SCA WRITE/READ BUFFER + LINE NOISE DETECTION

```
0000                    ORG     *+1500                                  31100010
                        *       EQUATE TABLE                            31100020
                        *                                               31100030
                        ********************************************    31100040
                        ********************************************    31100050
                        *       THIS TABLE EQUATES TEST PROGRAM LABELS  31100060
                        *       TO THEIR EQUIVALENT DIAGNOSTIC MONITOR  31100070
                        *       ADDRESSES.                              31100080
                        *                                               31100090
                        *-------------------------------------------    31100100
                        *       MONITOR ENTRY ADDRESSES                 31100110
                        *-------------------------------------------    31100120
0160                    BEGIN EQU     /160      BEGIN ROUTINE           31100130
0161                    START EQU     BEGIN+1   SUPERVISOR ROUTINE      31100140
0162                    ERROR EQU     START+1   ERROR LOG ROUTINE       31100150
0163                    LOG   EQU     ERROR+1   STATUS LOG ROUTINE      31100160
0164                    END   EQU     LOG+1     END ROUTINE             31100170
                        *                                               31100180
                        *-------------------------------------------    31100190
                        *       MONITOR CONTROL WORD ADDRESSES          31100200
                        *-------------------------------------------    31100210
0165                    RYNSW EQUM    END+1     ROUTINE START SW        31100220
0166                    ERLCK EQU     END+2     LOCK ON ERR CONTROL     31100230
0167                    LOGBY EQU     END+3     I/O BUSY SW ADDRS       31100240
0168                    RLCF  EQU     END+4     RELOC FACTOR ADDRS      31100250
                        *                                               31100260
                        *-------------------------------------------    31100270
                        *       INTERRUPT TRANSFER VECTOR ADDRESSES     31100280
                        *-------------------------------------------    31100290
017A                    ILO   EQU     /17A      INTERRUPT LEVEL 0       31100300
018A                    IL1   EQU     IL0+16    INTERRUPT LEVEL 1       31100310
019A                    IL2   EQU     IL1+16    INTERRUPT LEVEL 2       31100320
01AA                    IL3   EQU     IL2+16    INTERRUPT LEVEL 3       31100330
01BA                    IL4   EQU     IL3+16    INTERRUPT LEVEL 4       31100340
01BB                    RQTY  EQU     IL4+1     CON/PRINT REQUEST       31100350
01BC                    RQKB  EQU     RQTY+1    USE KEYBOARD REQUEST    31100360
01BD                    SVKB  EQU     RQKB+1    KB SERVICE REQUEST      31100370
                        ********************************************    31100380
                        *                                               31100390
                        *-------------------------------------------    31100400
                        *       SCA WRT/RD BFR, LINE NOISE DETECTION    31100410
                        *-------------------------------------------    31100420
                        *                                               31100430
                        ********************************************    31100440
                        *               PROGRAM STATUS TABLE            31100450
                        ********************************************    31100460
                        *                                               31100470
05DC 0 0311             PID   DC      /0311     PROGRAM ID NUMBER       31100480
05DD 0 0000             RID   DC      /0000     ROUTINE NUMBER          31100490
05DE 0 0000             RAD   DC      /0000     ROUTINE ADDRESS         31100500
05DF 0 0000             SW0   DC      0         PROGRAM CONTROL         31100510
05E0 0 0000             SW1   DC      0         ROUTINE SELECTION       31100520
05E1 0 0000             SW2   DC      0                                 31100530
05E2 0 0000             SW3   DC      0                                 31100540
05E3 1 0620                   DC      STRT      LOOP PROGRAM            31100550
05E4 1 0690                   DC      STRT      RESTART ADDRESS         31100560
05E5 1 0690             MLSCF DC      STRT      ENTRY SET IN HN/LINE    31100570
                              DC      /FFFF     TERMINATOR              31100580
                        *                                               31100590
                        ********************************************    31100600
                        *               LOCK ON FUNCTION ROUTINE        31100610
                        ********************************************    31100620
                        *                                               31100630
05E7 0 0000             LOCK  DC      /0000                             31100640
05E8 01 C400D5DF              LD    L   SWO       LD SWO                31100650
05EA 00 EC869166              OR    I   ERLCK     OR WITH MON LOCK SW   31100660
05EC 0 100A                   SLA     10        CHECK BIT 10            31100670
05ED 01 4C9005E7              BSC   I   LOCK,-    BR IF NOT LOCK/FUNC   31100680
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SCA WRITE/READ BUFFER + LINE NOISE DETECTION

