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Title:

AMX701 Testprogram.

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Abstract:

This paper describes a testprogram to AMX701.

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RCSL No 42-I 2164

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0001   .MAIN
01                ;
02                ;
03                ;TEST PROGRAM FOR AMX 701
04                ;
05                ;THESE PROGRAMS ARE TESTING ONE CHANNEL OUT OF EIGTH CHANNELS.
06                ;THE CHANNEL NO. IS CHANGED BY CHANGING THE CONTENTS OF CELL
07                ;NO.100
08                ;
09                ; THE SEX PROGRAMS ARE.
10                ;
11                ;       OUTPUT TEST     STARTING IN LOC. 400
12                ;       ONE CHAR TEST       -      - LOC. 500
13                ;       INPUT TEST          -      - LOC. 600
14                ;       STATUS TEST         -      - LOC. 1100
15                ;       MODEM TEST          -      - LOC. 2200
16                ;       INTERRUPT TEST      -      - LOC. 4400
17                ;
18                ;THE PROGRAMS CAN RUN WITH THE FOLLOWING CPU'S.
19                ;
20                ;       NOVA 1200
21                ;       NOVA 2 WITH  8K MEM
22                ;       NOVA 2 WITH 16K MEM
23                ;
24                ;THE REAL TIME CLOCK IS USED
25                ;
26                ;SWITCH SETTING.
27                ;
28                ;       OUTPUT TEST.
29                ;       SWITCH 0 TO ONE CHANGES THE BIT RATE TO THE WALLUE
30                ;       SELECTED BY THE SWITCH (12 : 15).
31                ;
32                ;       THE OTHER PROGRAMS.
33                ;       WHEN SWITCH 0 IS ZERO THE PROGRAM HALTS IF AN ERROR IS
34                ;       DETECTED. THE CONTENTS OF AC3 IS THE ADDRESS + 1 IN THE
35                ;       PROGRAM WHERE THE ERROR WAS DETECTED. SETTING SWITCH 0
36                ;       AFTER A HALT AND PRESSING CONTINUE MAKES THE PROGRAM TO
37                ;       RUN IN A SCOPE LOOP.
38                ;
39                ;       FOR ALL PROGRAMS.
40                ;       SETTING SWITCH 1 STOPS THE PROGRAM AFTER FINISHING THE
41                ;       PRESSENT RUNNING PROGRAM. PRESSING CONTINUE AFTER STOP
42                ;       MAKES THE PROGRAM RUN THE NEXT TEST. PRESSING CONTINUE
43                ;       AFTER INTERRUPT TEST MAKES THE PROGRAM INCREASE THE
44                ;       CHANNEL NO. AND START THE OUTPUT TEST.
45                ;
46                ;BEFORE STARTING  NEW PROGRAM THE MODEM SIGNALS SHOULD BEE CON-
47                ;NECTED LIKE IT IS DESCRIBED IN THE BEGINNING OF EACH PROGRAM
48                ;
49                ;THE DEVICE NO. IS 52
50                ;
51                ;
```

```
1 0002  .MAIN
01        000001          .LOC 1              ; INTERRUPT LOC.
02 00001  004564          IT000               ; ADDR. OF INTERRUPT HANDLER
03        000050          .LOC 50
04 00050  020000 IT100:   1B2                 ; AMX MASK BIT
05        000060          .LOC 60
06 00060  100030          100030
07 00061  100170          100170
08 00062  100070          100070
09 00063  100370          100370
10        000100          .LOC 100
11 00100  000004 CHANO:   4         ;CHANNEL NO.
12 00101  000101 CHA:     101
13 00102  000102 CHB:     102
14 00103  000003 CH.L:    3         ; 8 BITS
15 00104  000010 PARM:    10        ;NO PARITY AND 1 STOPBIT
16 00105  140101 C140101:           140101
17 00106  140001 C140001:           140001
18 00107  120200 C120200:           120200
19 00110  100200 C100200:           100200
20 00111  004401 C4401:   4401
21 00112  002201 C2201:   2201
22 00113  001101 C1101:   1101
23 00114  000601 C601:    601
24 00115  000501 C501:    501
25 00116  000401 C401:    401
26 00117  000370 C370:    370
27 00120  000340 C340:    340
28 00121  000300 C300:    300
29 00122  000200 C200:    200
30 00123  000060 C60:     60
31 00124  000040 C40:     40
32 00125  000037 C37:     37
33 00126  000026 C26:     26
34 00127  000025 C25:     25
35 00130  000024 C24:     24
36 00131  000022 C22:     22
37 00132  000021 C21:     21
38 00133  000020 C20:     20
39 00134  000017 C17:     17
40 00135  000016 C16:     16
41 00136  000014 C14:     14
42 00137  000013 C13:     13
43 00140  000011 C11:     11
44 00141  000010 C10:     10
45 00142  000007 C7:      7
46 00143  000006 C6:      6
47 00144  000005 C5:      5
48 00145  000004 C4:      4
49 00146  000003 C3:      3
50 00147  000002 C2:      2
```

```
| 0003   .MAIN
01 00150 177774 CM4:     -4
02 00151 177770 CM10:    -10
03 00152 177766 CM12:    -12
04 00153 177765 CM13:    -13
05 00154 177764 CM14:    -14
06 00155 177757 CM21:    -21
07 00156 177756 CM22:    -22
08 00157 177754 CM24:    -24
09 00160 177741 CM37:    -37
10 00161 177740 CM40:    -40
11 00162 177634 CM144:   -144
12 00163 000125 CHARU:   125
13 00164 000013 OPARA:   13       ;8 BITS NO PARITY 1 STOPBIT
14 00165 004576 WAIT:    EWAIT
15 00166 004602 ERR:     EERR
16 00167 004631 TR10:    ETR10
17 00170 004613 TR32:    ETR32
18 00171 004646 TIME:    ETIME
19       000052 AMX=52
20       000200          .LOC 200
21 00200 000000 PPOIN:   0
22 00201 000000 CHLEN:   0
```

```
| 0004   .MAIN
01          000300              .LOC 300
02  00300  000377 CH1:         377
03  00301  000177               177
04  00302  000277               277
05  00303  000337               337
06  00304  000357               357
07  00305  000367               367
08  00306  000373               373
09  00307  000375               375
10  00310  000376               376
11  00311  000000               000
12  00312  000200               200
13  00313  000100               100
14  00314  000040               040
15  00315  000020               020
16  00316  000010               010
17  00317  000004               004
18  00320  000002               002
19  00321  000001               001
20  00322  000125               125
21  00323  000252               252
22  00324  000063               063
23  00325  000314               314
24  00326  000077               077
25  00327  000317               317
26  00330  000363               363
27  00331  000374               374
28  00332  000300               300
29  00333  000060               060
30  00334  000014               014
31  00335  000003               003
32  00336  000360               360
33  00337  000017               017
```

```
I 0005  .MAIN
01                ; OUTPUT TEST PROGRAM FOR AMX701, FOR TEST OF
02                ; BIT RATE WITH OSCILLOSCOPE.
03                ; DATA SET READY SHALL BEE CONNECTED TO ON
04                ; READY FOR SENDING SHALL BEE CONNECTED TO ON
05                ;
06                ;TESTPLUG NO.1 CAN ALSO BEE USED
07                ;IF CHANO IS 0 TO 3 USE PLUG 1001 ELSE 1004.
08                ;
09        000400 .LOC     400
10  00400 063077 CALL:    HALT
11  00401 020100          LDA     0,CHANO
12  00402 101300          MOVS    0,0
13  00403 024141          LDA     1,C10
14  00404 107000          ADD     0,1
15  00405 065052          DOA     1,AMX     ;SET DATA TERM. READY ON
16  00406 006171          JSR     @TIME
17  00407 060477 A:       READS   0
18  00410 024134          LDA     1,C17
19  00411 107400          AND     0,1       ; NUMBER OF BITRATE READY
20  00412 020123          LDA     0,C60
21  00413 107000          ADD     0,1
22  00414 020100          LDA     0,CHANO
23  00415 101300          MOVS    0,0
24  00416 107000          ADD     0,1       ; INIT OF TRANS BIT RATE READY
25  00417 067052          DOC     1,AMX
26  00420 020164          LDA     0,OPARA
27  00421 024100          LDA     1,CHANO
28  00422 125300          MOVS    1,1
29  00423 107000          ADD     0,1       ; INIT OF PARAMETERS READY
30  00424 067052          DOC     1,AMX
31  00425 024100          LDA     1,CHANO
32  00426 125300          MOVS    1,1
33  00427 020131          LDA     0,C22
34  00430 107000          ADD     0,1       ; CLEAR AND TRANS MODE COMMAND READY
35  00431 065052 B:       DOA     1,AMX
36  00432 006165          JSR     @WAIT
37  00433 020100 LOOP:    LDA     0,CHANO
38  00434 101300          MOVS    0,0
39  00435 024142          LDA     1,C7
40  00436 107000          ADD     0,1       ; SELECT OUT BUFF STATUS READY
41  00437 065052          DOA     1,AMX
42  00440 006165          JSR     @WAIT
43  00441 060452          DIA     0,AMX     ; OUTPUT BUFFER STATUS IN AC0
44  00442 101103 C:       MOVL    0,0,SNC
45  00443 000770          JMP     LOOP
46  00444 020163          LDA     0,CHARU
47  00445 024100          LDA     1,CHANO
48  00446 125300          MOVS    1,1
49  00447 107000          ADD     0,1       ; OUTPUT CHAR READY
50  00450 066052          DOB     1,AMX
51  00451 060477          READS   0
52  00452 101102          MOVL    0,0,SZC
53  00453 000734          JMP     A
54  00454 101103          MOVL    0,0,SNC
55  00455 000756          JMP     LOOP
56  00456 063077          HALT              ; PROGRAM STOPPED BY OPERATER
57  00457 002115          JMP     @C501
```

```
| 0006  .MAIN
01                ;ONE CHARACTER TEST FOR AMX 701
02                ;
03                ;READY FOR SENDING SHALL BEE CONNECTED TO ON
04                ;DATA SET READY   -    -      -      -   -
05                ;TRANS DATA       -    -      -      -   REC DATA
06                ;
07                ;TEST PLUG NO.1 CAN ALSO BEE USED
08                ;IF CHANO IS 0 TO 3 USE PLUG 1001 ELSE 1004
09                ;
10        000500          .LOC 500
11  00500 063077          HALT
12  00501 020100          LDA     0,CHANO
13  00502 101300          MOVS    0,0
14  00503 024141          LDA     1,C10
15  00504 107000          ADD     0,1
16  00505 065052          DOA     1,AMX     ;SET DATA TERM. READY
17  00506 006171          JSR     @TIME
18  00507 024124          LDA     1,C40
19  00510 107000          ADD     0,1
20  00511 067052          DOC     1,AMX     ;INIT TRANS TO 9600 BPS
21  00512 030133          LDA     2,C20
22  00513 147000          ADD     2,1
23  00514 067052          DOC     1,AMX     ;INIT REC TO 9600 BPS
24  00515 024103          LDA     1,CH.L
25  00516 107000          ADD     0,1
26  00517 030104          LDA     2,PARM
27  00520 147000          ADD     2,1
28  00521 067052          DOC     1,AMX     ;INIT TO CH.L = 8
29                                          ;NO PARITY 1 STOPBIT
30                                          ;
31  00522 024133          LDA     1,C20
32  00523 107000          ADD     0,1
33  00524 065052          DOA     1,AMX     ;REC MODE WITH CLEAR
34  00525 006165          JSR     @WAIT
35  00526 024131          LDA     1,C22
36  00527 107000          ADD     0,1
37  00530 065052          DOA     1,AMX     ;TRANS MODE WITH CLEAR
38  00531 006165          JSR     @WAIT
39  00532 020100 POOL:    LDA     0,CHANO
40  00533 101300          MOVS    0,0
41  00534 024163          LDA     1,CHARU
42  00535 131000          MOV     1,2
43  00536 176620          SUBZR   3,3
44  00537 173000          ADD     3,2
45  00540 107000          ADD     0,1
46  00541 066052          DOB     1,AMX     ;XFER CHARU TO OUTBUFF
47  00542 006171          JSR     @TIME
48  00543 024145          LDA     1,C4
49  00544 107000          ADD     0,1
50  00545 065052          DOA     1,AMX     ;SELECT IN BUFF COMMAND
51  00546 006165          JSR     @WAIT
52  00547 060452          DIA     0,AMX
53  00550 105000          MOV     0,1
54  00551 146405          SUB     2,1,SNR
55  00552 000403          JMP     .+3
56  00553 006166          JSR     @ERR      ;INPUT IS DIFFERENT FROM OUTPUT
57  00554 000756          JMP     POOL      ;REC CHARACTER IS STORED IN AC0
58                                          ;TRANS    -     -   -     - AC2
59                                          ;
```

