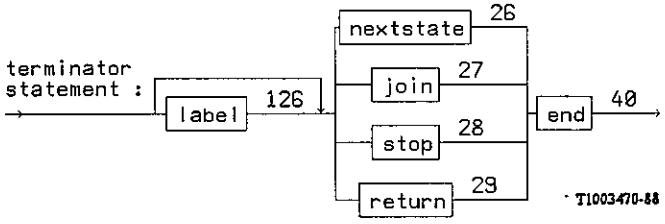
24 *save* (Basic SDL 2.6.5)



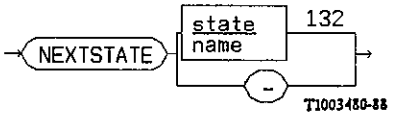
25 *transition* (Basic SDL 2.6.7)



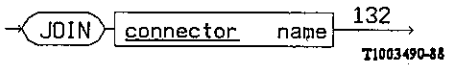




26 *nextstate* (Basic SDL 2.6.7.2.1)



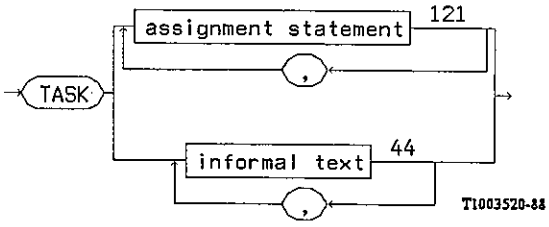
27 *join* (Basic SDL 2.6.7.2.2)



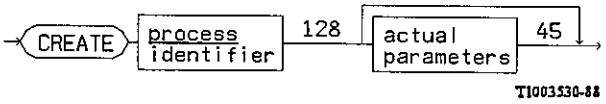
28 *stop* (Basic SDL 2.6.7.2.3)

29 *return* (Basic SDL 2.6.7.2.4)

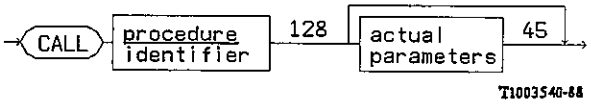
30 *task* (Basic SDL 2.7.1)



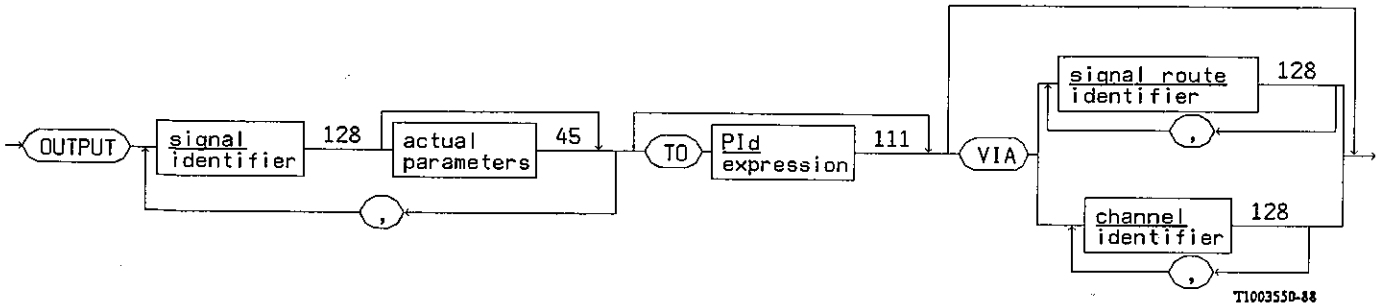
31 *create request* (Basic SDL 2.7.2)



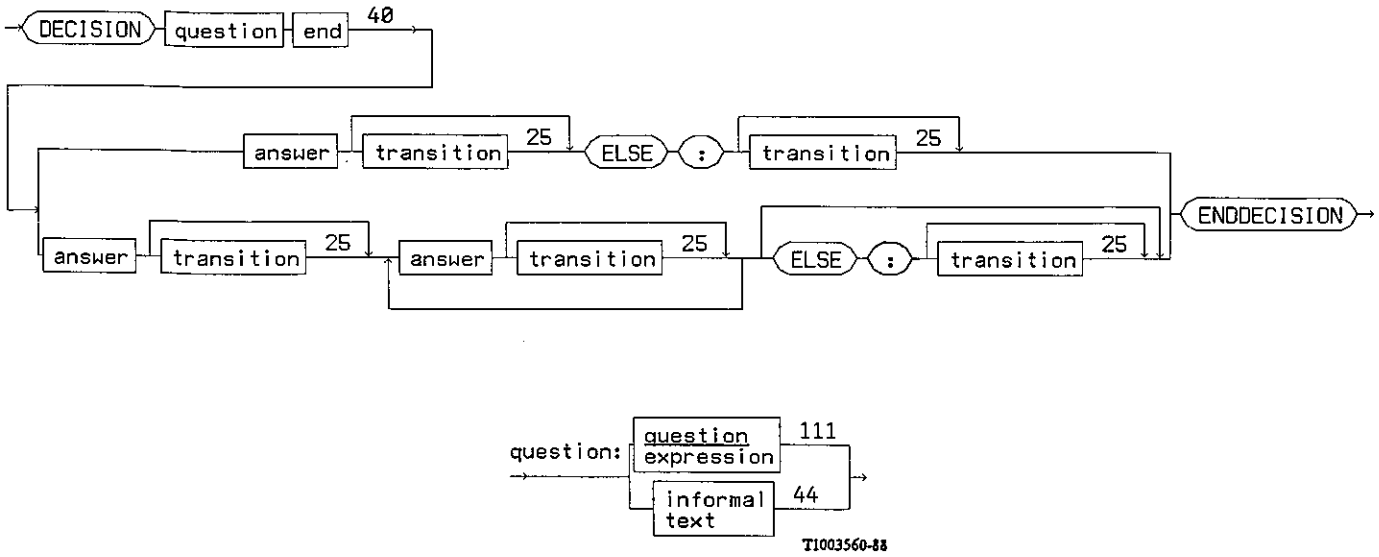
32 *procedure call* (Basic SDL 2.7.3)



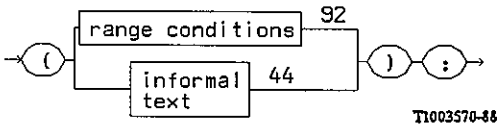
33 *output* (Basic SDL 2.7.4)



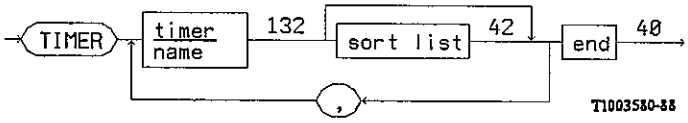
34 *decision* (Basic SDL 2.7.5)



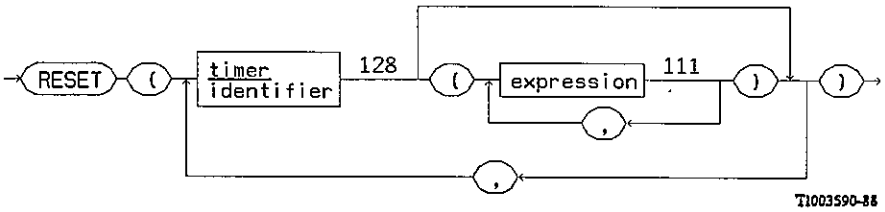
35 *answer* (Basic SDL 2.7.5)



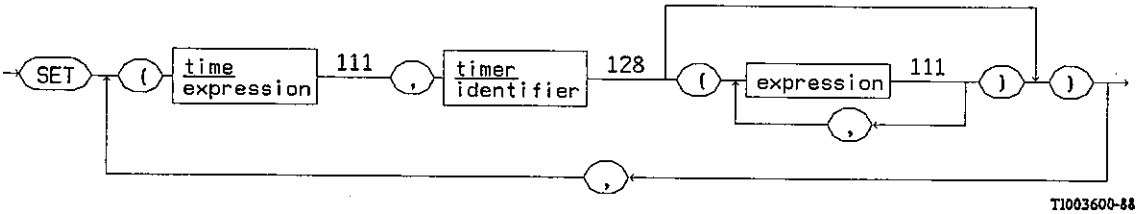
36 *timer definition* (Basic SDL 2.8)



37 *reset* (Basic SDL 2.8)

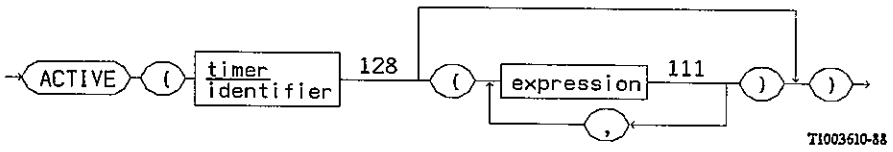


38 *set* (Basic SDL 2.8)

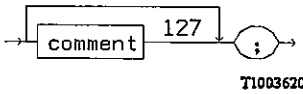


(Data 5.5.4.5)

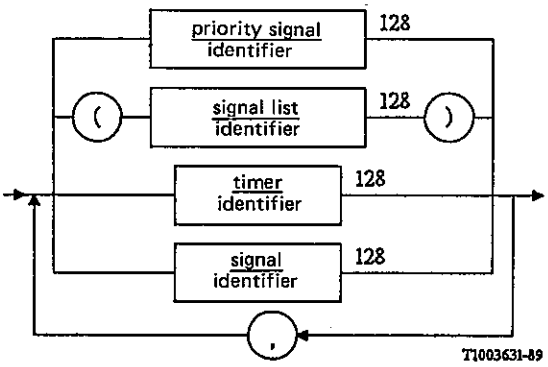
39 *timer active expression* (Data 5.5.4.5)