```
                        *                                               31100690
                        *-------------------------------------------    31100700
                        *       TEST INITIALIZATION                     31100710
                        *-------------------------------------------    31100720
                        ********************************************    31100730
                        *                                               31100740
05F6 00 44000160        BEGN  BSI   I   BEGIN     MON INITIALIZATION    31100750
05F8 1 05DC                   DC      PID       PST TABLE               31100760
                        *                                               31100770
                        *-------------------------------------------    31100780
                        * START OF TEST AND SINGLE PASS INITIALIZE      31100790
                        *-------------------------------------------    31100800
                        *                                               31100810
                        ********************************************    31100820
                        *               PROGRAM WAIT                    31100830
                        ********************************************    31100840
                        *                                               31100850
                        * WAS ROUTINE AS USED BY THE TEST PROGRAM       31100860
                        * TO MASK TIME WHILE WAITING FOR AN INTERRUPT   31100870
                        * TO OCCUR                                      31100880
                        *                                               31100890
                        ********************************************    31100900
                        *                                               31100910
05F9 0 0000             WCNT  DC      0         DELAY COUNTER           31100920
05FA 0 1000             DELY3 DC      /1000     DELAY CONSTANT          31100930
                        *                                               31100940
05FB 01 C4000035        WAIT1 LD    L   K0001     1 PASS                31100950
05FD 0 00F9                   STO     WCNT      STORE DELAY COUNT       31100960
05FE 01 440007BA              BSI   L   MIC2                            31100970
0600 0 7005                   MDX     WAIT2                             31100980
                        *                                               31100990
0601 0 00F8             WAIT3 LD      DELY3     4 SEC. CONSTANT         31101000
0602 0 00F9                   STO     WCNT      STORE DELAY COUNT       31101010
0603 01 440007BA              BSI   L   MIC2                            31101020
0605 0 7000                   MDX     WAIT2                             31101030
                        *                                               31101040
0606 01 C400071E        WAIT2 LD    L   PRTPN     CHK FOR INTERRUPT       31101050
0608 01 4C200636              BSC   L   UINTR,Z   INT. OCCURRED          31101060
060A 01 67000610              LDX   L3  WAIT4     SET UP MON RETURN       31101070
060C 01 6F0005E5              STX   L3  MLSCF                           31101080
060E 00 44800161              BSI   I   START     GO TO MONITOR           31101090
                        *                                               31101100
0610 01 74FF05F9        WAIT4 MDX   L   WCNT,-1   REDUCE DELAY COUNT      31101110
0612 0 70F3                   MDX     WAIT2     DELAY NOT OVER          31101120
0613 01 0C000706              XIO   L   DSWSN     SENSE AND RESET DSW     31101130
0615 01 44000664              BSI   L   SNDSW     GO MAKE ANALYSIS        31101140
                        *                                               31101150
                        ********************************************    31101160
                        *               INTERRUPT                       31101170
                        ********************************************    31101180
                        * THE MONITOR RETURNS CONTROL TO THIS ROUTINE   31101190
                        * AFTER DETECTING A SCA INTERRUPT.              31101200
                        ********************************************    31101210
                        *  UNEXPECTED INTERRUPT OCCURRED                31101220
                        ********************************************    31101230
                        *                                               31101240
0617 0 0000             INTR  DC      0                                 31101250
0618 01 0C000706              XIO   L   DSWSN     SENSE RESET DSW         31101260
061A 01 D400CAE8              STO   L   CNDSW     STORE DSW               31101270
061C 01 0C3007DC              XIO   L   RDIA1     READ DIAG WD 1          31101280
061E 01 0C0007DE              XIO   L   RDIA2     READ DIAG WD 2          31101290
0620 01 C4000725              LD    L   DIAM2                             31101300
0622 0 1890                   SRT     16                                31101310
0623 0 1010                   SLA     16                                31101320
0624 0 1086                   SLT     6                                 31101330
                                                                        31101340
                                                                        31101350
                                                                        31101360
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0625 0  1001          SLA     1                                  31101370
0626 01 EC000724      DR   L  DIAW1      COMBINE DIAG WORDS      31101380
0628 01 DC00071C      STD  L  DIAWD      STORE DIAG WORDS        31101390
062A 01 6C00071E      STX  L  PRTPN      TURN ON INTERRUPT SW    31101400
062C 01 C40005DE      LD   L  RAD        CHK IF LINE NOISE RT    31101410
062E 01 94000662      S    L  RTTBL+4                            31101420
0630 01 4C980617      BSC  I  INTR,+-    YES, EXIT TO RETURN     31101430
0632 01 0C000700      XIO  L  RESET      NO, EXECUTE RESET       31101440
0634 01 4C800617      BSC  I  INTR       EXIT TO RETURN          31101450
                      *                                          31101460
0636 01 44000838 UINTR BSI  L  INTAN     MAKE INTRPT ANANYSIS    31101470
0638 01 4C000677      BSC  L  MODES      MAKE ANALYSIS           31101480
                      *                                          31101490
                      ********************************************31101500
                      * THIS ROUTINE CHECKS SWITCHES AND CONTROLS 31101510
                      * THE SEQUENCE IN WHICH TEST ROUTINES ARE RUN31101520
                      ********************************************31101530
                      *                                          31101540
063A 0  0000  CNTRL   DC      *-*                                31101550
063B 01 C40005E0      LD   L  SW1                                31101560
063D 01 4C080649      BSC  L  CN20,+     BRANCH IF NO RTN SELECTED31101570
063F 01 D40005DD      STO  L  RID        SAVE NEW RTN NUMBER     31101580
0641 0  9021          S       RIDCK                              31101590
0642 01 4C080650      BSC  L  CN30,+     BR IF VALID RTN         31101600
0644 0  1810          SRA     16                                 31101610
0645 01 D40005E0      STO  L  SW1        IF INVALID RTN GO       31101620
0647 01 D40005DD      STO  L  RID        TO RTN ONE              31101630
0649 01 740105DD CN20 MDX  L  RID,1      ADV TO NEXT RTN         31101640
064B 01 C40005DD      LD   L  RID                                31101650
064D 0  9015          S       RIDCK                              31101660
064E 00 44B00164      BSI  I  END,-Z     END PROGRAM             31101670
0650 01 678005DD CN30 LDX  I3 RID                                31101680
0652 01 C700065D      LD   L3 RTTBL-1    FETCH RETURN ADRS       31101690
0654 01 D40005DE      STO  L  RAD                                31101700
0656 01 D40005F5      STO  L  LOOP       LOAD LOOP RTN ADDR.     31101710
0658 01 D40005E5      STO  L  MLSCF      SET MLSCF FOR RETURN    31101720
065A 00 D4000165      STO  L  RTNSW                              31101730
065C 00 44800161      BSI  I  START      GO TO MONITOR           31101740
                      *                                          31101750
                      ********************************************31101760
                      *              ROUTINE SEQUENCE TABLE      31101770
                      ********************************************31101780
                      *                                          31101790
065E 1  06C3  RTTBL   DC      RT1                                31101800
065F 1  06C9          DC      RT2                                31101810
0660 1  06CF          DC      RT3                                31101820
0661 1  0726          DC      RT4                                31101830
0662 1  0751  LRTN    DC      RT5                                31101840
                      ********************************************31101850
                      *                                          31101860
0663 0  0005          RIDCK DC      LRTN-RTTBL+1                 31101870
                      *                                          31101880
0664 0  0000          SNDSW DC      *-*                          31101890
0665 01 0C000706      XIO  L  DSWSN      SENSE DSW               31101900
0667 01 D4000AE8      STO  L  CADSW      STORE DSW               31101910
0669 01 0C00070C      XIO  L  RDIA1      READ DIAG WORD 1        31101920
066B 01 0C00070E      XIO  L  RDIA2      READ DIAG WORD 2        31101930
066D 01 C4000725      LD   L  DIAW2                              31101940
066F 0  1890          SRT     16                                 31101950
0670 0  1010          SLA     16                                 31101960
0671 0  1086          SLT     6                                  31101970
0672 0  1001          SLA     1                                  31101980
0673 01 EC000724      DR   L  DIAW1      COMBINE DIAG WORDS      31101990
0675 01 DC00071C      STD  L  DIAWD      STORE DIAG WORDS        31102000
                      *                                          31102010
0677 01 C4000719 MODES LD   L  RESMD      CHK FOR RESET MODE      31102020
0679 01 4C200942      BSC  L  RESAN,Z                            31102030
067B 01 C400071A      LD   L  RDMD       CHK FOR READ MODE       31102040
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067D 01 4C200956      BSC  L  RDAN,Z                             31102050
067F 01 C400071B      LD   L  WRTMD      CHK FOR WRITE MODE      31102060
0681 01 4C200961      BSC  L  WRTAN,Z                            31102070
                      *                                          31102080
0683 01 C400068F RETRN LD  L  PRTSW      CHK FOR PRINT SW ON     31102090
0685 01 4C20068B      BSC  L  PRNT,Z                             31102100
0687 01 44000698      BSI  L  OFF        RESET PROG SWITCHES     31102110
0689 01 4400063A      BSI  L  CNTRL      GO TO CONTROL           31102120
                      *                                          31102130
068B 0  1010  PRNT    SLA     16                                 31102140
068C 0  0002          STO     PRTSW      TURN OFF ERR SW         31102150
068D 01 4C800664      BSC  I  SNDSW      GO MAKE ANALYSIS        31102160
                      *                                          31102170
068F 0  0000  PRTSW   DC      *-*        ERROR SWITCH            31102180
                      *                                          31102190
                      ********************************************31102200
                      *              INITIALIZATION ROUTINE      31102210
                      ********************************************31102220
                      *                                          31102230
                      * THIS ROUTINE PERFORMS THE REQUIRED       31102240
                      * INITIALIZATION FOR RESTART OF THE PROGRAM.31102250
                      * IT LOADS THE FIRST ROUTINE OR THE DESIRED 31102260
                      * ROUTINE VIA SELECT SWITCHES INTO THE      31102270
                      * MAINLINE SEQUENCE CONTROL FIELD.          31102280
                      ********************************************31102290
                      *                                          31102300
0690 0  6300  STRT    LDX     3 0                                31102310
0691 01 6F0005DD      STX  L3 RID        STORE ROUTINE NO.       31102320
0693 01 65000617      LDX  L1 INTR       SET-UP INTRPT ADDR      31102330
0695 00 6D000189      STX  L1 IL1-1                              31102340
0697 01 44000698      BSI  L  OFF        RESET PROG SWITCHES     31102350
0699 01 4400063A      BSI  L  CNTRL      GO TO CONTROL           31102360
                      *                                          31102370
                      ********************************************31102380
                      *              TURN OFF ALL SWITCHES       31102390
                      ********************************************31102400
                      *                                          31102410
069B 0  0000  OFF     DC      *-*        RETURN ADDRESS          31102420
069C 01 C40005DE      LD   L  RAD                                31102430
069E 01 94000662      S    L  LRTN                               31102440
06A0 01 4C1806A4      BSC  L  OFF+9,+-                           31102450
06A2 01 0C000700      XIO  L  RESET                              31102460
06A4 0  1010          SLA     16                                 31102470
06A5 0  630C          LDX     3 12                               31102480
06A6 01 D7000AD9 OFF0 STO  L3 TABLE-1                            31102490
06A8 0  73FF          MDX     3 -1                               31102500
06A9 0  70FC          MDX     OFF0                               31102510
06AA 0  630C          LDX     3 12                               31102520
06AB 01 D7000AE5 OFF1 STO  L3 DSWXX-1                            31102530
06AD 0  73FF          MDX     3 -1                               31102540
06AE 0  70FC          MDX     OFF1                               31102550
06AF 0  630D          LDX     3 13                               31102560
06B0 01 D7000718 OFF2 STO  L3 RESMD-1                            31102570
06B2 0  73FF          MDX     3 -1                               31102580
06B3 0  70FC          MDX     OFF2                               31102590
06B4 0  6304          LDX     3 4                                31102600
06B5 01 D70009CE OFF3 STO  L3 DSWW1-1                            31102610
06B7 0  73FF          MDX     3 -1                               31102620
06B8 0  70FC          MDX     OFF3                               31102630
06B9 01 440005E7      BSI  L  LOCK       CK LOCK,LOOP/ERR FNC    31102640
06BB 0  C006          LD      LOOPE      LOAD LOOP SW            31102650
06BC 0  6300          LDX     3 0        RESET LOOP SW           31102660
06BD 0  6B04          STX     3 LOOPE                            31102670
06BE 01 4CA005F5      BSC  I  LOOP,Z     CHK IF LOOP SW ON       31102680
06C0 01 4C80069B      BSC  I  OFF        NO, EXIT TO RETURN      31102690
                      *                                          31102700
06C2 0  0000  LOOPE   DC      *-*        LOOP ROUTINE SWITCH     31102710
                      *                                          31102720
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0742 0  7002              MDX     JUMP        SET UP PATTERN              31104100
0743 01 4C800739          BSC  I  SHFT        EXIT TO RETURN              31104110
                          *                                               31104120
0745 01 478007DE    JUMP  BSI  I3 PATNA       GO TO PATTERN ADDR          31104130
0747 0  088C              XIO     WRCAT       WRT PATT. IN BUFFER         31104140
0748 0  0889              XIO     RDCAT       RD PATT. FROM BUFFER        31104150
0749 0  C0D5              LD      RCVED       LD PATTERN READ             31104160
074A 0  F0D5              EOR     SEND        EOR WITH PATT. SENT         31104170
074B 0  6803              STX     3 XR3A+1    SAVE IXR 3                  31104180
074C 01 442006EC          BSI  L  BFRCK,Z     CHK FOR DATA ERROR          31104190
074E 00 67000000    XR3A  LDX  L3 *-*         RESTORE IXR 3               31104200
0750 0  70F0              MDX     SHFT+8      GO ON WITH ROUTINE          31104210
                          *                                               31104220
                          *********************************************   31104230
                          *           LINE NOISE DECTION                  31104240
                          *********************************************   31104250
                          *                                               31104260
0751 01 0C000710    RT5   XIO  L  ENDOP       EXECUTE ENDOP               31104270
0753 0  08B4              XIO     STRD        EXECUTE START READ          31104280
0754 01 440007B1          BSI  L  DLYTM       GO TO DELAY                 31104290
0756 0  08B3              XIO     STST        INHIBIT TIMEOUT             31104300
0757 00 67004000          LDX  L3 /4000       SET UP 16 SEC. DELAY        31104310
0759 01 6F0005F9          STX  L3 WCNT                                    31104320
075B 01 440007BA          BSI  L  MIC2                                    31104330
075D 0  08A8              XIO     DSWSN       SENSE DSW                   31104340
075E 0  E0B9              AND     MASK1       SET UP READY CHECK          31104350
075F 01 4C20078D          BSC  L  RDY,Z       CHECK FOR READY             31104360
0761 01 67000A4D    LOG01 LDX  L3 ADR7        SET UP TO LOG MSG 1         31104370
0763 01 6F000ADD          STX  L3 TABLE+3                                 31104380
0765 0  6301              LDX     3 1                                     31104390
0766 01 6F000ADA          STX  L3 TABLE                                   31104400
0768 0  6300              LDX     3 0                                     31104410
0769 01 6F000ADC          STX  L3 TABLE+2                                 31104420
076B 01 0C000712          XIO  L  BZON        EXECUTE ALARM ON            31104430
076D 00 44800163          BSI  I  LOG         LOG SET UP DATA SET         31104440
076F 1  0ADA              DC      TABLE                                   31104450
0770 01 0C000714          XIO  L  BZOFF       EXECUTE ALARM OFF           31104460
0772 01 44000775          BSI  L  WAIT5       GO TO DELAY                 31104470
0774 0  70E2              MDX     RT5+6       SET UP DELAY AGAIN          31104480
                          *                                               31104490
                          *********************************************   31104500
                          *           OPERATING INSTRUCTIONS              31104510
                          *                                               31104520
                          * WHEN SCA CONSOLE RCV LITE COMESON, READY      31104530
                          * CONDITION WILL HAVE TO BE ESTABLISHED IN      31104540
                          * ORDER TO BEGIN LINE LISTENING. 1. PHONE       31104550
                          * ANOTHER TERMINAL. 2. REQUEST THAT THEIR       31104560
                          * DATA SET BE PUT IN TALK POSITION AND          31104570
                          * PLACE THE HAND PHONE IN THE DATA SET          31104580
                          * CRADLE. *NOTE... IF THE HAND PHONE AT THEIR   31104590
                          * TERMINAL IS NOT PLACED IN THE CRADLE, THE     31104600
                          * MOUTH PIECE WILL PICK UP NOISES WITHIN THE    31104610
                          * ROOM. 3. AT YOUR DATA SET, PUSH THE DATA      31104620
                          * BUTTON. THIS SHOULD CAUSE THE SCA RDY LITE    31104630
                          * TO COME ON AND CAUSE THE PROGRAM TO BRANCH    31104640
                          * TO LINE LISTENING. ANY LINE CONDITIONS        31104650
                          * EFFECTING THE COMMUNICATIONS TERMINAL         31104660
                          * CIRCUITRY WILL BE DETECTED AND PRINTED OUT    31104670
                          * ON THE CONSOLE TYPEWRITER. LINE LISTENING     31104680
                          * WILL CONTINUE FOR APPROX 10 MINUTES,         31104690
                          * UNLESS TERMINATED BY MAKING THE DATA SET     31104700
                          * NOT READY. 4. PLACE YOUR DATA SET HAND       31104710
                          * PHONE IN ITS CRADLE.                         31104720
                          *********************************************   31104730
                          *                                               31104740
0775 0  0000        WAIT5 DC      *-*                                     31104750
0776 01 6700077C          LDX  L3 RTRN5       SET UP MON RETURN           31104760
0778 01 6F0005E5          STX  L3 MLSCF                                   31104770
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077A 00 44800161          BSI  I  START       GO TO MONITOR               31104780
077C 01 74FF05F9    RTRN5 MDX  L  WCNT,-1     REDUCE DELAY COUNT          31104790
077E 0  70F7              MDX     WAIT5+1     CK FOR DELAY OVER           31104800
077F 01 4C800775          BSC  I  WAIT5       EXIT TO RETURN              31104810
                          *                                               31104820
0781 0  0000        WAIT6 DC      *-*                                     31104830
0782 01 67000788          LDX  L3 RTRN6       SET UP MON RETURN           31104840
0784 01 6F0005E5          STX  L3 MLSCF                                   31104850
0786 00 44800161          BSI  I  START       GO TO MONITOR               31104860
0788 01 74FF05F9    RTRN6 MDX  L  WCNT,-1     REDUCE DELAY COUNT          31104870
078A 0  700C              MDX     LSTNN       GO LISTEN SOME MORE         31104880
078B 01 4C800781          BSC  I  WAIT6       EXIT TO RETURN              31104890
                          *                                               31104900
078D 0  6314        RDY   LDX     3 20        SET UP LISTEN TIME          31104910
078E 0  6821              STX     3 PASS                                  31104920
078F 00 67007800          LDX  L3 /7800                                   31104930
0791 01 6F0005F9          STX  L3 WCNT                                    31104940
0793 01 0C000714          XIO  L  BZOFF       EXECUTE ALARM OFF           31104950
0795 01 440007BA          BSI  L  MIC2                                    31104960
                          *                                               31104970
                          *********************************************   31104980
                          *           LISTEN FOR LINE NOISE               31104990
                          *********************************************   31105000
                          *                                               31105010
0797 01 0C000706    LSTNN XIO  L  DSWSN       SENSE DSW                   31105020
0799 01 E4000718          AND  L  MASK1       SET UP READY CHECK          31105030
079B 01 4C1807C7          BSC  L  HNGUP,+-    CHECK FOR READY             31105040
079D 01 0C00070E          XIO  L  RDIA2       READ DIAG WD 2              31105080
079F 01 C4000725          LD   L  DIAW2       PUT DIAG WRD IN ACCUM       31105090
07A1 01 E4000717          AND  L  MASK        SET UP NOISE CHECK          31105100
                          *                   CLOCK GATE TRG, FRST TRAN-  31105110
                          *                   SITION TRG AND PHASE CTR    31105120
                          *                   CONTROL TRG.                31105130
07A3 01 4C1807A9          BSC  L  CNTER,+-    DONT BR IF ANY THING        31105140
07A5 01 D4000ADF    PRTER STO  L  TABLE+5     SET BITS IN MSG             31105150
07A7 01 4C00090D          BSC  L  NOISE       GO PRINT NOISE              31105160
                          *                                               31105170
07A9 01 44000781    CNTER BSI  L  WAIT6       GO TO DELAY                 31105180
07AB 01 74FF07B0          MDX  L  PASS,-1     REDUCE DELAY COUNT          31105190
07AD 0  70E1              MDX     RDY+2       GO LISTEN SOME MORE         31105200
07AE 01 4C0008CE          BSC  L  LOG02       GO LOG RESET MESSAGE        31105210
                          *                                               31105220
07B0 0  0000        PASS  DC      *-*                                     31105290
                          *                                               31105300
07B1 0  0000        DLYTM DC      *-*                                     31105310
07B2 0  6306              LDX     3 6                                     31105320
07B3 0  6B05              STX     3 TMDLY                                 31105330
07B4 01 74FF07B9          MDX  L  TMDLY,-1                                31105340
07B6 0  70FD              MDX     *-3                                     31105350
07B7 01 4C8007B1          BSC  I  DLYTM                                   31105360
                          *                                               31105370
07B9 0  0000        TMDLY DC      *-*                                     31105380
                          *                                               31105390
07BA 0  0000        MIC2  DC      *-*                                     31105400
07BB 01 C40005E1          LD   L  SW2                                     31105410
07BD 0  100B              SLA     11                                      31105420
07BE 01 4C9007BA          BSC  I  MIC2,-                                  31105430
07C0 01 C40005F9          LD   L  WCNT                                    31105440
07C2 0  1001              SLA     1                                       31105450
07C3 01 D40005F9          STO  L  WCNT                                    31105460
07C5 01 4C8007BA          BSC  I  MIC2                                    31105470
                          *                                               31105480
07C7 01 0C000700    HNGUP XIO  L  RESET       EXECUTE RESET               31105490
07C9 01 67000A6D          LDX  L3 ADR9        SET UP RTN TERM MSG         31105500
07CB 01 6F000ADD          STX  L3 TABLE+3                                 31105510
07CD 0  6303              LDX     3 3                                     31105520
07CE 01 6F000ADA          STX  L3 TABLE                                   31105530
07D0 0  6300              LDX     3 0                                     31105540
```

```
07D1 01 6F000ADC          STX  L3 TABLE+2
07D3 01 0C000712          XIO  L  BZON        EXECUTE ALARM ON
07D5 00 44800163          BSI  I  LOG         LOG RTN TERM MESSAGE
07D7 1  0ADA              DC      TABLE
07D8 01 0C000714          XIO  L  BZOFF       EXECUTE ALARM OFF
07DA 01 4400069B          BSI  L  OFF         RESET PROG SWS
07DC 01 4400063A          BSI  L  CNTRL       GO TO CONTROL
                     *
                     ********************************************
                     *    TRANSFER VECTOR FOR SCA BUFFER
                     *    WRT AND READ/BACK PATTERNS
                     ********************************************
                     *
07DE 1  084F         PATNA DC     A15
07DF 1  0848               DC     A14
07E0 1  0841               DC     A13
07E1 1  083A               DC     A12
07E2 1  0833               DC     A11
07E3 1  082C               DC     A10
07E4 1  0825               DC     A9
07E5 1  081E               DC     A8
07E6 1  0817               DC     A7
07E7 1  0810               DC     A6
07E8 1  0809               DC     A5
07E9 1  0802               DC     A4
07EA 1  07FB               DC     A3
07EB 1  07F4               DC     A2
07EC 1  07ED               DC     A1
                     *
                     ********************************************
                     *    WRITE READ/BACK PATTERNS
                     ********************************************
                     *
07ED 0  0000         A1    DC     0
07EE 00 65008000           LDX  L1 /8000
07F0 01 6D000720           STX  L1 SEND
07F2 01 4C8007ED           BSC  I  A1
07F4 0  0000         A2    DC     0
07F5 00 65004000           LDX  L1 /4000
07F7 01 6D000720           STX  L1 SEND
07F9 01 4C8007F4           BSC  I  A2
07FB 0  0000         A3    DC     0
07FC 00 65002000           LDX  L1 /2000
07FE 01 6D000720           STX  L1 SEND
0800 01 4C8007FB           BSC  I  A3
0802 0  0000         A4    DC     0
0803 00 65001000           LDX  L1 /1000
0805 01 6D000720           STX  L1 SEND
0807 01 4C800802           BSC  I  A4
0809 0  0000         A5    DC     0
080A 00 65000800           LDX  L1 /0800
080C 01 6D000720           STX  L1 SEND
080E 01 4C800809           BSC  I  A5
0810 0  0000         A6    DC     0
0811 00 65000400           LDX  L1 /0400
0813 01 6D000720           STX  L1 SEND
0815 01 4C800810           BSC  I  A6
0817 0  0000         A7    DC     0
0818 00 65000200           LDX  L1 /0200
081A 01 6D000720           STX  L1 SEND
081C 01 4C800817           BSC  I  A7
081E 0  0000         A8    DC     0
081F 00 65000100           LDX  L1 /0100
0821 01 6D000720           STX  L1 SEND
0823 01 4C80081E           BSC  I  A8
0825 0  0000         A9    DC     0
0826 00 65000200           LDX  L1 /0200
0828 01 6D000720           STX  L1 SEND
```