```
1 0007   .MAIN
01 00555 074477          READS    3
02 00556 177103          ADDL     3,3,SNC
03 00557 000753          JMP      POOL
04 00560 063077          HALT                ;PROGRAMSTOPPED BY OPERATOR
05 00561 002114          JMP      @C601
```

```
| 0008  .MAIN
01                ;INPUT TEST PROGRAM FOR AMX701
02                ;DATA SET READY SHALL BEE ON
03                ;READY FOR SENDING SHALL BEE ON
04                ;TRANS DATA SHALL BEE CONNECTED TO REC DATA
05                ;
06                ;TEST PLUG NO.1 CAN ALSO BEE USED
07                ;IF CHANO IS 0 TO 3 USE PLUG 1001 ELSE 1004
08                ;
09        000600          .LOC 600
10  00600 063077          HALT
11  00601 020100          LDA     0,CHANO
12  00602 101300          MOVS    0,0
13  00603 024141          LDA     1,C10
14  00604 107000          ADD     0,1
15  00605 065052          DOA     1,AMX     ;SET DATA TERM. READY ON
16  00606 006171          JSR     @TIME
17  00607 020151          LDA     0,CM10    ;SET ALL CHANNELS IN
18  00610 126440          SUBO    1,1       ;RECIEVE MODE AND CLEAR
19  00611 030133 REC.P:   LDA     2,C20     ;IN BUFFERS
20  00612 135500          MOVS    1,3
21  00613 173000          ADD     3,2
22  00614 071052          DOA     2,AMX
23  00615 006165          JSR     @WAIT
24  00616 125400          INC     1,1
25  00617 101404          INC     0,0,SZR
26  00620 000771          JMP     REC.P
27  00621 024146 AA:      LDA     1,C3      ;INIT BIT RATE TO 1200 BPS
28                                          ;FIRST REC THEN TRANS
29  00622 020124          LDA     0,C40
30  00623 107000          ADD     0,1
31  00624 020100          LDA     0,CHANO
32  00625 101300          MOVS    0,0
33  00626 107000          ADD     0,1       ;INIT OF REC BIT RATE READY
34  00627 067052          DOC     1,AMX
35  00630 030133          LDA     2,C20
36  00631 147000          ADD     2,1       ;INIT OF TRANS BIT RATE READY
37  00632 067052          DOC     1,AMX
38  00633 020103          LDA     0,CH.L    ;INIT PARITY AND LENGTH
39  00634 024104          LDA     1,PARM
40  00635 107000          ADD     0,1
41  00636 020100          LDA     0,CHANO
42  00637 101300          MOVS    0,0
43  00640 107000          ADD     0,1       ;INIT OF PARAMETERS READY
44  00641 067052          DOC     1,AMX
45  00642 020131          LDA     0,C22     ;SET TRANS MODE AND CLEAR
46  00643 024100          LDA     1,CHANO   ;OUT BUFF
47  00644 125300          MOVS    1,1
48  00645 107000          ADD     0,1       ;TRANS MODE COMMAND READY
49  00646 065052          DOA     1,AMX
50  00647 006165          JSR     @WAIT
```

```
I 0009  .MAIN
01 00650 030121 BB:     LDA     2,C300  ;TRANSFER 32 CHAR TO OUT BUFF
02 00651 024161         LDA     1,CM40
03 00652 021000         LDA     0,0,2
04 00653 034100         LDA     3,CHANO
05 00654 175300         MOVS    3,3
06 00655 163000         ADD     3,0
07 00656 062052         DOB     0,AMX
08 00657 006165         JSR     @WAIT
09 00660 151400         INC     2,2
10 00661 125404         INC     1,1,SZR
11 00662 000770         JMP     BB+2
12 00663 006171         JSR     @TIME
13 00664 006171         JSR     @TIME
14 00665 006171         JSR     @TIME
15 00666 020100 CC:     LDA     0,CHANO ;CHECK THAT OUT BUFF IS EMTY
16 00667 101300         MOVS    0,0
17 00670 024142         LDA     1,C7
18 00671 107000         ADD     0,1
19 00672 065052         DOA     1,AMX   ;SELECT OUT BUFF STATUS
20 00673 006165         JSR     @WAIT
21 00674 060452         DIA     0,AMX
22 00675 105000         MOV     0,1
23 00676 127102         ADDL    1,1,SZC
24 00677 000403         JMP     .+3
25 00700 006166         JSR     @ERR    ;OUT BUFFER SHOULD HAVE BEEN EMTY
26 00701 000765         JMP     CC      ;ACTUAL RECIEVED STATUS IN AC0
27                                      ;IF BUFF FULL CHECK
28                                      ;FOR CORRECT MODEM CONNECTIONS.
29                                      ;
30 00702 020100 DD:     LDA     0,CHANO ;CHECK THAT IN BUFF IS FULL
31 00703 101300         MOVS    0,0
32 00704 024143         LDA     1,C6
33 00705 107000         ADD     0,1
34 00706 065052         DOA     1,AMX
35 00707 006165         JSR     @WAIT
36 00710 060452         DIA     0,AMX
37 00711 101113         MOVL#   0,0,SNC
38 00712 000403         JMP     .+3
39 00713 006166         JSR     @ERR    ;IN BUFF SHOULD HAVE BEEN FULL
40 00714 000766         JMP     DD      ;ACTUAL RECIEVED STATUS IN AC0
41                                      ;IF BUFF EMTY CHECK
42                                      ;FOR CORRECT MODEM STATUS
43                                      ;
44 00715 030120 EE:     LDA     2,C340  ;READ 32 CHAR FROM IN BUFF
45 00716 024161         LDA     1,CM40
46 00717 020100 LOOP1:  LDA     0,CHANO
47 00720 101300         MOVS    0,0
48 00721 034145         LDA     3,C4
49 00722 117000         ADD     0,3     ;SELECT IN BUFF COMMAND READY
50 00723 075052         DOA     3,AMX
51 00724 006165         JSR     @WAIT
52 00725 060452         DIA     0,AMX
53 00726 041000         STA     0,0,2
54 00727 151400         INC     2,2
55 00730 125404         INC     1,1,SZR
56 00731 000766         JMP     LOOP1
```

```
1 0010  .MAIN
01 00732 034161 FF:      LDA     3,CM40
02 00733 030121          LDA     2,C300
03 00734 021000 LOOP2:   LDA     0,0,2    ;AC0= OUT CHAR
04 00735 126620          SUBZR   1,1
05 00736 123000          ADD     1,0
06 00737 024124          LDA     1,C40
07 00740 133000          ADD     1,2
08 00741 025000          LDA     1,0,2    ;AC1= IN CHAR
09 00742 106405          SUB     0,1,SNR
10 00743 000403          JMP     .+3      ;INPUT DIFFERENT FROM OUTPUT
11 00744 006166          JSR     @ERR
12 00745 000703          JMP     BB
13 00746 024124          LDA     1,C40
14 00747 132400          SUB     1,2
15 00750 151400          INC     2,2
16 00751 175404          INC     3,3,SZR
17 00752 000762          JMP     LOOP2
18 00753 020151 HH:      LDA     0,CM10   ;CHECK THAT ALL IN BUFFERS IS EMTY
19 00754 152440          SUBO    2,2
20 00755 155300 LOOP3:   MOVS    2,3
21 00756 024145          LDA     1,C4
22 00757 167000          ADD     3,1      ;SELECT IN BUFF COMMAND READY
23 00760 065052          DOA     1,AMX
24 00761 006165          JSR     @WAIT
25 00762 064452          DIA     1,AMX
26 00763 125113          MOVL#   1,1,SNC
27 00764 000403          JMP     .+3      ;INPUT IS NOT A STATUS WORD
28 00765 006166          JSR     @ERR     ;STATUS IS STORED IN AC1
29 00766 000765          JMP     HH       ;CHAN NO IS STORED IN AC2
30                                        ;
31 00767 125300          MOVS    1,1
32 00770 125112          MOVL#   1,1,SZC
33 00771 000403          JMP     .+3      ;INPUT IS NOT BUFF EMTY
34 00772 006166          JSR     @ERR     ;STATUS IS STORED IN AC1
35 00773 000760          JMP     HH       ;AFTER A SWAP INSTRUCTION
36                                        ;
37 00774 151400          INC     2,2
38 00775 101404          INC     0,0,SZR
39 00776 000757          JMP     LOOP3
40 00777 060477          READS   0
41 01000 103103          ADDL    0,0,SNC
42 01001 000620          JMP     AA
43 01002 063077          HALT             ;PROGRAM STOPPED BY OPERATOR
44 01003 002113          JMP     @C1101
```

