FUNKCIJE STROJNE OPREME (HW)

1. PAKA 2000/3000 ⟶ UNISCOPE 200
2. ŠTAMPAČ ⟶ COP
3. DISK (DATOTEKA) ⟶ TCS
4. SVM-xxx —— MEĐUSKLOP (IF) CCITT V.24/EIA RS-232C

PROGRAMSKA OPREMA (SW) OMOGUĆAVA OPONAŠANJE STROJNE OPREME "UNIVAC" NA OPREMI "DELTA":

1. DMT - TRANSFORMIRA PORUKE ZA UNISCOPE 200 U ODGOVARAJUĆE PORUKE ZA PAKU I PRIKLJUČENI ŠTAMPAČ
   - TRANSFORMIRA PORUKE ZA TCS U ZAPISE TE IH SPREMA U DATOTEKU NA DISKU
   - INTERPRETIRA KOMANDE S TASTATURE TERMINALA PAKA

2. UT - SERVISIRA STROJNE PREKIDE SA SINHRONOG MEĐUSKLOPA
   - OBAVLJA LINIJSKE KONTROLNE FUNKCIJE - bata link control
   - PRIHVAĆA PORUKE OD DMT-A I ODAŠILJE IH NA KOMUNIKACIONU LINIJU NADOPUNJENE KONTROLNIM SEKVENCIJAMA
   - PRIHVAĆA PODATKE S LINIJE I PREDAJE IH ODGOVARAJUĆOJ KOPIJI DMT-A BEZ KONTROLNIH SEKVENCIJA
   - TRAJNO VODI STATISTIKU LINIJE I ODBIJENIH ZAHTJEVA NA SISTEMSKE RESURSE TE IH NA ZAHTJEV PREDAJE NADZORNOM PROGRAMU

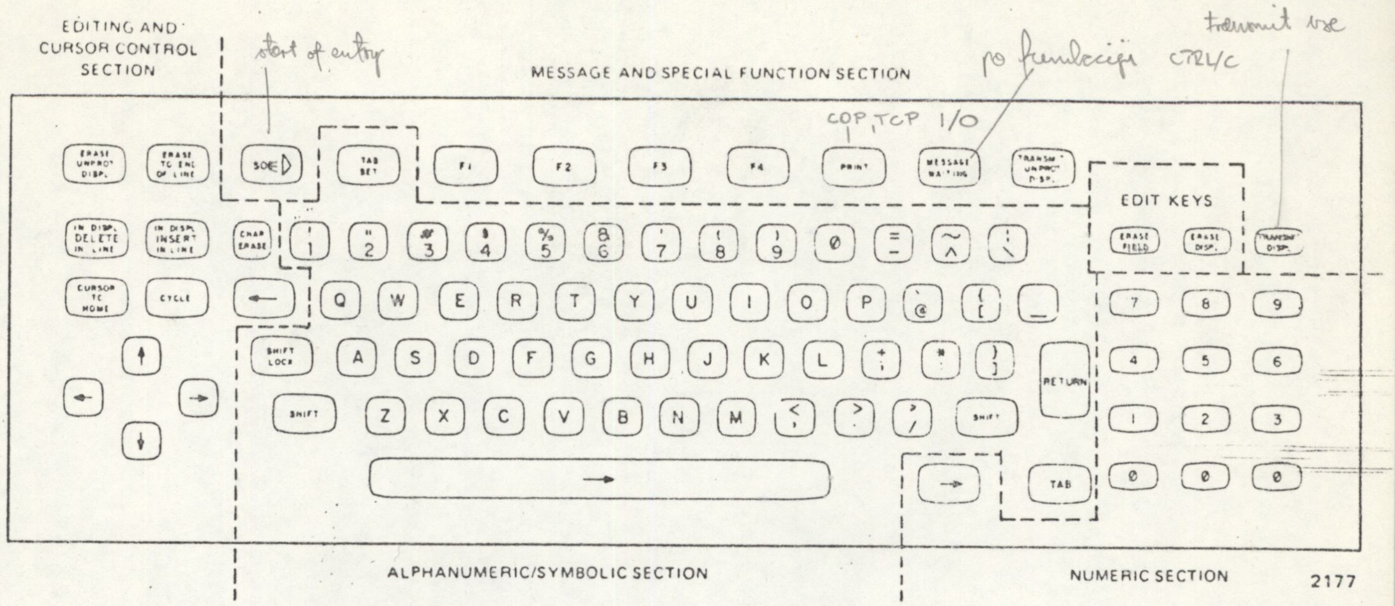
3. DMN - ZAHTIJEVA OD UT-A STATISTIČKE PODATKE I PRIKAZUJE IH NA EKRANU NADZORNOG TERMINALA
   - PRIKUPLJA SVE PODATKE S LINIJE (U OBA SMJERA) I SPREMA IH U DATOTEKU NA DISKU

ZAHTJEVANA OKOLINA

1. PROGRAMSKA OPREMA (SW)
   - OPERACIJSKI SISTEM DELTA-M V1.2 ILI V2.X

2. STROJNA OPREMA (HW)
   - PROCESOR DELTA 340-800
   - SINHRONI MEĐUSKLOP (IF) SVM-001/002 DUP11 / DU11
   - MEMORIJA:

DMT	4KW x N (N=1-8)
DMR	13KW
UT	3KW
DMN	11KW
MIN	20KW
MAX	50KW


EDITING AND CURSOR CONTROL SECTION
MESSAGE AND SPECIAL FUNCTION SECTION
ERASE UNPROT DISP.
ERASE TO END OF LINE
SOE
TAB SET
PRINT
MESSAGE WAITING
TRANSMIT UNPROT DISP.
EDIT KEYS
IN DISPL DELETE IN LINE
IN DISPL INSERT IN LINE
CHAR ERASE
ERASE FIELD
ERASE DISP.
TRANSMIT DISP.
CURSOR TO HOME
CYCLE
SHIFT LOCK
RETURN
SHIFT
TAB
ALPHANUMERIC/SYMBOLIC SECTION
NUMERIC SECTION