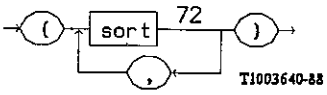
40 *end*



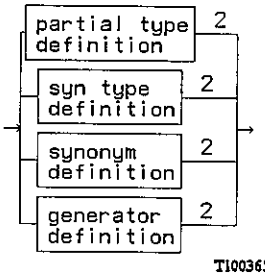
41 *signal list*



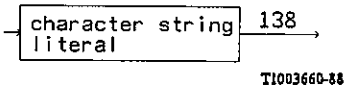
42 *sort list*



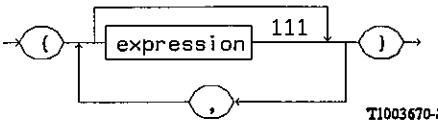
43 *data definition*



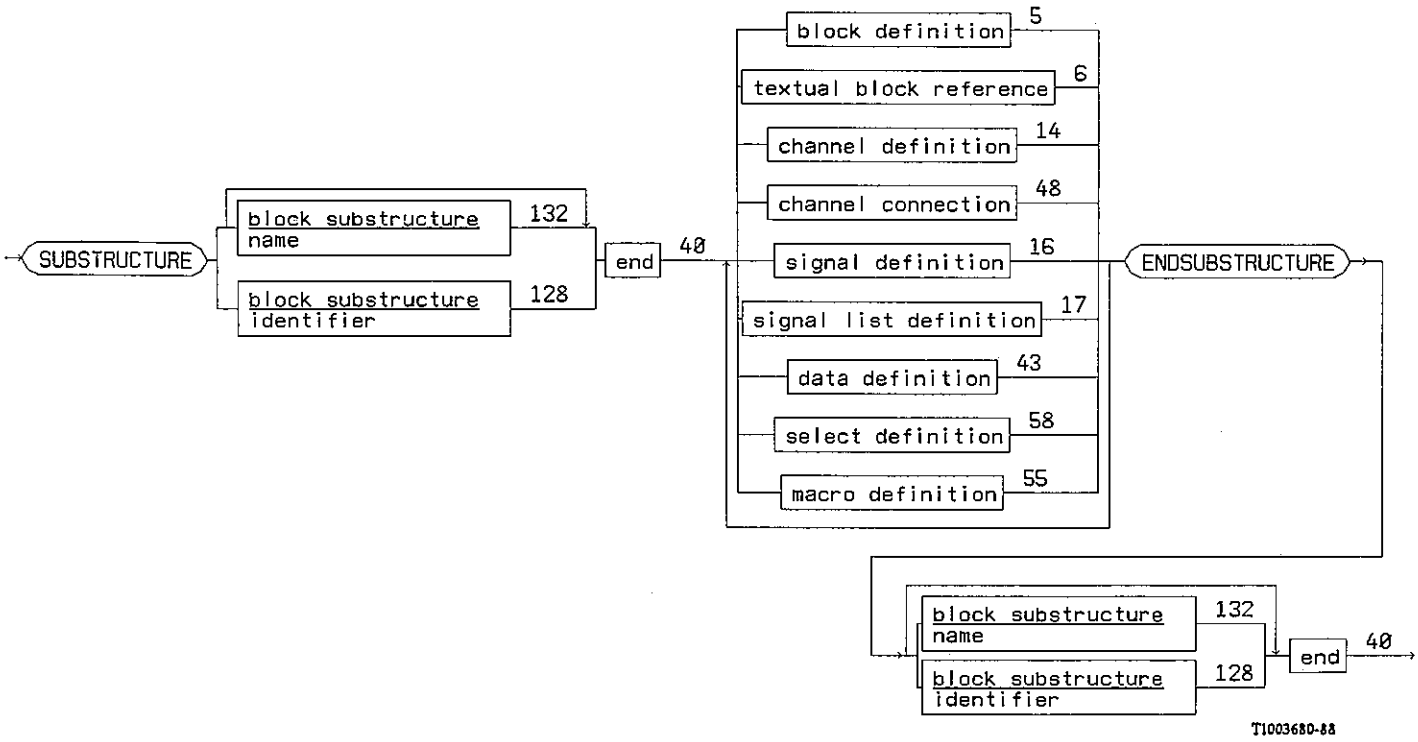
44 *informal text*



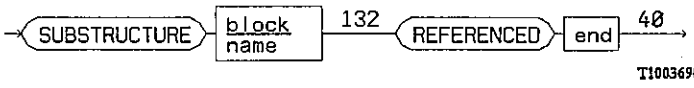
45 *actual parameters*



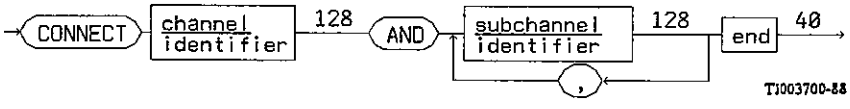
46 *block substructure definition* (Structural concepts 3.2.2)



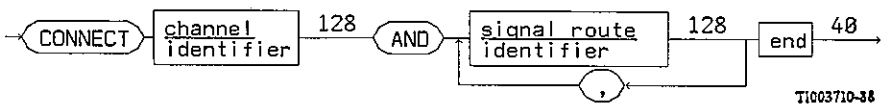
47 *block substructure reference* (Structural concepts 3.2.2)



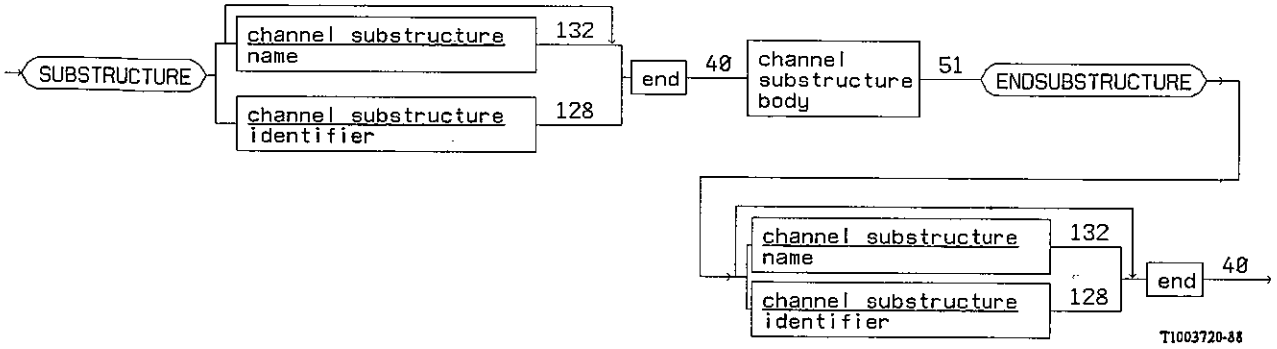
48 *channel connection* (Structural concepts 3.2.2)



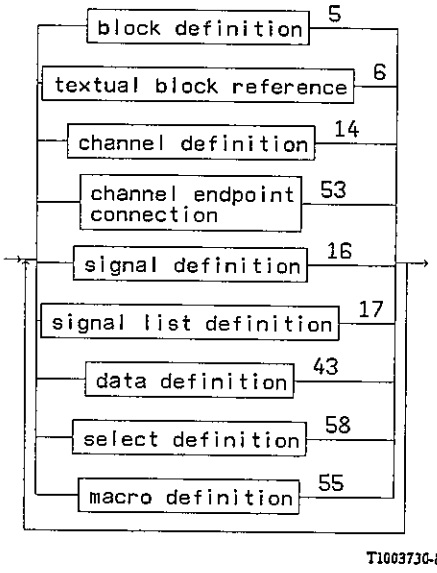
49 *channel to route connection* (Structural concepts 3.2.2)



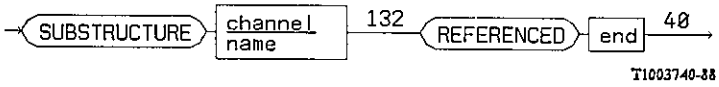
50 *channel substructure definition* (Structural concepts 3.2.3)



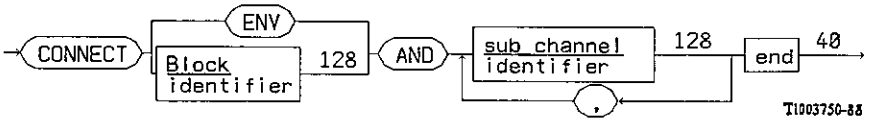
51 *channel substructure body* (Structural concepts 3.2.3)



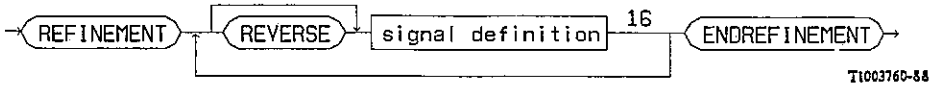
52 *channel substructure reference* (Basic SDL 2.5.1)



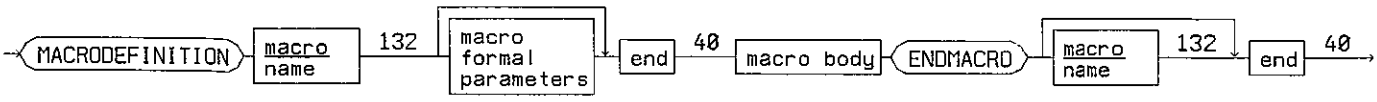
53 *channel endpoint connection* (Structural concepts 3.2.3)

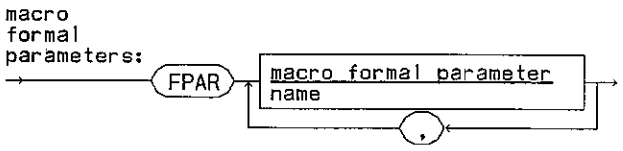


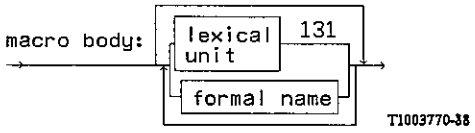
54 *signal refinement* (Structural concepts 3.3)



55 *macro definition* (Additional concepts 4.2.2)

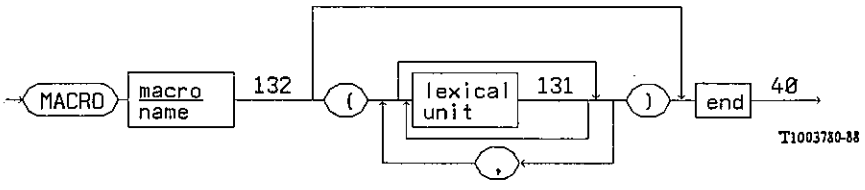




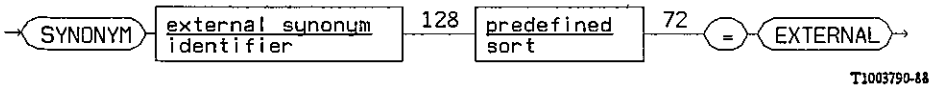


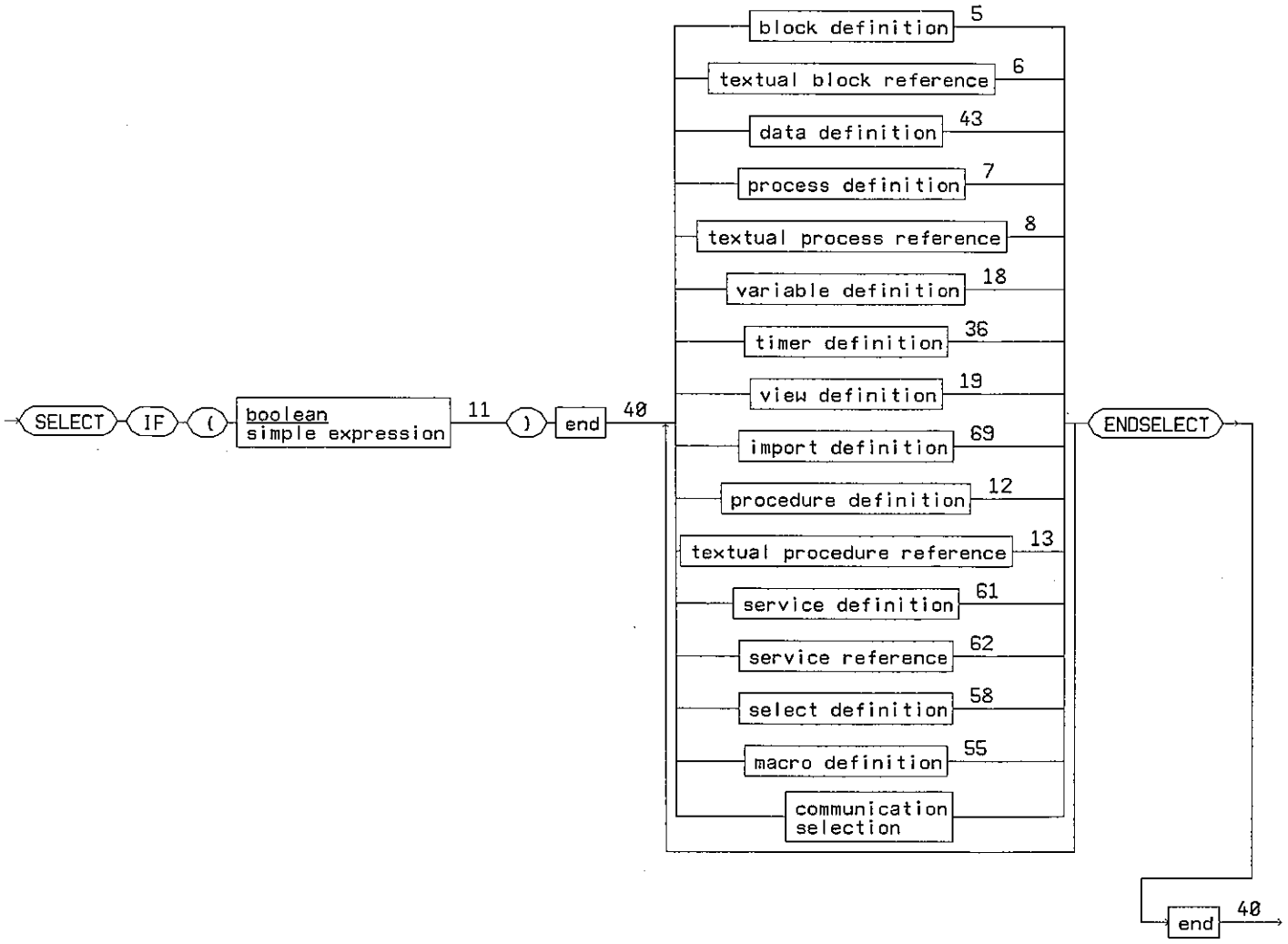
(Additional concepts 4.2.3)