```
082A 01 4C800825           BSC  I  A9
082C 0  0000         A10   DC     0
082D 00 65000400           LDX  L1 /0400
082F 01 6D000720           STX  L1 SEND
0831 01 4C80082C           BSC  I  A10
0833 0  0000         A11   DC     0
0834 00 65000800           LDX  L1 /0800
0836 01 6D000720           STX  L1 SEND
0838 01 4C800833           BSC  I  A11
083A 0  0000         A12   DC     0
083B 00 65001000           LDX  L1 /1000
083D 01 6D000720           STX  L1 SEND
083F 01 4C80083A           BSC  I  A12
0841 0  0000         A13   DC     0
0842 00 65002000           LDX  L1 /2000
0844 01 6D000720           STX  L1 SEND
0846 01 4C800841           BSC  I  A13
0848 0  0000         A14   DC
0849 00 65004000           LDX  L1 /4000
084B 01 6D000720           STX  L1 SEND
084D 01 4C800848           BSC  I  A14
084F 0  0000         A15   DC
0850 00 65008000           LDX  L1 /8000
0852 01 6D000720           STX  L1 SEND
0854 01 4C80084F           BSC  I  A15
                     *
                     ********************************************
                     *    TRANSFER VECTOR FOR SCA BUFFER
                     *    WRT AND READ/BACK PATTERNS
                     ********************************************
                     *
0856 1  08C7         PATNB DC     B15
0857 1  08C0               DC     B14
0858 1  08B9               DC     B13
0859 1  08B2               DC     B12
085A 1  08AB               DC     B11
085B 1  08A4               DC     B10
085C 1  089D               DC     B9
085D 1  0896               DC     B8
085E 1  088F               DC     B7
085F 1  0888               DC     B6
0860 1  0881               DC     B5
0861 1  087A               DC     B4
0862 1  0873               DC     B3
0863 1  086C               DC     B2
0864 1  0865               DC     B1
                     *
                     ********************************************
                     *    WRITE READ/BACK PATTERNS
                     ********************************************
                     *
0865 0  0000         B1    DC     0
0866 00 65007F00           LDX  L1 /7F00
0868 01 6D000720           STX  L1 SEND
086A 01 4C800865           BSC  I  B1
086C 0  0000         B2    DC     0
086D 00 6500BF00           LDX  L1 /BF00
086F 01 6D000720           STX  L1 SEND
0871 01 4C80086C           BSC  I  B2
0873 0  0000         B3    DC     0
0874 00 6500DF00           LDX  L1 /DF00
0876 01 6D000720           STX  L1 SEND
0878 01 4C800873           BSC  I  B3
087A 0  0000         B4    DC     0
087B 00 6500EF00           LDX  L1 /EF00
087D 01 6D000720           STX  L1 SEND
087F 01 4C80087A           BSC  I  B4
0881 0  0000         B5    DC     0
```

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0882 00 6500F700          LDX  L1 /F700                    31106910
0884 01 6D000720          STX  L1 SEND                     31106920
0886 01 4C800881          BSC  I  B5                       31106930
0888 0  0000         B6   DC      0                       31106940
0889 00 6500FB00          LDX  L1 /FB00                    31106950
088B 01 6D000720          STX  L1 SEND                     31106960
088D 01 4C800888          BSC  I  B6                       31106970
088F 0  0000         B7   DC      0                       31106980
0890 00 6500FD00          LDX  L1 /FD00                    31106990
0892 01 6D000720          STX  L1 SEND                     31107000
0894 01 4C80088F          BSC  I  B7                       31107010
0896 0  0000         B8   DC      0                       31107020
0897 00 6500FE00          LDX  L1 /FE00                    31107030
0899 01 6D000720          STX  L1 SEND                     31107040
089B 01 4C800896          BSC  I  B8                       31107050
089D 0  0000         B9   DC      0                       31107060
089E 00 6500FD00          LDX  L1 /FD00                    31107070
08A0 01 6D000720          STX  L1 SEND                     31107080
08A2 01 4C80089D          BSC  I  B9                       31107090
08A4 0  0000         B10  DC      0                       31107100
08A5 00 6500FB00          LDX  L1 /FB00                    31107110
08A7 01 6D000720          STX  L1 SEND                     31107120
08A9 01 4C8008A4          BSC  I  B10                      31107130
08AB 0  0000         B11  DC      0                       31107140
08AC 00 6500F700          LDX  L1 /F700                    31107150
08AE 01 6D000720          STX  L1 SEND                     31107160
08B0 01 4C8008AB          BSC  I  B11                      31107170
08B2 0  0000         B12  DC      0                       31107180
08B3 00 6500EF00          LDX  L1 /EF00                    31107190
08B5 01 6D000720          STX  L1 SEND                     31107200
08B7 01 4C8008B2          BSC  I  B12                      31107210
08B9 0  0000         B13  DC      0                       31107220
08BA 00 6500DF00          LDX  L1 /DF00                    31107230
08BC 01 6D000720          STX  L1 SEND                     31107240
08BE 01 4C8008B9          BSC  I  B13                      31107250
08C0 0  0000         B14  DC      0                       31107260
08C1 00 6500BF00          LDX  L1 /BF00                    31107270
08C3 01 6D000720          STX  L1 SEND                     31107280
08C5 01 4C8008C0          BSC  I  B14                      31107290
08C7 0  0000         B15  DC      0                       31107300
08C8 00 65007F00          LDX  L1 /7F00                    31107310
08CA 01 6D000720          STX  L1 SEND                     31107320
08CC 01 4C8008C7          BSC  I  B15                      31107330
*                                                          31107340
*********************************************************  31107350
*    RESET ADAPTER AND HANG UP TELEPHONE                   *  31107360
*********************************************************  31107370
*                                                          31107380
08CE 01 C40005E0 LOGO2 LD   L  SW1        CK FOR LOOP RTN OPT  31107390
08D0 01 94000B37       S    L  K0005      CHK FOR NOISE RTN    31107400
08D2 0  4820           BSC     Z                              31107410
08D3 0  7002           MDX     LOGO2+8   LOOP NOISE ROUTINE    31107420
08D4 01 4400063A       BSI  L  CNTRL     GO TO CONTROL        31107430
08D6 01 67000A5C       LDX  L3 ADR8      SET UP RESET MESSAGE 31107440
08D8 01 6F000ADD       STX  L3 TABLE+3                        31107450
08DA 0  6302           LDX     3 2                            31107460
08DB 01 6F000ADA       STX  L3 TABLE                          31107470
08DD 0  6300           LDX     3 0                            31107480
08DF 01 6F000ADC       STX  L3 TABLE+2                        31107490
08E0 01 0C000712       XIO  L  BZON      EXECUTE ALARM ON     31107500
08E2 00 44800163       BSI  I  LOG       LOG RESET MESSAGE    31107510
08E4 1  0ADA           DC      TABLE                          31107520
08E5 01 0C000714       XIO  L  BZOFF     EXECUTE ALARM OFF    31107530
08E7 01 4C0007C7       BSC  L  HNGUP     GO TERMINATE ROUTINE 31107540
*                                                          31107550
08E9 01 6C00068F BFRER STX  L  PRTSW      TURN ON ERROR SW     31107560
08EB 0  6B1E           STX     3 XR3+1    SAVE REGISTER 3      31107570
08EC 01 44000664       BSI  L  SNDSW     GO MAKE ANALYSIS     31107580
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08EE 0  6305                LDX    3 5                          31107590
08EF 01 6F000ADA            STX  L3 TABLE      SET UP MSG ID     31107600
08F1 01 C4000B36            LD   L  K0003      MODIFIERS 2       31107610
08F3 01 D4000ADC            STO  L  TABLE+2    SET UP MODIFIER   31107620
08F5 01 67000A36            LDX  L3 ADR5                         31107630
08F7 01 6F000ADD            STX  L3 TABLE+3    SET UP ALPHA MSG  31107640
08F9 01 C4000720            LD   L  SEND       S/B PATTERN SENT TO BFR  31107650
08FB 01 D4000AE0            STO  L  TABLE+6                      31107660
08FD 01 C400071F            LD   L  RCVED      WAS PATTERN RD FROM BFR  31107670
08FF 01 D4000ADF            STO  L  TABLE+5                      31107680
0901 01 0C000712            XIO  L  BZON       EXECUTE ALARM ON  31107690
0903 00 44800162            BSI  I  ERROR      GO PRINT          31107700
0905 1  0ADA                DC      TABLE                        31107710
0906 1  0A7D                DC      LOPRT      LOOP ADDR         31107720
0907 01 0C000714            XIO  L  BZOFF      EXECUTE ALARM OFF 31107730
0909 00 67000000       XR3  LDX  L3 *-*        RESTORE REG 3     31107740
090B 01 4C8006EC            BSC  I  BFRCK      EXIT TO RETURN    31107750
*                                                               31107760
090D 0  6306           NOISE LDX    3 6                         31107770
090E 01 6F000ADA            STX  L3 TABLE      SET UP MSG ID     31107780
0910 0  6300                LDX    3 0                           31107790
0911 01 6F000A7D            STX  L3 LOPRT      INHIBIT LOOP ON ERR  31107800
0913 01 C4000B35            LD   L  K0001                        31107810
0915 01 D4000ADC            STO  L  TABLE+2    SET UP MODIFIER   31107820
0917 01 67000A44            LDX  L3 ADR6                         31107830
0919 01 6F000ADD            STX  L3 TABLE+3    SET UP ALPHA MSG  31107840
091B 01 0C000712            XIO  L  BZON       EXECUTE ALARM ON  31107850
091D 00 44800162            BSI  I  ERROR      GO PRINT          31107860
091F 1  0ADA                DC      TABLE                        31107870
0920 1  0A7D                DC      LOPRT                        31107880
0921 01 0C000714            XIO  L  BZOFF      EXECUTE ALARM OFF 31107890
0923 01 0C000710            XIO  L  ENDOP      EXECUTE ENDOP     31107900
0925 01 0C000708            XIO  L  STRD       EXECUTE START READ  31107910
0927 01 440007B1            BSI  L  DLYTM      GO TO DELAY       31107920
0929 01 0C00070A            XIO  L  STST       INHIBIT TIMEOUT INT  31107930
092B 01 4C0007A9            BSC  L  CNTER      RETURN TO ROUTINE 31107940
*                                                               31107950
*********************************************************     31107960
* PREDETERMINED VALUES FOR SCA DSW. THESE                     31107970
* VALUES ARE PRINTED OUT AS S/B, SHOULD BE                    31107980
* DSW WHEN A DISCREPANCIE EXIST.                              31107990
*********************************************************     31108000
*                                                             31108010
092D 0  0080           DSW00 DC      /0080                    31108020
092E 0  0080           DSW01 DC      /0080                    31108030
*********************************************************     31108040
*     PREDETERMINE VALUES FOR SCA DIAGNOSTIC                  31108050
*     WORDS 1 AND 2 COMBINED                                  31108060
*********************************************************     31108070
*                                                             31108080
092F 0  0000           DIA00 DC      /0000                    31108090
0930 0  1000           DIA01 DC      /1000                    31108100
*                                                             31108110
*********************************************************     31108120
*                                                             31108130
0931 0  0000           STOR1 DC      *-*        SAVED RETURN ADDR  31108140
0932 01 D4000AED            STO  L  STWD       STORE S/B DSW WORD  31108150
0934 01 D4000AE6            STO  L  DSWXX      STORE S/B DSW WORD  31108160
0936 01 4400096C            BSI  L  ANAL1      GO TO ANAL. 1     31108170
0938 01 4C800931            BSC  I  STOR1      EXIT TO RETURN    31108180
*                                                             31108190
*********************************************************     31108200
*                                                             31108210
093A 01 D4000AED       STOR2 STO  L  STWD       STORE S/B DIAG WORD  31108220
093C 01 D4000AEE            STO  L  DIAXX      STORE S/B DIAG WORD  31108230
093E 01 4400097A            BSI  L  ANAL2      GO TO ANAL. 2     31108240
0940 01 4C000683            BSC  L  RETRN      BRANCH TO RETRN   31108250
*                                                               31108260
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                        ********************************************** 31108270
                        *                                            31108280
0942 01 C40009D1 RESAN  LD   L  BNSW1     LOAD BRANCH SW 1          31108290
0944 0  4820            BSC     Z        CHK IF IT IS ON           31108300
0945 0  7006            MDX     REST1    BRANCH SW 1 IS ON         31108310
0946 01 C40009D2        LD   L  BNSW2    LOAD BRANCH SW 2          31108320
0948 0  4820            BSC     Z        CHK IF IT IS ON           31108330
0949 0  7007            MDX     REST2    BRANCH 2 IS ON            31108340
094A 01 4C000683        BSC  L  RETRN    BRANCH TO RETURN          31108350
                        *                                          31108360
094C 0  C0E0    REST1   LD      DSW00    LOAD BRANCH SW 00         31108370
094D 01 44000931        BSI  L  STOR1    GO STORE IT               31108380
094F 0  C0DF            LD      DIA00    LOAD S/B DIAG WORD        31108390
0950 0  70E9            MDX     STOR2    GO STORE 2                31108400
                        *                                          31108410
0951 0  C0DC    REST2   LD      DSW01    LD S/B DSW01 WORD         31108420
0952 01 44000931        BSI  L  STOR1    GO STORE IT               31108430
0954 0  C0DB            LD      DIA01    LD S/B DIAG 01 WORD       31108440
0955 0  70E4            MDX     STOR2    GO STORE 2                31108450
                        *                                          31108460
0956 01 C40009D1 RDAN   LD   L  BNSW1    LD  BRANCH SW 1           31108470
0958 01 4C20095C        BSC  L  RTR01,Z  DONT BR IF OFF            31108480
095A 01 4C000683        BSC  L  RETRN    RETURN                    31108490
                        *                                          31108500
095C 0  C0D0    RTR01   LD      DSW00    LD S/B DSW WORD           31108510
095D 01 44000931        BSI  L  STOR1                              31108520
095F 0  C0CF            LD      DIA00    LD S/B DIAG WORD          31108530
0960 0  70D9            MDX     STOR2    GO STORE 2                31108540
                        *                                          31108550
0961 01 C40009D1 WRTAN  LD   L  BNSW1    LOAD BRANCH SWT 1         31108560
0963 01 4C200967        BSC  L  WTR01,Z  DONT BRANCH IF OFF        31108570
0965 01 4C000683        BSC  L  RETRN    RETURN                    31108580
                        *                                          31108590
0967 0  C0C5    WTR01   LD      DSW00    LD S/B DSW WORD           31108600
0968 01 44000931        BSI  L  STOR1                              31108610
096A 0  C0C4            LD      DIA00    LD S/B DIAG WORD          31108620
096B 0  70CE            MDX     STOR2    GO STORE 2                31108630
                        *                                          31108640
                        ********************************************** 31108650
                        *     CHECK TO SEE IF DSW ERROR EXISTS       31108660
                        ********************************************** 31108670
                        *                                          31108680
096C 0  0000    ANAL1   DC      *-*      SAVED RETURN ADDR         31108690
096D 01 C4000AE8        LD   L  CADSW    LOAD SENSED DSW           31108700
096F 01 F4000AE6        EOR  L  DSWXX    EOR WITH S/B DSW          31108710
0971 01 D4000AE7        STO  L  DSWRD    STORE IN DSW ERR BIT      31108720
0973 0  4820            BSC     Z        CHK IF ERR BITS ON        31108730
0974 0  7001            MDX     ANL01    ERR BITS ARE ON           31108740
0975 0  7002            MDX     ANL01+2  ERR BITS ARE NOT ON        31108750
0976 01 44000988 ANL01  BSI  L  DSWAN    CHK WHICH BITS ON         31108760
0978 01 4C80096C        BSC  I  ANAL1    BRANCH TO RETURN ADR      31108770
                        *                                          31108780
                        ********************************************** 31108790
                        *     CHECK TO SEE IF DIAG TRIG ERROR EXISTS 31108800
                        ********************************************** 31108810
                        *                                          31108820
097A 0  0000    ANAL2   DC      *-*      SAVED RETURN ADDR         31108830
097B 01 C400071C        LD   L  DIAWD    LD DIAGNOSTIC             31108840
097D 01 F4000AEE        EOR  L  DIAXX    EOR WITH S/B DIAG WD      31108850
097F 01 D4000AEF        STO  L  TRGWD    SET IN DIAG ERR BITS      31108860
0981 0  4820            BSC     Z        CHKIF ERR BITS ON         31108870
0982 0  7001            MDX     ANL02    ERROR BITS ARE ON         31108880
0983 0  7002            MDX     ANL02+2  ERR BITS ARE NOT ON       31108890
0984 01 44000A81 ANL02  BSI  L  TRGAN    CHK WHICH ERR BIT ON      31108900
0986 01 4C80097A        BSC  I  ANAL2    BRANCH TO SAVED ADDR      31108910
                        *                                          31108920
                        ********************************************** 31108930
                        *                                          31108940
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0988 0  0000    DSWAN   DC      *-*      SAVED RETURN ADDRESS      31108950
0989 01 C4000AE8        LD   L  CADSW    LOAD DSW WAS              31108960
098B 01 E4000AE7        AND  L  DSWRD    AND WITH DSW ERR          31108970
098D 01 D40009CF        STO  L  DSWW1    STORE ON/F ERR BITS       31108980
098F 01 C4000AE7        LD   L  DSWRD    LOAD DSW ERR BITS         31108990
0991 01 F40009CF        EOR  L  DSWW1    EOR WITH ON/F ERR         31109000
0993 01 D40009D0        STO  L  DSWW2    STORE DSW F/ON ERR        31109010
0995 01 440009D3        BSI  L  MSGID    CHK C.E. BITS             31109020
0997 0  6302            LDX     3 2      SET UP MSG ID             31109030
0998 01 6F000ADA        STX  L3 TABLE                              31109040
099A 00 6700007F        LDX  L3 /007F                              31109050
099C 01 6F000ADC        STX  L3 TABLE+2  SET IN MODIFIER ID        31109060
099E 01 670009DE        LDX  L3 ADR1     LD ALPHA 1 ADDR           31109070
09A0 01 6F000ADD        STX  L3 TABLE+3  SET UP ALPHA MSG          31109080
09A2 01 C40009CF        LD   L  DSWW1    LOAD ON/F ERR BITS        31109090
09A4 01 D4000AE3        STO  L  TABLE+9                            31109100
09A6 01 C40009D0        LD   L  DSWW2    LOAD F/ON ERR BITS        31109110
09A8 01 D4000AE4        STO  L  TABLE+10                           31109120
09AA 01 C4000AE6        LD   L  DSWXX    LD DSW SHOULD/BE          31109130
09AC 01 D4000AE2        STO  L  TABLE+8  SET UP ERR MESSAGE        31109140
09AE 01 C4000AE8        LD   L  CADSW    LOAD SENSED DSW           31109150
09B0 01 D4000AE1        STO  L  TABLE+7  SET UP ERR MESSAGE        31109160
09B2 01 C4000725        LD   L  DIAW2    LD DIAG WD 2 WAS          31109170
09B4 0  1890            SRT     16       MASK C.E. BITS            31109180
09B5 0  1010            SLA     16                                 31109190
09B6 0  1086            SLT     6                                  31109200
09B7 0  100A            SLA     10                                 31109210
09B8 01 D4000AE0        STO  L  TABLE+6  SET UP ERR MESSAGE        31109220
09BA 01 C4000724        LD   L  DIAW1    LD DIAG WD 1 WAS          31109230
09BC 01 D4000ADF        STO  L  TABLE+5  SET UP ERR MESSAGE        31109240
09BE 01 0C000712        XIO  L  BZON     EXECUTE ALARM ON          31109250
09C0 00 44800162        BSI  I  ERROR    GO PRINT ERROR            31109260
09C2 1  0ADA            DC      TABLE    MESSAGE TABLE             31109270
09C3 1  0A7D            DC      LOPRT    LOOP ADDRESS              31109280
09C4 01 0C000714        XIO  L  BZOFF    EXECUTE ALARM OFF         31109290
09C6 0  6300            LDX     3 0                                31109300
09C7 01 6F0009CF        STX  L3 DSWW1    RESET OFF,S/B ON          31109310
09C9 01 6F0009D0        STX  L3 DSWW2    RESET ON,S/B OFF          31109320
09CB 01 6F000AE7        STX  L3 DSWRD    RESET BIT ERR ID WD       31109330
09CD 01 4C800988 WRDCK  BSC  I  DSWAN    EXIT TO RETURN            31109340
                        *                                          31109350
                        ********************************************** 31109360
                        *     DSW  ANALYSIS SWITCHES + STORAGE       31109370
                        ********************************************** 31109380
                        *                                          31109390
09CF 0  0000    DSWW1   DC      *-*                                31109400
09D0 0  0000    DSWW2   DC      *-*                                31109410
09D1 0  0000    BNSW1   DC      *-*      BRANCH SW NO. 01          31109420
09D2 0  0000    BNSW2   DC      *-*      BRANCH SW NO. 02          31109430
                        *                                          31109440
                        ********************************************** 31109450
                        *                                          31109460
09D3 0  0000    MSGID   DC      *-*                                31109470
09D4 01 C400071D        LD   L  DIAWD+1  LD DIAG WD 2 WAS          31109480
09D6 0  1890            SRT     16       FETCH C.E. BITS           31109490
09D7 0  1010            SLA     16                                 31109500
09D8 0  1083            SLT     3                                  31109510
09D9 0  1007            SLA     7                                  31109520
09DA 01 D4000AE5        STO  L  TABLE+11 STORE C.E. BITS           31109530
09DC 01 4C8009D3        BSC  I  MSGID    EXIT TO RETURN            31109540
                        *                                          31109550
                        ********************************************** 31109560
                        *     ALPHA MESSAGE FOR DSW ERROR            31109570
                        ********************************************** 31109580
                        *                                          31109590
09DE 0  3292    ADR1    DC      /3292    DW                        31109600
09DF 0  FC21            DC      /FC21    1                         31109610
09E0 0  2132            DC      /2132     D                        31109620
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09E1 0 92D8          DC    /92D8     W2                    31109630
09E2 0 2121          DC    /2121                           31109640
09E3 0 923E          DC    /923E     WA                    31109650
09E4 0 9A21          DC    /9A21     S                     31109660
09E5 0 219A          DC    /219A      S                    31109670
09E6 0 BC1A          DC    /BC1A     /B                    31109680
09E7 0 2121          DC    /2121                           31109690
09E8 0 5276          DC    /5276     ON                    31109700
09E9 0 BC12          DC    /BC12     /F                    31109710
09EA 0 2112          DC    /2112      F                    31109720
09EB 0 BC52          DC    /BC52     /O                    31109730
09EC 0 7621          DC    /7621     N                     31109740
09ED 0 D61E          DC    /D61E     *C                    31109750
09EE 0 36D6          DC    /36D6     E*                    31109760
09EF 0 2132          DC    /2132      D                    31109770
09F0 0 9A92          DC    /9A92     SW                    31109780
09F1 0 2136          DC    /2136      E                    31109790
09F2 0 6262          DC    /6262     RR                    31109800
09F3 0 FFFF          DC    /FFFF     TERMINATOR            31109810
                   *                                       31109820
                   ****************************************31109830
                   *     ALPHA MESSAGE FOR DIAG WORD 1 ERROR31109840
                   ****************************************31109850
                   *                                       31109860
09F4 0 329A        ADR2  DC    /329A     DS                31109870
09F5 0 9221          DC    /9221     W                     31109880
09F6 0 21D8          DC    /21D8      2                    31109890
09F7 0 923E          DC    /923E     WA                    31109900
09F8 0 9A21          DC    /9A21     S                     31109910
09F9 0 FC92          DC    /FC92     1W                    31109920
09FA 0 3E9A          DC    /3E9A     AS                    31109930
09FB 0 21FC          DC    /21FC      1                    31109940
09FC 0 9ABC          DC    /9ABC     S/                    31109950
09FD 0 1A21          DC    /1A21     B                     31109960
09FE 0 5276          DC    /5276     ON                    31109970
09FF 0 BC12          DC    /BC12     /F                    31109980
0A00 0 2112          DC    /2112      F                    31109990
0A01 0 BC52          DC    /BC52     /O                    31110000
0A02 0 7621          DC    /7621     N                     31110010
0A03 0 D61E          DC    /D61E     *C                    31110020
0A04 0 36D6          DC    /36D6     E*                    31110030
0A05 0 2132          DC    /2132      D                    31110040
0A06 0 92FC          DC    /92FC     W1                    31110050
0A07 0 2136          DC    /2136      E                    31110060
0A08 0 6262          DC    /6262     RR                    31110070
0A09 0 FFFF          DC    /FFFF     TERMINATOR            31110080
                   *                                       31110090
                   ****************************************31110100
                   *     ALPHA MESSAGE FOR DIAG WORD 2 ERROR31110110
                   ****************************************31110120
                   *                                       31110130
0A0A 0 329A        ADR3  DC    /329A     DS                31110140
0A0B 0 9221          DC    /9221     W                     31110150
0A0C 0 21FC          DC    /21FC      1                    31110160
0A0D 0 923E          DC    /923E     WA                    31110170
0A0E 0 9A21          DC    /9A21     S                     31110180
0A0F 0 D892          DC    /D892     2W                    31110190
0A10 0 3E9A          DC    /3E9A     AS                    31110200
0A11 0 21D8          DC    /21D8      2                    31110210
0A12 0 9ABC          DC    /9ABC     S/                    31110220
0A13 0 1A21          DC    /1A21     B                     31110230
0A14 0 5276          DC    /5276     ON                    31110240