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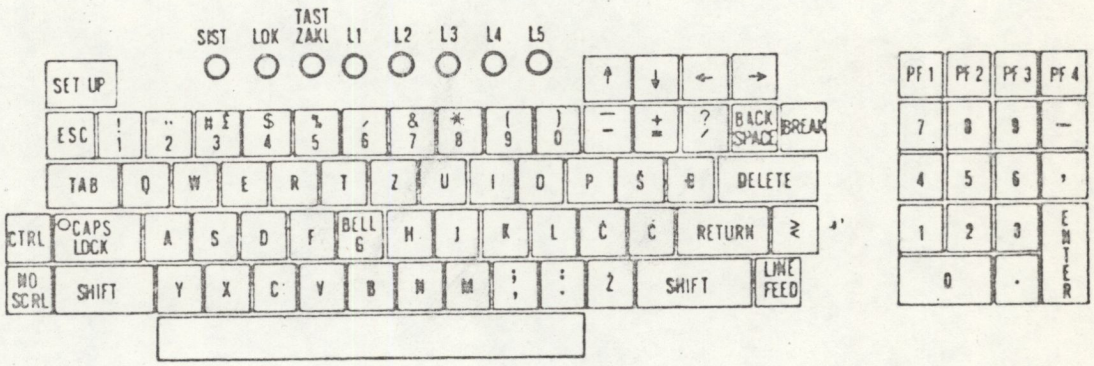
SIST
LOK
TAST ZAKL
L1
L2
L3
L4
L5
SET UP
ESC
TAB
CTRL
CAPS LOCK
NO SCRL
SHIFT
BACK SPACE
BREAK
DELETE
RETURN
BELL
LINE FEED
SHIFT
PF 1
PF 2
PF 3
PF 4
ENTER

TAB - generira TAB, 1 znak naprej

SPACE - kot ERASE CHAR

LED 3 - Message waiting

LED 4 - Wait

PF1 F1	PF2 F2	PF3 F3	PF4 F4
7 Erase unprot.	8 Erase to eol	9 Erase field	- Erase display
4 Delete in line	5 Insert in line	6 Cursor home	, Unlock keyboard
1 Message waiting	2 Repaint screen	3 Help	ENTER Transmit unprot display
0 SOE		TAB	

L3 Processor message waiting ('Message waiting')
L4 Keyboard locked ('Wait')

esc E	Delete line	esc F	Insert line
esc G	Delete in display	esc H	Insert in display
esc I	Blink on	esc J	Blink off
esc K	Hard copy print	esc L	Output to auxiliary device
esc N	Input from auxiliary	esc X	Transmit display

TAB, set tabulator SPACE Erase character

CTRL/Z IZHOD IZ EMULATORJA

POOLING 1 sek

remote ID - za grupo term
site ID - 1-8 term
device ID - dodatni device (COP, TES)

SYN SOH RID SID DID

STATUS POLL WITHOUT ACKNOWLEDGE* - ali je kaj za mene

SOH R/G S/G D/G ENQ ETX BCC

STATUS POLL WITH ACKNOWLEDGE*

SOH R/G S/G D/G DLE 1 ENQ ETX BCC

TRAFFIC POLL WITHOUT ACKNOWLEDGE* - daj mi data

SOH R/G S/G D/G ETX BCC

TRAFFIC POLL WITH ACKNOWLEDGE*

SOH R/G S/G D/G DLE 1 ETX BCC

TEXT

SOH RID SID DID STX TEXT ETX BCC

PROCESSOR MESSAGE WAITING

SOH RID SID DID BEL STX ETX BCC

RETRANSMISSION REQUEST

SOH RID SID DID DLE NAK ETX BCC

BREAK – RESUME EMBMSG counter

...XXX DLE [SOH COMPLETE FORMAT BCC DLE] $XXX_{1,2}$...

URGENT PROCESSOR MESSAGE (OVERRIDE TERMINAL ACTIVITY)

SOH RID SID DID NUL NUL NUL STX NUL NUL NUL HT NUL NUL NUL STX TEXT ETX BCC

20 ms** 10 ms** 20 ms**

(Terminates auxiliary interface activity)

(Suppresses transmit)

*In these message formats, R/G indicates RID or GID, S/G indicates SID or GID, and D/G indicates DID or GID.