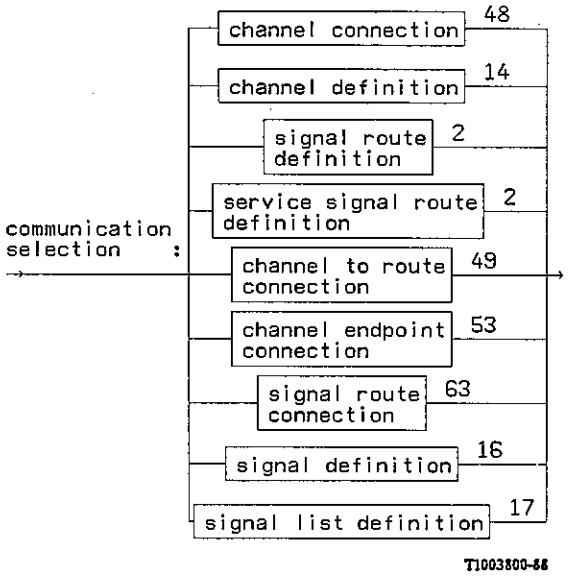
56 *macro call* (Additional concepts 4.2.3)



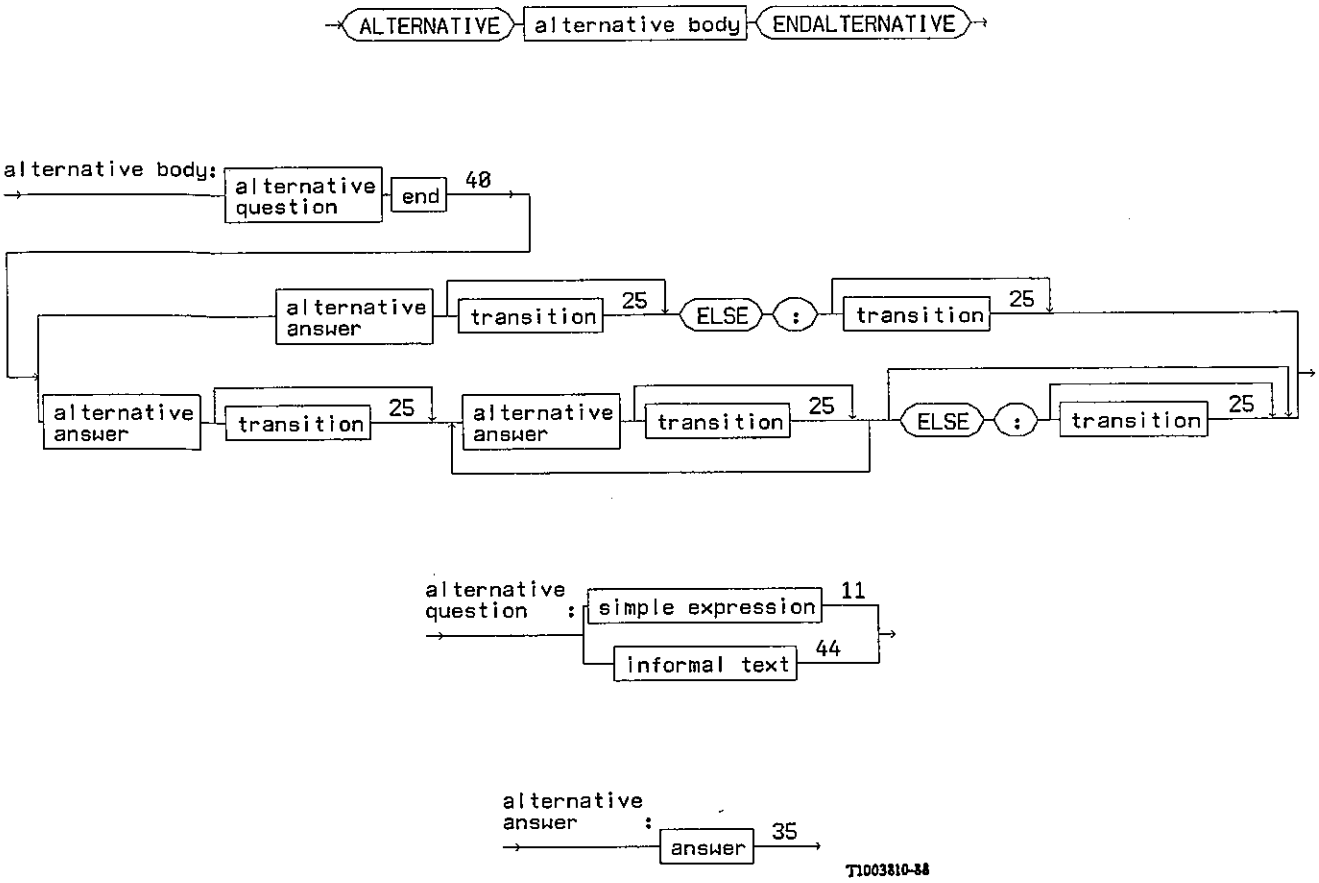
57 *external synonym definition* (Additional concepts 4.3.1)



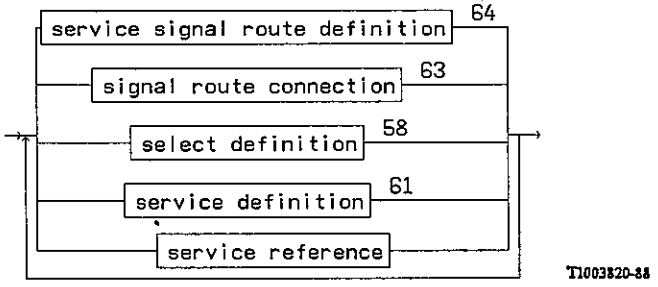

SELECT
IF
(
boolean
simple expression
11
)
end
40
block definition
5
textual block reference
6
data definition
43
process definition
7
textual process reference
8
variable definition
18
timer definition
36
view definition
19
import definition
69
procedure definition
12
textual procedure reference
13
service definition
61
service reference
62
select definition
58
macro definition
55
communication selection
ENDSELECT
end
40


communication selection :
channel connection
48
channel definition
14
signal route definition
2
service signal route definition
2
channel to route connection
49
channel endpoint connection
53
signal route connection
63
signal definition
16
signal list definition
17
T1003800-88

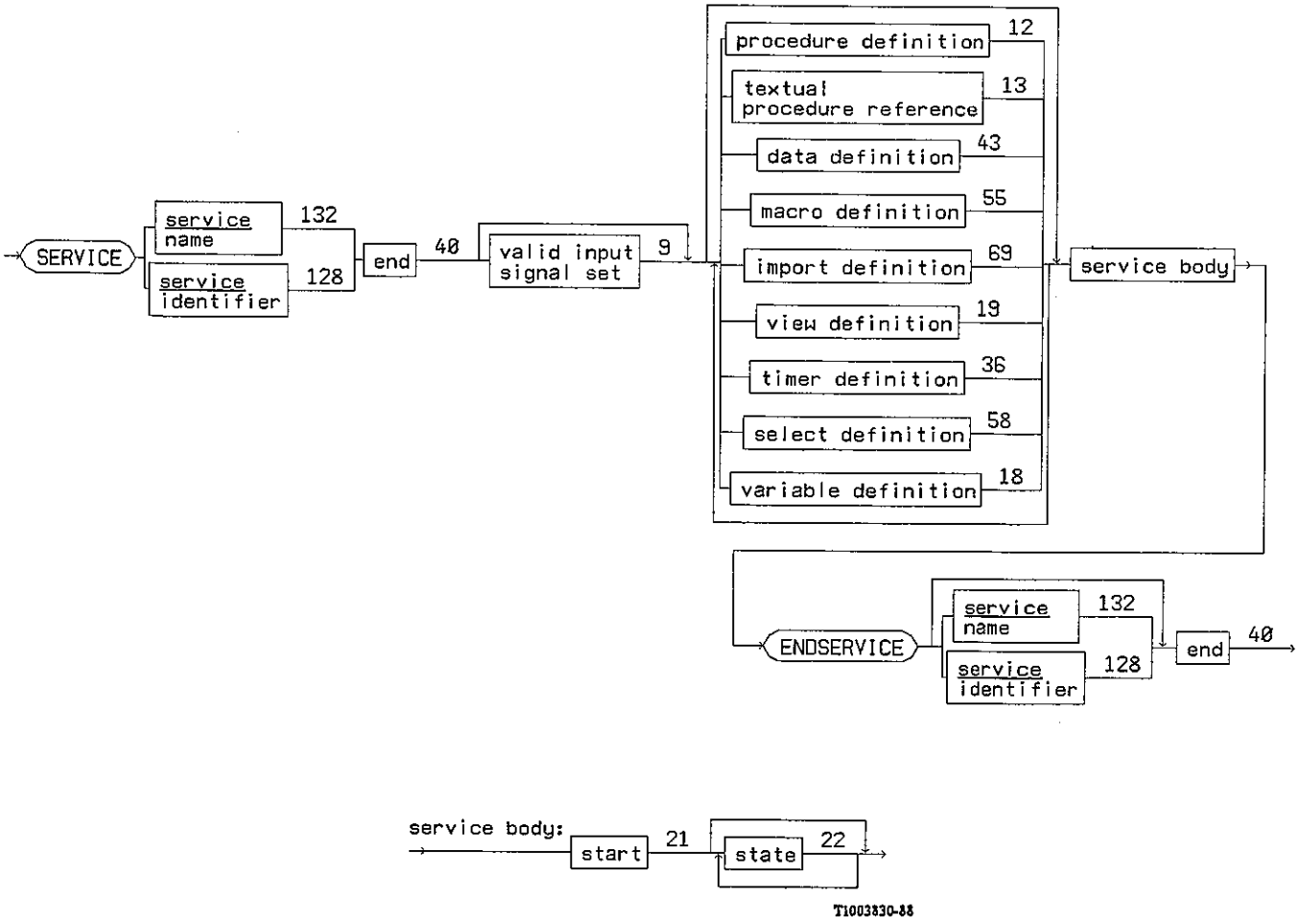
59 *transition option* (Additional concepts 4.3.4)



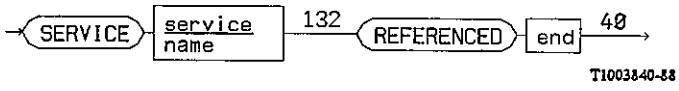
60 *service decomposition* (Additional concepts 4.10.1)



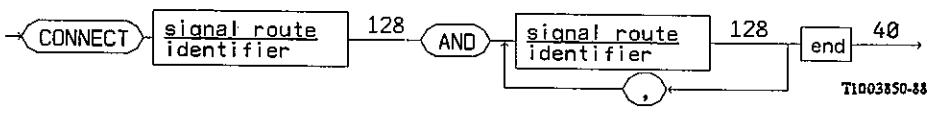
61 *service definition* (Additional concepts 4.10.2)



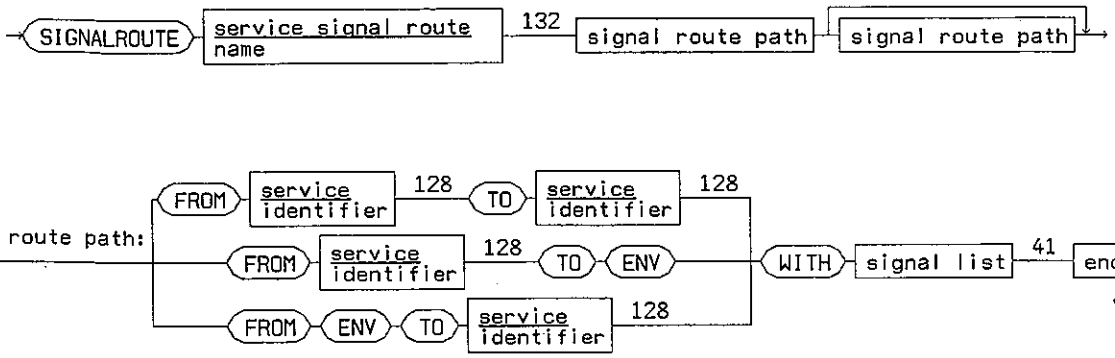
62 *service reference* (Additional concepts 4.10.1)