```
| 0011  .MAIN
01                ;STATUS TEST PROGRAM FOR AMX701
02                ;
03                ;TRANS DATA SHALL BEE CONNECTED TO REC DATA
04                ;READY FOR SENDING SHALL BEE CONNECTED TO REQUEST TO SEND
05                ;DATA TERM READY     -    -      -     -  DATA SET READY
06                ;
07                ;TESTPLUG NO.1 CAN ALSO BEE USED
08                ;IF CHANO IS 0 TO 3 USE PLUG 1001 ELSE 1004
09                ;
10                ;THE PROGRAM FROM AAB TO DDD IS TESTING
11                ;THAT IT IS ABLE TO CLEAR IN BUFF AND OUT BUFF
12                ;
13        001100          .LOC 1100
14  01100 063077          HALT
15  01101 062677 AAB:     IORST
16  01102 006171          JSR     @TIME
17  01103 020100          LDA     0,CHANO ;INIT TO 1200 BPS FIRST REC
18  01104 101300          MOVS    0,0     ;THEN TRANS
19  01105 024124          LDA     1,C40
20  01106 107000          ADD     0,1
21  01107 030146          LDA     2,C3
22  01110 147000          ADD     2,1     ;INIT REC READY
23  01111 067052          DOC     1,AMX
24  01112 030133          LDA     2,C20
25  01113 147000          ADD     2,1     ;INIT TRANS READY
26  01114 067052          DOC     1,AMX
27  01115 024164          LDA     1,OPARA
28  01116 107000          ADD     0,1     ;INIT CHAR LENGTH 8 BITS
29  01117 067052          DOC     1,AMX   ;NO PARITY 1 STOPBIT
30  01120 024141          LDA     1,C10
31  01121 107000          ADD     0,1
32  01122 065052          DOA     1,AMX   ;SET DATA TERM READY ON
33  01123 006171          JSR     @TIME
34  01124 024131 AAA:     LDA     1,C22
35  01125 107000          ADD     0,1     ;CLEAR AND TRANS MODE READY
36  01126 065052          DOA     1,AMX
37  01127 006165          JSR     @WAIT
38  01130 030101 BBB:     LDA     2,CHA
39  01131 006167          JSR     @TR10   ;SEND 10 CHA TO OUT BUFF
40                                        ;
41  01132 065052          DOA     1,AMX   ;CLEAR THE 10 CHA IN OUT BUFF
42  01133 006171          JSR     @TIME
43  01134 024142          LDA     1,C7
44  01135 107000          ADD     0,1     ;SELECT OUT BUFF STATUS IS READY
45  01136 065052          DOA     1,AMX
46  01137 006165          JSR     @WAIT
47  01140 064452          DIA     1,AMX
48  01141 127104          ADDL    1,1,SZR
49  01142 000403          JMP     .+3
50  01143 006166          JSR     @ERR    ;OUT BUFF HAS JUST BEEN CLEARED BUT
51  01144 000764          JMP     BBB     ;BUFF STATUS IS NOT BUFF EMTY
```

```
| 0012  .MAIN
01 01145 024133 CCC:    LDA     1,C20
02 01146 107000         ADD     0,1     ;CLEAR AND REC MODE IS READY
03 01147 065052         DOA     1,AMX
04 01150 006165         JSR     @WAIT
05 01151 024143         LDA     1,C6
06 01152 107000         ADD     0,1     ;SELECT IN BUFF STATUS IS READY
07 01153 065052         DOA     1,AMX
08 01154 006165         JSR     @WAIT
09 01155 064452         DIA     1,AMX
10 01156 127114         ADDL#   1,1,SZR
11 01157 000403         JMP     .+3
12 01160 006166         JSR     @ERR    ;IN BUFF HAS JUST BEEN CLEARED BUT
13 01161 000764         JMP     CCC     ;BUFF STATUS IS NOT BUFF EMTY
14                                      ;
15 01162 030102 DDD:    LDA     2,CHB
16 01163 006167         JSR     @TR10   ;XFER 10 CHB TO OUT BUFF
17 01164 006171         JSR     @TIME
18 01165 024145         LDA     1,C4
19 01166 107000         ADD     0,1     ;SELECT IN BUFF IS READY
20 01167 065052         DOA     1,AMX
21 01170 006165         JSR     @WAIT
22 01171 064452         DIA     1,AMX
23 01172 152620         SUBZR   2,2
24 01173 147000         ADD     2,1
25 01174 030102         LDA     2,CHB
26 01175 132405         SUB     1,2,SNR
27 01176 000417         JMP     EEE     ;CHARACTER IS CORRECT.PROGRAM HAS
28 01177 030101         LDA     2,CHA   ;CLEARED OUT BUFF AS WANTED
29 01200 132404         SUB     1,2,SZR
30 01201 000403         JMP     .+3
31 01202 006166         JSR     @ERR    ;IN BUFF CONTAINS CHA IN STEAD OF CHB
32 01203 000725         JMP     BBB     ;TRANS MODE COMMAND WITH CLEAR HAS NOT
33                                      ;CLEARED OUT BUFF
34                                      ;
35 01204 131103         MOVL    1,2,SNC
36 01205 000403         JMP     .+3     ;INPUT IS NOT A STATUS WORD
37 01206 131300         MOVS    1,2
38 01207 151103         MOVL    2,2,SNC
39 01210 000403         JMP     .+3     ;INPUT IS NOT IN BUFF EMTY
40                                      ;
41 01211 006166         JSR     @ERR    ;NO INPUT HAS ARRIVED INTO IN BUFF
42 01212 000750         JMP     DDD     ;CHECK THAT MODEM SIGNALS ARE CONNECTED
43                                      ;LIKE DESCRIBED AND CHECK THAT DATA TERM.
44                                      ;READY GOES ON
45 01213 006166         JSR     @ERR
46 01214 000746         JMP     DDD     ;THE INPUT WORD IS NOT CHA OR CHB OR 1
47                                      ;BUFF EMTY.THE INPUT WORD IS STORED IN
48                                      ;AC1.
```

```
| 0013  .MAIN
01                ;PROGRAM EEE IS TESTING THAT REC COMMAND WITH CLEAR
02                ;CLEARS THE IN BUFF
03                ;
04  01215 024133  EEE:    LDA     1,C20
05  01216 107000          ADD     0,1       ;CLEAR AND REC MODE IS READY
06  01217 065052          DOA     1,AMX
07  01220 006165          JSR     @WAIT
08  01221 024145          LDA     1,C4
09  01222 107000          ADD     0,1       ;SELECT IN BUFF IS READY
10  01223 065052          DOA     1,AMX
11  01224 006165          JSR     @WAIT
12  01225 064452          DIA     1,AMX
13  01226 131103          MOVL    1,2,SNC
14  01227 000403          JMP     .+3       ;INPUT IS NOT A STATUS WORD
15  01230 151300          MOVS    1,2
16  01231 151102          MOVL    2,2,SZC
17  01232 000403          JMP     .+3
18  01233 006166          JSR     @ERR      ;IN BUFF HAS JUST BEEN CLEARED BUT
19  01234 000761          JMP     EEE       ;IN STATUS WORD IS NOT IN BUFF EMTY
20                ;
21                ;PROGRAM FFF IS TESTING THAT A STOP TRANS COMMAND
22                ;STOPS THE TRANSMISSION
23                ;
24  01235 020100  FFF:    LDA     0,CHANO
25  01236 101300          MOVS    0,0
26  01237 024146          LDA     1,C3
27  01240 107000          ADD     0,1       ;STOP TRANS MODE COMMAND IS READY
28  01241 065052          DOA     1,AMX
29  01242 006165          JSR     @WAIT
30  01243 030101          LDA     2,CHA
31  01244 006170          JSR     @TR32     ;XFER 32 CHA TO OUT BUFF
32  01245 006171          JSR     @TIME
33  01246 024142          LDA     1,C7      ;SELECT OUT BUFF STATUS COMMAND IS READY
34  01247 107000          ADD     0,1
35  01250 065052          DOA     1,AMX
36  01251 006165          JSR     @WAIT
37  01252 064452          DIA     1,AMX
38  01253 131103          MOVL    1,2,SNC
39  01254 000403          JMP     .+3
40  01255 006166          JSR     @ERR      ;THE CHANNEL IS NOT IN TRANS MODE BUT
41  01256 000757          JMP     FFF       ;CHARACTERS DO NOT STAY IN THE OUT BUFF
42                                          ;IS THE CHANNEL TRANSMITTING?
43                                          ;STATUS RECIEVED IS STORED IN AC1
44                                          ;
```

```
I 0014   .MAIN
01                ;PROGRAM GGG IS TESTING THAT A STOP REC COMMAND
02                ;STOPS THE RECIEVING
03                ;
04 01257 024133 GGG:     LDA      1,C20
05 01260 107000          ADD      0,1       ;CLEAR AND REC MODE IS READY
06 01261 065052          DOA      1,AMX
07 01262 006165          JSR      @WAIT
08 01263 126520          SUBZL    1,1
09 01264 107000          ADD      0,1
10 01265 065052          DOA      1,AMX     ;STOP REC MODE COMMAND
11 01266 006165          JSR      @WAIT
12 01267 024147          LDA      1,C2
13 01270 107000          ADD      0,1       ;TRANS MODE COMMAND IS READY
14 01271 065052          DOA      1,AMX
15 01272 006165          JSR      @WAIT
16 01273 030101          LDA      2,CHA
17 01274 006170          JSR      @TR32
18 01275 006171          JSR      @TIME
19 01276 006171          JSR      @TIME
20 01277 006171          JSR      @TIME
21 01300 024143          LDA      1,C6
22 01301 107000          ADD      0,1       ;SELECT IN BUFF STATUS COMMAND IS READY
23 01302 065052          DOA      1,AMX
24 01303 006165          JSR      @WAIT
25 01304 064452          DIA      1,AMX
26 01305 127112          ADDL#    1,1,SZC
27 01306 000403          JMP      .+3
28 01307 002166          JMP      @ERR      ;SOME CHARACTERS OR STATUS WORDS HAS
29 01310 000725          JMP      FFF       ;ARRIVED INTO THE IN BUFF WHEN
30                                          ;THE REC MODE WAS OFF
```

```
I 0015  .MAIN
01              ;PROGRAM HHH TO MM IS TESTING THAT THE MODEM SIGNAL
02              ;DATA SET READY STOPS RECIEVING AND TRANSMITTING
03              ;WHEN IT GOES OFF
04              ;
05 01311 020100 HHH:    LDA     0,CHANO
06 01312 101300         MOVS    0,0
07 01313 024144         LDA     1,C5
08 01314 107000         ADD     0,1     ;SELECT MODEM STATUS COMMAND IS READY
09 01315 065052         DOA     1,AMX
10 01316 006165         JSR     @WAIT
11 01317 060452         DIA     0,AMX
12 01320 105104         MOVL    0,1,SZR
13 01321 000402         JMP     .+2
14 01322 125103         MOVL    1,1,SNC
15 01323 000402         JMP     .+2
16 01324 125105         MOVL    1,1,SNR
17 01325 000403         JMP     .+3
18 01326 006166         JSR     @ERR    ;THE MODEM STATUS IS NOT CORRECT
19 01327 000762         JMP     HHH     ;STATUS SHOULD BEE.
20                                      ;BIT 0 ZERO  CALLING INDICATOR
21                                      ;BIT 1 ONE   CARRIER OF
22                                      ;BIT 2 ZERO  DATA SET READY OF
23                                      ;ACTUAL STATUS IN AC0
24 01330 020100         LDA     0,CHANO
25 01331 101300         MOVS    0,0
26 01332 000405         JMP     JK
27 01333 024141 JJ:     LDA     1,C10
28 01334 107000         ADD     0,1
29 01335 065052         DOA     1,AMX   ;SET DATA TERM. READY ON
30 01336 006165         JSR     @WAIT
31 01337 024133 JK:     LDA     1,C20
32 01340 107000         ADD     0,1
33 01341 065052         DOA     1,AMX   ;REC MODE WITH CLEAR
34 01342 006165         JSR     @WAIT
35 01343 024146         LDA     1,C3
36 01344 107000         ADD     0,1     ;STOP TRANS MODE COMMAND IS READY
37 01345 065052         DOA     1,AMX
38 01346 030163         LDA     2,CHARU
```

