

]

The preceding expression is completed using TAKE and UNSTAK. The top of the stack then indicates whether this is an array or switch subscript expression, or an array bound pair list.

In the former case the top of the stack is [ and the TYPBOX is tested to determine whether the subscript expression is type integer or real. If real, a conversion to integer must be compiled. The values of the state variables as at [ are then restored from the stack. The number of dimensions counted on the stack with [ is checked with the array declaration in the namelist. If this is -1 in the namelist (formal parameter specifier) the number of dimensions is now entered.

Example:    procedure P (b) ; array b ;  
                  A:= b [1,3,n] ;

When the array b is used, it is found that the number of dimensions is 3 and can therefore be placed in the namelist entry for b.

If this is a switch subscript, there must be only one dimension. Finally, if this is an array subscript, INDR is compiled in the case of an expression and IND is stacked in the case of a statement since it is not yet known if INDA or INDR is required.

Example:    A [2] : = B [1, n] : = .....

In the latter case, when this is an array declaration, the number of dimensions is placed in DIM, a lower/upper bound marker in xx and I is restored to the array namelist entry. A check is made that the bound pair ended with an upper bound (xx = 1), and E and ARITH are set for the following declaration or statement. The top of the stack should then be MAMPS and this is compiled with the number of dimensions and arrays (ARRCOU). The namelist entries for each array are then updated with the number of dimensions and the address of the array map in the object program. Finally, the shared map is compiled.

Example:    array A,B,C [p;q,'s:t]

ARRCOU will be 3 and number of dimensions will be 2.

#### ERRORS

FAIL 74    ; unmatched closing square bracket.  
FAIL 51    ; wrong number of dimensions in array  
                  subscript  
FAIL 95    ; more than one dimension in switch  
                  subscript  
FAIL 75    ; upper bound missing from bound pair  
FAIL 23    ; incorrect array declaration.