

VVV		MMM		MMM	SSSSSSSSSSSS	LLL		IIIIIIIII	BBBBBBBBBBBB
VVV		MMM		MMM	SSSSSSSSSSSS	LLL		IIIIIIIII	BBBBBBBBBBBB
VVV		MMM		MMM	SSSSSSSSSSSS	LLL		IIIIIIIII	BBBBBBBBBBBB
VVV		MMMMMM		MMMMMM	SSS	LLL		III	BBB
VVV		MMMMMM		MMMMMM	SSS	LLL		III	BBB
VVV		MMMMMM		MMMMMM	SSS	LLL		III	BBB
VVV		MMM	MMM	MMM	SSS	LLL		III	BBB
VVV		MMM	MMM	MMM	SSS	LLL		III	BBB
VVV		MMM	MMM	MMM	SSS	LLL		III	BBB
VVV		MMM		MMM	SSSSSSSSSS	LLL		III	BBB
VVV		MMM		MMM	SSSSSSSSSS	LLL		III	BBB
VVV		MMM		MMM	SSSSSSSSSS	LLL		III	BBB
VVV		MMM		MMM		SSS	LLL	III	BBB
VVV		MMM		MMM		SSS	LLL	III	BBB
VVV		MMM		MMM		SSS	LLL	III	BBB
VVV		MMM		MMM		SSS	LLL	III	BBB
VVV		MMM		MMM		SSS	LLL	III	BBB
VVV		MMM		MMM		SSS	LLL	III	BBB
VVV		MMM		MMM		SSS	LLL	III	BBB
VVV		MMM		MMM		SSS	LLL	III	BBB
VVV		MMM		MMM		SSS	LLL	III	BBB
VVV	VVV	MMM		MMM	SSSSSSSSSSSS	LLLLLLLLLLLLLLLL		IIIIIIIII	BBBBBBBBBBBB
VVV	VVV	MMM		MMM	SSSSSSSSSSSS	LLLLLLLLLLLLLLLL		IIIIIIIII	BBBBBBBBBBBB
VVV	VVV	MMM		MMM	SSSSSSSSSSSS	LLLLLLLLLLLLLLLL		IIIIIIIII	BBBBBBBBBBBB

.NLIST

.TITLE TPAMAC - MACROS TO GENERATE STATE AND KEYWORD TABLES FOR TPARSE

Version: 'V04-000'

```

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```

ANDREW C. GOLDSTEIN 9-JUN-78 13:43

MODIFIED BY:

- V03-003 MCN0187 Maria del C. Nasr 09-Aug-1984
Since \$STRAN is a nested macro, the argument MASK which
can be radix argument, needs to be enclosed by delimiters.
- V03-002 ACG0392 Andrew C. Goldstein, 19-Jan-1984 21:58
Add filespec token type
- V03-001 ACG0345 Andrew C. Goldstein, 1-Aug-1983 14:20
Add PSECT argument to \$INIT_STATE, add UIC and IDENT types
- 0010 MTR0001 Michael T. Rhodes, 24-Nov-1981 09:15
Remove angle brackets from .IDN tests of the LABEL argument to
TPAS_EXIT and TPAS_FAIL (which would not check both upper and lower
case text).
- 0009 ACG0048 Andrew C. Goldstein, 20-Jun-1979 14:20
Change PSECT attributes to EXE
- 0008 ACG0043 Andrew C. Goldstein, 23-May-1979 21:47
Change PSECTs to PIC
- 0007 ACG0032 Andrew C. Goldstein, 27-Mar-1979 13:12

```

:      Circumvent assembler string truncation in IRPC
:
:      0006   ACG0024       Andrew C. Goldstein, 27-Feb-1979 16:52
:      Fix PSECTs for new RTL standards
:
: **

```

```

: INITIALIZE TABLE GENERATION - CALL ONCE AT START OF EACH
: FINITE STATE MACHINE DESCRIPTION. USER MUST SUPPLY LABELS
: FOR THE STATE AND KEYWORD TABLES.

```