```
1 0016   .MAIN
01 01347 006170          JSR      @TR32    ;XFER 32 CHARU TO OUT BUFF
02 01350 126620          SUBZR    1,1
03 01351 133000          ADD      1,2
04 01352 024147          LDA      1,C2
05 01353 107000          ADD      0,1      ;TRANS MODE COMMAND IS READY
06 01354 065052          DOA      1,AMX
07 01355 006171 KK:      JSR      @TIME
08 01356 024140          LDA      1,C11
09 01357 107000          ADD      0,1      ;DATA TERM. READY OFF COMMAND IS READY
10 01360 065052          DOA      1,AMX
11 01361 006165          JSR      @WAIT
12 01362 024145 LL:      LDA      1,C4
13 01363 107000          ADD      0,1      ;SELECT IN BUFF COMMAND IS READY
14 01364 020154          LDA      0,CM14
15 01365 065052 LLM:     DOA      1,AMX
16 01366 006165          JSR      @WAIT
17 01367 074452          DIA      3,AMX
18 01370 156404          SUB      2,3,SZR
19 01371 000404          JMP      LMM      ;INPUT IS NOT CHARU
20 01372 101404          INC      0,0,SZR
21 01373 000772          JMP      LLM
22 01374 000403          JMP      LM
23 01375 006166 LMM:     JSR      @ERR     ;THE FIRST 12 CHARACTERS IS NOT CHARU
24 01376 000735          JMP      JJ       ;AC2=CHARU.
```

```
I 0017  .MAIN
01 01377 065052 LM:     DOA     1,AMX
02 01400 006165         JSR     @WAIT
03 01401 070452         DIA     2,AMX
04 01402 155102         MOVL    2,3,SZC
05 01403 000402         JMP     .+2         ;INPUT NO. 12 IS NOT A STATUS WORD
06 01404 175102         MOVL    3,3,SZC
07 01405 000402         JMP     .+2         ;INPUT NO. 12 IS CALLING INDICATOR
08 01406 175103         MOVL    3,3,SNC
09 01407 000403         JMP     .+3         ;INPUT NO. 12 IS CARRIER ON
10 01410 175102         MOVL    3,3,SZC
11 01411 000403         JMP     MM          ;INPUT FROM IN BUFF IS OK
12                                          ;
13 01412 006166         JSR     @ERR        ;INPUT NO. 12 SHOULD BEE
14 01413 000720         JMP     JJ          ;BIT 0  ZERO  STATUS WORD
15                                          ;BIT 1  ZERO CALLING INDICATOR
16                                          ;BIT 2  ONE  CARRIER OFF
17                                          ;BIT 3  ONE  DATA SET NOT READY
18                                          ;AC2 CONTAINS ACTUAL INPUT
19                                          ;
20 01414 065052 MM:     DOA     1,AMX       ;SELECT IN BUFF COMMAND
21 01415 006165         JSR     @WAIT
22 01416 064452         DIA     1,AMX
23 01417 131112         MOVL#   1,2,SZC
24 01420 000404         JMP     .+4         ;INPUT IS NOT A STATUS WORD
25 01421 131300         MOVS    1,2
26 01422 151102         MOVL    2,2,SZC
27 01423 000403         JMP     .+3
28 01424 006166         JSR     @ERR        ;STATUS IS NOT IN BUFF EMTY
29 01425 000706         JMP     JJ          ;AC1 CONTAINS ACTUAL INPUT
30                                          ;
31              ;PROGRAM NN TO OO USES THE CLEAR ONE CHAR COMMAND
32              ;TO REMOVE THE CHARACTERS LEFT IN THE OUT BUFF
33              ;FROM PROGRAM HHH TO MM
34              ;
35 01426 020100 NN:     LDA     0,CHANO
36 01427 101300         MOVS    0,0
37 01430 024134         LDA     1,C17
38 01431 107000         ADD     0,1         ;CLEAR ONE CHAR COMMAND IS READY
39 01432 020155         LDA     0,CM21      ;AC0 IS USED AS COUNTER
40                                          ;THE PROGRAM SENDS CLEAR ONE CHAR 21
41                                          ;TIMES OCTAL IN THIS ROUTINE
42 01433 065052 OO:     DOA     1,AMX
43 01434 006165         JSR     @WAIT
44 01435 070452         DIA     2,AMX
45 01436 155103         MOVL    2,3,SNC
46 01437 000404         JMP     .+4         ;STATUS IS NOT LAST CLEARED CHAR
47 01440 101404         INC     0,0,SZR
48 01441 000772         JMP     OO
49 01442 000403         JMP     OP
50 01443 006166         JSR     @ERR        ;THE PROGRAM IS CLEARING THE FIRST 21
51 01444 000767         JMP     OO          ;CHAR IN OUT BUFF.THE STATUS IS
52                                          ;LAST CHAR CLEARED, WHITCH IS WRONG
```

```
0018  .MAIN
01445 065052 OP:     DOA     1,AMX
01446 006165         JSR     @WAIT
01447 070452         DIA     2,AMX
01450 155103         MOVL    2,3,SNC
01451 000403         JMP     .+3
01452 006166         JSR     @ERR     ;THE PROGRAM HAS CLEARED THE LAST CHAR
01453 000772         JMP     OP       ;IN OUT BUFF. STATUS SHOULD BEE LAST CHAR
                                      ;CLEARED. ACTUAL STATUS IS STORED IN AC2
                     ;
                     ;PROGRAM PP TO RR SETS DATA SET READY ON AGAIN
                     ;AND TEST THAT THE STATUS DATA SET NOT READY IS STORED
                     ;UNTIL NEXT SELECT MODEM STATUS COMMAND
                     ;
01454 020100 PP:     LDA     0,CHANO
01455 101300         MOVS    0,0
01456 024144         LDA     1,C5
01457 107000         ADD     0,1      ;SELECT MODEM STATUS COMMAND IS READY
01460 065052         DOA     1,AMX
01461 006165         JSR     @WAIT
01462 070452         DIA     2,AMX
01463 155102         MOVL    2,3,SZC
01464 000402         JMP     .+2
01465 175103         MOVL    3,3,SNC
01466 000403         JMP     .+3
01467 175102         MOVL    3,3,SZC
01470 000403         JMP     .+3
01471 006166         JSR     @ERR     ;STATUS ERROR. WANTED STATUS IS.
01472 000762         JMP     PP       ;BIT 0 ZERO  CALLING INDICATOR
                                      ;BIT 1 ONE   CARRIER OFF
                                      ;BIT 2 ONE   DATA SET NOT READY
                                      ;ACTUAL STATUS IS STORED IN AC2
01473 024141 QQ:     LDA     1,C10
01474 107000         ADD     0,1      ;DATA TERM. READY ON COMMAND IS READY
01475 065052         DOA     1,AMX
01476 006171         JSR     @TIME
01477 024144         LDA     1,C5
01500 107000         ADD     0,1      ;SELECT MODEM STATUS COMMAND IS READY
01501 065052         DOA     1,AMX
01502 006165         JSR     @WAIT
01503 070452         DIA     2,AMX
01504 155100         MOVL    2,3
01505 175100         MOVL    3,3
01506 175103         MOVL    3,3,SNC
01507 000403         JMP     .+3
01510 006166         JSR     @ERR     ;STATUS ERROR. DATA SET NOT READY SHOULD
01511 000762         JMP     QQ       ;BEE ON AGAIN. BIT 2 SHOULD BEE ZERO
                                      ;ACTUAL RECIEVED STATUS IS IN AC2
```

```
I 0019  .MAIN
01                ;PROGRAM SS TESTS TRANS BREAK AND REC BREAK
02                ;
03 01512 020100 SS:     LDA     0,CHANO
04 01513 101300         MOVS    0,0
05 01514 024133         LDA     1,C20
06 01515 107000         ADD     0,1
07 01516 065052         DOA     1,AMX   ;REC MODE WITH CLEAR
08 01517 006165         JSR     @WAIT
09 01520 024136         LDA     1,C14
10 01521 107000         ADD     0,1     ;START BREAK COMMAND IS READY
11 01522 065052         DOA     1,AMX
12 01523 006171         JSR     @TIME
13 01524 152520         SUBZL   2,2
14 01525 147000         ADD     2,1     ;STOP BREAK COMMAND IS READY
15 01526 065052         DOA     1,AMX
16 01527 006165         JSR     @WAIT
17 01530 024145         LDA     1,C4
18 01531 107000         ADD     0,1     ;SELECT IN BUFF COMMAND IS READY
19 01532 065052         DOA     1,AMX
20 01533 006165         JSR     @WAIT
21 01534 070452         DIA     2,AMX
22 01535 155103         MOVL    2,3,SNC
23 01536 000402         JMP     .+2     ;INPUT IS A STATUS WORD
24 01537 175102         MOVL    3,3,SZC
25 01540 000402         JMP     .+2
26 01541 175103         MOVL    3,3,SNC
27 01542 000403         JMP     .+3
28 01543 175102         MOVL    3,3,SZC
29 01544 000403         JMP     .+3
30 01545 006166         JSR     @ERR    ;INPUT CHARACTER IS NOT A BREAK
31 01546 000744         JMP     SS      ;  -       -    -  STORED IN AC2
32                                      ;
```

```
I 0020  .MAIN
01              ;PROGRAM TT TESTS THE OVERRUN FUNCTION
02              ;
03 01547 020100 TT:     LDA     0,CHANO
04 01550 101300         MOVS    0,0
05 01551 024133         LDA     1,C20
06 01552 107000         ADD     0,1     ;REC MODE WITH CLEAR IS READY
07 01553 065052         DOA     1,AMX
08 01554 006165         JSR     @WAIT
09 01555 024131         LDA     1,C22
10 01556 107000         ADD     0,1     ;TRANS MODE WITH CLEAR COMMAND IS READY
11 01557 065052         DOA     1,AMX
12 01560 006165         JSR     @WAIT
13 01561 030163         LDA     2,CHARU
14 01562 006170         JSR     @TR32   ;XFER 32 CHARU TO OUT BUFF
15 01563 006171         JSR     @TIME
16 01564 113000         ADD     0,2
17 01565 072052         DOB     2,AMX   ;XFER 1 CHARU TO OUT BUFF
18 01566 006171         JSR     @TIME
19 01567 006171         JSR     @TIME
20 01570 006171         JSR     @TIME
21 01571 024145         LDA     1,C4
22 01572 107000         ADD     0,1     ;SELECT IN BUFF COMMAND IS READY
23 01573 065052         DOA     1,AMX
24 01574 006165         JSR     @WAIT
25 01575 070452         DIA     2,AMX
26 01576 155102         MOVL    2,3,SZC
27 01577 000403         JMP     .+3
28 01600 155300         MOVS    2,3
29 01601 175102         MOVL    3,3,SZC
30 01602 000403         JMP     .+3
31 01603 175102         MOVL    3,3,SZC
32 01604 000403         JMP     .+3
33 01605 006166         JSR     @ERR    ;STATUS IS NOT OVERRUN
34 01606 000741         JMP     TT      ;ACTUAL STATUS IS STORED IN AC2
```