0A15 0 BC12          DC    /BC12     /F                    31110250
0A16 0 2112          DC    /2112      F                    31110260
0A17 0 BC52          DC    /BC52     /O                    31110270
0A18 0 7621          DC    /7621     N                     31110280
0A19 0 D61E          DC    /D61E     *C                    31110290
0A1A 0 36D6          DC    /36D6     E*                    31110300
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0A1B 0 2132          DC    /2132      D                    31110310
0A1C 0 92D8          DC    /92D8     W2                    31110320
0A1D 0 2136          DC    /2136      E                    31110330
0A1E 0 6262          DC    /6262     RR                    31110340
0A1F 0 FFFF          DC    /FFFF     TERMINATOR            31110350
                   *                                       31110360
                   ****************************************31110370
                   *     ALPHA MESSAGE FOR INTERRUPT ERROR 31110380
                   ****************************************31110390
                   *                                       31110400
0A20 0 3292        ADR4  DC    /3292     DW                31110410
0A21 0 FC21          DC    /FC21     1                     31110420
0A22 0 2132          DC    /2132      D                    31110430
0A23 0 92D8          DC    /92D8     W2                    31110440
0A24 0 2121          DC    /2121                           31110450
0A25 0 329A          DC    /329A     DS                    31110460
0A26 0 9221          DC    /9221     W                     31110470
0A27 0 2152          DC    /2152      O                    31110480
0A28 0 768C          DC    /768C     N/                    31110490
0A29 0 1221          DC    /1221     F                     31110500
0A2A 0 128C          DC    /128C     F/                    31110510
0A2B 0 5276          DC    /5276     ON                    31110520
0A2C 0 21D6          DC    /21D6      *                    31110530
0A2D 0 1E36          DC    /1E36     CE                    31110540
0A2E 0 D621          DC    /D621     *                     31110550
0A2F 0 2121          DC    /2121                           31110560
0A30 0 2121          DC    /2121                           31110570
0A31 0 2122          DC    /2122      I                    31110580
0A32 0 769E          DC    /769E     NT                    31110590
0A33 0 2136          DC    /2136      E                    31110600
0A34 0 6262          DC    /6262     RR                    31110610
0A35 0 FFFF          DC    /FFFF     TERMINATOR            31110620
                   *                                       31110630
                   ****************************************31110640
                   *     ALPHA MESSAGE FOR BUFFER WRT/RD ERROR31110650
                   ****************************************31110660
                   *                                       31110670
0A36 0 923E        ADR5  DC    /923E     WA                31110680
0A37 0 9A21          DC    /9A21     S                     31110690
0A38 0 219A          DC    /219A      S                    31110700
0A39 0 BC1A          DC    /BC1A     /B                    31110710
0A3A 0 2121          DC    /2121                           31110720
0A3B 0 1A12          DC    /1A12     BF                    31110730
0A3C 0 6221          DC    /6221     R                     31110740
0A3D 0 9262          DC    /9262     WR                    31110750
0A3E 0 9EBC          DC    /9EBC     T/                    31110760
0A3F 0 6232          DC    /6232     RD                    31110770
0A40 0 2136          DC    /2136      E                    31110780
0A41 0 6262          DC    /6262     RR                    31110790
0A42 0 5262          DC    /5262     OR                    31110800
0A43 0 FFFF          DC    /FFFF     TERMINOR              31110810
                   *                                       31110820
                   ****************************************31110830
                   *     ALPHA MESSAGE FOR LINE NOISE ERROR31110840
                   ****************************************31110850
                   *                                       31110860
0A44 0 923E        ADR6  DC    /923E     WA                31110870
0A45 0 9A21          DC    /9A21     S                     31110880
0A46 0 215E          DC    /215E      L                    31110890
0A47 0 2276          DC    /2276     IN                    31110900
0A48 0 3621          DC    /3621     E                     31110910
0A49 0 7652          DC    /7652     NO                    31110920
0A4A 0 229A          DC    /229A     IS                    31110930
0A4B 0 3621          DC    /3621     E                     31110940
0A4C 0 FFFF          DC    /FFFF     TERMINATOR            31110950
                   *                                       31110960
                   ****************************************31110970
                   *     ALPHA MESSAGE FOR SET UP DATA SET 31110980
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                        ********************************************
                        *
0A4D 0 9A36     ADR7    DC      /9A36       SE                      31110990
0A4E 0 9E21             DC      /9E21       T                       31111000
0A4F 0 B256             DC      /B256       UP                      31111010
0A50 0 2132             DC      /2132        D                      31111020
0A51 0 3E9E             DC      /3E9E       AT                      31111030
0A52 0 3E21             DC      /3E21       A                       31111040
0A53 0 9A36             DC      /9A36       SE                      31111050
0A54 0 9E21             DC      /9E21       T                       31111060
0A55 0 1E52             DC      /1E52       CO                      31111070
0A56 0 7676             DC      /7676       NN                      31111080
0A57 0 361E             DC      /361E       EC                      31111090
0A58 0 9E22             DC      /9E22       TI                      31111100
0A59 0 5276             DC      /5276       ON                      31111110
0A5A 0 9A21             DC      /9A21       S                       31111120
0A5B 0 FFFF             DC      /FFFF       TERMINATOR              31111130
                        *                                           31111140
                        ********************************************31111150
                        *    ALPHA MESSAGE FOR RESET DATA SET       *31111160
                        ********************************************31111170
                        *                                           31111180
0A5C 0 6236     ADR8    DC      /6236       RE                      31111190
0A5D 0 9A36             DC      /9A36       SE                      31111200
0A5E 0 9E21             DC      /9E21       T                       31111210
0A5F 0 3E32             DC      /3E32       AD                      31111220
0A60 0 3E56             DC      /3E56       AP                      31111230
0A61 0 9E36             DC      /9E36       TE                      31111240
0A62 0 6221             DC      /6221       R                       31111250
0A63 0 3E76             DC      /3E76       AN                      31111260
0A64 0 3221             DC      /3221       D                       31111270
0A65 0 263E             DC      /263E       HA                      31111280
0A66 0 7616             DC      /7616       NG                      31111290
0A67 0 21B2             DC      /21B2        U                      31111300
0A68 0 5621             DC      /5621       P                       31111310
0A69 0 5626             DC      /5626       PH                      31111320
0A6A 0 5276             DC      /5276       ON                      31111330
0A6B 0 3621             DC      /3621       E                       31111340
0A6C 0 FFFF             DC      /FFFF       TERMINATOR              31111350
                        *                                           31111360
                        ********************************************31111370
                        *    ALPHA MESSAGE FOR LINE NOISE TERMINATE *31111380
                        ********************************************31111390
                        *                                           31111400
0A6D 0 5E22     ADR9    DC      /5E22       LI                      31111410
0A6E 0 7636             DC      /7636       NE                      31111420
0A6F 0 2176             DC      /2176        N                      31111430
0A70 0 5222             DC      /5222       OI                      31111440
0A71 0 9A36             DC      /9A36       SE                      31111450
0A72 0 2162             DC      /2162        R                      31111460
0A73 0 52B2             DC      /52B2       OU                      31111470
0A74 0 9E22             DC      /9E22       TI                      31111480
0A75 0 7636             DC      /7636       NE                      31111490
0A76 0 219E             DC      /219E        T                      31111500
0A77 0 3662             DC      /3662       ER                      31111510
0A78 0 7222             DC      /7222       MI                      31111520
0A79 0 763E             DC      /763E       NA                      31111530
0A7A 0 9E36             DC      /9E36       TE                      31111540
0A7B 0 3221             DC      /3221        D                      31111550
0A7C 0 FFFF             DC      /FFFF       TERMINATOR              31111560
                        *                                           31111570
0A7D 01 6C0006C2 LOPRT  STX  L  LOOPE       TURN ON LOOP ON ERR     31111580
0A7F 01 4C00069C        BSC  L  OFF+1       GO TO HOUSE/KEEP RTN    31111590
                        *                                           31111600
                        ********************************************31111610
                        *          DIAG TRIGGER ANALYSIS          *31111620
                        *    COMPARES *WAS* TRIGGERS WITH S/B      *31111630
                        *    TRIGGERS AND ANALIZES ANY ERROR       *31111640
                        *                                          *31111650
                        ********************************************31111660
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                        ********************************************31111670
                        *                                           31111680
0A81 0 0000     TRGAN   DC      *-*         SAVED RETURN ADDRESS    31111690
0A82 01 C4000AEE        LD   L  DIAXX       LD COMBINDED DIAGS      31111700
0A84 0 1890             SRT     16                                  31111710
0A85 0 1010             SLA     16                                  31111720
0A86 0 1089             SLT     9                                   31111730
0A87 0 1007             SLA     7                                   31111740
0A88 0 D060             STO     DIAX1       STORE DIAG 1 WAS        31111750
0A89 0 1010             SLA     16                                  311117c0
0A8A 0 1086             SLT     6                                   31111770
0A8B 0 100A             SLA     10                                  31111780
0A8C 0 D05D             STO     DIAX2       STORE DIAG 2 WAS        31111790
0A8D 01 C4000AEF        LD   L  TRGWD       LOAD DIA ERROR BITS     31111800
0A8F 0 1890             SRT     16                                  31111810
0A90 0 1010             SLA     16                                  31111820
0A91 0 1089             SLT     9                                   31111830
0A92 0 1007             SLA     7                                   31111840
0A93 0 D057             STO     TRWD1       STORE DIAG WD 1 ERR     31111850
0A94 0 1010             SLA     16                                  31111860
0A95 0 1086             SLT     6                                   31111870
0A96 0 100A             SLA     10                                  31111880
0A97 0 D054             STO     TRWD2       STORE DIAG WD 2 ERR     31111890
0A98 0 C052             LD      TRWD1       LD DIAG WD 1 WAS        31111900
0A99 0 4820             BSC     Z           CHECK FOR ERR BIT ON    31111910
0A9A 0 7031             MDX     CKIT2       INITIAL ERR BIT CHK     31111920
0A9B 0 7056             MDX     WD1CK       GO CHK DIAG WD 2        31111930
                        *                                           31111940
0A9C 01 440009D3 WD1    BSI  L  MSGID       CHK FOR C.E. BITS       31111950
0A9E 0 6303             LDX     3 3                                 31111960
0A9F 01 6F000ADA        STX  L3 TABLE       SET UP MSG ID           31111970
0AA1 0 637F             LDX     3 /007F                             31111980
0AA2 0 6B39             STX     3 TABLE+2   SET UP MODIFIER ID       31111990
0AA3 01 670009F4        LDX  L3 ADR2        LD ALPHA 2 ADDR         31112000
0AA5 0 6B37             STX     3 TABLE+3                           31112010
0AA6 01 C4000AF0        LD   L  TGWD1       LD ON/F ERROR BITS      31112020
0AA8 0 D03A             STO     TABLE+9                             31112030
0AA9 01 C4000AF1        LD   L  TGWD2       LD F/ON ERROR BITS      31112040
0AAB 0 D038             STO     TABLE+10                            31112050
0AAC 0 C03C             LD      DIAX1       LD DIAG WD 1 S/B        31112060
0AAD 0 D034             STO     TABLE+8                             31112070
0AAE 01 C4000724        LD   L  DIAW1       LD DIAG WD 1 WAS        31112080
0AB0 0 D030             STO     TABLE+7                             31112090
0AB1 01 C4000725        LD   L  DIAW2       LD DIAG WD 2 WAS        31112100
0AB3 0 1890             SRT     16          MASK OUT C.E. BITS      31112110
0AB4 0 1010             SLA     16                                  31112120
0AB5 0 1086             SLT     6                                   31112130
0AB6 0 100A             SLA     10                                  31112140
0AB7 0 D028             STO     TABLE+6                             31112150
0AB8 01 C4000AE8        LD   L  CADSW       LOAD DSW WAS            31112160
0ABA 0 D024             STO     TABLE+5                             31112170
0ABB 01 0C000712        XIO  L  BZON        EXECUTE ALARM ON        31112180
0ABD 00 44800162        BSI  I  ERROR       GO PRINT ERROR          31112190
0ABF 1 0ADA             DC      TABLE       MESSAGE TABLE           31112200
0AC0 1 0A7D             DC      LOPRT       LOOP ADDRESS            31112210
0AC1 01 0C000714        XIO  L  BZOFF       EXECUTE ALARM OFF       31112220
0AC3 0 6300             LDX     3 0                                 31112230
0AC4 01 6F000AEB        STX  L3 TRWD1                               31112240
0AC6 01 6F000AF0        STX  L3 TGWD1                               31112250
0AC8 01 6F000AF1        STX  L3 TGWD2                               31112260
0ACA 0 6B1E             STX     3 DIAX1                             31112270
0ACB 0 7026             MDX     WD1CK       GO CHK DIAG WD 2        31112280
                        *                                           31112290
0ACC 01 C4000AE9 CKIT2  LD   L  DIAX1       LD DIAG WD 1 WAS        31112300
0ACE 01 E4000AEB        AND  L  TRWD1       AND DIAG WD 1 ERR       31112310
0AD0 01 D4000AF1        STO  L  TGWD2       STORE ON/F ERR BITS     31112320
0AD2 01 C4000AEB        LD   L  TRWD1       LD DIAG WD 1 ERR        31112330
0AD4 01 F4000AF1        EOR  L  TGWD2       EOR DIAG WD 1 ON/F      31112340
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0AD6 01 D4000AF0          STO  L  TGWD1      STORE DIAG WD 1 F/ON          31112350
0AD8 0  70C3              MDX     WD1                                      31112360
                          *                                                31112370
                          ************************************************ 31112380
                          *            ERROR PRINT TABLE                   31112390
                          ************************************************ 31112400
                          *                                                31112410
0ADA    0000              BSS  E  0                                        31112420
0ADA 0  0000              TABLE DC      *-*          ERROR PRINT TABLE     31112430
0ADB 0  0000                    DC      *-*                                31112440
0ADC 0  0000                    DC      *-*                                31112450
0ADD 0  0000                    DC      *-*                                31112460
0ADE 0  0000                    DC      *-*                                31112470
0ADF 0  0000                    DC      *-*                                31112480
0AE0 0  0000                    DC      *-*                                31112490
0AE1 0  0000                    DC      *-*                                31112500
0AE2 0  0000                    DC      *-*                                31112510
0AE3 0  0000                    DC      *-*                                31112520
0AE4 0  0000                    DC      *-*                                31112530
0AE5 0  0000                    DC      *-*                                31112540
                          *                                                31112550
                          ************************************************ 31112560
                          *            DIAG TRIGGER STORAGE                31112570
                          ************************************************ 31112580
                          *                                                31112590
0AE6 0  0000              DSWXX DC      *-*          DSW SHOULD/BE         31112600
0AE7 0  0000              DSWRD DC      *-*          DSW ERROR BITS        31112610
0AE8 0  0000              CADSW DC      *-*          DSW WAS               31112620
0AE9 0  0000              DIAX1 DC      *-*          DIAG WD 1 WAS         31112630
0AEA 0  0000              DIAX2 DC      *-*          DIAG WD 2 WAS         31112640
0AEB 0  0000              TRWD1 DC      *-*          DIAG 1 ERROR BITS     31112650
0AEC 0  0000              TRWD2 DC      *-*          DIAG 2 ERROR BITS     31112660
0AED 0  0000              STWD  DC      *-*          STORED WORD           31112670
0AEE 0  0000              DIAXX DC      *-*          DIAG WORD SHUD/BE     31112680
0AEF 0  0000              TRGWD DC      *-*          DIAG WORD ERR. BITS   31112690
0AF0 0  0000              TGWD1 DC      *-*          F/ON ERROR WORD       31112700
0AF1 0  0000              TGWD2 DC      *-*          ON/F ERROR WORD       31112710
                          ************************************************ 31112720
                          *                                                31112730
0AF2 0  C0F9              WD1CK LD      TRWD2        LD DIAG WD 2 ERR      31112740
0AF3 0  1890                    SRT     16                                 31112750
0AF4 0  1010                    SLA     16                                 31112760
0AF5 0  1087                    SLT     7                                  31112770
0AF6 0  4820                    BSC     Z            CHECK FOR ERR BIT ON  31112780
0AF7 0  7002                    MDX     WD2          MAKE ANALYSIS         31112790
0AF8 01 4C800A81                BSC  I  TRGAN        EXIT TO RETURN ADDR.  31112800
                          *                                                31112810
0AFA 01 C4000AEA          WD2   LD   L  DIAX2        LD DIAG WD 2 WAS      31112820
0AFC 01 E4000AEC                AND  L  TRWD2        AND DIAG WD 2 ERR     31112830
0AFE 01 D4000AF1                STO  L  TGWD2        STORE ON/F ERR        31112840
0B00 01 C4000AEC                LD   L  TRWD2        LOAD DIAG WD 2 ERR    31112850
0B02 01 F4000AF1                EOR  L  TGWD2        EOR ON/F ERR BITS     31112860
0B04 01 D4000AF0                STO  L  TGWD1        STORE F/ON ERR        31112870
0B06 01 440009D3                BSI  L  MSGID        CHK FOR C.E. BITS     31112880
0B08 0  6304                    LDX  3  4                                  31112890
0B09 01 6F000ADA                STX  L3 TABLE        SET UP MSG ID         31112900
0B0B 0  637F                    LDX  3  /007F                              31112910
0B0C 0  6BCF                    STX  3  TABLE+2      SET UP MODIFIER ID    31112920
0B0D 01 67000A0A                LDX  L3 ADR3         LD ALPHA 3 ADDR       31112930
0B0F 0  6BC0                    STX  3  TABLE+3                            31112940
0B10 01 C4000AF0                LD   L  TGWD1        LD ON/F ERROR BITS    31112950
0B12 0  D0D0                    STO     TABLE+9                            31112960
0B13 01 C4000AF1                LD   L  TGWD2        LD F/ON ERROR BITS    31112970
0B15 0  D0CE                    STO     TABLE+10                           31112980
0B16 0  C0D3                    LD      DIAX2        LD DIAG WD 2 S/B      31112990
0B17 0  D0CA                    STO     TABLE+8                            31113000
0B18 01 C4000725                LD   L  DIAW2        LD DIAG WD 2 WAS      31113010
0B1A 0  1890                    SRT     16           MASK OUT C.E. BITS    31113020
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0B1B 0  1010              SLA     16                                       31113030
0B1C 0  1086              SLT     6                                        31113040
0B1D 0  100A              SLA     10                                       31113050
0B1E 0  D0C2              STO     TABLE+7                                  31113060
0B1F 01 C4000724          LD   L  DIAW1        LD DIAG WD 1 WAS            31113070
0B21 0  D0BE              STO     TABLE+6                                  31113080
0B22 0  C0C5              LD      CADSW        LD DSW WAS                  31113090
0B23 0  D0BB              STO     TABLE+5                                  31113100
0B24 01 0C000712          XIO  L  BZON         EXECUTE ALARM ON            31113110
0B26 00 44800162          BSI  I  ERROR        GO PRINT ERROR              31113120
0B28 1  0ADA              DC      TABLE        MESSAGE TABLE               31113130
0B29 1  0A7D              DC      LOPRT        LOOP ADDRESS                31113140
0B2A 01 0C000714          XIO  L  BZOFF        EXECUTE ALARM OFF           31113150
0B2C 0  6300              LDX  3  0                                        31113160
0B2D 0  6B8E              STX  3  TRWD2                                    31113170
0B2E 01 6F000AF0          STX  L3 TGWD1                                    31113180
0B30 01 6F000AF1          STX  L3 TGWD2                                    31113190
0B32 0  6BB7              STX  3  DIAX2                                    31113200
0B33 01 4C800A81          BSC  I  TRGAN        EXIT TO RETURN ADDR.        31113210
                          *                                                31113220
                          ************************************************ 31113230
                          *            CONSTANTS                           31113240
                          ************************************************ 31113250
                          *                                                31113260
0B35 0  0001              K0001 DC      /0001        CONSTANT 0001         31113270
0B36 0  0003              K0003 DC      /0003        CONSTANT 0003         31113280
0B37 0  0005              K0005 DC      /0005        CONSTANT 0005         31113290
                          *                                                31113300
                          ************************************************ 31113310
                          *            INTERRUPT ANALYSIS                  31113320
                          *      COMPARES SHOULD/BE INTERRUPTS WITH        31113330
                          *      ACTUAL INTERRUPTS AND ANALIZES ANY ERRS   31113340
                          ************************************************ 31113350
                          *                                                31113360
0B38 0  0000              INTAN DC      *-*          SAVED RETURN ADD.     31113370
0B39 0  6300                    LDX  3  0                                  31113380
0B3A 01 6F000AE2                STX  L3 TABLE+8      RESET INTRPT ERR LOC  31113390
0B3C 01 6F000AE3                STX  L3 TABLE+9      RESET INTRPT ERR LOC  31113400
0B3E 01 C4000AE8                LD   L  CADSW        LD DSW WAS            31113410
0B40 01 E4000B92                AND  L  INTMK        MASK INTRPT BITS      31113420
0B42 01 D4000B90                STO  L  INWAS        STORE INT BIT WAS     31113430
0B44 01 C4000AE6                LD   L  DSWXX        LOAD DSW S/B          31113440
0B46 01 E4000B92                AND  L  INTMK        MASK INTRPT BITS      31113450
0B48 01 D4000B91                STO  L  INSDB        STORE INT BIT S/B     31113460
0B4A 01 F4000B90                EOR  L  INWAS        CHECK FOR ERROR       31113470
0B4C 0  4820                    BSC     Z                                  31113480
0B4D 0  7002                    MDX     INERR        GO TO INT ERR ANAL.   31113490
0B4E 01 4C800B38                BSC  I  INTAN        EXIT TO RETURN ADDR   31113500
                          *                                                31113510
0B50 01 D400088F          INERR STO  L  ERINT        SAVE INT ERR BITS     31113520
0B52 01 C4000B90                LD   L  INWAS        LD INTRPT DSW WAS     31113530
0B54 01 E400088F                AND  L  ERINT        AND INT ERROR BITS    31113540
0B56 01 D4000AE2                STO  L  TABLE+8      LD INT ERR ON/F BITS  31113550
0B58 01 C400088F                LD   L  ERINT        LD INT ERROR BITS     31113560
0B5A 01 F4000AE2                EOR  L  TABLE+8      EOR INT ON/F ERROR    31113570
0B5C 01 D4000AE3                STO  L  TABLE+9      STORE INT F/ON ERROR  31113580
0B5E 0  7000                    MDX     CKERR                              31113590
                          *                                                31113600
0B5F 01 C4000AE2          CKERR LD   L  TABLE+8                            31113610
0B61 0  4820                    BSC     Z            CHK IF IT IS 0        31113620
0B62 0  7006                    MDX     INTER        ERR BITS ARE LOADED   31113630
0B63 01 C4000AE3                LD   L  TABLE+9                            31113640
0B65 0  4820                    BSC     Z                                  31113650
0B66 0  7002                    MDX     INTER                              31113660
0B67 01 4C800B38                BSC  I  INTAN        EXIT TO RETURN ADDR   31113670
                          *                                                31113680
0B69 01 440009D3          INTER BSI  L  MSGID        CHK FOR C.E. BITS     31113690
0B6B 0  6301                    LDX  3  1                                  31113700
```