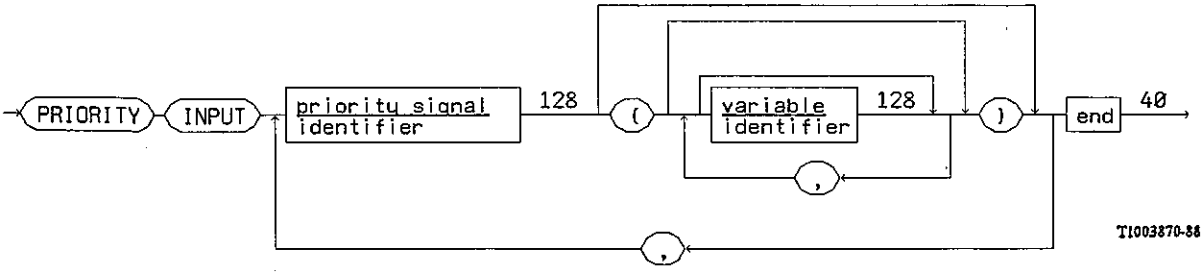
63 *signal route connection* (Additional concepts 4.10.1)



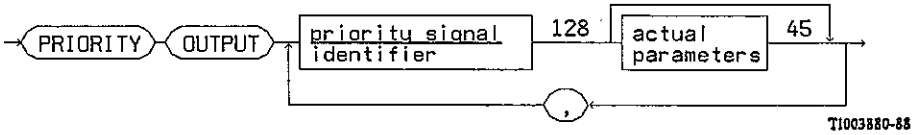
64 *service signal definition* (Additional concepts 4.10.1)



65 *priority input* (Additional concepts 4.10.2)

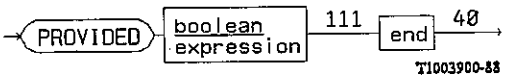


66 *priority output* (Additional concepts 4.10.2)

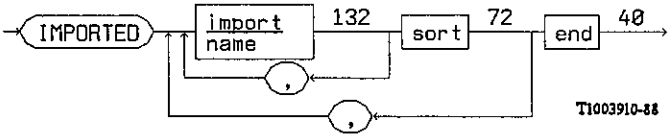


67 *continuous signal* (Additional concepts 4.11)

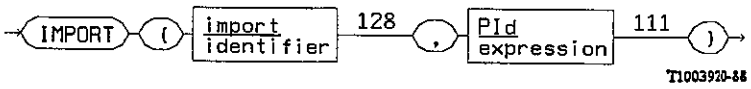
68 *enabling condition* (Additional concepts 4.12)



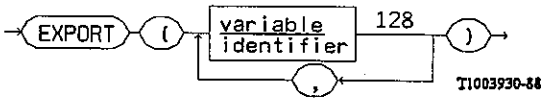
69 *import definition* (Additional concepts 4.13)



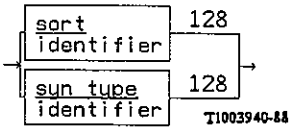
70 *import expression* (Additional concepts 4.13)



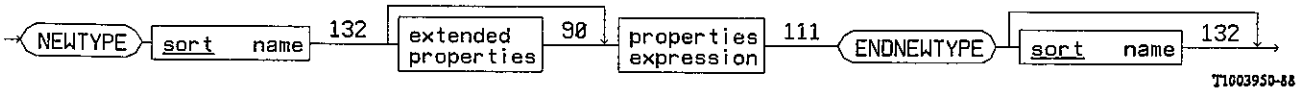
71 *export* (Additional concepts 4.13)



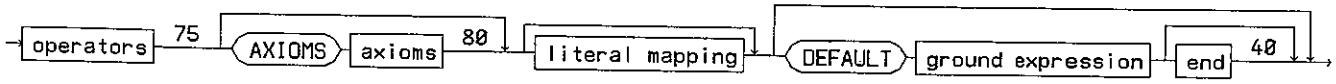
72 *sort* (Data 5.2.2)

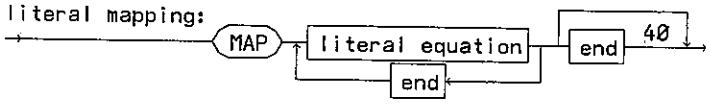


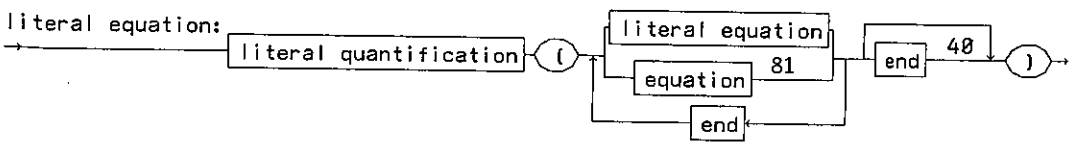
73 *partial type definition* (Data 5.2.1)

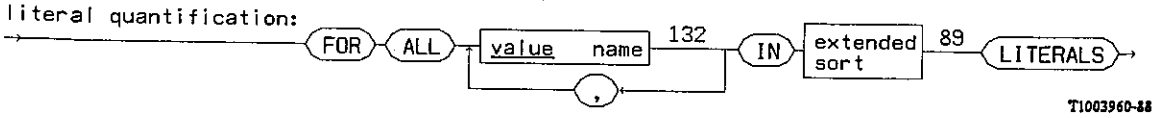


74 *properties expression* (Data 5.2.1 and 5.5.3.3)

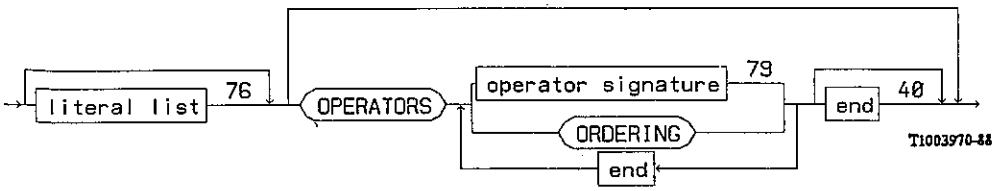




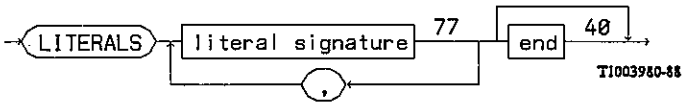




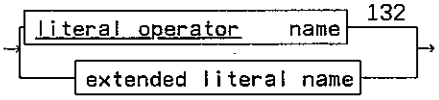
75 *operators* (Data 5.2.2 and 5.4.1.8)

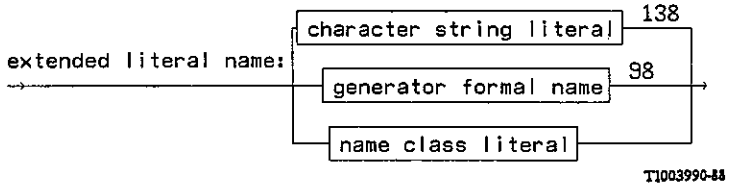


76 *literal list* (Data 5.2.2)

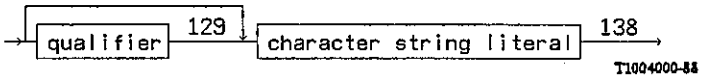


77 *literal signature* (Data 5.2.2 & 5.4.1.8)

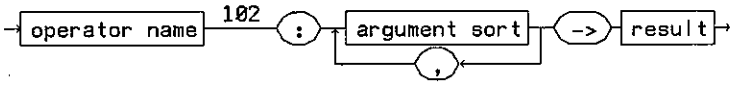


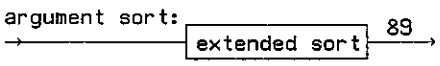


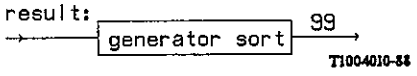
78 *character string literal identifier*



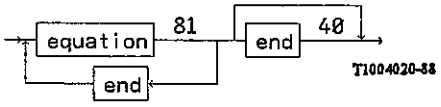
79 *operator signature* (Data 5.2.2)



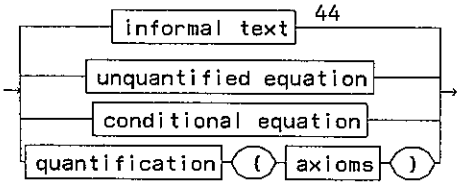


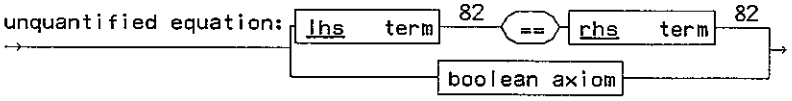


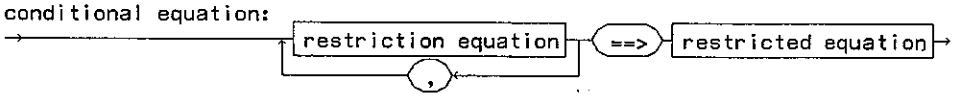
80 *axioms* (Data 5.2.3 and 5.2.4)