```

.MACRO $INIT_STATE      STTBL,KEYTBL,PSECT_ARG

  .IF      B      PSECT_ARG
  .MACRO   TPASPSECT_STATE
  .PSECT  LIB$STATES,SHR,PIC,NOWRT,EXE,BYTE
  .ENDM   TPASPSECT_STATE
  .MACRO   TPASPSECT_KEY0
  .PSECT  LIB$KEY0$,SHR,PIC,NOWRT,EXE,WORD
  .ENDM   TPASPSECT_KEY0
  .MACRO   TPASPSECT_KEY1
  .PSECT  LIB$KEY1$,SHR,PIC,NOWRT,EXE,WORD
  .ENDM   TPASPSECT_KEY1

  .IFF

  .MACRO   TPASPSECT_STATE
  .PSECT  PSECT_ARG^ STATE,SHR,PIC,NOWRT,EXE,BYTE
  .ENDM   TPASPSECT_STATE
  .MACRO   TPASPSECT_KEY0
  .PSECT  PSECT_ARG^ KEY0,SHR,PIC,NOWRT,EXE,WORD
  .ENDM   TPASPSECT_KEY0
  .MACRO   TPASPSECT_KEY1
  .PSECT  PSECT_ARG^ KEY1,SHR,PIC,NOWRT,EXE,WORD
  .ENDM   TPASPSECT_KEY1
  .ENDC

  .SAVE
  TPASPSECT_STATE

STTBL::
  TPASPSECT_KEY0
KEYTBL::
$$KEYTAB=
  TPASPSECT_KEY1
$$$KEY = -1
$$$FLG = -1
$$$KFG = -1

TPAS_EXIT      = -1
TPAS_FAIL      = -2
TPAS_MAXKEY    = 220
TPAS_KEYWORD   = 256
TPAS_FILESPEC  = 490
TPAS_UIC       = 491

```

```
TPAS_IDENT      = 492
TPAS_ANY        = 493
TPAS_ALPHA      = 494
TPAS_DIGIT      = 495
TPAS_STRING     = 496
TPAS_SYMBOL     = 497
TPAS_BLANK      = 498
TPAS_DECIMAL    = 499
TPAS_OCTAL      = 500
TPAS_HEX        = 501
TPAS_LAMBDA     = 502
TPAS_EOS        = 503
TPAS_SUBXPR     = 504
```

```
.ENDM .RESTORE
      $INIT_STATE
```

```
; DECLARE A STATE
```

```
.MACRO $STATE LABEL
      .SAVE
      TPASPSECT_STATE

      $$$FLG = $$$FLG!4
      TPASMTRAN
```

```
LABEL: .IF      NB      LABEL
      .ENDC
```

```
.IF      EQ      $$$KFG
TPASPSECT_KEY1
.BYTE    255
.ENDC
```

```
$$$FLG = -1
$$$KFG = -1
```

```
.ENDM .RESTORE
      $STATE
```

```
; SPECIFY A STATE TRANSITION
```

```
.MACRO $STRAN TYPE,LABEL,ACTION,MASK,ADDR,PARAM
      .SAVE
      TPASPSECT_STATE

      TPASMTRAN
```

```
.IF      NB      ACTION
$$$FLG = $$$FLG!128
.MACRO $$$ACT
.LONG   ACTION--4
.ENDM $$$ACT
.ENDC
```

```
.IF NB <MASK>
$$$FLG = $$$FLG!32
.IF B ADDR
.ERROR <MASK> ; MASK ADDRESS NOT PRESENT
.ENDC
.MACRO $$$BIT
.LONG <MASK>
.ENDM $$$BIT
.ENDC
```

```
.IF NB ADDR
$$$FLG = $$$FLG!64
.MACRO $$$ADR
.LONG ADDR-. -4
.ENDM $$$ADR
.ENDC
```

```
.IF NB PARAM
$$$FLG = $$$FLG!256!2
.MACRO $$$PRM
.LONG PARAM
.ENDM $$$PRM
.ENDC
```

```
.IF NB LABEL
$$$FLG = $$$FLG!16
.IF IDN LABEL,TPAS_EXIT
.MACRO $$$STA
.WORD LABEL
.ENDM $$$STA
.IFF
.IF IDN LABEL,TPAS_FAIL
.MACRO $$$STA
.WORD LABEL
.ENDM $$$STA
.IFF
.MACRO $$$STA
.WORD LABEL-. -2
.ENDM $$$STA
.ENDC
.ENDC
.ENDC
```