**These times are for the UNISCOPE 100 terminal; they are doubled for the UNISCOPE 200 terminal.

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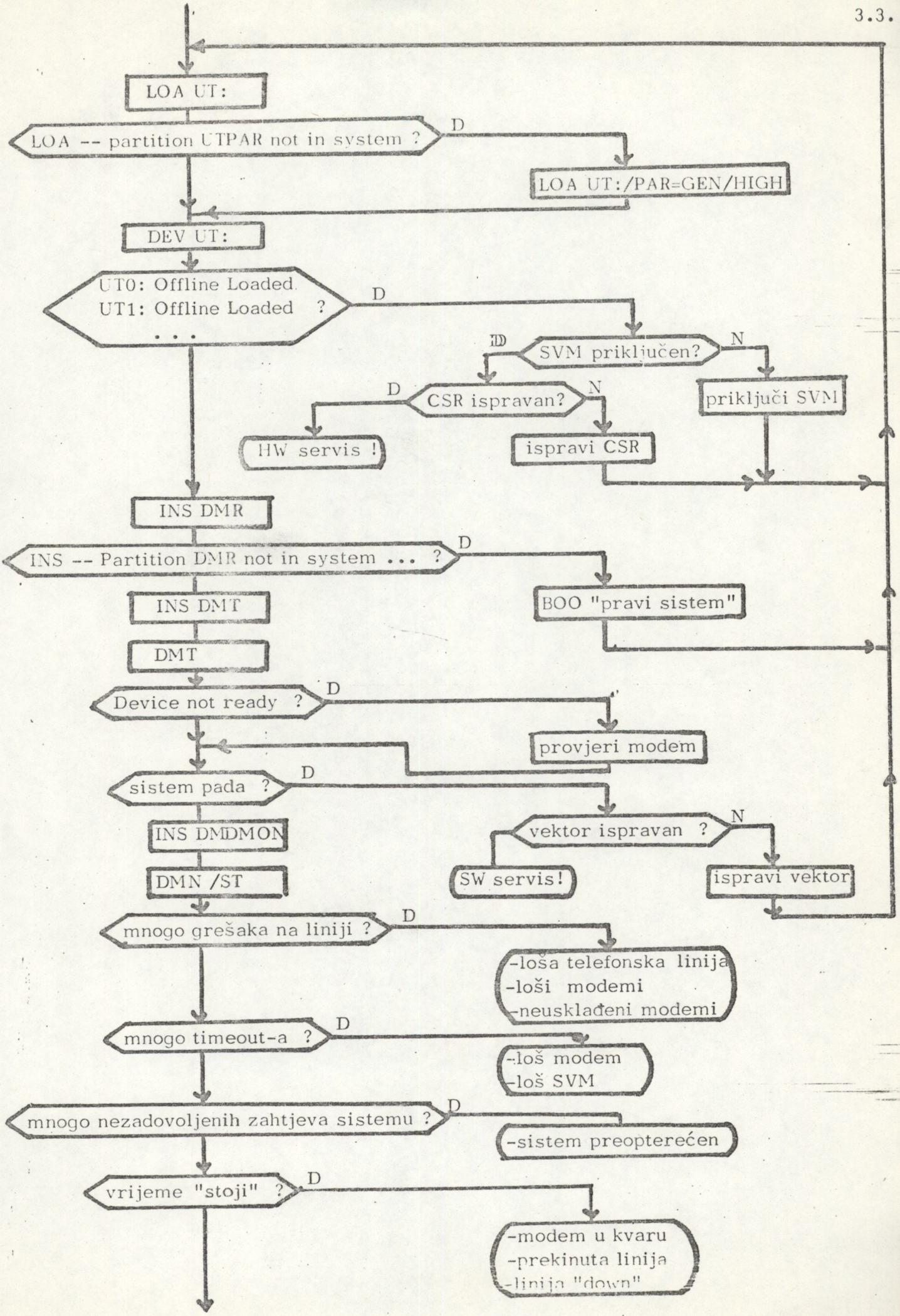
PROCESSOR ⟶ TERMINAL


LOA UT:
LOA -- partition UTPAR not in system ?
D
LOA UT:/PAR=GEN/HIGH
DEV UT:
UT0: Offline Loaded
UT1: Offline Loaded ?
. . .
D
D
SVM priključen?
N
D
CSR ispravan?
N
priključi SVM
HW servis !
ispravi CSR
INS DMR
INS -- Partition DMR not in system ... ?
D
INS DMT
BOO "pravi sistem"
DMT
Device not ready ?
D
provjeri modem
sistem pada ?
D
INS DMDMON
vektor ispravan ?
N
DMN /ST
SW servis!
ispravi vektor
mnogo grešaka na liniji ?
D
-loša telefonska linija
-loši modemi
-neusklađeni modemi
mnogo timeout-a ?
D
-loš modem
-loš SVM
mnogo nezadovoljenih zahtjeva sistemu ?
D
-sistem preopterećen
vrijeme "stoji" ?
D
-modem u kvaru
-prekinuta linija
-linija "down"
. . .

NO TRAFFIC WITHOUT ACKNOWLEDGE
EOT EOT or EOT EOT ETX BCC

NO TRAFFIC WITH ACKNOWLEDGE*
SOH RID SID DID DLE 1 ETX BCC

REPLY REQUEST → richiesta ripetizione ma RETRANSMITION REQUEST
SOH RID SID DID DLE ENQ ETX BCC

WABT (BUSY)
SOH RID SID DID DLE ? ETX BCC

REQUEST PROCESSOR MESSAGE (OR SPECIAL FUNCTION MESSAGE) WITHOUT ACKNOWLEDGE
SOH RID SID DID BEL [or 7 or G or W or g] ETX BCC

Special Function Messages

REQUEST PROCESSOR MESSAGE (OR SPECIAL FUNCTION MESSAGE) WITH ACKNOWLEDGE* WAIT
SOH RID SID DID DLE 1 BEL [or 7 or G or W or g] ETX BCC

Special Function Messages

THRU WITHOUT ACKNOWLEDGE — READY (no Busy)
SOH RID SID DID DLE ; ETX BCC

THRU WITH ACKNOWLEDGE
SOH RID SID DID DLE 1 DLE ; ETX BCC

RESPONSES TO STATUS POLL ONLY

TRAFFIC WITHOUT ACKNOWLEDGE
SOH RID SID DID DLE 0 ETX BCC

TRAFFIC WITH ACKNOWLEDGE*
SOH RID SID DID DLE 1 DLE 0 ETX BCC

RESPONSES TO TRAFFIC POLL ONLY

TEXT WITHOUT ACKNOWLEDGE
SOH RID SID DID STX TEXT ETX BCC

TEXT WITH ACKNOWLEDGE*
SOH RID SID DID DLE 1 STX TEXT ETX BCC

*WABT (DLE ?) may be sent instead of an acknowledgment (DLE 1) by a terminal that has received text correctly but cannot accept more text immediately. (See 3.3.3.2.)

