



INTERNATIONAL ATOMIC ENERGY AGENCY
UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION



INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS
4100 TRIESTE (ITALY) - P.O.B. 586 - MIRAMARE - STRADA COSTIERA 11 - TELEPHONES: 224281/2/3/4/5
CABLE: CENTRATOM - TELEX 480392-I

SMR/90 - 30

COLLEGE ON MICROPROCESSORS:

TECHNOLOGY AND APPLICATIONS IN PHYSICS

7 September - 2 October 1981

CDC HOST COMPUTER FACILITIES

(A short summary)

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These are preliminary lecture notes, intended only for distribution to participants. Missing or extra copies are available from Room 230.

CDC

HOST COMPUTER

FACILITIES

(A SHORT SUMMARY)

REFERENCES:

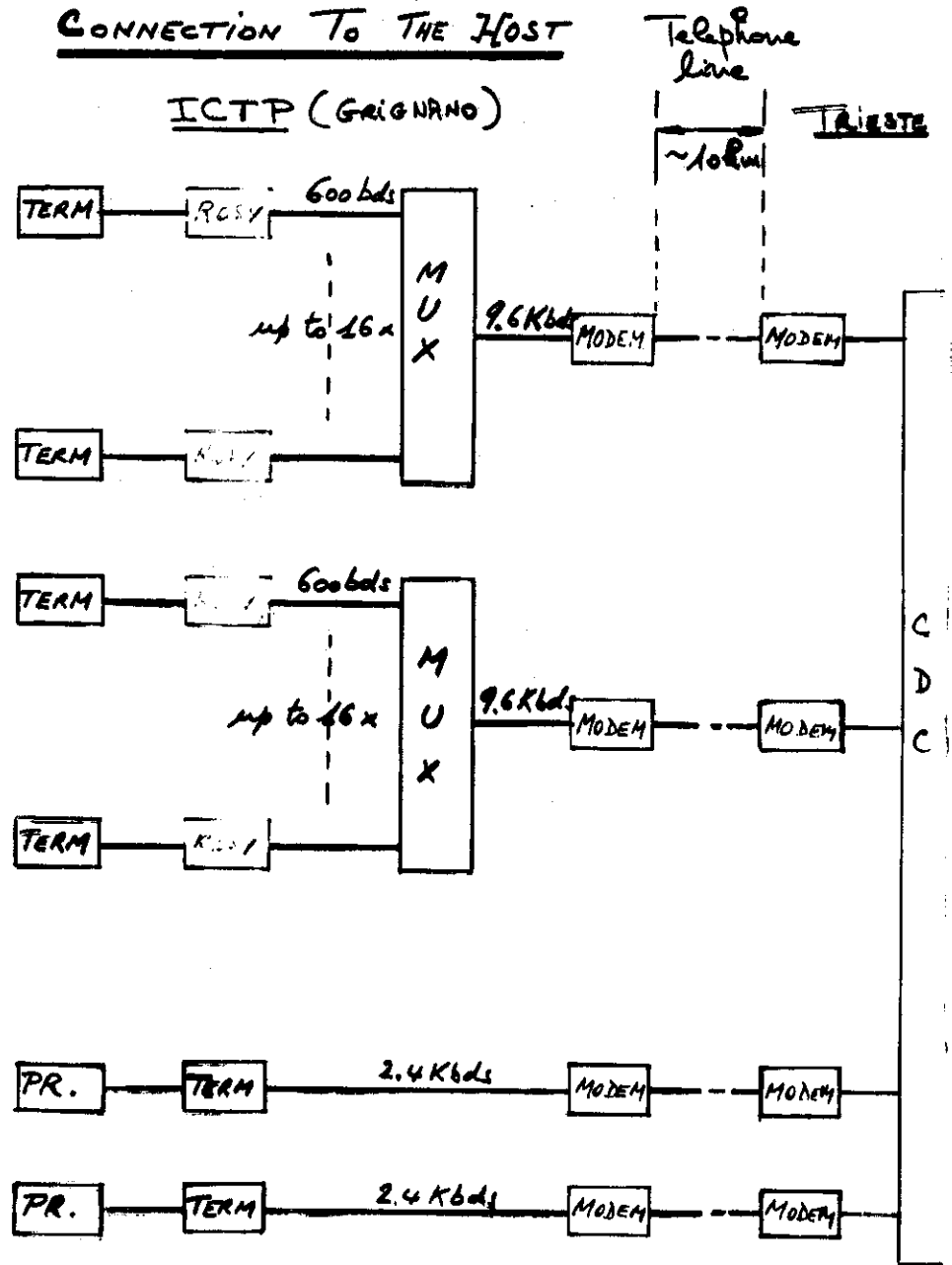
INSTANTS: { 6NOS VERSION 1 APPLICATIONS PROGRAMMER'S
NETWORK TERMINAL USER'S

REF. MANUAL: • XEDIT VERSION 3

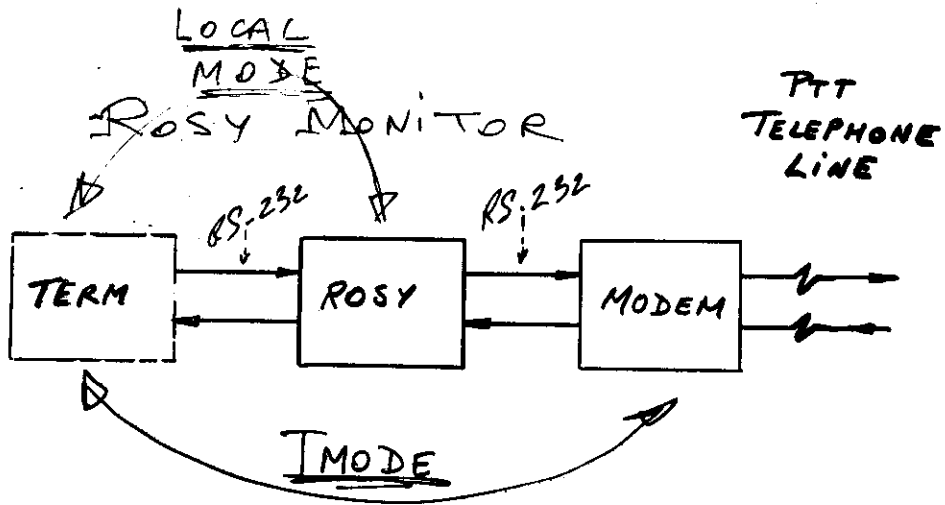
COURSE NOTES: • SMR/90-1, CHAPTER 8

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CONNECTION TO THE HOST

ICTP (GRIGNANO)