SCA WRITE/READ BUFFER + LINE NOISE DETECTION

```
0B6C 01 6F000ADA          STX  L3 TABLE      SET UP MSG ID                31113710
0B6E 0  635F              LDX   3 /005F                                   31113720
0B6F 01 6F000ADC          STX  L3 TABLE+2    SET UP MODIFIER ID           31113730
0B71 01 67000A20          LDX  L3 ADR4       LOAD ALPHA 4 ADDRESS         31113740
0B73 01 6F000ADD          STX  L3 TABLE+3    SET UP ALPHA MSG             31113750
0B75 01 C4000725          LD   L  DIAW2      LD DIAG WD 2 WAS             31113760
0B77 0  1890              SRT     16         MASK OUT C.E. BITS           31113770
0B78 0  1010              SLA     16                                      31113780
0B79 0  1086              SLT     6                                       31113790
0B7A 0  100A              SLA     10                                      31113800
0B7B 01 D4000AE0          STO  L  TABLE+6                                 31113810
0B7D 01 C4000724          LD   L  DIAW1      LD DIAG WD 1 WAS             31113820
0B7F 01 D4000ADF          STO  L  TABLE+5                                 31113830
0B81 01 C4000AE8          LD   L  CADSW      LOAD DSW WAS                 31113840
0B83 01 D4000AE1          STO  L  TABLE+7                                 31113850
0B85 01 0C000712          XIO  L  BZON       EXECUTE ALARM ON             31113860
0B87 00 44800162          BSI  I  ERROR      GO PRINT ERROR               31113870
0B89 1  0ADA              DC      TABLE      MESSAGE TABLE                31113880
0B8A 1  0A7D              DC      LOPRT      LOOP ADDRESS                 31113890
0B8B 01 0C000714          XIO  L  BZOFF      EXECUTE ALARM OFF            31113900
0B8D 01 4C800B38          BSC  I  INTAN      EXIT TO RETURN ADDR          31113910
                          *                                               31113920
0B8F 0  0000              ERINT DC    *-*    INTERRUPT ERR BITS           31113930
0B90 0  0000              INWAS DC    *-*    DSW INT BITS WAS             31113940
0B91 0  0000              INSDB DC    *-*    DSW INT BITS S/B             31113950
0B92 0  D800              INTMK DC    /D800                               31113960
                          *                                               31113970
0B94    05F6                  END     BEGN   LAST STATEMENT               31113980
```