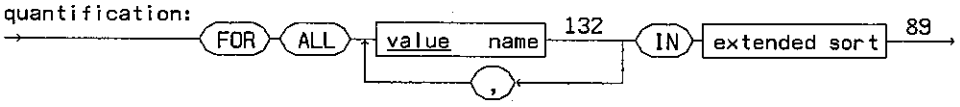


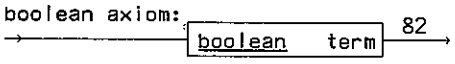
81 *equation*

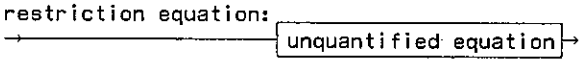


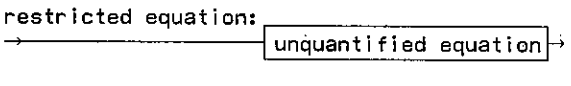




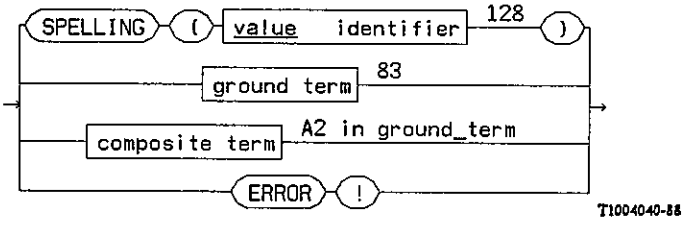


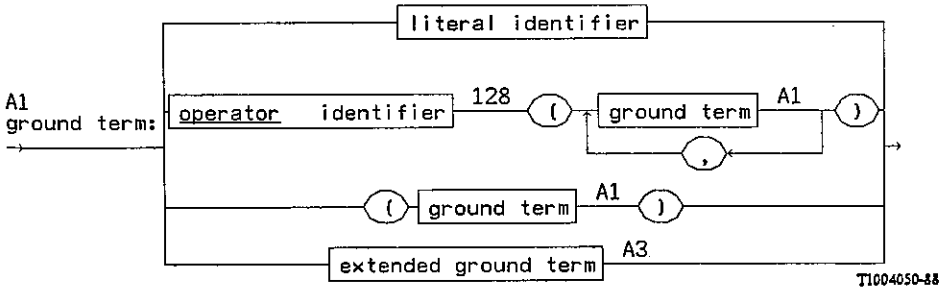






82 *term*

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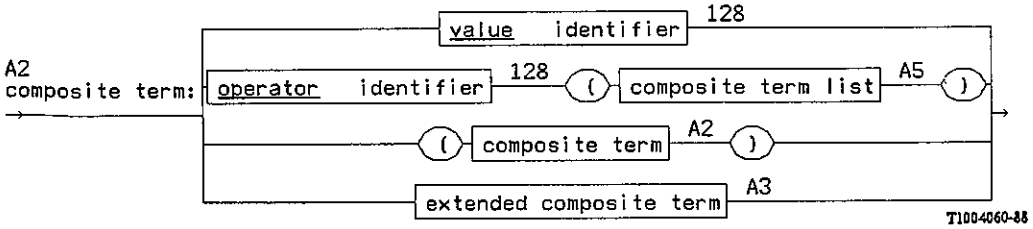
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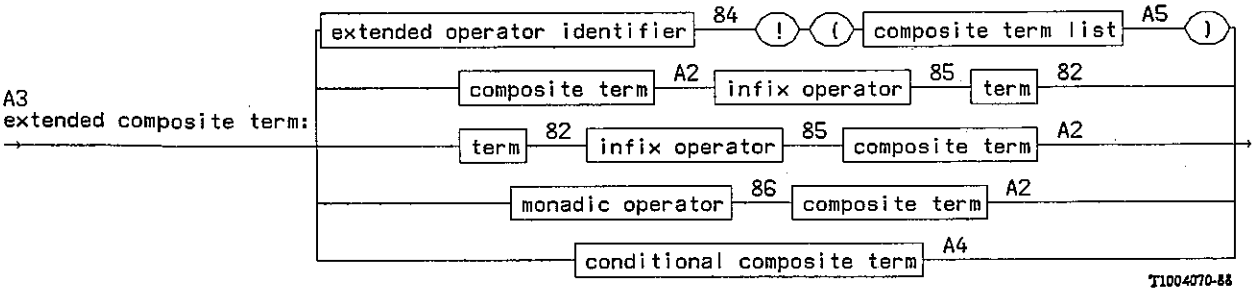
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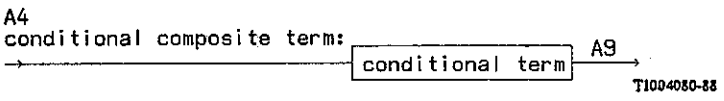
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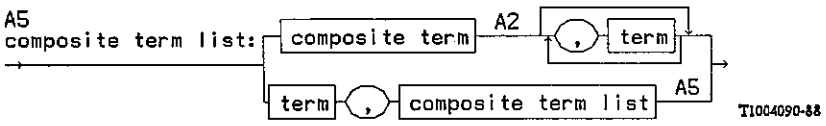
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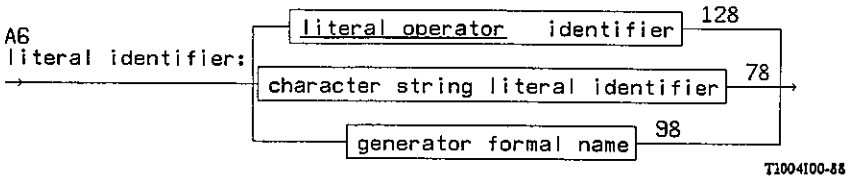
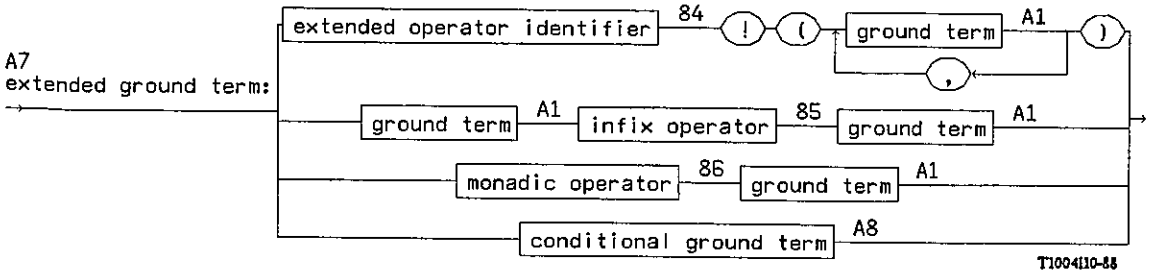
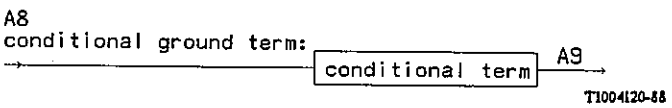
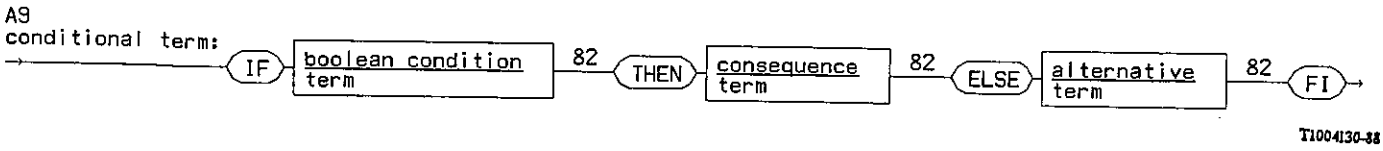
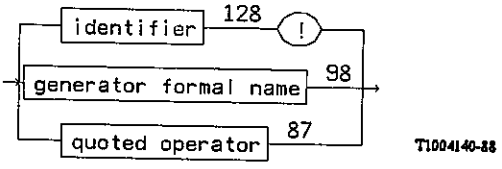




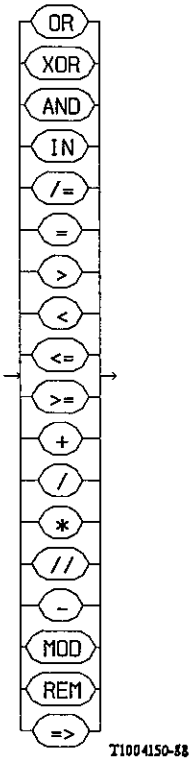




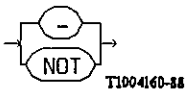
84 *extended operator identifier*



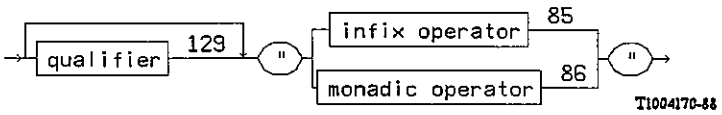
85 *infix operator*



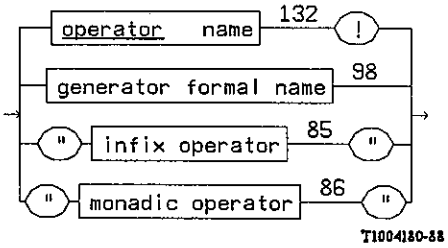
86 *monadic operator*



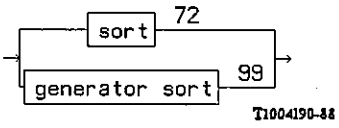
87 *quoted operator*



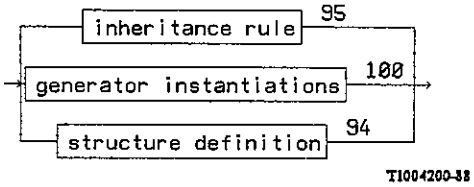
88 *extended operator name* (Data 5.4.1)



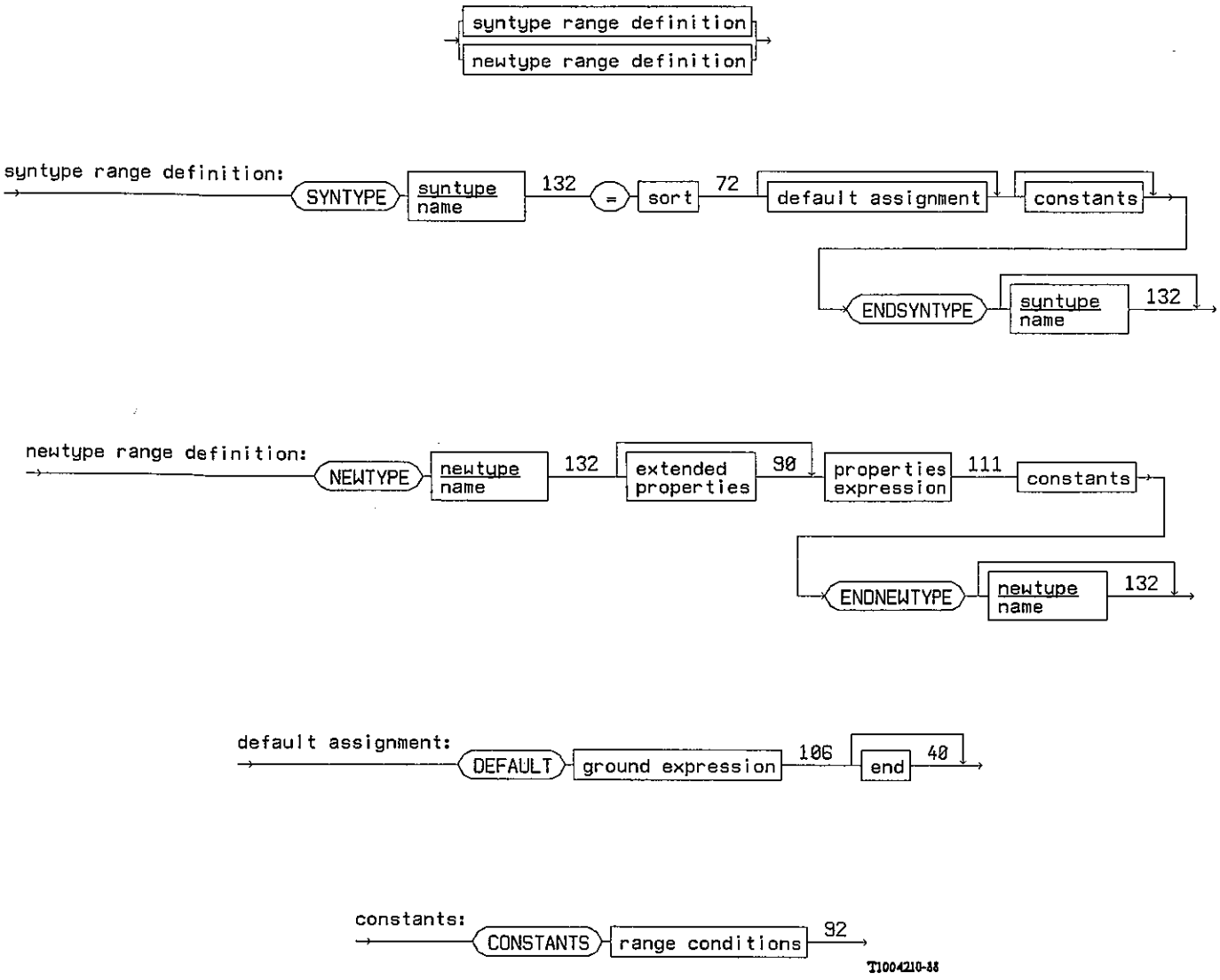
89 *extended sort* (Data 5.4.1.9)



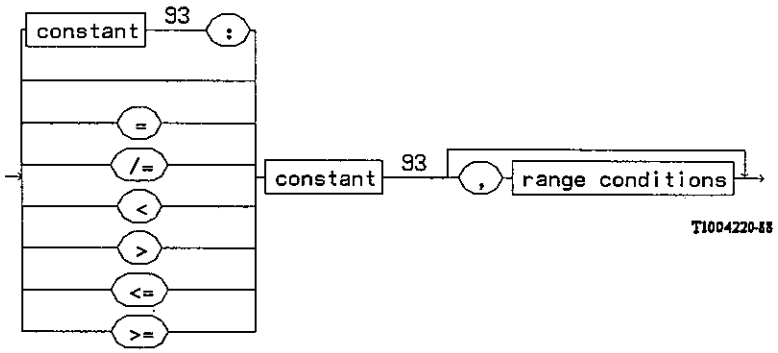
90 *extended properties* (Data 5.4.1)



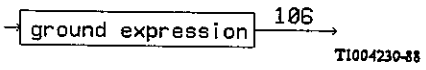
91 *syntype definition* (Data 5.4.1.9)



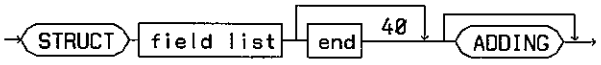
92 *range conditions* (Data 5.4.1.9.1)

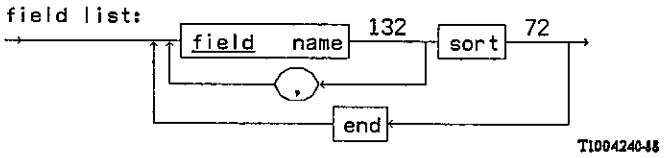


93 *constant* (Data 5.4.1.9)

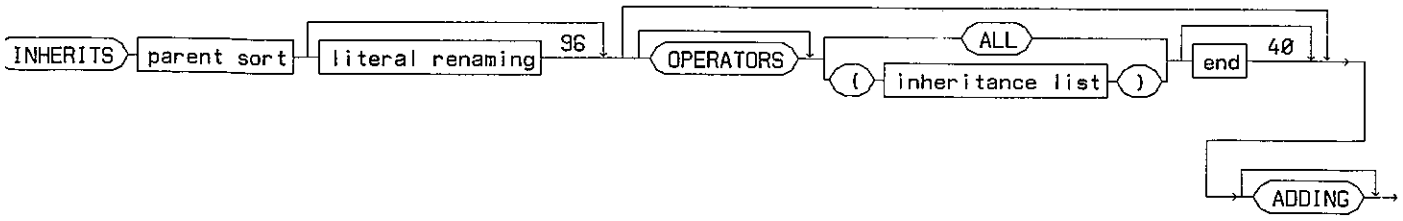


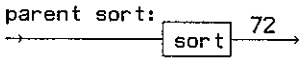
94 *structure definition* (Data 5.4.1.10)