```
| 0021   .MAIN
01                ;PROGRAM UU TO XX TESTS THAT THE RECIEVER GIVES THE STATUS
02                ;INVALID STOPBIT FOR A ZERO STOPBIT. THIS IS DONE BY USING
03                ;DIFFERENT BIT RATE FOR RECIEVER AND TRANSMITTER.
04                ;THE PROGRAM ALSO TESTS THE TRANSMISSION OF 2 STOPBITS.
05                ;
06 01607 020100 UU:       LDA     0,CHANO
07 01610 101300           MOVS    0,0
08 01611 024123           LDA     1,C60
09 01612 107000           ADD     0,1
10 01613 030143           LDA     2,C6
11 01614 147000           ADD     2,1       ;INIT OF 220 BPS FOR TRANSMIT IS READY
12 01615 067052           DOC     1,AMX
13 01616 024124           LDA     1,C40
14 01617 107000           ADD     0,1
15 01620 030142           LDA     2,C7
16 01621 147000           ADD     2,1       ;INIT 200 BPS FOR RECIEVE IS READY
17 01622 067052           DOC     1,AMX
18 01623 024131 VV:       LDA     1,C22
19 01624 107000           ADD     0,1
20 01625 065052           DOA     1,AMX     ;CLEAR AND TRANS MODE COMMAND
21 01626 006165           JSR     @WAIT
22 01627 024133           LDA     1,C20
23 01630 107000           ADD     0,1
24 01631 065052           DOA     1,AMX     ;CLEAR AND REC MODE COMMAND
25 01632 006165           JSR     @WAIT
26 01633 126440           SUBO    1,1
27 01634 107000           ADD     0,1
28 01635 066052           DOB     1,AMX
29 01636 006165           JSR     @WAIT     ;XFER TWO CHARACTERS TO OUT BUFF
30 01637 066052           DOB     1,AMX     ;BOTH CHARACTERS IS ZERO
31 01640 006171           JSR     @TIME
32 01641 024145           LDA     1,C4
33 01642 107000           ADD     0,1       ;SELECT IN BUFF COMMAND IS READY
34 01643 065052           DOA     1,AMX
35 01644 006165           JSR     @WAIT
36 01645 064452           DIA     1,AMX
37 01646 030107           LDA     2,C120200
38 01647 132405           SUB     1,2,SNR
39 01650 000403           JMP     .+3
40 01651 006166           JSR     @ERR      ;INPUT SHOULD BEE A CHAR 200
41 01652 000751           JMP     VV        ;OCTAL AND WITH INVALID
42                                          ;STOPBIT. AC1 CONTAINS ACTUAL
43                                          ;RECIEVED CHAR
44                                          ;
45 01653 024125 XX:       LDA     1,C37
46 01654 107000           ADD     0,1       ;INIT OF TWO STOPBIT IS READY
47 01655 067052           DOC     1,AMX
48 01656 126440           SUBO    1,1
49 01657 107000           ADD     0,1
50 01660 066052           DOB     1,AMX
51 01661 006165           JSR     @WAIT     ;XFER TWO CHARACTERS TO OUT BUFF
52 01662 066052           DOB     1,AMX
53 01663 006171           JSR     @TIME
```

```
1 0022  .MAIN
01 01664 024145          LDA     1,C4
02 01665 107000          ADD     0,1     ;SELECT IN BUFF COMMAND IS READY
03 01666 065052          DOA     1,AMX
04 01667 006165          JSR     @WAIT
05 01670 064452          DIA     1,AMX
06 01671 030110          LDA     2,C100200
07 01672 146405          SUB     2,1,SNR
08 01673 000403          JMP     .+3
09 01674 006166          JSR     @ERR    ;INPUT SHOULD BEE CHAR 200 WITH
10 01675 000756          JMP     XX      ;OUT INVALID STOPBIT. AC2 CONTAINS
11                                       ;ACTUAL RECIEVED CHAR
12                                       ;
13               ;PROGRAM YY TO PP TESTS THE PARITY FUNCTION FOR
14               ;REC AND TRANS. THIS IS ALSO DONE BY USING DIFFERENT
15               ;BIT RATE FOR REC AND TRANS
16               ;
17 01676 020100 YY:      LDA     0,CHANO
18 01677 101300          MOVS    0,0
19 01700 024133          LDA     1,C20
20 01701 107000          ADD     0,1     ;REC MODE WITH CLEAR IS READY
21 01702 065052          DOA     1,AMX
22 01703 006165          JSR     @WAIT
23 01704 024127          LDA     1,C25   ;INIT OF 7 BITS EVEN PARITY AND
24 01705 107000          ADD     0,1     ;2 STOPBITS IS READY
25 01706 067052          DOC     1,AMX
26 01707 126520          SUBZL   1,1
27 01710 107000          ADD     0,1     ;CHAR=001 IS READY
28 01711 066052          DOB     1,AMX
29 01712 006171          JSR     @TIME
30 01713 024145          LDA     1,C4
31 01714 107000          ADD     0,1     ;SELECT IN BUFF COMMAND IS READY
32 01715 065052          DOA     1,AMX
33 01716 006165          JSR     @WAIT
34 01717 070452          DIA     2,AMX
35 01720 034105          LDA     3,C140101
36 01721 156405          SUB     2,3,SNR
37 01722 000403          JMP     .+3
38 01723 006166          JSR     @ERR    ;THE RECIEVED CHAR SHOULD BEE
39 01724 000752          JMP     YY      ;101 OCT WITH PARITY
40                                       ;ACTUAL RECIEVED CHAR IS STORED
41                                       ;IN AC2
```

```
| 0023   .MAIN
01 01725 024132 ZZ:     LDA     1,C21
02 01726 107000         ADD     0,1     ;INIT OF 7 BIT ODD PARITY AND TWO
03 01727 067052         DOC     1,AMX   ;STOPBITS IS READY
04 01730 126520         SUBZL   1,1
05 01731 107000         ADD     0,1     ;CHARACTER = 001 IS READY
06 01732 066052         DOB     1,AMX
07 01733 006171         JSR     @TIME
08 01734 024145         LDA     1,C4    ;SELECT IN BUFF IS READY
09 01735 107000         ADD     0,1
10 01736 065052         DOA     1,AMX
11 01737 006165         JSR     @WAIT
12 01740 070452         DIA     2,AMX
13 01741 034106         LDA     3,C140001
14 01742 156405         SUB     2,3,SNR
15 01743 000403         JMP     .+3
16 01744 006166         JSR     @ERR    ;THE RECIEVED CHARACTER SHOULD
17 01745 000760         JMP     ZZ      ;BEE 001 OCT WITH PARITY
18                                      ;ACTUAL RECIEVED CHAR IS STORED IN AC2
19 01746 024143 PPP:    LDA     1,C6
20 01747 107000         ADD     0,1     ;INIT 220 BPS FOR REC IS READY
21 01750 030124         LDA     2,C40
22 01751 147000         ADD     2,1
23 01752 067052         DOC     1,AMX
24 01753 126520         SUBZL   1,1     ;CHAR = 001 IS READY
25 01754 107000         ADD     0,1
26 01755 066052         DOB     1,AMX
27 01756 006171         JSR     @TIME
28 01757 024145         LDA     1,C4
29 01760 107000         ADD     0,1     ;SELECT IN BUFF COMMAND IS READY
30 01761 065052         DOA     1,AMX
31 01762 006165         JSR     @WAIT
32 01763 070452         DIA     2,AMX
33 01764 176520         SUBZL   3,3
34 01765 156404         SUB     2,3,SZR
35 01766 000403         JMP     .+3
36 01767 006166         JSR     @ERR    ;TRANS AND REC HAVE NOW THE SAME
37 01770 000756         JMP     PPP     ;BIT RATE AND THE RECIEVED CHAR
38 01771 000401         JMP     .+1     ;SHOULD BEE 001 WITHOUT PARITY
39                                      ;ACTUAL RECIEVED CHAR IS STORED IN AC2
```

```
| 0024  .MAIN
01                ;PROGRAN QQQ TO QQL IS TESTING REC AND TRANS WITH
02                ;NO PARITY, EVEN PARITY AND ODD PARITY, AND
03                ;WITH CHAR LENGTH OF 5 BITS,6 BITS,7 BITS AND 8 BITS
04                ;
05 01772 020100 QQQ:     LDA     0,CHANO
06 01773 101300          MOVS    0,0
07 01774 024133          LDA     1,C20
08 01775 107000          ADD     0,1       ;REC MODE WITH CLEAR IS READY
09 01776 065052          DOA     1,AMX
10 01777 006165          JSR     @WAIT
11 02000 024131          LDA     1,C22
12 02001 107000          ADD     0,1       ;TRANS MODE WITH CLEAR IS READY
13 02002 065052          DOA     1,AMX
14 02003 006165          JSR     @WAIT
15 02004 152520          SUBZL   2,2
16 02005 024124          LDA     1,C40
17 02006 147000          ADD     2,1
18 02007 107000          ADD     0,1       ;INIT REC TO 4800 BPS IS READY
19 02010 067052          DOC     1,AMX
20 02011 030133          LDA     2,C20
21 02012 147000          ADD     2,1       ;INIT TRANS TO 4800 BPS IS READY
22 02013 067052          DOC     1,AMX     ;
23 02014 006171          JSR     @TIME     ;
24                                         ;
25 02015 102440 QQA:     SUBO    0,0
26 02016 040200          STA     0,PPOIN ;PPOIN IS PARITY POINTER
27                                         ;PPOIN = 00 ODD PARITY
28                                         ;  -    = 01 EVEN    -
29                                         ;  -    = 10 NO      -
30 02017 102440 QQB:     SUBO    0,0
31 02020 040201          STA     0,CHLEN ;CHLEN IS CHARACTER LENGTH POINTER
32                                         ;CHLEN = 00 5 BITS
33                                         ;  -    = 10 6 BITS
34                                         ;  -    = 01 7 BITS
35                                         ;  -    = 11 8 BITS
36 02021 024200 QQC:     LDA     1,PPOIN
37 02022 127120          ADDZL   1,1
38 02023 030201          LDA     2,CHLEN
39 02024 147000          ADD     2,1
40 02025 020100          LDA     0,CHANO
41 02026 101300          MOVS    0,0
42 02027 107000          ADD     0,1       ;INIT OF PARAMETERS IS READY
43 02030 067052          DOC     1,AMX
44 02031 030117 QQD:     LDA     2,C370
45 02032 006170          JSR     @TR32     ;XFER 32 CHAR C370 TO OUT BUFF
46 02033 006171          JSR     @TIME
```

```
I 0025  .MAIN
01 02034 020161 QQE:    LDA     0,CM40
02 02035 034123 QQF:    LDA     3,C60
03 02036 030201         LDA     2,CHLEN
04 02037 157000         ADD     2,3       ;AC3 = ADDRESS OF MASK
05 02040 031400         LDA     2,0,3     ;AC2 = MASK
06 02041 024145 QQG:    LDA     1,C4
07 02042 034100         LDA     3,CHANO
08 02043 175300         MOVS    3,3
09 02044 167000         ADD     3,1       ;SELECT IN BUFF COMMAND IS READY
10 02045 065052         DOA     1,AMX
11 02046 006165         JSR     @WAIT
12 02047 064452         DIA     1,AMX
13 02050 132405         SUB     1,2,SNR
14 02051 000403         JMP     .+3
15 02052 006166         JSR     @ERR      ;DIFFERENCE BETWEEN INPUT AND
16 02053 000717         JMP     QQQ       ;WANTED INPUT
17                                        ;ACTUAL INPUT IS STORED IN AC1
18                                        ;CHAR LENGTH  -     -    - CELL 201
19                                        ;PARITY       -     -    -  -   200
20 02054 101404 QQH:    INC     0,0,SZR
21 02055 000760         JMP     QQF
22 02056 010201 QQJ:    ISZ     CHLEN
23 02057 020145         LDA     0,C4
24 02060 024201         LDA     1,CHLEN
25 02061 106404         SUB     0,1,SZR
26 02062 000737         JMP     QQC
27 02063 010200 QQK:    ISZ     PPOIN
28 02064 020146         LDA     0,C3
29 02065 024200         LDA     1,PPOIN
30 02066 106404         SUB     0,1,SZR
31 02067 000730         JMP     QQB
32 02070 102400 QQL:    SUB     0,0
33 02071 020200         LDA     0,PPOIN
34 02072 020201         LDA     0,CHLEN
35 02073 064477         READS   1
36 02074 127103         ADDL    1,1,SNC
37 02075 002113         JMP     @C1101
38 02076 063077         HALT              ;PROGRAM IS STOPPED BY OPERATOR
39 02077 063077         HALT              ;CHANGE TESTPLUG BEFORE MØDEM TEST
40 02100 002112         JMP     @C2201
```