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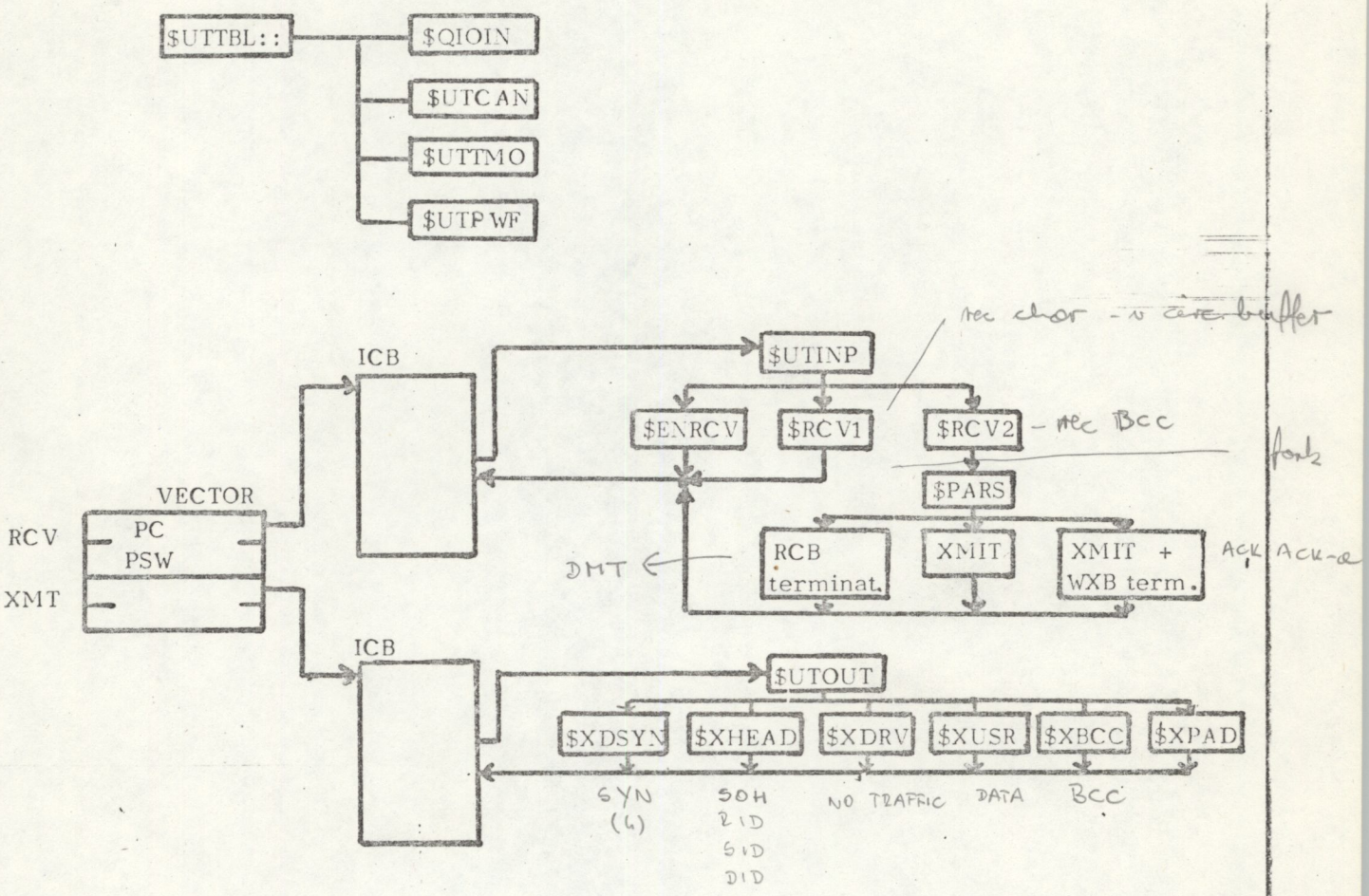
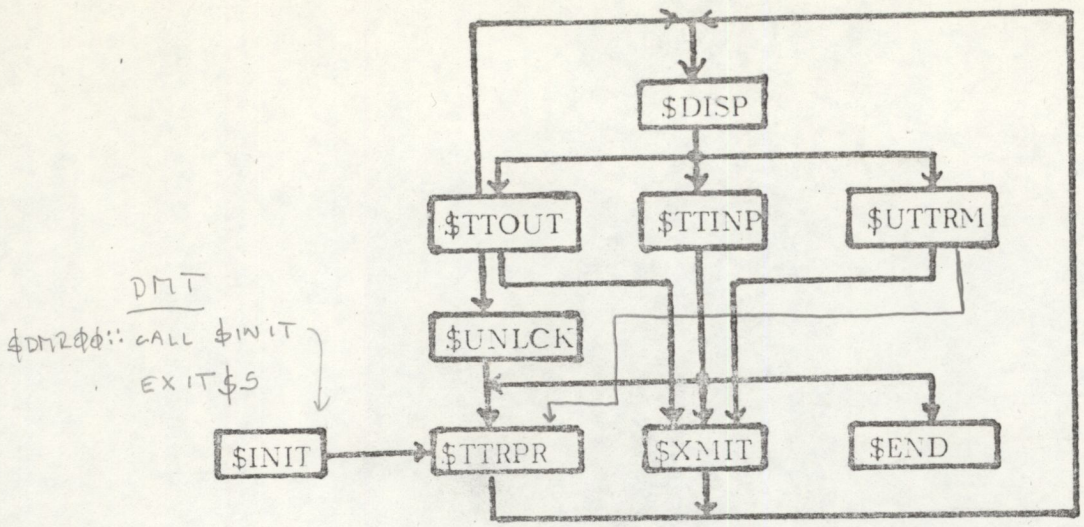
TERMINAL ⟶ PROCESSOR