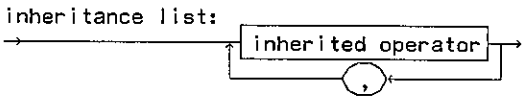


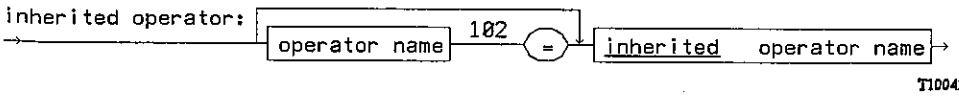


95 *inheritance rule* (Data 5.4.1.11)



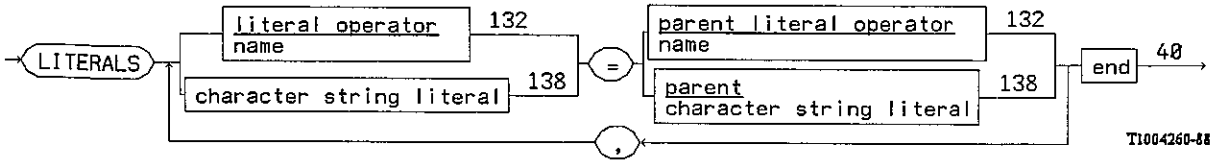




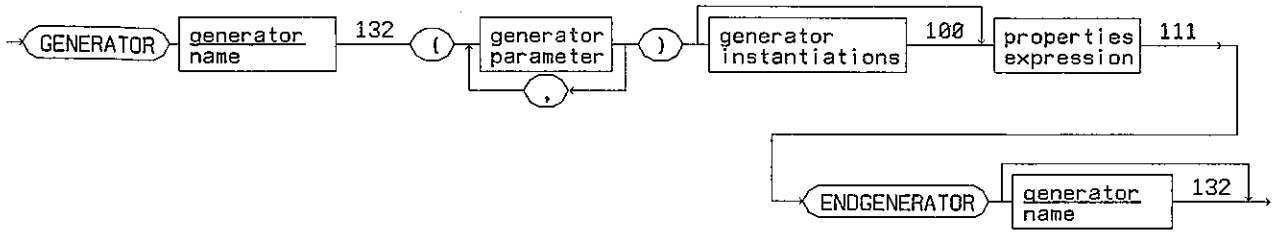


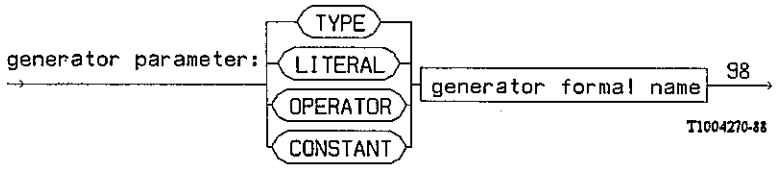
T1004250-88

96 *literal renaming* (Data 5.4.1.11)

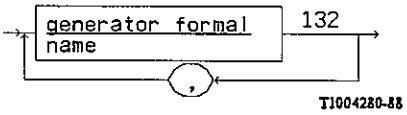


97 *generator definition* (Data 5.4.1.12.1)

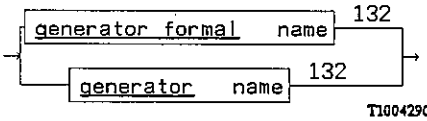




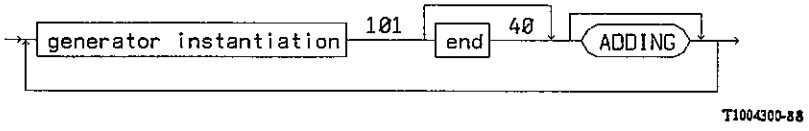
98 *generator formal name* (Data 5.4.1.12.1)



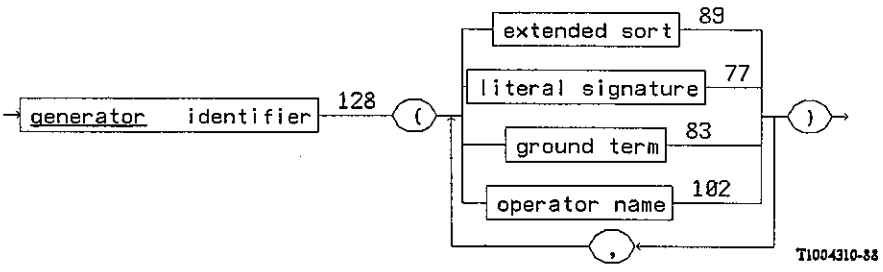
99 *generator sort* (Data 5.4.1.12.1)



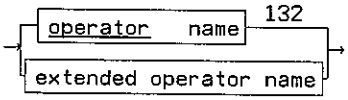
100 *generator instantiations* (Data 5.4.1.12.2)

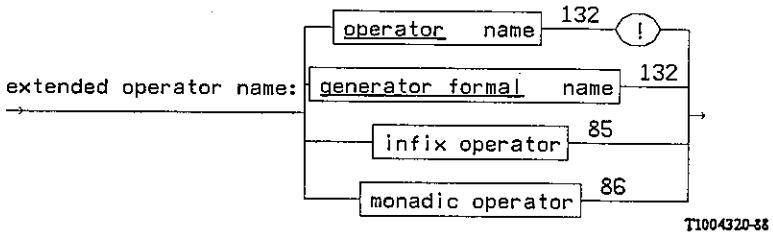


101 *generator instantiation* (Data 5.4.1.12.2)

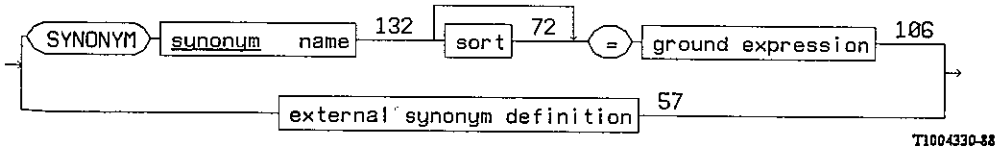


102 *operator name*

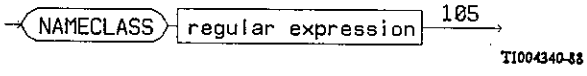




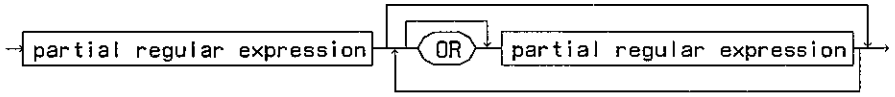
103 *synonym definition* (Data 5.4.1.13)

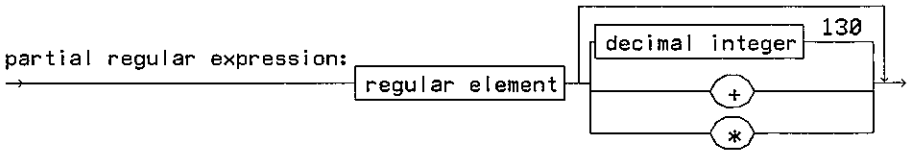


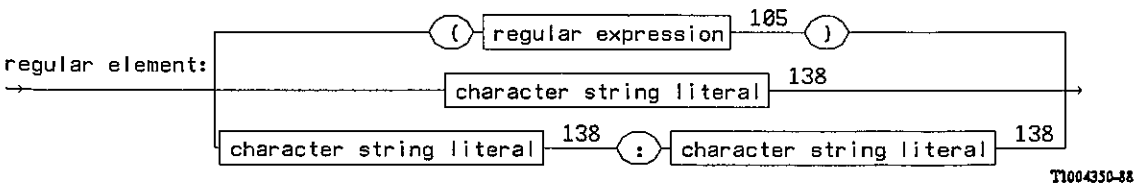
104 *name class literal* (Data 5.4.1.14)



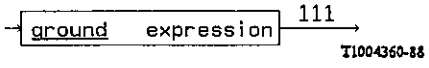
105 *regular expression* (Data 5.4.1.14)



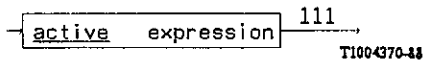




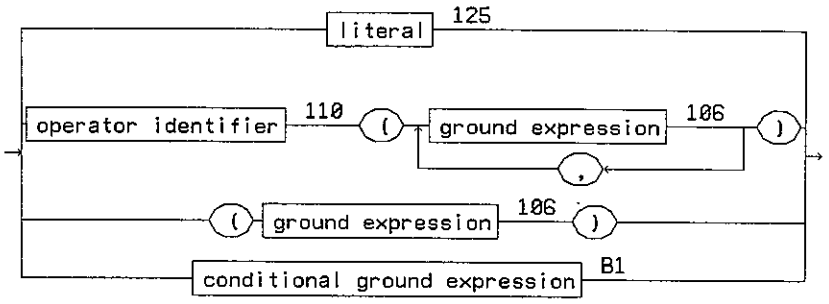
106 *ground expression* (Data 5.4.2.1)

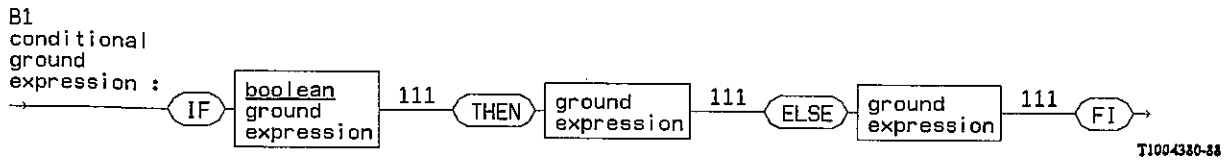


107 *active expression* (Data 5.4.2.2)

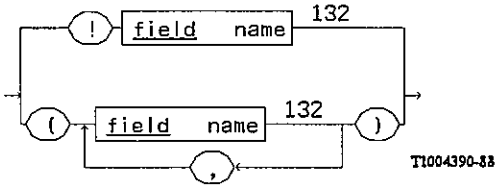


108 *ground primary* (Data 5.4.2.2)

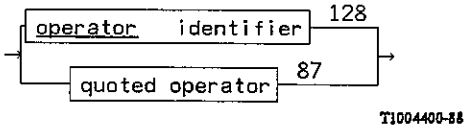




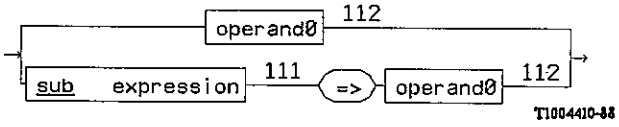
109 *field selection*



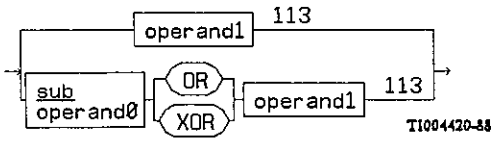
110 *operator identifier*



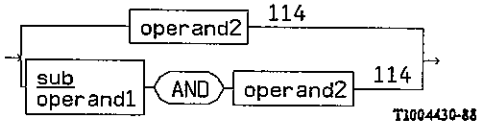
111 *expression* (Data 5.5.2.1)



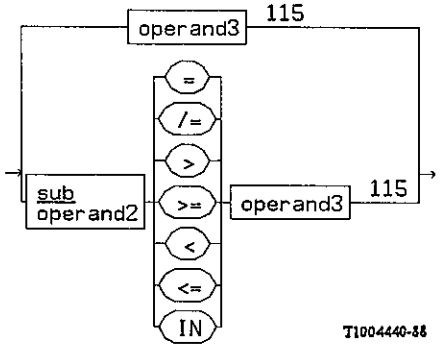
112 *operand0* (Data 5.5.2.1)



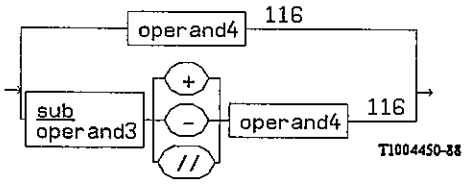
113 *operand1* (Data 5.5.2.1)