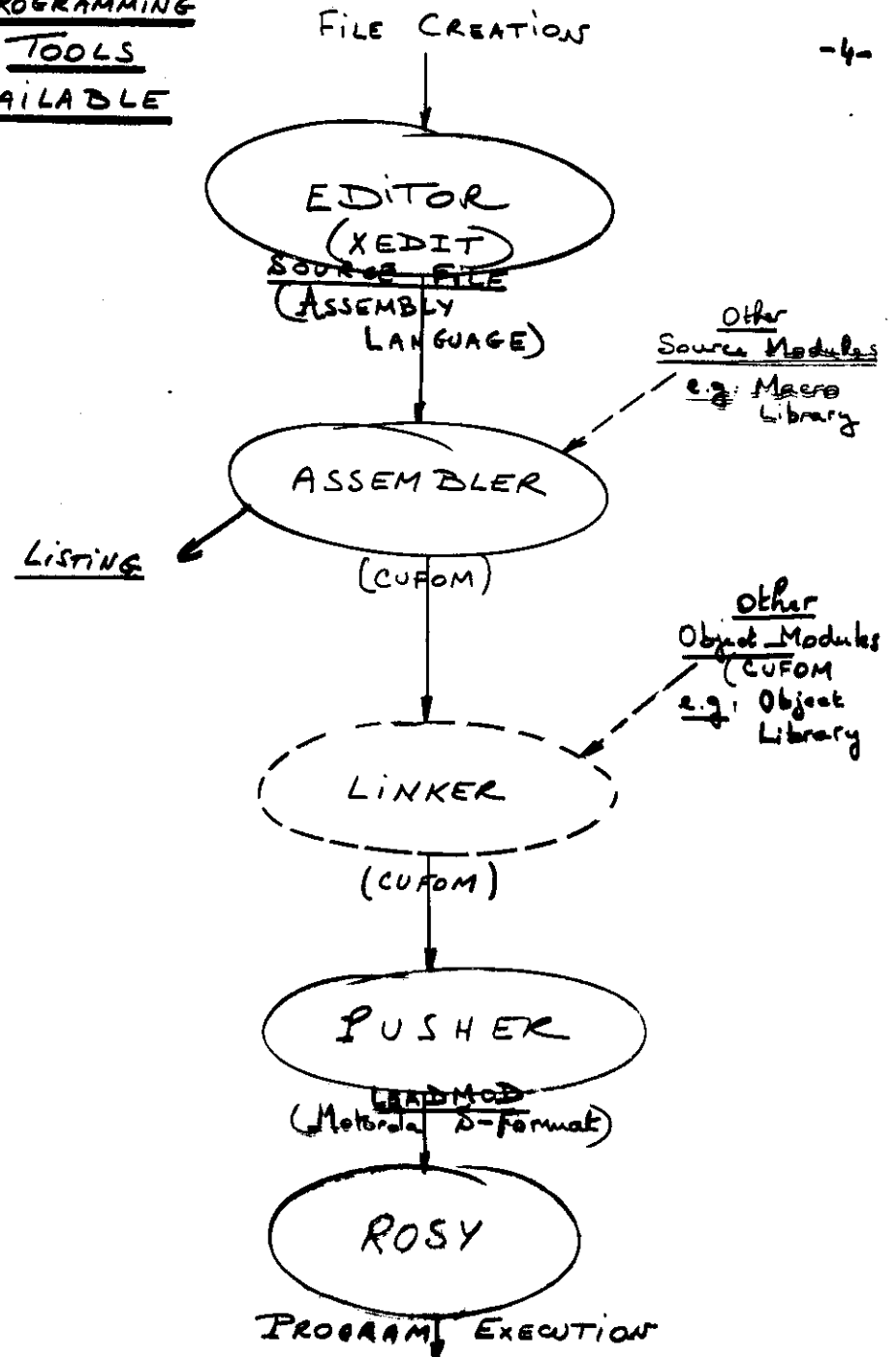
TWO MODES OF OPERATION FOR ROSY



DIRECT ACCESS TO
NOS for:

- EDITING
- ASSEMBLING
- FILE HANDLING
- DOWN-LINE LOADING

PROGRAMMING TOOLS AVAILABLE



THE 3 TYPES OF FILES (with NOS)

EDIT

LOCAL

PERMANENT

/XEDIT, FN

/GET, FN

END, FN

/SAVE, FN
/REPLACE, FN

/ENQUIRE, FN /CATLIST

- 1 EDIT FILE MAXIMUM
- LOCAL FILES LOADED & SAVED
- PERMANENT FILES STAY THERE AFTER SESSION

CROSS-ASSEMBLER

→ "HOST" COMPUTER USED

ASSEMBLER RUNNING ON A
MACHINE DIFFERENT FROM THE
WHICH THE PROGRAM WILL BE
EXECUTED ON.

X-ASSEMBLER $\neq$ RESIDENT
ASSEMBLER

How To GET LOGGED-IN

Switch power ON on the terminal

ROSY > TMODE

2 2 ... 2 (Screen)
until the CDC responds by:

FAMILY: 2

USER NAME: MP XXXXX 2

PASSWORD: MF XXXXX 2

RECOVER/CHARGE: CHARGE VVV VVV 2

READY

DATCH

① At this point, you are logged-in

➔ PROMPT USED BY NOS

Note: ② is the "ROSY" PROMPT

How To ENTER THE EDITOR

1) TO CREATE A NEW FILE

/XEDIT 2

?? DT; 2

?? TAB, 8, 16, 32 2

② : -----
: enter lines
: (INPUT mode)

② : -----
: 2
: ??

Note: a "2"
after the ?? prompt,
or after the ? prompt
change the mode.
(XEDIT or INPUT
mode)

2) TO EDIT AN ALREADY EXISTING FILE (PERMANENT)

/GET, FN 2

/XEDIT, FN 2

DT; 2

TAB, 8, 16, 32 2

2 :
: :
: :
: enter lines

2 :
: :
: ??