```
$$$MOD = 0
.IRPC $$$X,<TYPE>
.IF IDN <$$$X>,<'>
$$$MOD = 1
.ENDC
.IF IDN <$$$X>,<!>
$$$MOD = 2
.ENDC
.MEXIT
.ENDR
```

```
.IF EQ $$$MOD-1
.NCHR $$$CNT,<TYPE>
```

```

.IF      GT      3-$$$CNT
.ERROR   ; INVALID CHARACTER TYPE
.ENDC
.IF      EQ      3-$$$CNT
.MACRO   $$$TYP
.ASCII  TYPE
.ENDM    $$$TYP

.IFF
$$$FLG = $$$FLG!1
TPASPSECT_KEY1
$$$TMP = .
$$$KFG = 0
.ASCII  TYPE

.IF      EQ      4-$$$CNT
$$$AST = 0
.IRPC   $$$Y,<TYPE>
.IF     IDN     <$$$Y>,<*>
$$$AST = 1
.ENDC
.ENDR
.IF     NE     $$$AST
.=     -1
.ENDC
.ENDC
.BYTE   255

TPASPSECT_KEY0
.WORD   $$$TMP-$$$KEYTAB

.MACRO   $$$TYP
.BYTE   $$$KEY
.ENDM    $$$TYP

$$$KEY = $$$KEY+1
.IF     GE     $$$KEY-TPAS_MAXKEY
.ERROR   ; TPARSE - TOO MANY KEYWORDS
.ENDC

.ENDC
.IFF

.IF     EQ     $$$MOD-2

$$$FLG = $$$FLG!8!1
.MACRO   $$$EXT
.WORD   0'TYPE--2
.ENDM    $$$EXT

.MACRO   $$$TYP
.BYTE   TPAS_SUBXPR&255
.ENDM    $$$TYP

.IFF

```

```
.IF      DF      TYPE
.IF      GE      TYPE-256
$$$FLG = $$$FLG!1
.ENDC
.ENDC

.MACRO   $$$TYP
.BYTE   TYPE&255
.ENDM   $$$TYP

.ENDC
.ENDC

.ENDM   .RESTORE
        $STRAN

; FINISH STATE TABLE

.MACRO   $SEND_STATE
        .SAVE
        $$$FLG = $$$FLG!4
        TPASMTRAN
        .IF      EQ      $$$KFG
        TPASPSECT_KEY1
        .BYTE   255
        .ENDC

        $$$FLG = -1
        $$$KFG = -1
        .RESTORE
.ENDM   $SEND_STATE

; OUTPUT LAST TRANSITION ENTRY

.MACRO   TPASMTRAN

        TPASPSECT_STATE

        .IF      EQ      $$$FLG+1
        $$$FLG = 0
        .MEXIT
        .ENDC

        $$$TYP
        .BYTE   $$$FLG&255

        .IF      NE      $$$FLG&2
        .BYTE   <$$$FLG/256>&255
        .ENDC

        .IF      NE      $$$FLG&8
        $$$EXT
        .ENDC

        .IF      NE      $$$FLG&256
```


\$\$\$PRM
.ENDC

.IF NE \$\$\$FLG&128
\$\$\$ACT
.ENDC

.IF NE \$\$\$FLG&64
\$\$\$ADR
.ENDC

.IF NE \$\$\$FLG&32
\$\$\$BIT
.ENDC

.IF NE \$\$\$FLG&16
\$\$\$STA
.ENDC

\$\$\$FLG = 0

.ENDM TPASMTRAN

.LIST

The image displays a 10x10 grid of technical diagrams and code snippets. Each cell contains a small, detailed technical drawing or a block of code. The diagrams appear to be circuit board layouts or component arrangements, while the code snippets are fragments of programming or configuration code. The overall appearance is that of a technical reference manual or a collection of design templates for hardware or software development.

CLIMAC
REQ

TPAMAC
REQ

LTLDEFB
B32

STARMISC
MAR

SCRPROLOG
REQ

SCRTCB
REQ

EODEFB
B32

OFFSET
MAR

SYTABLE
MAR

DVITABLE
MAR

SCRTERM
REQ

RSXLBDF
MAR

LTLDEFM
MAR

B32MSG
LIS

C24MSG
LIS