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CCCCCCCC RRRRRRRR FFFFFFFFFF MM MM AAAAAA CCCCCCCC RRRRRRRR 000000 SSSSSSSS
CCCCCCCC RRRRRRRR FFFFFFFFFF MM MM AAAAAA CCCCCCCC RRRRRRRR 000000 SSSSSSSS
CC RR RR FF MMMM MMMM AA AA CC RR RR 00 00 SS
CC RR RR FF MMMM MMMM AA AA CC RR RR 00 00 SS
CC RR RR FF MM MM AA AA CC RR RR 00 00 SS
CC RRRRRRRR FFFFFFFFFF MM MM AA AA CC RRRRRRRR 00 00 SSSSSS
CC RRRRRRRR FFFFFFFFFF MM MM AA AA CC RRRRRRRR 00 00 SSSSSS
CC RR RR FF MM MM AAAAAAAAAA CC RR RR 00 00 SS
CC RR RR FF MM MM AAAAAAAAAA CC RR RR 00 00 SS
CC RR RR FF MM MM AA AA CC RR RR 00 00 SS
CC RR RR FF MM MM AA AA CC RR RR 00 00 SS
CCCCCCCC RR RR FF MM MM AA AA CCCCCCCC RR RR 000000 SSSSSSSS
CCCCCCCC RR RR FF MM MM AA AA CCCCCCCC RR RR 000000 SSSSSSSS
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MM MM AAAAAA RRRRRRRR
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MMMM MMMM AA AA RR RR
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. = 0

MXB
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MXB

.TITLE CRF MACROS
.IDENT 'VOZ-000'

```

*****
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**
: FACILITY: CROSS REFERENCE PROGRAM
: ABSTRACT: ACCEPTS CROSS REFERENCE DATA AND PRODUCES A SUMMARY
: ENVIRONMENT: LINKABLE IMAGE TO BE USED WITH THE NATIVE MODE LINKER AND COMPILERS
: AUTHOR: K.D. MORSE , CREATION DATE: 12-APR-77
: MODIFIED BY:
: 01 : VERSION
--

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DEF
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MAC
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.SBTTL DECLARATIONS

INCLUDE FILES:

MACROS:

MACRO TO INITIALIZE THE OUTPUT LINE DESCRIPTION TABLE

```
SCRFCONTROLTBL      OUT_RTN,ERR_RTN,KEY_TYPE,KEY1TABLE,KEY2TABLE,-
                    VAL1TABLE,VAL2TABLE,REF1TABLE,REF2TABLE
```

WHERE

```
ERR_RTN = ADDRESS OF USER'S ERROR ROUTINE
OUT_RTN = ADDRESS OF USER'S OUTPUT ROUTINE
KEY_TYPE = TYPE OF KEY, 0=ASCIC, 1=BINARY LONGWORD
KEY1TABLE = ADDRESS OF KEY1 FIELD DESCRIPTION TABLE
KEY2TABLE = ADDRESS OF KEY2 FIELD DESCRIPTION TABLE
VAL1TABLE = ADDRESS OF VAL1 FIELD DESCRIPTION TABLE
VAL2TABLE = ADDRESS OF VAL2 FIELD DESCRIPTION TABLE
REF1TABLE = ADDRESS OF REF1 FIELD DESCRIPTION TABLE
REF2TABLE = ADDRESS OF REF2 FIELD DESCRIPTION TABLE
```

```
.MACRO SCRFCONTROLTBL OUT_RTN,ERR_RTN,KEY_TYPE=0,KEY1TABLE,-
                    KEY2TABLE,VAL1TABLE,VAL2TABLE,REF1TABLE,-
                    REF2TABLE
```