SCA WRITE/READ BUFFER + LINE NOISE DETECTION

CROSS REFERENCE LISTING

```
SYMBOL  VALUE   REFERENCES
ADR1    09DE    099E
ADR2    09F4    0AA3
ADR3    0A0A    0B0D
ADR4    0A20    0B71
ADR5    0A36    08F5
ADR6    0A44    0917
ADR7    0A4D    0761
ADR8    0A5C    08D6
ADR9    0A6D    07C9
ANAL1   096C    0936,0978
ANAL2   097A    093E,0986
ANLO1   0976    0974,0975
ANLO2   0984    0982,0983
A1      07ED    07EC,07F2
A10     082C    07E3,0831
A11     0833    07E2,0838
A12     083A    07E1,083F
A13     0841    07E0,0846
A14     0848    07DF,084D
A15     084F    07DE,0854
A2      07F4    07EB,07F9
A3      07FB    07EA,0800
A4      0802    07E9,0807
A5      0809    07E8,080E
A6      0810    07E7,0815
A7      0817    07E6,081C
A8      081E    07E5,0823
A9      0825    07E4,082A
BEGIN   0160    05DC,05F6
BEGN    05F6    0B93
BFRCK   06EC    06DD,06E5,06FE,074C,090B
BFRER   08E9    06F9
BNSW1   09D1    06C4,06D0,0728,0942,0956,0961
BNSW2   09D2    06CA,0946
BZOFF   0714    0770,0793,07D8,08E5,0907,0921,09C4,0AC1,0B2A,0B8B
BZON    0712    076B,07D3,08E0,0901,091B,09BE,0ABB,0B24,0B85
B1      0865    0864,086A
B10     08A4    085B,08A9
B11     08AB    085A,08B0
B12     08B2    0859,08B7
B13     08B9    0858,08BE
B14     08C0    0857,08C5
B15     08C7    0856,08CC
B2      086C    0863,0871
B3      0873    0862,0878
B4      087A    0861,087F
B5      0881    0860,0886
B6      0888    085F,088D
B7      088F    085E,0894
B8      0896    085D,089B
B9      089D    085C,08A2
CADSW   0AE8    061A,0667,096D,0989,09AE,0AB8,0B22,0B3E,0B81
CKERR   0B5F    0B5E
CKIT2   0ACC    0A9A
CNTA    0722    06D4,06E7
CNTB    0723    06EF,06FB
CNTER   07A9    07A3,092B
CNTRL   063A    0689,0699,07DC,08D4
CN20    0649    063D
CN30    0650    0642
DELY3   05FA    0601
DIAWD   071C    0628,0675,097B,09D4
DIAW1   0724    0626,0673,070C,098A,0AAE,0B1F,0B7D
DIAW2   0725    0620,066D,070E,079F,09B2,0AB1,0B18,0B75
DIAXX   0AEE    093C,097D,0A82
```

```
DIAX1   0AE9    0A88,0AAC,0ACA,0ACC
DIAX2   0AEA    0A8C,0AFA,0B16,0B32
DIA00   092F    094F,095F,096A
DIA01   0930    0954
DLYTM   07B1    0754,07B7,0927
DSWAN   0988    0976,09CD
DSWRD   0AE7    0971,098B,098F,09CB
DSWSN   0706    0613,0618,0665,075D,0797
DSWW1   09CF    06B5,098D,0991,09A2,09C7
DSWW2   09D0    0993,09A6,09C9
DSWXX   0AE6    06AB,0934,096F,09AA,0B44
DSW00   092D    094C,095C,0967
DSW01   092E    0951
END     0164    05DC,05DC,05DC,05DC,064E
ENDOP   0710    06CC,0751,0923
ERINT   0B8F    0B50,0B54,0B58
ERLCK   0166    05EA
ERROR   0162    05DC,0903,091D,09C0,0ABD,0B26,0B87
EVEN1   06E0    06D6
HNGUP   07C7    0798,08E7
IL0     017A    05DC
IL1     018A    05DC,0695
IL2     019A    05DC
IL3     01AA    05DC
IL4     01BA    05DC
INERR   0B50    0B4D
INSDB   0B91    0B48
INTAN   0B38    0636,0B4E,0B67,0B8D
INTER   0B69    0B62,0B66
INTMK   0B92    0B40,0B46
INTR    0617    0630,0634,0693
INWAS   0B90    0B42,0B4A,0B52
JUMP    0745    072D,0733,0742
K0001   0B35    05F8,0913
K0003   0B36    08F1
K0005   0B37    08D0
LOCK    05E7    05ED,05F3,06B9
LOG     0163    05DC,076D,07D5,08E2
LOGBY   0167
LOG01   0761
LOG02   08CE    07AE,08D3
LOOP    05F5    05EF,05F1,0656,06BE
LOOPE   06C2    06BB,06BD,0A7D
LOPRT   0A7D    0906,0911,0920,09C3,0AC0,0B29,0B8A
LRTN    0662    0663,069E
LSTNN   0797    078A
MASK    0717    07A1
MASK1   0718    075E,0799
MIC2    078A    05F3,0603,075B,0795,07BE,07C5
MLSCF   05E5    060C,0658,06F3,073C,0778,0784
MODES   0677    0638
MSGID   09D3    0995,09DC,0A9C,0B06,0B69
NOISE   090D    07A7
ODEVN   0721    06D5,06D8,06E1
OFF     069B    0687,0697,06A0,06C0,07DA,0A7F
OFF0    06A6    06A9
OFF1    06AB    06AE
OFF2    06B0    06B3
OFF3    06B5    06B8
ONES    0716    06E2
PASS    07B0    078E,07AB
PATNA   07DE    0728,0745
PATNB   0856    0731
PID     05DC    05F8
PRNT    068B    0685
PRTER   07A5
PRTPN   071E    0606,062A
PRTSW   068F    0683,068C,08E9
```



```
RAD     05DE    062C,0654,069C
RCVED   071F    06F7,0702,0749,08FD
RDAGN   06F0    06F1,06FD
RDAN    0956    067D
RDCAT   0702    06F0,0748
RDIA1   070C    061C,0669
RDIA2   070E    061E,066B,079D
RDMD    071A    067B,06CF
RDY     078D    075F,07AD
RESAN   0942    0679
RESET   0700    0632,06A2,06C6,06D2,072A,07C7
RESMD   0719    0677,06B0,06C3,06C9
REST1   094C    0945
REST2   0951    0949
RETRN   0683    0940,094A,095A,0965
RID     05DD    063F,0647,0649,064B,0650,0691
RIDCK   0663    0641,064D
RLCF    0168
RQKB    01BC    05DC
RQTY    01BB    05DC
RTNSW   0165    065A
RTRN5   077C    0776
RTRN6   0788    0782
RTR01   095C    0958
RTTBL   065E    062E,0652,0663
RT1     06C3    065E
RT2     06C9    065F
RT3     06CF    0660,06DF,06E9
RT4     0726    0661
RT5     0751    0662,0774
SEND    0720    06DB,06E3,06F8,0704,074A,07F0,07F7,07FE,0805,080C,
                0813,081A,0821,0828,082F,0836,083D,0844,084B,0852,
                0868,086F,0876,087D,0884,088B,0892,0899,08A0,08A7,
                08AE,08B5,08BC,08C3,08CA,08F9
SHFT    0739    072F,0735,073A,0743,0750
SNDSW   0664    0615,068D,08EC
START   0161    05DC,060E,065C,06F5,073E,077A,0786
STOR1   0931    0938,094D,0952,095D,0968
STOR2   093A    0950,0955,0960,096B
STRD    0708    0753,0925
STRT    0690    05E3,05E4,05E5
STST    070A    0756,0929
STWD    0AED    0932,093A
SVKB    018D
SW0     05DF    05E8
SW1     05E0    0638,0645,08CE
SW2     05E1    07BB
SW3     05E2
TABLE   0ADA    06A6,0763,0766,0769,076F,07A5,07CB,07CE,07D1,07D7,
                08D8,08DB,08DE,08E4,08EF,08F3,08F7,08FB,08FF,0905,
                090E,0915,0919,091F,0998,099C,09A0,09A4,09A8,09AC,
                09B0,09B8,09BC,09C2,09DA,0A9F,0AA2,0AA5,0AA8,0AAB,
                0AAD,0AB0,0AB7,0ABA,0ABF,0B09,0B0C,0B0F,0B12,0B15,
                0B17,0B1E,0B21,0B23,0B28,0B3A,0B3C,0B56,0B5A,0B5C,
                0B5F,0B63,0B6C,0B6F,0B73,0B7B,0B7F,0B83,0B89
TGWD1   0AF0    0AA6,0AC6,0AD6,0B04,0B10,0B2E
TGWD2   0AF1    0AA9,0AC8,0AD0,0AD4,0AFE,0B02,0B13,0B30
TMDLY   07B9    07B3,07B4
TRGAN   0A81    0984,0AF8,0B33
TRGWD   0AEF    097F,0A8D
TRWD1   0AEB    0A93,0A98,0AC4,0ACE,0AD2
TRWD2   0AEC    0A97,0AF2,0AFC,0B00,0B2D
UINTR   0636    0608
WAIT1   05FB    06EA,0737
WAIT2   0606    0600,0605,0612
WAIT3   0601    06C7,06CD
WAIT4   0610    060A
WAIT5   0775    0772,077E,077F
```

SCA WRITE/READ BUFFER + LINE NOISE DETECTION

WAIT6	0781	078B,07A9
WCNT	05F9	05FD,0602,0610,0759,077C,0788,0791,07C0,07C3
WD1	0A9C	0AD8
WD1CK	0AF2	0A9B,0ACB
WD2	0AFA	0AF7
WRCAT	0704	06DC,06E4,0747
WRDCK	09CD	
WRTAN	0961	0681
WRTMD	071B	067F,0726
WTR01	0967	0963
XR3	0909	08EB
XR3A	074E	074B

TABLE OF CONTENTS

1. PURPOSE

THE PURPOSE OF SCA WRT/RD BFR AND LINE NOISE DETECTION PROGRAM, IS TO CHECK THE SCA BUFFER FOR PROPER WRITE/READ OPERATION, AND MONITOR THE PHONE-LINE FOR UNDESIRABLE NOISE WHICH WILL CAUSE PROBLEMS IN THE SCA OPERATION.