DMT 10. RCB



$RKAMO - vsaka rutina vpiše tem odreso naslednjega modula
$XKAMO

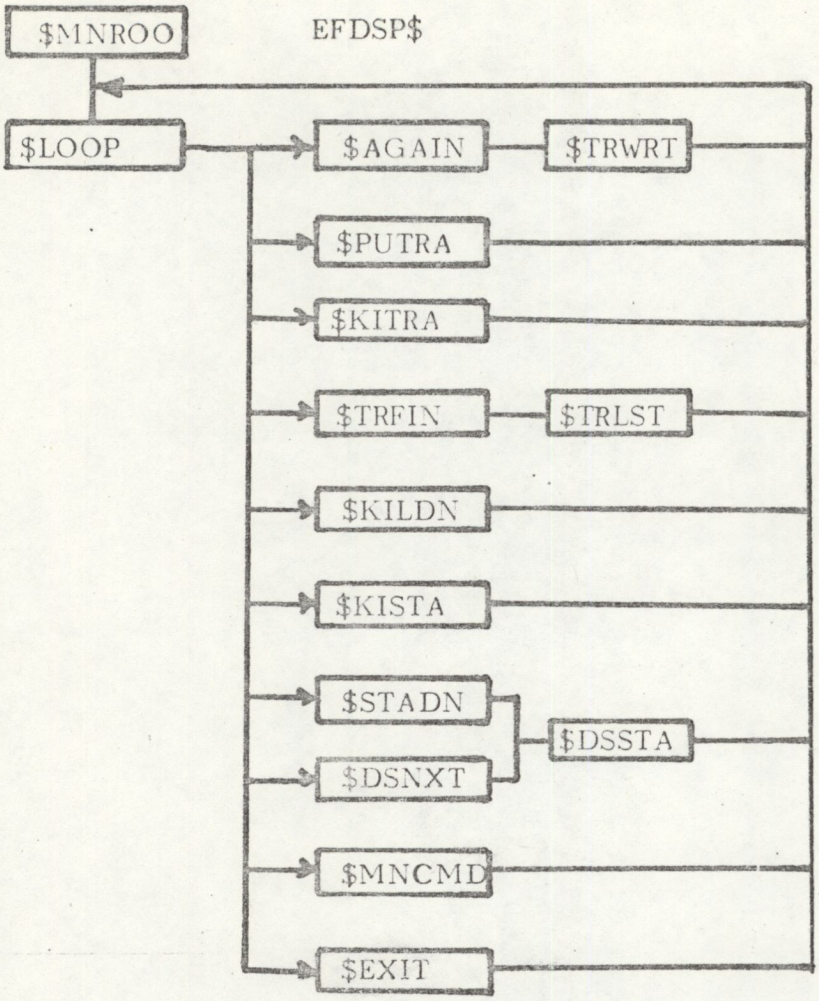
DMR

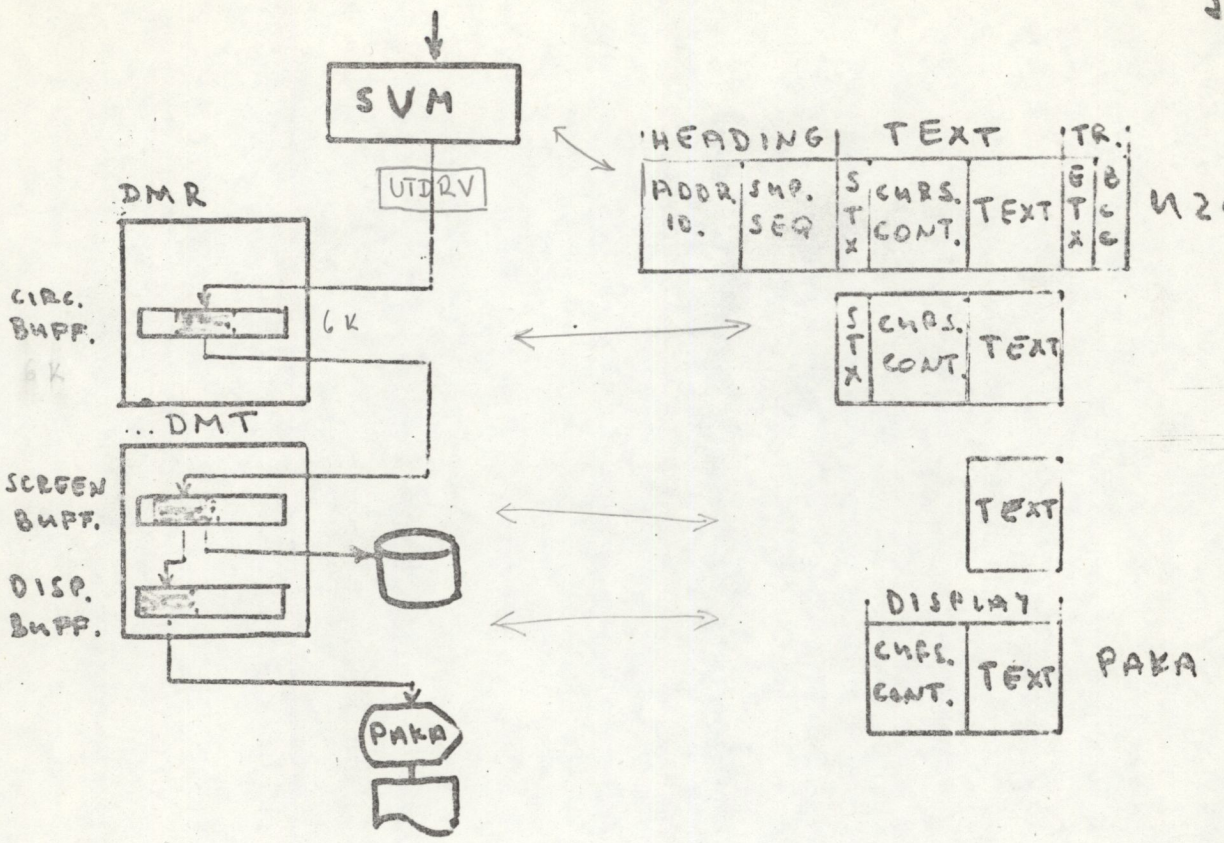


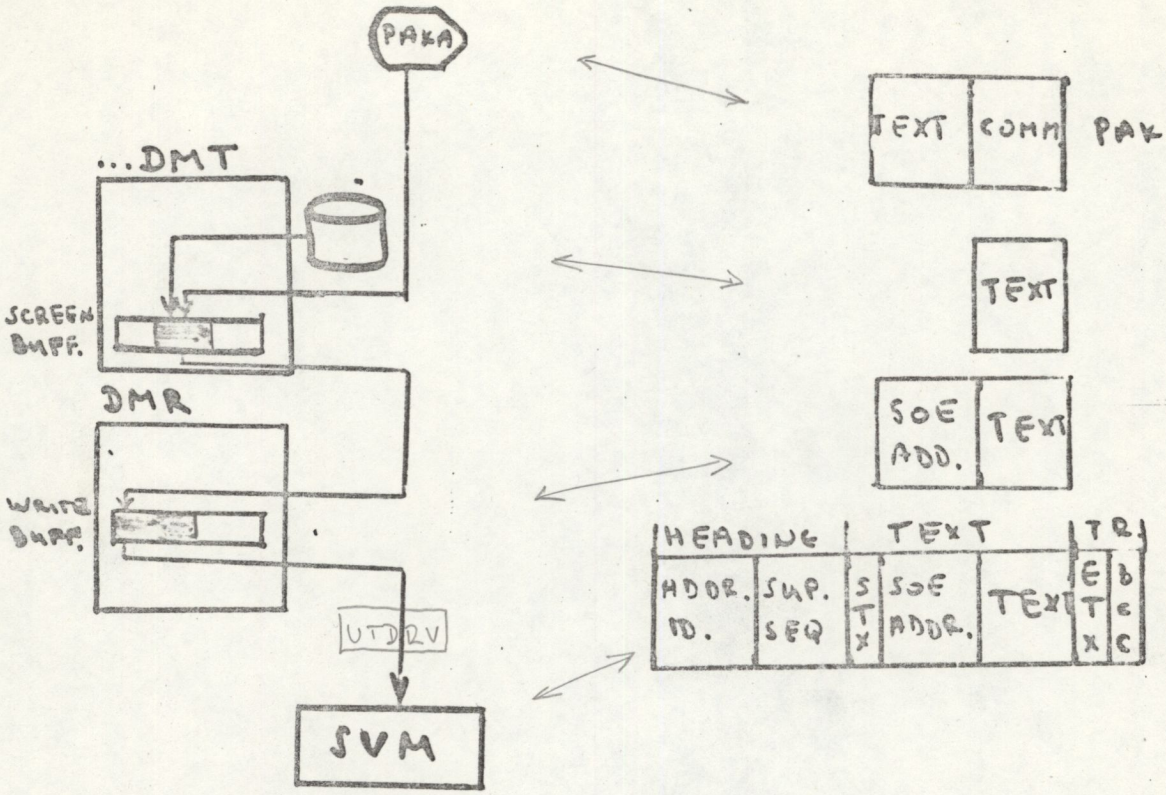
DMT

$DMR00:: CALL $INIT
EXIT$S

DMN


$MNROO
EFDSP$
$LOOP
$AGAIN
$TRWRT
$PUTRA
$KITRA
$TRFIN
$TRLST
$KILDN
$KISTA
$STADN
$DSSTA
$DSNXT
$MNCMD
$EXIT


SVM
UTIRV
DMR
CIRC. BUFF.
6K
...DMT
SCREEN BUFF.
DISP. BUFF.
PAKA
HEADING
TEXT
TR.
ADDR. ID.
SNP. SEQ
STX
CHRS. CONT.
TEXT
BCC
M200
DISPLAY
PAKA