```
.LONG 0 ; TREE LISTHEAD-ROOT
.WORD CRFSK_ENTSIZE ; SIZE OF ONE CRF ENTRY
.WORD CRFSK_NODSIZE ; SIZE OF ONE CRF NODE
.BYTE KEY_TYPE ; TYPE OF KEY
.BYTE 0 ; CRF FLAGS
.WORD 0 ; SECONDARY ERROR STATUS CODE
.LONG ERR_RTN ; ADDR OF ERROR ROUTINE
.LONG OUT_RTN ; ADDR OF OUTPUT ROUTINE
; ADDRESSES OF FIELD DESCRIPTIONS
.LONG KEY1TABLE ; KEY1 FIELD DESCRIPTIONS
.LONG KEY2TABLE ; KEY2 FIELD DESCRIPTIONS
.LONG VAL1TABLE ; VAL1 FIELD DESCRIPTIONS
.LONG VAL2TABLE ; VAL2 FIELD DESCRIPTIONS
.LONG REF1TABLE ; REF1 FIELD DESCRIPTIONS
.LONG REF2TABLE ; REF2 FIELD DESCRIPTION
.ENDM ; END OF INIT MACRO
```

MACRO TO DEFINE ONE FIELD OF THE OUTPUT LINE

```
SCRFFIELD BIT_MASK,FAO_STRING,FIELD_WIDTH,SET_CLEAR
```

WHERE:

```

: BIT_MASK=MASK OF BITS INDICATING THIS OUTPUT DESCRIPTION HOLDS
: FAO_STRING=FAO CONTROL STRING FOR THIS FIELD
: FIELD_WIDTH=MAXIMUM SIZE OF THIS OUTPUT LINE FIELD
: SET_CLEAR=INDICATOR HOW TO TEST MASK BITS, I.E. ONE OF THE FOLLOWING:
:   SET=MASK BITS ARE TO BE TESTED AS SET
:   CLEAR=MASK BITS ARE TO BE TESTED AS CLEAR
:

```

```

:
: .MACRO SCRFFIELD BIT_MASK=0,FAO_STRING,FIELD_WIDTH,SET_CLEAR
:
: .SAVE
: .PSECT $$$CRFSTRNG,RD,WRT,REL,NOEXE,NOSHR : REMEMBER USER'S PSECT
$$$LNG1=. : ADDRESS OF FAO CONTROL STRING
: .ASCII \FAO_STRING\ : OUTPUT FIELD CONTROL STRING
$$$LNG2=. : INDICATOR FOR LENGTH
:
: .RESTORE
: .WORD BIT_MASK!^X8000 : RESTORE USER'S PSECT
: : RECORD MASK BITS
:
: .IF IDN <SET_CLEAR>,<CLEAR> : DETERMINE WHETHER
: .BYTE 0 : MASK IS TO BE CLEAR
: .IFF : OR IF
: .BYTE 1 : MASK IS TO BE SET
: .ENDC
:
: .BYTE FIELD_WIDTH : MAXIMUM SIZE OF FIELD
:
: .LONG $$$LNG2-$$$LNG1 : STRING DESCRIPTOR
: .LONG $$$LNG1 : FOR FAO CONTROL STRING
:
: .ENDM : END OF FIELD DESCRIPTION MACRO

```

```

:
: MACRO TO INDICATE END OF OUTPUT LINE DESCRIPTION TABLE
:

```

```

: SCRFFIELDEND
:

```

```

: WHERE:
:

```

```

: THERE ARE NO FORMAL PARAMETERS.
:

```

```

: .MACRO SCRFFIELDEND
:
: .WORD 0 : END FIELD DESCRIPTIONS
:
: .ENDM : END OF MACRO

```

:++

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This page contains a table of contents for the document. The entries are arranged in a grid format, with columns representing page numbers and rows representing titles. The titles are: LOGINCMD LIS, MESSAGES LIS, VALIDATE LIS, PROTCLI LIS, MACRO, and MACRO32 MAP. Other titles like DEFINE MAR, ACTCHR LIS, and ACTIFS LIS are also present but their corresponding page numbers are not clearly visible. The grid consists of approximately 10 columns and 10 rows of entries.

Page Number	Title	Page Number	Title	Page Number	Title	Page Number	Title	Page Number	Title	Page Number	Title
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70	DEFINE MAR	80	ACTCHR LIS	90	ACTIFS LIS	100	CRF MACROS MAR	110		120	
130		140		150		160		170		180	
190		200		210		220		230		240	
250		260		270		280		290		300	
310		320		330		340		350		360	
370		380		390		400		410		420	
430		440		450		460		470		480	
490		500		510		520		530		540	