```
I 0026  .MAIN
01                ;MODEM TEST FOR AMX701
02                ;
03                ;THIS PROGRAM TESTS THE MODEM SIGNALS CARRIER
04                ;AND CALLING INDICATOR. THE OTHER MODEM SIGNALS
05                ;ARE TESTED UNDER THE STATUS TEST.
06                ;
07                ;DATA SET READY AND READY TOR SENDING SHALL BEE ON
08                ;REQUEST TO SEND SHALL BEE CONNECTED TO CARRIER
09                ;DATA TERM READY   -    -      -     - CALLING
10                ;INDICATOR
11                ;
12                ;TESTPLUG NO.2 CAN ALSO BEE USED
13                ;IF CHANO IS 0 TO 3 USE PLUG 1001 ELSE 1004
14                ;
15                ;PROGRAM AAAA TO GGGG IS TESTING THAT TRANS MODE
16                ;SETS REQUEST TO SEND AND THAT CARRIER WHEN IT
17                ;GOES FROM ON TO OF SETS A STATUS WORD IN
18                ;THE INPUT BUFF.
19                ;
20        002200          .LOC 2200
21  02200 063077          HALT
22  02201 062677 AAAA:    IORST
23  02202 006171          JSR     @TIME
24  02203 020100          LDA     0,CHANO
25  02204 101300          MOVS    0,0
26  02205 024144          LDA     1,C5
27  02206 107000          ADD     0,1
28  02207 065052          DOA     1,AMX     ;SELECT MODEM STATUS COMMAND
29  02210 006165          JSR     @WAIT
30  02211 064452          DIA     1,AMX
31  02212 131102          MOVL    1,2,SZC
32  02213 000402          JMP     .+2
33  02214 151103          MOVL    2,2,SNC
34  02215 000402          JMP     .+2
35  02216 151103          MOVL    2,2,SNC
36  02217 000403          JMP     .+3
37  02220 006166          JSR     @ERR      ;MODEM STATUS IS NOT CORRECT
38  02221 000760          JMP     AAAA      ;STATUS SHOULD BEE
39                                          ;BIT 0 ZERO CALLING INDICATOR
40                                          ;BIT 1 ONE  CARRIER OF
41                                          ;BIT 2 ZERO DATA SET NOT READY
42                                          ;ACTUAL STATUS IN AC1
43  02222 126520 BBBB:    SUBZL   1,1
44  02223 107000          ADD     0,1
45  02224 030124          LDA     2,C40
46  02225 147000          ADD     2,1       ;INIT BIT RATE TO 9600 BPS
47  02226 067052          DOC     1,AMX     ;FOR REC
48  02227 030133          LDA     2,C20
49  02230 147000          ADD     2,1       ;INIT BIT RATE TO 9600 BPS
50  02231 067052          DOC     1,AMX     ;FOR TRANS
51  02232 024134          LDA     1,C17
52  02233 107000          ADD     0,1       ;INIT CHANNEL TO 8 BIT
53  02234 067052          DOC     1,AMX     ;1 STOPBIT AND NO PARITY
```

```
I 0027   .MAIN
01 02235 024133 CCCC:   LDA     1,C20
02 02236 107000         ADD     0,1
03 02237 065052         DOA     1,AMX   ;CLEAR AND REC MODE COMMAND
04 02240 006165         JSR     @WAIT
05 02241 024131         LDA     1,C22
06 02242 107000         ADD     0,1
07 02243 065052         DOA     1,AMX   ;CLEAR AND TRANS MODE COMMAND
08 02244 006165         JSR     @WAIT
09 02245 024145         LDA     1,C4
10 02246 107000         ADD     0,1
11 02247 065052         DOA     1,AMX   ;SELECT IN BUFF COMMAND
12 02250 006165         JSR     @WAIT
13 02251 064452         DIA     1,AMX
14 02252 131102         MOVL    1,2,SZC
15 02253 000404         JMP     .+4
16 02254 131300         MOVS    1,2
17 02255 151102         MOVL    2,2,SZC
18 02256 000403         JMP     .+3
19 02257 006166         JSR     @ERR    ;INPUT BUFF IS NOT EMTY
20 02260 000755         JMP     CCCC    ;THE INPUT WORD IS STORED IN
21                                      ;AC1
22                                      ;
23 02261 024144 DDDD:   LDA     1,C5
24 02262 107000         ADD     0,1
25 02263 065052         DOA     1,AMX   ;SELECT MODEM STATUS
26 02264 006165         JSR     @WAIT
27 02265 064452         DIA     1,AMX
28 02266 131102         MOVL    1,2,SZC
29 02267 000402         JMP     .+2
30 02270 151102         MOVL    2,2,SZC
31 02271 000403         JMP     .+3
32 02272 151103         MOVL    2,2,SNC
33 02273 000403         JMP     .+3
34 02274 006166         JSR     @ERR    ;THE MODEM STATUS IS NOT CORRECT
35 02275 000764         JMP     DDDD    ;STATUS SHOULD BEE
36                                      ;BIT 0 ZERO CALLING INDICATOR
37                                      ; -  1 ZERO CARRIER OFF
38                                      ; -  2 ZERO DATA SET NOT READY
39                                      ;ACTUAL STATUS IS STORED IN AC1
```

```
I 0028   .MAIN
01 02276 024146 EEEE:   LDA     1,C3
02 02277 107000         ADD     0,1
03 02300 065052         DOA     1,AMX   ;STOP TRANS MODE
04 02301 006171         JSR     @TIME
05 02302 024145         LDA     1,C4
06 02303 107000         ADD     0,1
07 02304 065052         DOA     1,AMX   ;SELECT IN BUFF
08 02305 006165         JSR     @WAIT
09 02306 064452         DIA     1,AMX
10 02307 131102         MOVL    1,2,SZC
11 02310 000402         JMP     .+2
12 02311 151102         MOVL    2,2,SZC
13 02312 000402         JMP     .+2
14 02313 151103         MOVL    2,2,SNC
15 02314 000403         JMP     .+3
16 02315 151103         MOVL    2,2,SNC
17 02316 000403         JMP     .+3
18 02317 006166         JSR     @ERR    ;INPUT TO IN BUFF IS NOT CORRECT
19 02320 000715         JMP     CCCC    ;IT SHOULD BEE
20                                      ;BIT 0 ZERO  STATUS WORD
21                                      ; -  1 ZERO CALLING INDICATOR
22                                      ; -  2 ONE  CARRIER OFF
23                                      ; -  3 ZERO DATA SET NOT READY
24                                      ;
25 02321 024145 FFFF:   LDA     1,C4
26 02322 107000         ADD     0,1
27 02323 065052         DOA     1,AMX   ;SELECT IN BUFF
28 02324 006165         JSR     @WAIT
29 02325 064452         DIA     1,AMX
30 02326 131102         MOVL    1,2,SZC
31 02327 000404         JMP     .+4
32 02330 151300         MOVS    1,2
33 02331 151102         MOVL    2,2,SZC
34 02332 000403         JMP     .+3
35 02333 006166         JSR     @ERR    ;INPUT STATUS IS NOT EMTY
36 02334 000701         JMP     CCCC    ;THE INPUT WORD IS STORED IN AC1
```

```
I 0029  .MAIN
01                ;PROGAM GGGG TO JJJJ IS TESTING THAT CALLING INDICATOR
02                ;WHEN IT GOES FROM OFF TO ON SETS A STATUS WORD IN THE
03                ;IN BUFF
04                ;
05 02335 024140 GGGG:   LDA     1,C11
06 02336 107000         ADD     0,1
07 02337 065052         DOA     1,AMX   ;SET DATA TERM READY OFF
08 02340 006171         JSR     @TIME
09 02341 024141 HHHH:   LDA     1,C10
10 02342 107000         ADD     0,1
11 02343 065052         DOA     1,AMX   ;SET DATA TERM READY ON
12 02344 006171         JSR     @TIME
13 02345 024145         LDA     1,C4
14 02346 107000         ADD     0,1
15 02347 065052         DOA     1,AMX   ;SELECT IN BUFF COMMAND
16 02350 006165         JSR     @WAIT
17 02351 064452         DIA     1,AMX
18 02352 131102         MOVL    1,2,SZC
19 02353 000402         JMP     .+2
20 02354 151103         MOVL    2,2,SNC
21 02355 000402         JMP     .+2
22 02356 151103         MOVL    2,2,SNC
23 02357 000403         JMP     .+3
24 02360 151103         MOVL    2,2,SNC
25 02361 000403         JMP     .+3
26 02362 006166         JSR     @ERR    ;INPUT TO IN BUFF IS NOT CORRECT
27 02363 000752         JMP     GGGG    ;IT SHOULD BEE
28                                      ;BIT 0 ZERO STATUS WORD
29                                      ; -  1 ONE  CALLING INDICATOR
30                                      ; -  2 ONE  CARRIER OFF
31                                      ; -  3 ZERO DATA SET NOT READY
32                                      ;ACTUAL STATUS IS STORED IN AC1
33                                      ;
34 02364 024145         LDA     1,C4
35 02365 107000         ADD     0,1
36 02366 065052         DOA     1,AMX   ;SELECT IN BUFF COMMAND
37 02367 006165         JSR     @WAIT
38 02370 064452         DIA     1,AMX
39 02371 131102         MOVL    1,2,SZC
40 02372 000404         JMP     .+4
41 02373 131300         MOVS    1,2
42 02374 151102         MOVL    2,2,SZC
43 02375 000403         JMP     .+3
44 02376 006166         JSR     @ERR    ;INPUT STATUS IS NOT EMTY
45 02377 000736         JMP     GGGG    ;THE INPUT WORD IS STORED IN AC1
```

```
I 0030   .MAIN
01 02400 024140 HHJJ:   LDA     1,C11
02 02401 107000         ADD     0,1
03 02402 065052         DOA     1,AMX    ;SET DATA TERM READY OFF
04 02403 006171         JSR     @TIME
05 02404 024145         LDA     1,C4
06 02405 107000         ADD     0,1
07 02406 065052         DOA     1,AMX    ;SELECT IN BUFF COMMAND
08 02407 006165         JSR     @WAIT
09 02410 064452         DIA     1,AMX
10 02411 131102         MOVL    1,2,SZC
11 02412 000404         JMP     .+4
12 02413 131300         MOVS    1,2
13 02414 151102         MOVL    2,2,SZC
14 02415 000403         JMP     .+3
15 02416 006166         JSR     @ERR     ;INPUT STATUS IS NOT EMTY
16 02417 000722         JMP     HHHH     ;THE INPUT WORD IS STORED IN AC1
17                                       ;
18 02420 064477         READS   1
19 02421 127102         ADDL    1,1,SZC
20 02422 000412         JMP     JJHH
21 02423 024141         LDA     1,C10
22 02424 107000         ADD     0,1
23 02425 065052         DOA     1,AMX    ;SET DATA TERM READY ON
24 02426 006165         JSR     @WAIT
25 02427 024147         LDA     1,C2
26 02430 107000         ADD     0,1
27 02431 065052         DOA     1,AMX    ;TRAMS MODE COMMAND
28 02432 006171         JSR     @TIME
29 02433 002112         JMP     @C2201
30 02434 063077 JJHH:   HALT             ;PROGRAM IS STOPPED BY OPERATOR
31 02435 063077         HALT             ;CHANGE TEST PLUG BEFORE INTERRUPT TEST
32 02436 002111         JMP     @C4401
```