2. PREREQUISITES

2.1*** PROGRAM PREREQUISITES

THIS PROGRAM MUST RUN UNDER CONTROL OF THE DIAGNOSTIC MONITOR. THE DIAGNOSTIC MONITOR USES 1.5 K STORAGE WORDS AND THIS PROGRAM USES 1.5 K STORAGE WORDS.

2.2*** EQUIPMENT PREREQUISITES

1. SET DATA TERMINAL SWITCH IN THE OPERATE POSITION. (SEE NOTE)
2. SET STR SWITCH TO STR POSITION.
3. SET C.E. MODE SWITCH TO OFF POSITION.
4. SET SCA ALARM SWITCH TO ON POSITION.
5. SET BAUD SELECTOR SWITCH TO 2400, 2000, 1200, OR 600 POSITION.

NOTE....IF DATA SET TERMINAL CABLE IS NOT INSERTED INTO DATA SET, IT IS POSSIBLE TO DETECT SETTING OF ANS. REQ. DSW BIT. THE REASON IS, THE ANS. REQ. SIGNAL LINE IS FLOATING, AND SUBJECT TO NOISE.

3. OPERATING PROCEDURE

THESE OPERATING PROCEDURES APPLY TO SINGLE PROGRAM OPERATION ONLY. FOR OVERLAP OPERATION REFER TO SECTION 3.2.3 OF THE 1130 DIAGNOSTIC MONITOR II DOCUMENTATION.

3.1*** PROGRAM LOADING

STANDARD MONITOR LOADING PROCEDURES APPLY.
THESE PROCEDURES ARE SUMMARIZED HERE. SEE DM USE PROCEDURE FOR DETAILS.

1. SET FIRST TYPEWRITER TAB 20 CHARACTERS FROM LEFT MARGIN.
2. SET BIT SWITCH 15 OFF - LOAD AND GO
   ON - TO SPECIFY OPTIONS BEFORE RUNNING.

   IF HALTED AFTER LOADING, SELECT PROGRAM OPTIONS THEN TURN OFF HALT SWITCH OR FOLLOW NORMAL RESTART PROCEDURE (SECTION 3.5).
3. LOAD DIAGNOSTIC MONITOR AND SCA WRT/RD BFR, LINE NOISE.
4. SELECT PROGRAM OPTIONS, IF DESIRED.

******

3.2*** PROGRAM OPERATION.

STANDARD MONITOR OPERATING PROCEDURES APPLY.
THESE PROCEDURES ARE SUMMARIZED HERE. SEE DM USE PROCEDURE FOR DETAILS.

3.2.1 PROGRAM CONTROL - FUNCTION 0

1. SET SWITCHES 0-1 OFF.
2. SET SWITCHES 0-7 TO 01.

SW	FUNCTION
8	RESTART
9	ROUTINE START MESSAGE
10	LOCK ON FUNCTION
11	LOOP PROGRAM
12	LOOP ON ERROR
13	BYPASS ERROR PRINTOUT
14	HALT ON ERROR
15	HALT

3. PRESS INT REQ KEY ON CONSOLE.

**

3.2.2 ROUTINE SELECTION - FUNCTION 1

THE SELECTED ROUTINE WILL LOOP UNTIL A NEW ROUTINE IS SELECTED.

1. TO SET ROUTINE SELECTION
   A. SET SWITCHES 0-7 TO 41.
   B. SET ROUTINE NUMBER IN SWITCHES 10-15.

RTN	DESCRIPTION
1	PROGRAM RESET
2	END OP
3	ONES/ZERO BUFFER TEST
4	FLOATING BIT PATTERN BUFFER TEST
5	LINE NOISE LISTENING TEST

THIS OPTION WILL BE USED TO TROUBLE SHOOT FAILURES.

C. PRESS INT REG KEY ON CONSOLE.

2. TO RESET ROUTINE SELECTION SET AS IF SELECTING ROUTINE ZERO.

3.3*** PROGRAM HALTS

3.3.1 NORMAL HALTS

HALT NO. (B REG)	DESCRIPTION	RESTART ACTION
3001	PROGRAM STOP OR ADDRESS STOP	PRESS START
3002	HALT ON ERROR	DISPLAY MODE, PRESS START RUN MODE, PRESS START

**

3.3.2 ERROR HALTS

HALT NO. (B REG)	DESCRIPTION	RESTART ACTION
30F1	CHECK SUM ERROR ON FIRST CARD OF LOADER	RELOAD
30F2	READER DSW ERROR WHEN LOADING LOADER	RELOAD
30F3	CARD 2 OF LOADER DID NOT LOAD	RELOAD
30F4	CAN NOT CLEAR CORE - DUE TO ERROR IN ADDRESSING UPPER CORE.	
30F5	READER CHECK WHEN LOADING MONITOR OR TEST PROGRAM	NPRO THEN PLACE CARDS RUN OUT IN FRONT OF REMAINING DECK AND PRESS START.
30F6	MONITOR DID NOT LOAD	RELOAD
30F7	CHECK SUM WHEN LOADING MONITOR	RELOAD
30F8	READER NOT READY	MAKE READER READY
30F9	INVALID INTERRUPT WHICH WILL NOT RESET	PRESS RESET AND START
30FA	CONSOLE PRINTER HANG UP - BUSY WILL NOT GO OFF	FIX THE CONSOLE PRINTER OR NOP THIS WAIT

******

3.4*** PROGRAM TERMINATION

IF LOOP PROGRAM HAS NOT BEEN SPECIFIED, THE PROGRAM WILL TERMINATE AT THE END OF ROUTINE 05.

IF ANY ROUTINE IS SELECTED, THAT ROUTINE WILL LOOP AND WILL NOT TERMINATE.

******

3.5*** RESTART

1. TURN OFF SWITCHES 0-7.
2. TURN ON SWITCH 8.
3. SET DESIRED CONTROL IN SWITCHES 9-14.
4. PRESS INTERRUPT REQUEST KEY.

****

4. PRINTOUTS

ALL PRINTOUTS ARE IN THE STANDARD FORMAT.

APPNN OORR AAAA (MESSAGE)
OR
EPPNN OORR XXXX (MESSAGE)

WHERE
- A IDENTIFIES STATUS MESSAGES
- E IDENTIFIES ERROR MESSAGES
- PP IS THE PID OF THE PROGRAM CAUSING THE MESSAGE

  THIS WILL BE EITHER 00 FOR MESSAGES ORIGINATED BY MONITOR OR 11 FOR MESSAGES ORIGINATED BY THIS PROGRAM.

- NN IS THE MESSAGE SEQUENCE NUMBER
- RR IS THE ROUTINE NUMBER
- AAAA IS THE ADDRESS OF THE ROUTINE
- MESSAGE IS ANY VARIABLE INFORMATION

4.1*** STATUS MESSAGES

A0000 NUM PID ADRS RELF LD
XXXX XXXX XXXX XXXX

THIS MESSAGE IS PRINTED, FOLLOWING THE LOADING OF ANY PROGRAM (EXCEPT MONITOR). THE MESSAGE GIVES THE LOAD SEQUENCE NUMBER, THE PROGRAM ID, THE ADDRESS INTO WHICH THE PROGRAM WAS LOADED, AND THE RELOCATION FACTOR.

A0001 SWS PID
XXXX XXXX

THIS MESSAGE IS PRINTED EACH TIME A VALID SWITCH ENTRY IS READ BY THE MONITOR. THE MESSAGE CONTAINS THE SWITCH SETTING READ, TOGETHER WITH THE PROGRAM ID OF THE PROGRAM INTO WHICH THE CONTENTS OF SWITCHES 8-15 WERE STORED. IF THE SWITCH ENTRY CALLED FOR HALT OF ANY PROGRAM, THE WORD HALT WILL FOLLOW THE MESSAGE.

A1100 OOOR AAAA

ROUTINE START MESSAGE - IF SWITCH 9, FUNCTION 0, IS TURNED ON, THIS MESSAGE WILL BE PRINTED BEFORE THE START OF EACH ROUTINE. R IS THE NUMBER OF THE NEXT ROUTINE AND AAAA IS THE STARTING ADDRESS.

A1101 0005 AAAA SET UP DATA SET CONNECTIONS

THIS MESSAGE IS PRINTED OUT WHEN ROUTINE 05 IS ENTERED AND DATA SET READY WAS SENSED, AND FOUND OFF. IF DATA SET CONNECTIONS ARE NOT MADE, THIS MESSAGE WILL BE REPEATED EVERY 16 SECONDS.

TO MAKE DATA SET CONNECTIONS,

1. PHONE ANOTHER TERMINAL.
2. REQUEST THAT THEIR DATA SET BE PUT IN TALK POSITION, AND PLACE THE HAND-PHONE IN THE DATA SET CRADLE.
   .NOTE.
   IF THE HAND PHONE IS NOT PLACED IN THE CRADLE, THE MOUTHPIECE WILL PICK UP NOISES WITHIN THE ROOM.
3. AT YOUR DATA SET, PUSH THE DATA BUTTON. THIS SHOULD CAUSE THE SCA RDY LITE TO COME ON, AND CAUSE THE PROGRAM TO BRANCH TO LINE LISTENING. ANY LINE CONDITIONS EFFECTING THE COMMUNICATIONS TERMINAL CIRCUITRY, WILL BE DETECTED AND PRINTED OUT ON THE CONSOLE TYPEWRITER.
4. PLACE YOUR DATA SET HAND PHONE IN ITS CRADLE.

A1102 0005 AAAA RESET ADAPTER AND HANG UP PHONE

THIS MESSAGE WILL BE PRINTED OUT AFTER LINE LISTENING ROUTINE HAS COME TO ITS NORMAL END. (APPROXIMATELY 10.5 MINUTES) THIS MESSAGE WILL NOT BE PRINTED OUT IF ROUTINE 05 IS BEING LOOPED, OR TERMINATED BY RESETTING THE ADAPTER AND HANGING UP THE PHONE

TO RESET ADAPTER AND HANG UP PHONE.

1. AT YOUR DATA SET, PUSH TALK PUSH-BUTTON.
2. PICK UP PHONE FROM CRADLE AND LISTEN FOR DIAL-TONE.
3. PLACE PHONE BACK INTO CRADLE. THIS WILL ALSO HANG UP PHONE AT THE OTHER TERMINAL.

A1103 0005 AAAA LINE NOISE ROUTINE TERMINATED

THIS MESSAGE WILL BE PRINTED OUT WHENEVER THE DATA SET GOES NOT READY. NORMALLY THIS WILL BE AUTOMATIC AT THE NORMAL END OF ROUTINE 05, OR WHEN THE C.E. PREMATURELY ENDS THE LINE LISTING ROUTINE BY PUSHING THE TALK PUSH BUTTON ON THE DATA SET. THE PHONE SHOULD BE PICKED UP, AND WHEN A DIAL TONE IS HEARD, PLACED BACK INTO ITS CRADLE.

******

4.2*** ERROR MESSAGES

E0001 SWS INVLD
XXXX

THE SETTING OF SWITCHES 4-7 DID NOT EQUAL THE LOAD SEQUENCE NUMBER OF ANY PROGRAM IN CORE.

E0003 OVR CORE

THE PROGRAM, WHICH THE LOADER WAS ATTEMPTING TO LOAD, EXCEEDED AVAILABLE CORE. LOADING WAS TERMINATED.

E0004 CKSUM

A CHECK SUM ERROR WAS DETECTED WHILE LOADING A TEST PROGRAM. THIS ERROR OCCURS UNDER ANY OF THE FOLLOWING CONDITIONS.

1. A CARD IS MISSING OR IS OUT OF SEQUENCE.
2. THERE IS AN EXTRA CARD IN THE DECK.
3. THE PUNCHED INFORMATION ON THE CARD IS NOT CORRECT.
4. DATA WAS LOST OR PICKED UP DUE TO A MACHINE MALFUNCTION.
5. DUE TO A CPU MALFUNCTION, THE CHECK SUM WAS NOT CORRECTLY CALCULATED.

WHEN THIS ERROR OCCURS, ATTEMPT TO RELOAD THE PROGRAM.

E0005 OOON XXXX

THIS ERROR WILL OCCUR WHEN AN INTERRUPT OCCURS, BUT THE ILSW WAS NOT CORRECT. N IS THE INTERRUPT LEVEL AND XXXX IS THE ILSW. THIS PRINTOUT WILL ONLY OCCUR IF THE INTERRUPT IS RESET BY A BOSI. NO ATTEMPT IS MADE BY THE ERROR ROUTINE TO RESET THE REQUEST BIT.

WHENEVER AN SCA ERROR MESSAGE IS BEING PRINTED OUT, THE SCA ALARM IS TURNED ON.

THE C.E. BITS CAN BE JUMPERED, AT C.E. DISCRETION, TO ANY POINT IN THE SCA CIRCUITRY. IF THESE BITS ARE NOT WIRED, THEY WILL BE SET TO A 1. (SEE LOGIC FC732, NOTE 2).

IF ALL DSW ANALYSIS APPEAR GOOD AND MANY FAILURES IN DIAGNOSTIC WORDS, OR MANY DSW FAILURES AND DIAGNOSTIC WORD APPEAR GOOD, TAKE INTO CONSIDERATION THE SENSE DSW OR THE SENSE DIAGNOSTIC WORD COMMANDS ARE FAILING.

E1101 OOOR AAAA DW1 DW2 DSW ON/F F/ON *CE* INT ERR
XXXO XXOO XXXO XXOO XXOO OXXO

NO INTERRUPTS EXPECTED, AND AT LEAST 1 RECEIVED.