PAKA
...DMT
SCREEN BUFF.
DMR
WRITE BUFF.
UTDRV
SVM
TEXT
COMM
PAKA
TEXT
SOE ADD.
TEXT
HEADING
TEXT
TR.
ADDR. ID.
SUP. SEQ
STX
SOE ADDR.
TEXT
ETX
bcc
M200

```
DISTRIBUTION DIRECTORY
======================
Directory DR0:[73,1]
18-NOV-85 12:04

DMDGEN.CMD;7              50.          31-OCT-85 12:40

Total of 50./50. blocks in 1. file


Directory DR0:[73,10]
18-NOV-85 12:04

DMDID.OBJ;2                4.          30-OCT-85 13:56
DMDLIB.OLB;2             103.        C 30-OCT-85 13:56
UTCAN.OBJ;4                1.          30-OCT-85 13:56
UTDAT.OBJ;3                1.          30-OCT-85 13:55
UTDRD.OBJ;3                4.          30-OCT-85 13:55
UTINTP.OBJ;5               7.          30-OCT-85 13:56
UTINTU.OBJ;4               7.          30-OCT-85 13:56
UTPRS.OBJ;3               12.          30-OCT-85 13:55
UTPWF.OBJ;4                2.          30-OCT-85 13:55
UTOIOP.OBJ;3               6.          30-OCT-85 13:56
UTOIOU.OBJ;3               6.          30-OCT-85 13:56
UTOUE.OBJ;3                1.          30-OCT-85 13:55
UTTMO.OBJ;5                1.          30-OCT-85 13:55
UTTRC.OBJ;3                1.          30-OCT-85 13:56

Total of 156./156. blocks in 14. files

Grand total of 206./206. blocks in 15. files in 2. directories
```

GENERATION PRODUCTS

[1,2]DMDSTART.CMD
[1,2]DMDSTOP.CMD

[1,24]DMDBLD1.CMD
[1,24]DMDBLD2.CMD
[1,24]DMDBLD3.CMD
[1,24]DMNBLD.CMD
[1,24]UTDRVBLD.CMD

[1,34]UTDRV.MAP
[1,34]DMR.MAP
[1,34]DMT.MAP
[1,34]DMDMON.MAP

[1,54]UTDRV.TSK
[1,54]UTDRV.STB
[1,54]DMR.TSK
[1,54]DMR.STB
[1,54]DMT.TSK
[1,54]DMDMON.TSK

[73,10]UTGEN.OBJ
[73,10]DMDGEN.OBJ

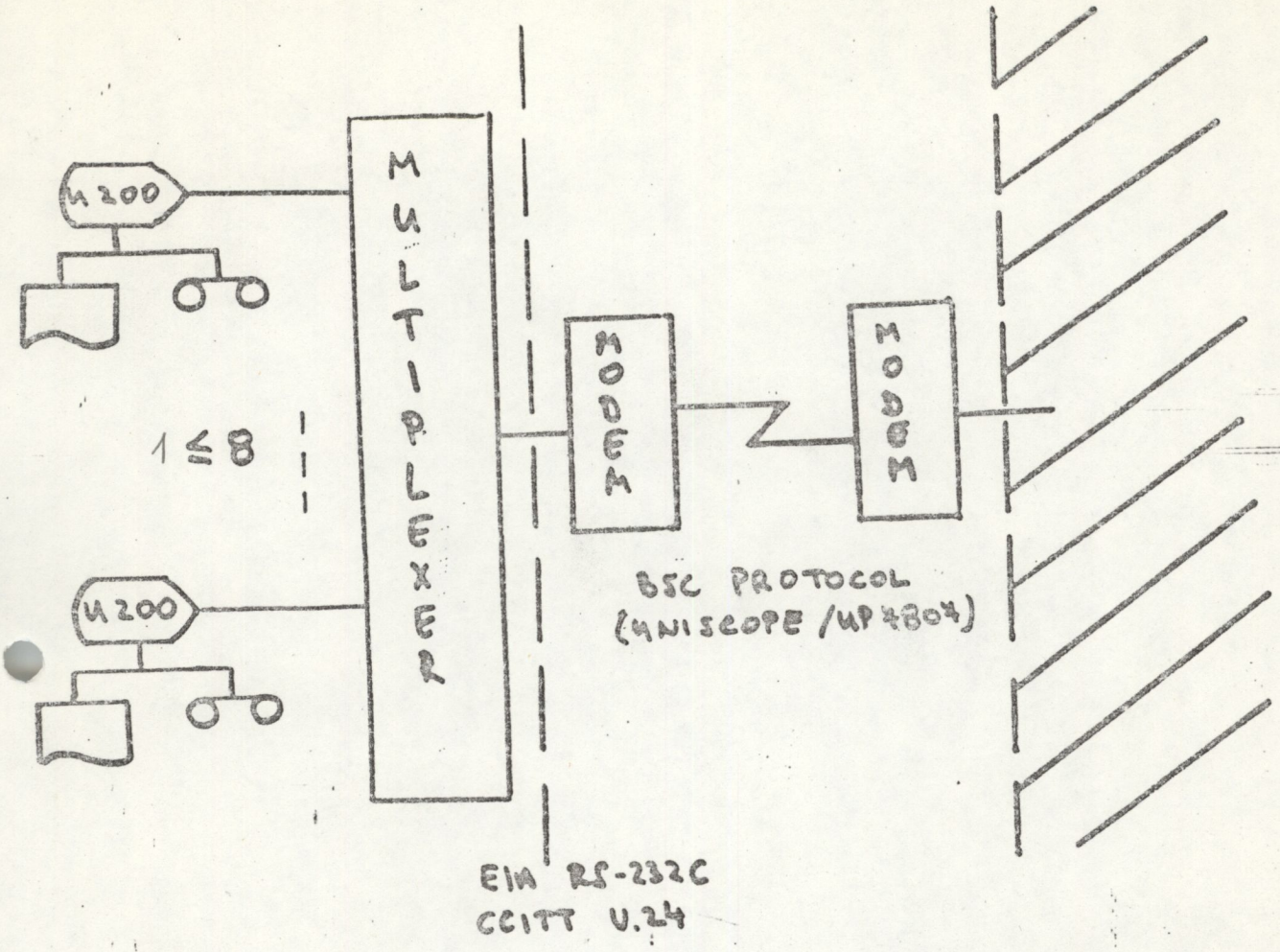
DMDGEN.MAC

```
MAXLN$::  .WORD   3500.     NAJDULJA OČEKIVANA PORUKA

UNLOK$::  .WORD   0         INDIKATOR UNLOCK-A TASTATURE:
                            0 ... NA POTVRDU PRIJEMA (ACK)
                            1 ... NA PRVU PRIMLJENU PORUKU

LOWER.==1                   PODRŠKA MALIH ZNAKOVA:
                            1 ... MALA SLOVA PODRŽANA
                            0 ... MALA SLOVA SE PRETVARAJU U VELIKA

IPCLR.==0                   BRISANJE EKRANA PRIJE ČITANJA S 'TCS':
                            0 ... BRISANJE CIJELOG EKRANA
                            1 ... BRISANJE NEPROTEKTIRANOG DIJELA EKRANA

AUTXM.==1                   AUTOMATSKO ODAŠILJANJE ZAPISA IZ 'TCS':
                            1 ... ZAPIS SE ŠALJE AUTOMATSKI
                            0 ... ZAPIS TREBA POSLATI RUČNO ILI KOMANDOM
                                  IZ APLIKACIJE

TERMS$::                    TABELA KARAKTERISTIKA TERMINALA:
        .BYTE   7,1,1.      BROJ I TIP TERMINALA, REDNI BROJ STANICE

        .ASCII  /!Qsyz(!S10121/
                            RID, SID, 5*DID:
                                    - ŠTAMPAČ
                                    - PISANJE NA TCS 1
                                    - ČITANJE SA TCS 1
                                    - PISANJE NA TCS 2
                                    - ČITANJE SA TCS 2
                            ADRESA (6 ZNAKOVA)
```