```
I 0031  .MAIN
01                ;  INTERRUPT TEST.
02                ;
03                ;  THE INTERRUPT DISABLE FLAG, THE ENABLE INTERRUPT
04                ;  AND, FOR THE SPECIFIED CHANNEL, THE TWO INTER-
05                ;  RUPT SITUATIONS ARE TESTED.
06                ;
07                ;  TRANSMIT DATA MUST BE CONNECTED TO RECIEVE DATA
08                ;  FOR THE CHANNEL TESTED AND DATA SET READY AND
09                ;  READY FOR SENDING MUST BE ON.
10                ;
11                ;TEST PLUG NO.1 CAN ALSO BEE USED
12                ;IF CHANO IS 0 TO 3 USE PLUG 1001 ELSE 1004
13                ;
14                ;
15        004400          .LOC 4400
16  04400 063077          HALT
17  04401 062677 ITENT:   IORST                   ; RESET ALL IO.
18  04402 006171          JSR     @TIME
19  04403 030100          LDA     2,CHANO
20  04404 151300          MOVS    2,2
21  04405 024141          LDA     1,C10
22  04406 147000          ADD     2,1
23  04407 065052          DOA     1,AMX           ; SET DATA TERM. READY ON
24  04410 006171          JSR     @TIME
25  04411 024123          LDA     1,C60
26  04412 147000          ADD     2,1             ;
27  04413 067052          DOC     1,AMX           ; INITIATE OUTPUT CHANNEL
28  04414 024124          LDA     1,C40
29  04415 147000          ADD     2,1             ;
30  04416 067052          DOC     1,AMX           ; INITATE INPUT CHANNEL
31  04417 024164          LDA     1,OPARA
32  04420 147000          ADD     2,1
33  04421 067052          DOC     1,AMX           ; INITATE PARAMETERS
34  04422 024131          LDA     1,C22           ; TRANS MODE
35  04423 147000          ADD     2,1             ; AND CLEAR OUT BUFF
36  04424 065052          DOA     1,AMX           ;
37  04425 006165          JSR@    WAIT            ; AND WAIT.
```

```
| 0032  .MAIN
01                ;  TES INTERRUPT MASK OFF AND ENABLE INTERRUPT OFF.
02                ;
03  04426 152400          SUB     2,2
04  04427 072077          MSKO    2                 ;
05  04430 152440          SUBO    2,2
06  04431 006170          JSR     @TR32             ; FILL OUTPUT BUFFER.
07  04432 006171          JSR@    TIME              ; WAIT 0.1 SEK.
08  04433 030166          LDA     2,ERR             ; SET INTRP. ERROR.
09  04434 050537          STA     2,IT001           ;
10  04435 060177          INTEN                     ; INTRP. HERE IF ERROR
11  04436 000401          JMP     .+1
12  04437 060277          INTDS                     ;
13  04440 060252          NIOC    AMX
14                ;
15                ;  TEST INTERRUPT MASK ON AND ENABLE INTERRUPT OFF.
16                ;
17  04441 030050          LDA     2,IT100
18  04442 072077          MSKO    2                 ;
19  04443 152440          SUBO    2,2
20  04444 006170          JSR     @TR32             ; FILL OUTPUT BUFFER.
21  04445 006171          JSR@    TIME              ; WAIT 0.1 SEK.
22  04446 060177          INTEN                     ; INTRP. HERE IF ERROR
23  04447 000401          JMP     .+1
24  04450 060277          INTDS                     ;
25  04451 060252          NIOC    AMX
26                ;
27                ;  TEST INTERRUPT MASK ON AND ENABLE INTERRUPT ON.
28                ;
29  04452 030050          LDA     2,IT100
30  04453 072077          MSKO    2                 ;
31  04454 030100          LDA     2,CHANO
32  04455 151300          MOVS    2,2               ;
33  04456 024135          LDA     1,C16
34  04457 147000          ADD     2,1               ;
35  04460 065052          DOA     1,AMX             ; SET INTERRUPT ENABLE
36  04461 006165          JSR@    WAIT              ;
37  04462 152440          SUBO    2,2
38  04463 006170          JSR     @TR32             ; FILL OUTPUT BUFFER.
39  04464 006171          JSR@    TIME              ; WAIT 0.1 SEK.
40  04465 060177          INTEN                     ; INTR. HERE IF ERROR
41  04466 000401          JMP     .+1
42  04467 060277          INTDS                     ;
```

```
1 0033  .MAIN
01                ;  TEST INTERRUPT FOR OUTPUT BUFFER EMPTY.
02                ;
03 04470 030412           LDA     2,.IT30          ; INTERRUPTS ARE LEGAL NOW.
04 04471 050502           STA     2,IT001          ;
05 04472 152400           SUB     2,2
06 04473 072077           MSKO    2                ;
07 04474 006170           JSR     @TR32            ; FILL OUTPUT BUFFER.
08 04475 006171           JSR@    TIME             ; WAIT 0.1 SEK.
09 04476 060177           INTEN                    ; INTERRUPT HERE.
10 04477 000401           JMP     .+1
11 04500 060277           INTDS                    ;
12 04501 006166           JSR@    ERR              ; NO INTERRUPT => ERROR.
13 04502 004503 .IT30:    IT300                    ;
14                ;
15                ;  TEST INTERRUPT FOR INPUT BUFFER NOT EMPTY.
16                ;
17 04503 024100 IT300:    LDA     1,CHANO
18 04504 125300           MOVS    1,1              ;
19 04505 030133           LDA     2,C20
20 04506 133000           ADD     1,2
21 04507 071052           DOA     2,AMX            ; START RECIEVE.
22 04510 006165           JSR@    WAIT             ; AND CLEAR IN BUFF
23 04511 030135           LDA     2,C16
24 04512 147000           ADD     2,1
25 04513 065052           DOA     1,AMX            ; SET INTERRUPT ENABLE
26 04514 006165           JSR     @WAIT
27 04515 152440           SUBO    2,2
28 04516 006170           JSR     @TR32            ; FILL OUTPUT BUFFER.
29 04517 034146           LDA     3,C3             ;WAIT .01 SEC
30 04520 075114           DOAS    3,RTC
31 04521 063614           SKPDN   RTC
32 04522 000777           JMP     .-1
33 04523 060214           NIOC    RTC
34 04524 034152           LDA     3,CM12
35 04525 060114 RETY:     NIOS    RTC
36 04526 063614           SKPDN   RTC
37 04527 000777           JMP     .-1
38 04530 060214           NIOC    RTC
39 04531 175404           INC     3,3,SZR
40 04532 000773           JMP     RETY
41 04533 034406           LDA     3,.IT31          ; INTERRUPTS LEGAL NOW.
42 04534 054437           STA     3,IT001          ;
43 04535 060177           INTEN                    ;
44 04536 000401           JMP     .+1
45 04537 060277           INTDS                    ;
46 04540 006166           JSR@    ERR              ; NO INTRP. = ERROR.
47 04541 004542 .IT31:    IT310                    ;
```

```
I 0034  .MAIN
01 04542 064477 IT310:  READS   1
02 04543 127103         ADDL    1,1,SNC
03 04544 000635         JMP     ITENT
04 04545 063077         HALT            ;PROGRAM STOPPED BY OPERATOR
05 04546 020100         LDA     0,CHANO
06 04547 024142         LDA     1,C7
07 04550 106404         SUB     0,1,SZR
08 04551 000403         JMP     KKKK
09 04552 102440         SUBO    0,0
10 04553 000402         JMP     .+2
11 04554 101400 KKKK:   INC     0,0
12 04555 040100         STA     0,CHANO ;NEW CHANO
13 04556 101005         MOV     0,0,SNR
14 04557 000403         JMP     KKLL
15 04560 024145         LDA     1,C4
16 04561 106405         SUB     0,1,SNR
17 04562 063077 KKLL:   HALT                    ;OPERATOR HAS TO CHANGE
18                                               ;POS. OF TEST PLUG
19 04563 002116         JMP     @C401
20                ;  INTERRUPT HANDLER.
21                ;
22 04564 034000 IT000:  LDA     3,0             ; INTRP. ADR. IN AC3.
23 04565 071477         INTA    2               ;
24 04566 024406         LDA     1,IT002         ; INTRP.CODE MUST BE AMX.
25 04567 132414         SUB#    1,2,SZR         ;
26 04570 006166         JSR@    ERR             ; UNDEF. INTRP. CODE IN AC2.
27 04571 060252         NIOC    AMX             ;
28 04572 002401         JMP@    IT001           ;
29 04573 004542 IT001:  IT310                   ;
30 04574 000052 IT002:  AMX                     ;
```