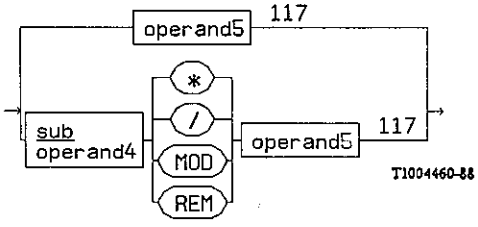
114 *operand2* (Data 5.5.2.1)



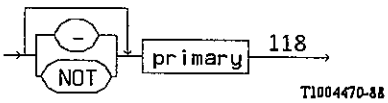
115 *operand3* (Data 5.5.2.1)



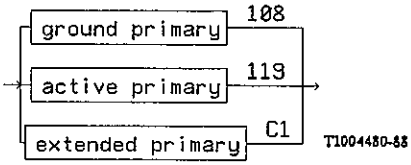
116 *operand4* (Data 5.5.2.1)



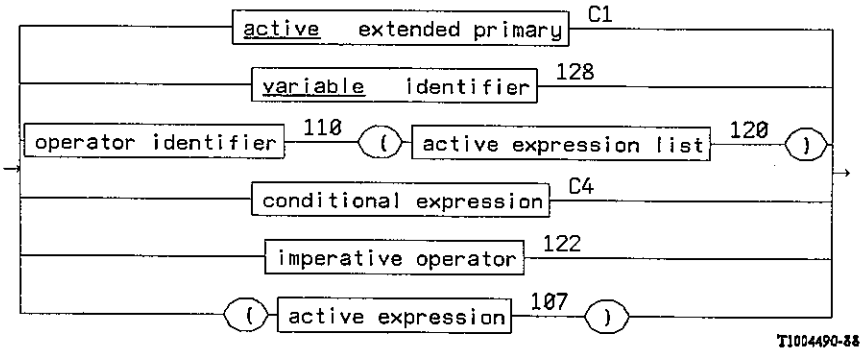
117 *operand5* (Data 5.5.2.1)



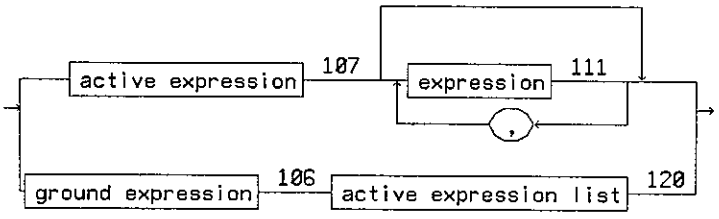
118 *primary*

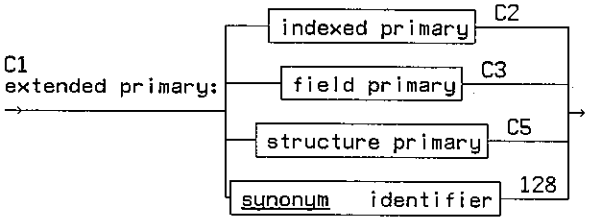


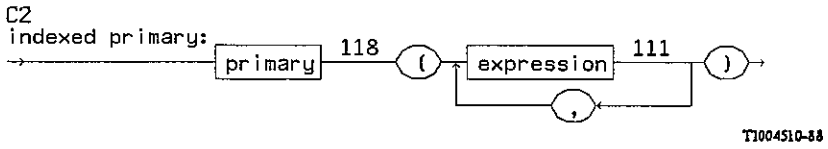
119 *active primary*

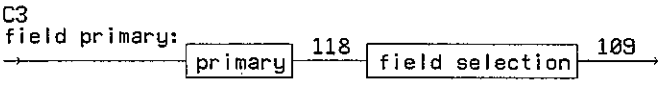


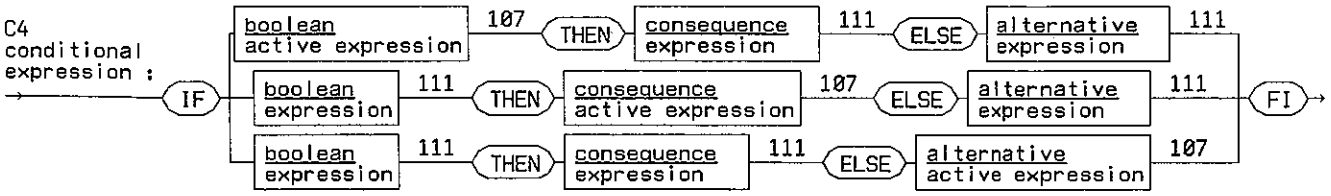
120 *active expression list* (Data 5.5.2.1)

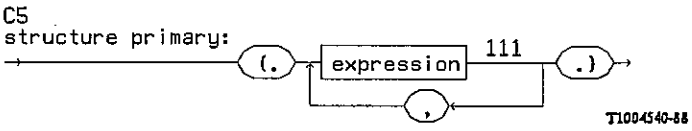




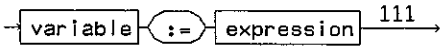


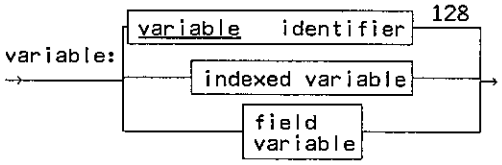


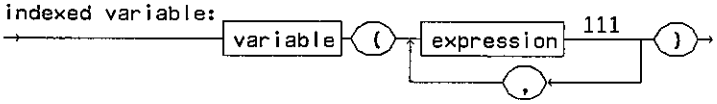




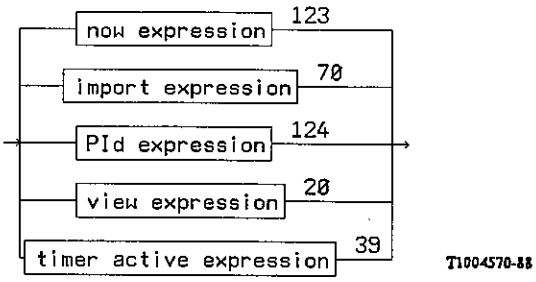
121 *assignment statement*



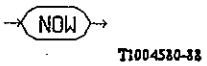




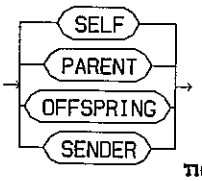
122 *imperative operator* (Data 5.5.4)



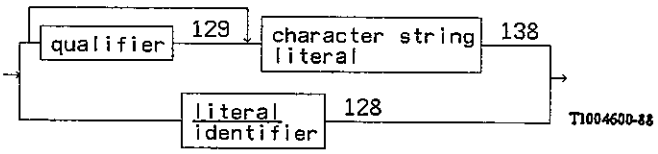
123 *now expression*



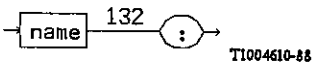
124 *PId expression*



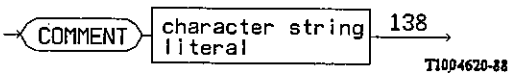
125 *literal*



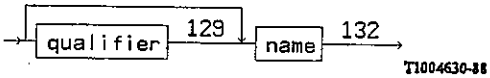
126 *label*



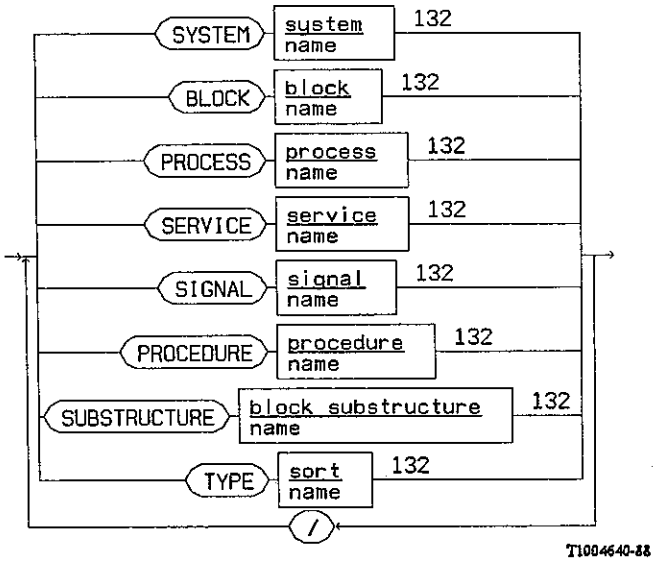
127 *comment*



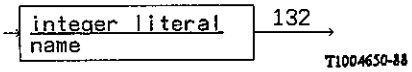
128 *identifier*



129 *qualifier*

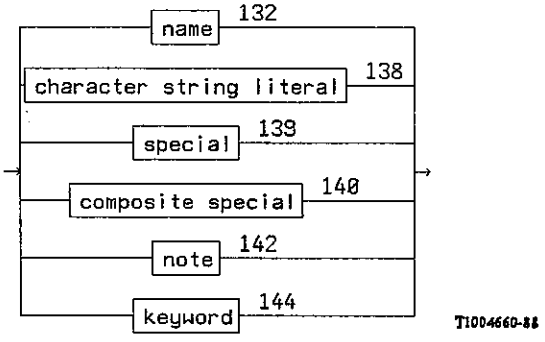


130 *decimal integer*

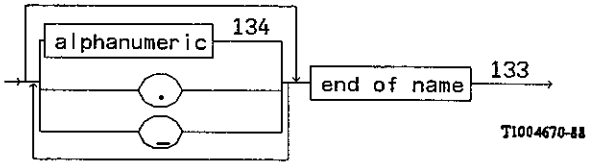


Lexical rules syntax diagrams

131 *lexical unit*

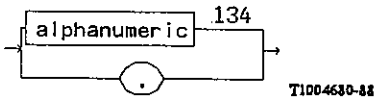


132 *name*

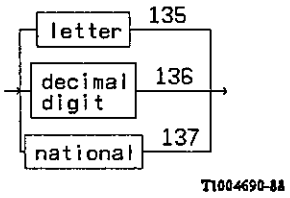


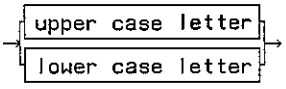
A *name* must contain at least one alphabetic character.

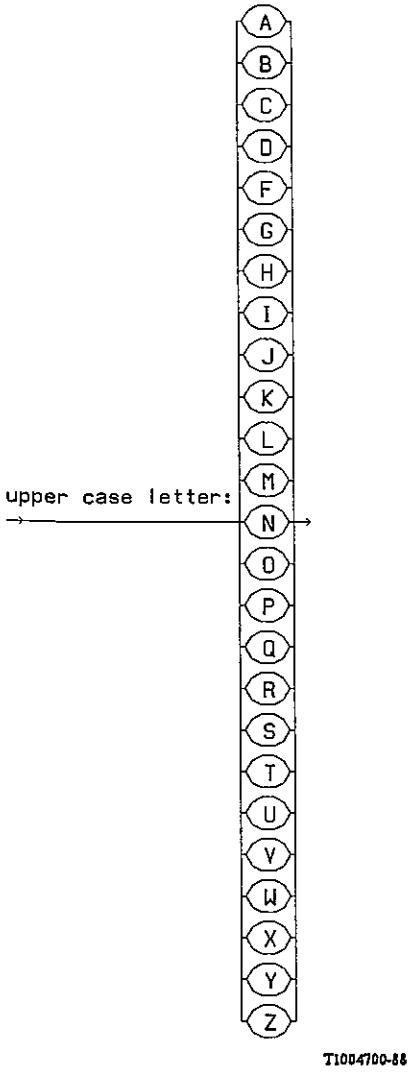
133 *end of name*

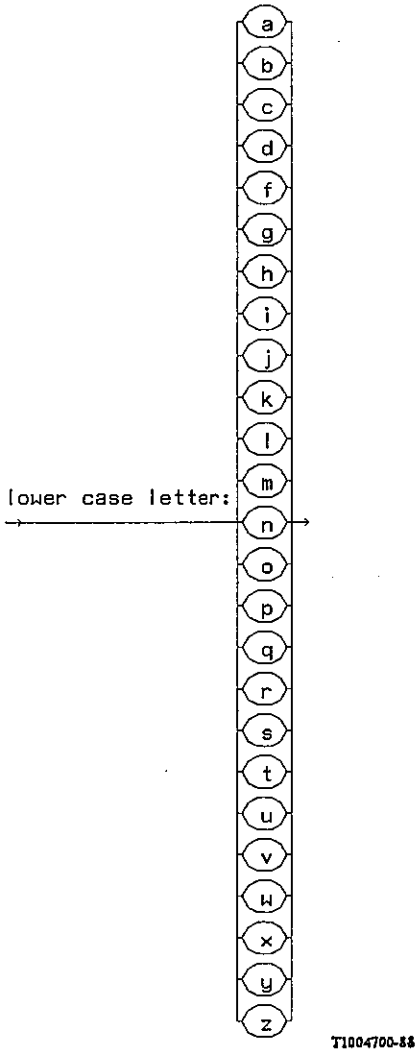


134 *alphanumeric*

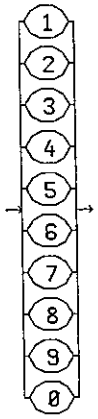



upper case letter
lower case letter

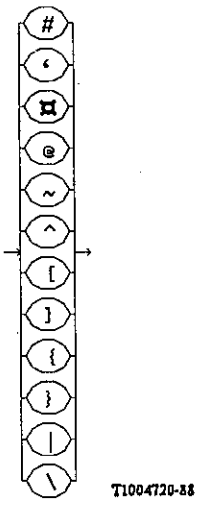

upper case letter:
A
B
C
D
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z
T1004700-88