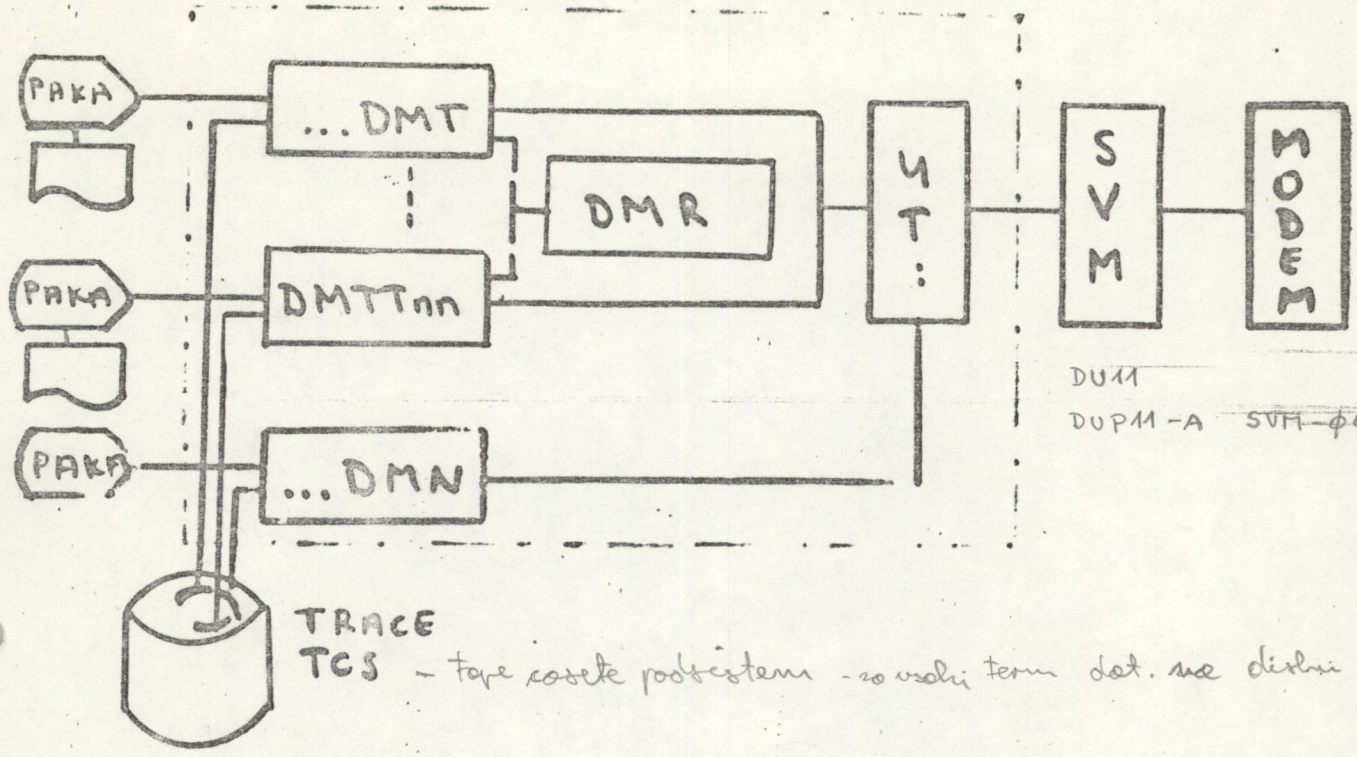
LAHKO POVEČAŠ
NE ŽMANJŠAT

OSBRA.==1 ϕ
           1

A.A.


M200
M200
1 ≤ 8
MULTIPLEXER
MODEM
MODEM
BSC PROTOCOL
(HNISCOPE / HP 2804)
EIA RS-232C
CCITT V.24

DMD-M



VT – fizicni layer – vodnor linije
– data link layer – BSC – data link control

DMT – emulator – data structure, CALL DMRINIT, EXIT

DMR – skupna koda za vse DMT – vse kode

DMD – demand monitor – vodorni terminal
– trace file