```
1 0035  .MAIN
01 04575 000000           0
02 04576 054777 EWAIT:    STA     3,.-1    ;WAITING TIME IS
03 04577 034150           LDA     3,CM4    ; 7.80 US FOR NOVA 1200
04 04600 002775           JMP     @EWAIT-1 ;6.20 US FOR NOVA 2 WITH 16K MEM
05                                         ; 5.10 US FOR NOVA 2 WITH  8K MEM
06 04601 000000           0
07 04602 050777 EERR:     STA     2,.-1
08 04603 070477           READS   2
09 04604 151102           MOVL    2,2,SZC
10 04605 000403           JMP     .+3
11 04606 030773           LDA     2,EERR-1
12 04607 063077           HALT              ;CONTENTS OF AC3-1 IS THE ADDRESS WHERE
13 04610 001400           JMP     0,3       ;THE ERROR WAS DETECTED
14 04611 000000           0
15 04612 000000           0
16 04613 054777 ETR32:    STA     3,.-1     ;THIS SUBRUTINE TRANSFERS 32 CHAR.
17 04614 034161           LDA     3,CM40    ;TO THE OUT BUFF FROM AC2
18 04615 044774           STA     1,.-4
19 04616 024100           LDA     1,CHANO
20 04617 125300           MOVS    1,1
21 04620 147000           ADD     2,1
22 04621 066052           DOB     1,AMX
23 04622 000401           JMP     .+1
24 04623 175404           INC     3,3,SZR
25 04624 000772           JMP     ETR32+3
26 04625 024764           LDA     1,ETR32-2
27 04626 002764           JMP     @ETR32-1
28 04627 000000           0
29 04630 000000           0
30 04631 054777 ETR10:    STA     3,.-1     ;THIS SUBRUTINE TRANSFERS 8 CHAR.
31 04632 034152           LDA     3,CM12    ;TO THE OUT BUFF FROM AC2
32 04633 044774           STA     1,.-4
33 04634 024100           LDA     1,CHANO
34 04635 125300           MOVS    1,1
35 04636 147000           ADD     2,1
36 04637 066052           DOB     1,AMX
37 04640 000401           JMP     .+1
38 04641 175404           INC     3,3,SZR
39 04642 000772           JMP     ETR10+3
40 04643 024764           LDA     1,ETR10-2
41 04644 002764           JMP     @ETR10-1
42 04645 000000           0
43 04646 054777 ETIME:    STA     3,.-1     ;THIS SUBRUTINE MAKES A DELAY
44 04647 034146           LDA     3,C3      ;OF .100 SEC TO .101 SEC
45 04650 075114           DOAS    3,RTC
46 04651 063614           SKPDN   RTC
47 04652 000777           JMP     .-1
48 04653 060214           NIOC    RTC
49 04654 034162           LDA     3,CM144
50 04655 060114 AGTIM:    NIOS    RTC
51 04656 063614           SKPDN   RTC
52 04657 000777           JMP     .-1
53 04660 060214           NIOC    RTC
54 04661 175404           INC     3,3,SZR
55 04662 000773           JMP     AGTIM
56 04663 002762           JMP     @ETIME-1
57       000400 .END CALL
```

0036 .MAIN

A	000407	5/17	5/53						
AA	000621	8/27	10/42						
AAA	001124	11/34							
AAAA	002201	26/22	26/38						
AAB	001101	11/15							
AGTIM	004655	35/50	35/55						
AMX	000052	3/19	5/15	5/25	5/30	5/35	5/41	5/43	5/50
		6/16	6/20	6/23	6/28	6/33	6/37	6/46	6/50
		6/52	8/15	8/22	8/34	8/37	8/44	8/49	9/07
		9/19	9/21	9/34	9/36	9/50	9/52	10/23	10/25
		11/23	11/26	11/29	11/32	11/36	11/41	11/45	11/47
		12/03	12/07	12/09	12/20	12/22	13/06	13/10	13/12
		13/28	13/35	13/37	14/06	14/10	14/14	14/23	14/25
		15/09	15/11	15/29	15/33	15/37	16/06	16/10	16/15
		16/17	17/01	17/03	17/20	17/22	17/42	17/44	18/01
		18/03	18/18	18/20	18/34	18/38	18/40	19/07	19/11
		19/15	19/19	19/21	20/07	20/11	20/17	20/23	20/25
		21/12	21/17	21/20	21/24	21/28	21/30	21/34	21/36
		21/47	21/50	21/52	22/03	22/05	22/21	22/25	22/28
		22/32	22/34	23/03	23/06	23/10	23/12	23/23	23/26
		23/30	23/32	24/09	24/13	24/19	24/22	24/43	25/10
		25/12	26/28	26/30	26/47	26/50	26/53	27/03	27/07
		27/11	27/13	27/25	27/27	28/03	28/07	28/09	28/
		28/29	29/07	29/11	29/15	29/17	29/36	29/38	30/
		30/07	30/09	30/23	30/27	31/23	31/27	31/30	31/33
		31/36	32/13	32/25	32/35	33/21	33/25	34/27	34/30
		35/22	35/36						
B	000431	5/35							
BB	000650	9/01	9/11	10/12					
BBB	001130	11/38	11/51	12/32					
BBBB	002222	26/43							
C	000442	5/44							
C10	000141	2/44	5/13	6/14	8/13	11/30	15/27	18/32	29/09
		30/21	31/21						
C1002	000110	2/19	22/06						
C11	000140	2/43	16/08	29/05	30/01				
C1101	000113	2/22	10/44	25/37					
C1202	000107	2/18	21/37						
C13	000137	2/42							
C14	000136	2/41	19/09						
C1400	000106	2/17	23/13						
C1401	000105	2/16	22/35						
C16	000135	2/40	32/33	33/23					
C17	000134	2/39	5/18	17/37	26/51				
C2	000147	2/50	14/12	16/04	30/25				
C20	000133	2/38	6/21	6/31	8/19	8/35	11/24	12/01	13/04
		14/04	15/31	19/05	20/05	21/22	22/19	24/07	24/20
		26/48	27/01	33/19					
C200	000122	2/29							
C21	000132	2/37	23/01						
C22	000131	2/36	5/33	6/35	8/45	11/34	20/09	21/18	24/11
		27/05	31/34						
C2201	000112	2/21	25/40	30/29					
C24	000130	2/35							
C25	000127	2/34	22/23						
C26	000126	2/33							
C3	000146	2/49	8/27	11/21	13/26	15/35	25/28	28/01	33/29
		35/44							
C300	000121	2/28	9/01	10/02					

C340	000120	2/27	9/44						
C37	000125	2/32	21/45						
C370	000117	2/26	24/44						
C4	000145	2/48	6/48	9/48	10/21	12/18	13/08	16/12	19/17
		20/21	21/32	22/01	22/30	23/08	23/28	25/06	25/23
		27/09	28/05	28/25	29/13	29/34	30/05	34/15	
C40	000124	2/31	6/18	8/29	10/06	10/13	11/19	21/13	23/21
		24/16	26/45	31/28					
C401	000116	2/25	34/19						
C4401	000111	2/20	30/32						
C5	000144	2/47	15/07	18/16	18/36	26/26	27/23		
C501	000115	2/24	5/57						
C6	000143	2/46	9/32	12/05	14/21	21/10	23/19		
C60	000123	2/30	5/20	21/08	25/02	31/25			
C601	000114	2/23	7/05						
C7	000142	2/45	5/39	9/17	11/43	13/33	21/15	34/06	
CALL	000400	5/10	35/57						
CC	000666	9/15	9/26						
CCC	001145	12/01	12/13						
CCCC	002235	27/01	27/20	28/19	28/36				
CH1	000300	4/02							
CHA	000101	2/12	11/38	12/28	13/30	14/16			
CHANO	000100	2/11	5/11	5/22	5/27	5/31	5/37	5/47	6/12
		6/39	8/11	8/31	8/41	8/46	9/04	9/15	9/30
		9/46	11/17	13/24	15/05	15/24	17/35	18/14	19/03
		20/03	21/06	22/17	24/05	24/40	25/07	26/24	31/19
		32/31	33/17	34/05	34/12	35/19	35/33		
CHARU	000163	3/12	5/46	6/41	15/38	20/13			
CHB	000102	2/13	12/15	12/25					
CHLEN	000201	3/22	24/31	24/38	25/03	25/22	25/24	25/34	
CH.L	000103	2/14	6/24	8/38					
CM10	000151	3/02	8/17	10/18					
CM12	000152	3/03	33/34	35/31					
CM13	000153	3/04							
CM14	000154	3/05	16/14						
CM144	000162	3/11	35/49						
CM21	000155	3/06	17/39						
CM22	000156	3/07							
CM24	000157	3/08							
CM37	000160	3/09							
CM4	000150	3/01	35/03						
CM40	000161	3/10	9/02	9/45	10/01	25/01	35/17		
DD	000702	9/30	9/40						
DDD	001162	12/15	12/42	12/46					
DDDD	002261	27/23	27/35						
EE	000715	9/44							
EEE	001215	12/27	13/04	13/19					
EEEE	002276	28/01							
EERR	004602	3/15	35/07	35/11					
ERR	000166	3/15	6/56	9/25	9/39	10/11	10/28	10/34	11/50
		12/12	12/31	12/41	12/45	13/18	13/40	14/28	15/18
		16/23	17/13	17/28	17/50	18/06	18/27	18/45	19/30
		20/33	21/40	22/09	22/38	23/16	23/36	25/15	26/37
		27/19	27/34	28/18	28/35	29/26	29/44	30/15	32/08
		33/12	33/46	34/26					
ETIME	004646	3/18	35/43	35/56					
ETR10	004631	3/16	35/30	35/39	35/40	35/41			
ETR32	004613	3/17	35/16	35/25	35/26	35/27			
EWAIT	004576	3/14	35/02	35/04					

0038 .MAIN

FF	000732	10/01							
FFF	001235	13/24	13/41	14/29					
FFFF	002321	28/25							
GGG	001257	14/04							
GGGG	002335	29/05	29/27	29/45					
HH	000753	10/18	10/29	10/35					
HHH	001311	15/05	15/19						
HHHH	002341	29/09	30/16						
HHJJ	002400	30/01							
IT000	004564	2/02	34/22						
IT001	004573	32/09	33/04	33/42	34/28	34/29			
IT002	004574	34/24	34/30						
IT100	000050	2/04	32/17	32/29					
IT300	004503	33/13	33/17						
IT310	004542	33/47	34/01	34/29					
ITENT	004401	31/17	34/03						
JJ	001333	15/27	16/24	17/14	17/29				
JJHH	002434	30/20	30/30						
JK	001337	15/26	15/31						
KK	001355	16/07							
KKKK	004554	34/08	34/11						
KKLL	004562	34/14	34/17						
LL	001362	16/12							
LLM	001365	16/15	16/21						
LM	001377	16/22	17/01						
LMM	001375	16/19	16/23						
LOOP	000433	5/37	5/45	5/55					
LOOP1	000717	9/46	9/56						
LOOP2	000734	10/03	10/17						
LOOP3	000755	10/20	10/39						
MM	001414	17/11	17/20						
NN	001426	17/35							
OO	001433	17/42	17/48	17/51					
OP	001445	17/49	18/01	18/07					
OPARA	000164	3/13	5/26	11/27	31/31				
PARM	000104	2/15	6/26	8/39					
POOL	000532	6/39	6/57	7/03					
PP	001454	18/14	18/28						
PPOIN	000200	3/21	24/26	24/36	25/27	25/29	25/33		
PPP	001746	23/19	23/37						
QQ	001473	18/32	18/46						
QQA	002015	24/25							
QQB	002017	24/30	25/31						
QQC	002021	24/36	25/26						
QQD	002031	24/44							
QQE	002034	25/01							
QQF	002035	25/02	25/21						
QQG	002041	25/06							
QQH	002054	25/20							
QQJ	002056	25/22							
QQK	002063	25/27							
QQL	002070	25/32							
QQQ	001772	24/05	25/16						
REC.P	000611	8/19	8/26						
RETY	004525	33/35	33/40						
SS	001512	19/03	19/31						
TIME	000171	3/18	5/16	6/17	6/47	8/16	9/12	9/13	9/14
		11/16	11/33	11/42	12/17	13/32	14/18	14/19	14/20
		16/07	18/35	19/12	20/15	20/18	20/19	20/20	21/31

0059 .MAIN

		21/53	22/29	23/07	23/27	24/23	24/46	26/23	28/04
		29/08	29/12	30/04	30/28	31/18	31/24	32/07	32/21
		32/39	33/08						
TR10	000167	3/16	11/39	12/16					
TR32	000170	3/17	13/31	14/17	16/01	20/14	24/45	32/06	32/20
		32/38	33/07	33/28					
TT	001547	20/03	20/34						
UU	001607	21/06							
VV	001623	21/18	21/41						
WAIT	000165	3/14	5/36	5/42	6/34	6/38	6/51	8/23	8/50
		9/08	9/20	9/35	9/51	10/24	11/37	11/46	12/04
		12/08	12/21	13/07	13/11	13/29	13/36	14/07	14/11
		14/15	14/24	15/10	15/30	15/34	16/11	16/16	17/02
		17/21	17/43	18/02	18/19	18/39	19/08	19/16	19/20
		20/08	20/12	20/24	21/21	21/25	21/29	21/35	21/51
		22/04	22/22	22/33	23/11	23/31	24/10	24/14	25/11
		26/29	27/04	27/08	27/12	27/26	28/08	28/28	29/16
		29/37	30/08	30/24	31/37	32/36	33/22	33/26	
XX	001653	21/45	22/10						
YY	001676	22/17	22/39						
ZZ	001725	23/01	23/17						
.IT30	004502	33/03	33/13						
.IT31	004541	33/41	33/47						

RETURN LETTER

Title: AMX701 Testprogram RCSL No.:44-RT927

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