SOME XEDIT COMMANDS

XEDIT		Create a new edit file
XEDIT, fn		Edit local file "fn"
XEDIT, fn, P		Retrieve and edit permanent file "fn"
DEFTAB;	[DT;]	Make ";" the tabulation character
TABS, 8, 16, 32		Select tabulation settings
TOP	[T]	Move to beginning of file
BOTTOM	[B]	Move to end of file
HELP	[H]	List all available commands
HELP, CMD	[H, C]	Brief explanation of "CMD" command
LOCATE/S/	[L/S/]	Locate string "s"
NEXT	[N]	Move to next line
NEXT-1	[N-1]	Move to previous line
DELETE	[D]	Delete current line
MODIFY	[M]	Modify current line
CHANGES/S/T/n	[CS/S/T/n]	Replace string "S" by string "T", n times (default) from current line
CHANGE/S/T/1	[C/S/T/1]	Ditto, but changes done on 1 line
INPUT		Insert lines of text after current line (to leave INPUT, do a carriage return)
INSERT	[I]	Insert a line of text after current line
INSERTS	[IS]	Insert a line of text before current line
PRINT	[P]	List current line
PRINT, 10	[P, 10]	List 10 lines from current line
fp		List all lines, from beginning of file
FILE, fn		Copy edit file to local file "fn"
STOP		Leave XEDIT; edit file destroyed
END, fn		Ditto; edit file saved in local file "fn"

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HOW TO LEAVE THE EDITOR

1) BY ABORTING

?? STOP

WARNING! EDIT FILE IS LOST!!

BY SAVING EDIT FILE

!! END, FN

EDIT FILE IS SAVED IN LOCAL FILE "FN"

NOTE: To save "FN" IN PERMANENT SPACE, TYPE:

/ SAVE, FN (IF FN IS A NEW FILE)

OR: / REPLACE, FN (IF FN ALREADY EXISTS)

How To ⁼¹¹⁼ CALL THE X-ASSEMBLER

GET , PROFIL / UN = MP TOOLS
/ BEGIN , MICALP , "S = FN"
 $\swarrow \searrow$
Your Source File
WRITTEN IN
ASSEMBLY LANGUAGE

(ASSUMED TO BE LOCAL !)

2 OUTPUT FILES :

- LISTING
- LOAD MOJ

THE FILE 'LISTING'

/ XEDIT , LISTING ,

?? P * ,

⋮
The assembly listing appears
on the screen
⋮

?? STOP , *

/

* NOTE: You can also make your file "LISTING"
PERMANENT, AND ASK THE INSTRUCTOR
FOR A HARD COPY OF YOUR ASSEMBLY
LISTING, IN WHICH CASE YOU TYPE:

?? STOP , , followed by :

/ SAVE , LISTING ,

THE FILE "LOADMOD"

- CONTAINS THE MACHINE CODE (S-FORMAT)

PROCEDURE FOR DOWN-LINE LOADING :

/ XEDIT, LOADMOD 2

?? P * (CTRL "E")

WARNING :

Carrage Return replaced by : CTRL "B"

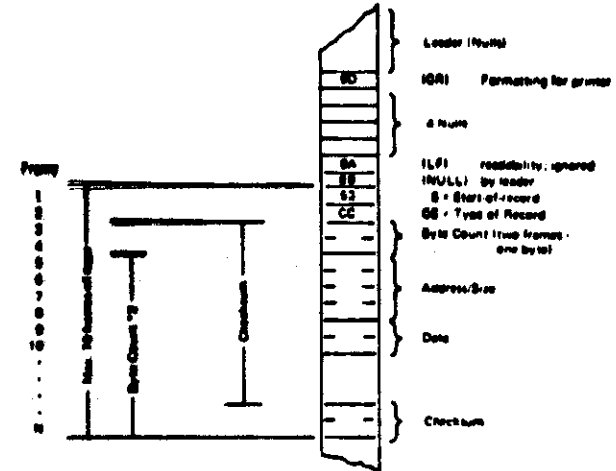
(CTRL "B" is the ROSY

escape character)

ROSY > LOAD 2

This brings the program in ROSY.

MOTOROLA ASCH FORMAT



Figures 3 through 10 are hexadecimal digits represented by a 7-bit ASCII character. Two hexadecimal digits are combined to make one 8-bit byte.

The checksum is the one's complement of the summation of 8-bit bytes.

Frame	CC - 30 Header Record	CC - 31 Data Record	CC - 30 End of File Record
1 Start of Record	53	53	53
2 Type of Record	30	31	30
3 Byte Count	31	31	30
4 Address/Size	32	30	32
5	30	31	30
6	30	31	30
7	30	30	30
8	30	30	30
9 Data	34	30	40
10	30	30	43
	30	32	
	30	32	
	30	41	
	30	40	
	30		
N Checksum	40	90	

FIGURE 11.2 - ASCH FORMATTED OBJECT TAPE