lower case letter:
a
b
c
d
f
g
h
i
j
k
l
m
n
o
p
q
r
s
t
u
v
w
x
y
z
T1004700-88

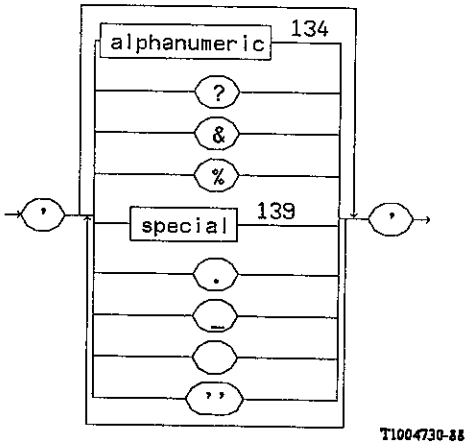
136 *decimal digit*



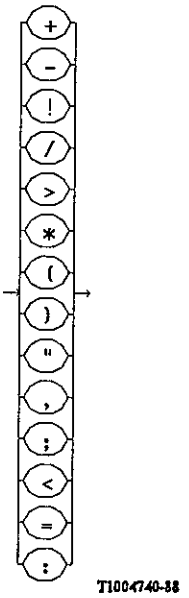
137 *national*



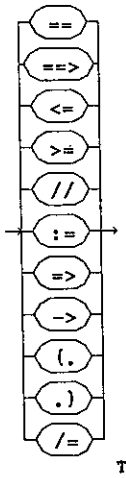
138 *character string literal*



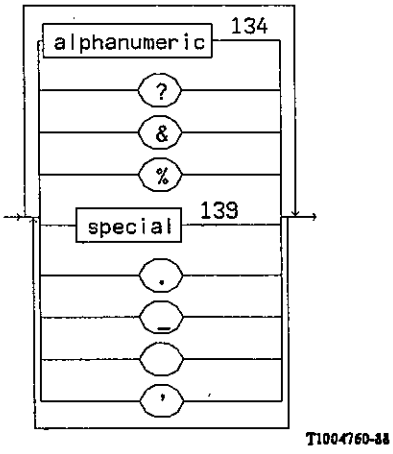
139 *special*



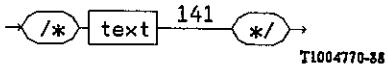
140 *composite special*



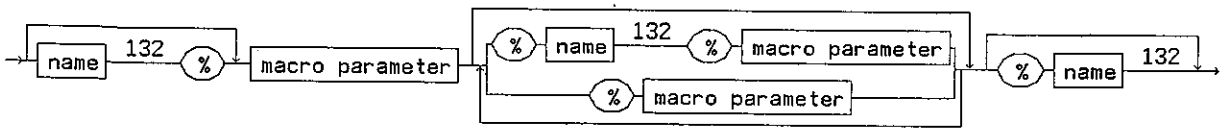
141 *text*

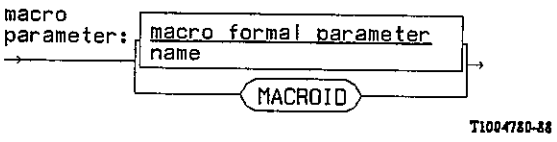


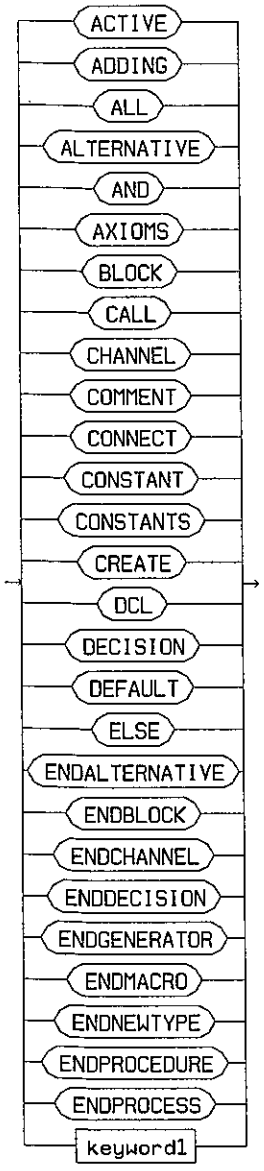
142 *note*

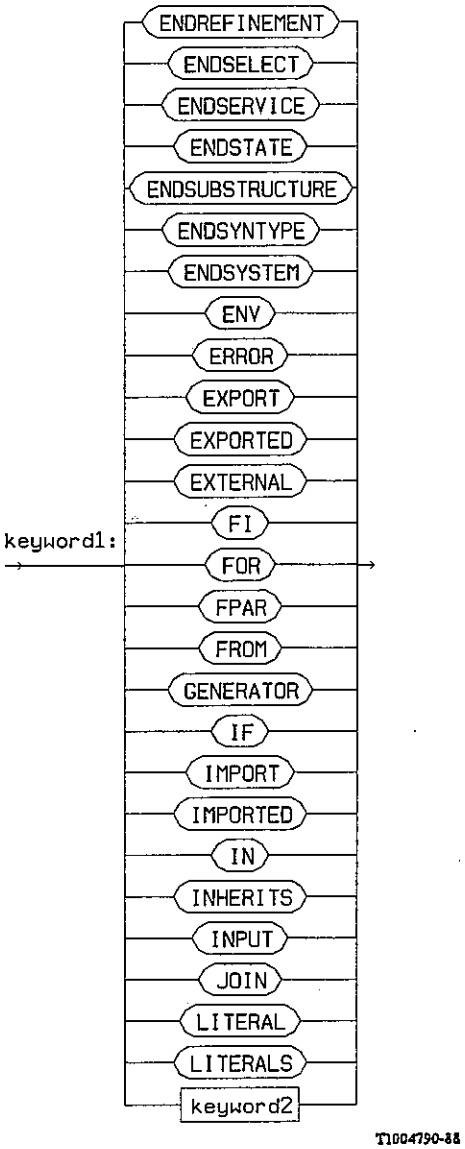


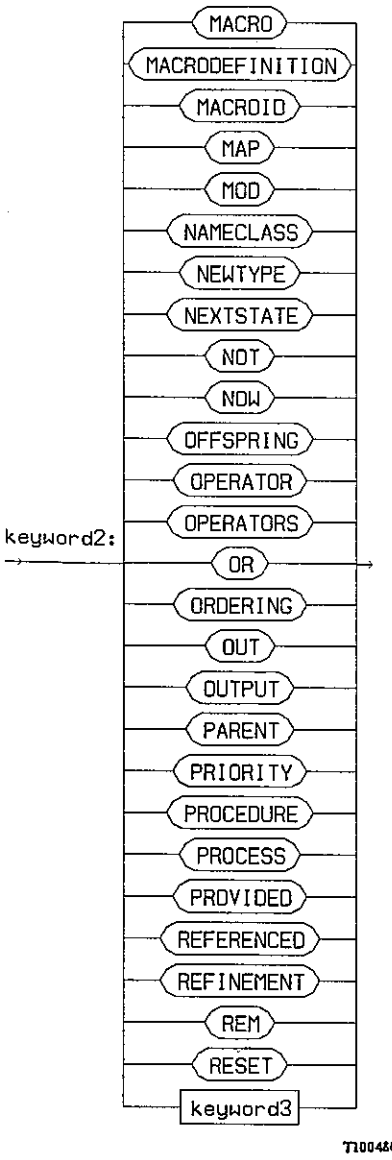
143 *formal name*

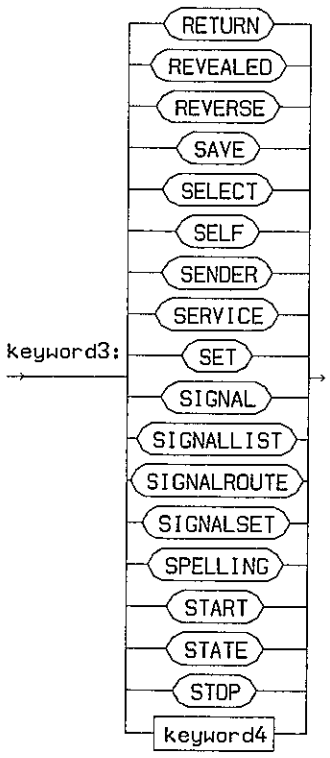


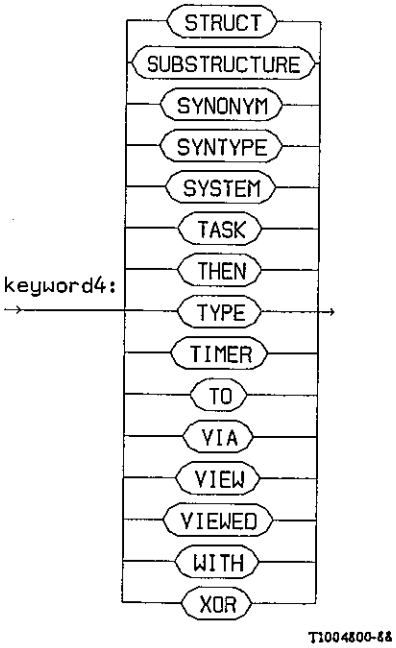



ACTIVE
ADDING
ALL
ALTERNATIVE
AND
AXIOMS
BLOCK
CALL
CHANNEL
COMMENT
CONNECT
CONSTANT
CONSTANTS
CREATE
DCL
DECISION
DEFAULT
ELSE
ENDALTERNATIVE
ENDBLOCK
ENDCHANNEL
ENDDECISION
ENDGENERATOR
ENDMACRO
ENDNEWTYPE
ENDPROCEDURE
ENDPROCESS
keyword1
T1004790-88


keyword1:
ENDREFINEMENT
ENDSELECT
ENDSERVICE
ENDSTATE
ENDSUBSTRUCTURE
ENDSYNTYPE
ENDSYSTEM
ENV
ERROR
EXPORT
EXPORTED
EXTERNAL
FI
FOR
FPAR
FROM
GENERATOR
IF
IMPORT
IMPORTED
IN
INHERITS
INPUT
JOIN
LITERAL
LITERALS
keyword2
T1004790-88


keyword2:
MACRO
MACRODEFINITION
MACROID
MAP
MOD
NAMECLASS
NEWTYPE
NEXTSTATE
NOT
NOW
OFFSPRING
OPERATOR
OPERATORS
OR
ORDERING
OUT
OUTPUT
PARENT
PRIORITY
PROCEDURE
PROCESS
PROVIDED
REFERENCED
REFINEMENT
REM
RESET
keyword3
T1004800-88


keyword3:
RETURN
REVEALED
REVERSE
SAVE
SELECT
SELF
SENDER
SERVICE
SET
SIGNAL
SIGNALLIST
SIGNALROUTE
SIGNALSET
SPELLING
START
STATE
STOP
keyword4


keyword4:
STRUCT
SUBSTRUCTURE
SYNONYM
SYNTYPE
SYSTEM
TASK
THEN
TYPE
TIMER
TO
VIA
VIEW
VIEWED
WITH
XOR
T1004800-88

107 active expression
120 active expression list
119 active primary
45 actual parameters
134 alphanumeric
35 answer
121 assignment statement
80 axioms
5 block definition
46 block substructure definition
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