DW1 = STORED CONTENTS OF DIAGNOSTIC WORD 1.
DW2 = STORED CONTENTS OF DIAGNOSTIC WORD 2.
DSW = STORED CONTENTS OF DSW.
ON/F = DSW INTERRUPT BITS THAT WERE ON AND SHOULD BE OFF.
F/ON = DSW INTERRUPT BITS THAT WERE OFF AND SHOULD BE ON.
CE = CE BITS OF DIAGNOSTIC WORD 2. (ON OR OFF)

INT ERR = THE CALCULATED DSW INTERRUPT BITS DID NOT COMPARE WITH THE RECEIVED DSW INTERRUPT BITS.

REFER TO DIAGNOSTIC REFERENCE PAGES FOR ANALYSIS OF ERROR.

E1102 OOOR AAAA DW1 DW2 WAS S/B ON/F F/ON *CE* DSW ERR
XXXO XXOO XXXO XXXO XXXO XXXO OXXO

DW1 = STORED CONTENTS OF DIAGNOSTIC WORD 1.
DW2 = STORED CONTENTS OF DIAGNOSTIC WORD 2.
WAS = STORED CONTENTS OF DSW.
S/B = CALCULATED CONTENTS OF DSW.
ON/F = DSW BIT THAT WERE ON AND SHOULD BE OFF.
F/ON = DSW BIT THAT WERE OFF AND SHOULD BE ON.
CE = CE BITS OF DIAGNOSTIC WORD 2. (ON OR OFF)

DSW ERR = THE CALCULATED DSW DID NOT COMPARE WITH THE RECEIVED DSW.

REFER TO DIAGNOSTIC REFERENCE PAGES FOR ANALYSIS OF ERROR.

E1103 OOOR AAAA DSW DW2 1WAS 1S/B ON/F F/ON *CE* DW1 ERR
XXXO XXOO XXXO XXXO XXXO XXXO OXXO

DSW = STORED CONTENTS OF DSW.
DW2 = STORED CONTENTS OF DIAGNOSTIC WORD 2.
WAS = STORED CONTENTS OF DIAGNOSTIC WORD 1.
S/B = CALCULATED CONTENTS OF DIAGNOSTIC WORD 1.
ON/F = DIAGNOSTIC WORD 1 BITS THAT WERE ON AND SHOULD BE OFF.
F/ON = DIAGNOSTIC WORD 1 BITS THAT WERE OFF AND SHOULD BE ON.
CE = CE BITS OF DIAGNOSTIC WORD 2. (ON OR OFF)

DW1 ERR = THE CALCULATED DIAGNOSTIC WORD 1 DID NOT COMPARE WITH RECEIVED DIAGNOSTIC WORD 1.

REFER TO DIAGNOSTIC REFERENCE PAGES FOR ANALYSIS OF ERROR.

E1104 OOOR AAAA DSW DW1 2WAS 2S/B ON/F F/ON *CE* DW2 ERR
XXXO XXXO XXOO XXOO XXOO XXOO OXXO

DSW = STORED CONTENTS OF DSW
DW1 = STORED CONTENTS OF DIAGNOSTIC WORD 1.
WAS = STORED CONTENTS OF DIAGNOSTIC WORD 2.
S/B = CALCULATED CONTENTS OF DIAGNOSTIC WORD 2.
ON/F = DIAGNOSTIC WORD 2 BITS THAT WERE ON AND SHOULD BE OFF.
F/ON = DIAGNOSTIC WORD 2 BITS THAT WERE OFF AND SHOULD BE ON.
CE = CE BITS OF DIAGNOSTIC WORD 2. (ON OR OFF)

DW2 ERR = THE CALCULATED DIAGNOSTIC WORD 2 DID NOT COMPARE WITH RECEIVED DIAGNOSTIC WORD 2.

REFER TO DIAGNOSTIC REFERENCE PAGES FOR ANALYSIS OF ERROR.

E1105 OOOR AAAA WAS S/B BFR WRT/RD ERROR
XXOO XXOO

WAS = WORD READ FROM THE BUFFER
S/B = WORD SENT TO THE BUFFER

BFR WRT/RD ERROR = WORD WRITTEN INTO THE BUFFER WAS NOT THE SAME AS THE WORD RECEIVED FROM THE BUFFER.

REFER TO DIAGNOSTIC REFERENCE PAGES FOR ANALYSIS OF ERROR.

/U10
E1106 OOOR AAAA WAS LINE NOISE
XOOO

WAS = THE BIT CONFIGURATION OF THE BITS IN DIAGNOSTIC WORD 2, WHICH CONCERNED WITH LINE NOISE DETECTION. THE DURATION OF THE NOISE AS PER BIT CONFIGURATION IS AS FOLLOWS,

8000...NOISE OF 1 TRANSMISSION BIT LENGTH
9000...NOISE OF MORE THAN 1 TRANSMISSION BIT LENGTH
A000...NOISE OF 1 TRANSMISSION CHARACTER LENGTH

5. COMMENTS

5.1*** PROGRAM PHILOSOPHY

THE SCA WRT/RD BUFFER, LINE NOISE DETECTION PROGRAM IS DESIGNED WITH TWO MAIN OBJECTIVES IN MIND. 1...TO BE ABLE TO DETECT BUFFER WRITE / READ ERRORS. AND 2...TO BE ABLE TO DETECT TELEPHONE LINE NOISES THAT WOULD HAMPER NORMAL OPERATION BETWEEN THIS SCA INSTALLATION, AND THE DESIRED REMOTE STATION. THE EXECUTE TIME OF THIS PROGRAM IS ABOUT 11 MINUTES.

THE FIRST BUFFER CHECK ROUTINE USES AN ALL ONES PATTERN AND AN ALL ZEROS PATTERN. THE DSW AND THE DIAGNOSTIC TRIGGERS ARE ALSO CHECKED FOR PROPER OPERATION.

THE SECOND BUFFER CHECK ROUTINE USES A FLOATING ONE AND A FLOATING ZERO PATTERN. AGAIN, THE DSW AND DIAGNOSTIC TRIGGERS ARE ALL CHECKED FOR PROPER OPERATION.

THE BUFFER CHECK ROUTINES TAKE APPROXIMATELY 20 SECONDS TO EXECUTE.

THE LINE NOISE DETECTION ROUTINE LISTENS FOR LINE NOISES THAT EFFECTS THE OPERATION OF NORMAL SCA DATA TRANSMISSION. THE OCCURANCE OF THIS TYPE OF LINE NOISE WILL BE PRINTED OUT AS AN ERROR MESSAGE.

THE LINE NOISE DETECTION ROUTINE TAKES APPROXIMATELY 10.5 MINUTES TO EXECUTE.

5.2*** ROUTINE DESCRIPTION

ROUTINE 01 ... PROGRAM RESET

THIS ROUTINE CHECKS THE ABILITY OF THE SCA RESET COMMAND TO ESTABLISH INITIAL RESET CONDITIONS OF THE SCA CIRCUITRY. ALL DIAGNOSTIC WORD TRIGGERS AND DSW TRIGGERS SHOULD BE TURNED OFF, WITH THE EXCEPTION OF THE SEND/RECEIVE RUN TRIGGER.

ROUTINE 02 ... END OPERATION

THIS ROUTINE ENSURES THAT THE EXECUTION OF THE ENDOP COMMAND DOES NOT BRING UP UNDESIRABLE LEVELS IN THE SCA CIRCUITRY.

ROUTINE 03 ... ONES / ZEROS TEST

THIS ROUTINE WILL FIRST LOAD THE BUFFER WITH ZEROS AND THEN READ THE BUFFER 1024 TIMES. A CHECK FOR DATA ERRORS IS MADE FOR EACH BUFFER READ OPERATION. IT WILL THEN LOAD THE SCA BUFFER WITH ALL ONES AND READ THE BUFFER 1024 TIMES. ANOTHER CHECK FOR DATA ERRORS IS MADE EACH TIME THE BUFFER IS READ. THESE TWO OPERATIONS ARE REPEATED ALTERNATELY 10 TIMES. THE ROUTINE RUN TIME IS APPROXIMATELY 20 SECONDS.

ROUTINE 04 ... FLOATING ONE / ZERO PATTERN

THIS ROUTINE CHECKS THE ABILITY TO WRITE AND READ A FLOATING ONE AND A FLOATING ZERO PATTERN WITHOUT PICKING OR DROPPING BITS. A CHECK IS MADE AFTER THE WRITE AND READ OPERATION OF EACH PATTERN. BIT FLOATING PATTERN IS STARTED IN THE HIGH ORDER POSITION (BIT POSITION 0) OF THE BUFFER AND PROGRESSES TO THE LOW ORDER POSITION. (BIT 7) THE PATTERN THEN PROGRESSES TO THE HIGH ORDER POSITION.

THE FOLLOWING IS THE PATTERN AND SEQUENCE OF THE BUFFER OPERATION

FLOATING 1	FLOATING 0
1000 0000	0111 1111
0100 0000	1011 1111
0010 0000	1101 1111
0001 0000	1110 1111
0000 1000	1111 0111
0000 0100	1111 1011
0000 0010	1111 1101
0000 0001	1111 1110
0000 0010	1111 1101
0000 0100	1111 1011
0000 1000	1111 0111
0001 0000	1110 1111
0010 0000	1101 1111
0100 0000	1011 1111
1000 0000	0111 1111

ROUTINE 05 ... LINE NOISE LISTENING ROUTINE

THIS ROUTINE LISTENS FOR TELEPHONE LINE NOISE CONDITIONS THAT WILL EFFECT THE SCA CIRCUITRY. ONLY NOISES EFFECTING SCA CIRCUITS WILL BE DETECTED, AND IDENTIFIED BY AN ERROR PRINTOUT.

THE OPERATION OF THIS ROUTINE IS PERFORMED WHILE ON-LINE WITH A REMOTE DATA SET. A REMOTE TERMINAL IS NOT REQUIRED.

NOISE SIMULATION FOR TEST PURPOSES, CAN BE GENERATED BY WHISTLING INTO THE TELEPHONE MOUTH-PIECE OF THE REMOTE DATA SET. THE WHISTLING TONE FREQUENCY MUST APPROXIMATELY MATCH THE FREQUENCY OF THE DATA NORMALLY COMING OVER THE PHONE LINE.

5.3*** DIAGNOSTIC REFERENCE TABLE

ERROR BIT REFERENCE

ERR BIT	BIT POSITION	DSW ERROR	DW1 ERROR	DW2 ERROR
8	0	READ RESP	SYNC TRIG	CLK GATE
4	1	WRT RESP	IDLE CHAR	SYNC CNTR
2	2	CHECK	CHAR CMPT	1ST TRANS
1	3	TIMEOUT	END OP	PHS CNTR
8	4	ANS REQ	DIAG MODE	RCV TAG
4	5	BUSY	TIMER TR	CHAR PHS
2	6	ENABLE	3 SEC TIMER	
1	7	READY	1.5 SEC TIMER	
8	8	RCV RUN	SEND DATA	

ROUTINE 01 COMMAND: RESET FUNCTION: STR WRT MODIFIER: 9

	DSW ERR 0 1 2 3 4 5 6 7 8	DW1 ERR 0 1 2 3 4 5 6 7 8	DW2 ERR 0 1 2 3 4 5	ALARM
S/B ON	 X	. . . . .	. . . . .	.
NET NUM .	FCC3511BA22 FCC3511BL22 FCC3511BB22 FCC3511AB22 FCC3511BC22 FCC3411AJ24 FCC3411AQ24 FCC3411CS24 FCC211AV6	FCC3231BC21 FCC3511BU12 FCC6411BM12 FCC3211BR22 FCC3114BE22 FCC3114AR22 FCC3411AV24 FCC3411BP24 FCC611AL44	FCC161411AL12 FCC161111AT22 FCC121111AE24 FCC2511BH41 FCC5311BM1	FC3211BH4

COMMENTS

THIS ROUTINE CHECKS FOR RESET CONDITION OF THE SCA CIRCUITRY. IT SHOULD BE ABLE TO TRAP SOLID AND INTERMITTENT PROBLEMS IN THIS AREA.

ROUTINE 02 COMMAND: END OP FUNCTION: CONTROL MODIFIER: 13

	DSW ERR 0 1 2 3 4 5 6 7 8	DW1 ERR 0 1 2 3 4 5 6 7 8	DW2 ERR 0 1 2 3 4 5	ALARM
S/B ON	 X	. . . X	. . . . .	.
NET NUM .	FCC3511BA22 FCC3511BL22 FCC3511BB22 FCC3511AB22 FCC3511BC22 FCC3411AJ24 FCC3411AQ24 FCC3411CS24 FCC211AV6	FCC3231BC21 FCC3511BU12 FCC6411BM12 FCC3211BR22 FCC3114BE22 FCC3114AR22 FCC3411AV24 FCC3411BP24 FCC611AL44	FCC161411AL12 FCC161111AT22 FCC121111AE24 FCC2511BH41 FCC5311BM1	FC3211BH4

COMMENTS

THIS ROUTINE CHECKS THE END OPERATION COMMAND.

ROUTINE 03 AND ROUTINE 04

	BUFFER BIT 0 1 2 3 4 5 6 7
NET NUM .	FCC7733111AAAY FCC7733111AAAX FCC7733111AAAH FCC7733111AAAV FCC7733111AAAU FCC7733111AAAT FCC7733111AAAS FCC7733111AAAR

COMMENTS

IF FAILURE APPEARS NOT TO BE BUFFER, RUN SCA PROGRAM INSTRUCTION FT.
POINTS. BE SURE TO REMOVE JUMPER AFTER TEST.

SCA WRAP-AROUND TEST

```
0000                    ORG     *+150C                                  31200010
                *       EQUATE TABLE                                    31200020
                *                                                       31200030
                ********************************************************31200040
                ********************************************************31200050
                *       THIS TABLE EQUATES TEST PROGRAM LABELS          31200060
                *       TO THEIR EQUIVALENT DIAGNOSTIC MONITOR          31200070
                *       ADDRESSES.                                      31200080
                *                                                       31200090
                *-------------------------------------------------------31200100
                *       MONITOR ENTRY ADDRESSES                         31200110
                *-------------------------------------------------------31200120
0160            BEGIN EQU       /160        BEGIN ROUTINE               31200130
0161            START EQU       BEGIN+1     SUPERVISOR ROUTINE          31200140
0162            ERROR EQU       START+1     ERROR LOG ROUTINE           31200150
0163            LOG   EQU       ERROR+1     STATUS LOG ROUTINE          31200160
0164            END   EQU       LOG+1       END ROUTINE                 31200170
                *                                                       31200180
                *-------------------------------------------------------31200190
                *       MONITOR CONTROL WORD ADDRESSES                  31200200
                *-------------------------------------------------------31200210
0165            RTNSW EQU       END+1       ROUTINE START SW            31200220
0166            ERLCK EQU       END+2       LOCK ON ERR CONTROL         31200230
0167            LOGBY EQU       END+3       I/O BUSY SW ADDRS           31200240
0168            RLCF  EQU       END+4       RELOC FACTOR ADDRS          31200250
                *                                                       31200260
                *-------------------------------------------------------31200270
                *       INTERRUPT TRANSFER VECTOR ADDRESSES             31200280
                *-------------------------------------------------------31200290
017A            IL0   EQU       /17A        INTERRUPT LEVEL 0           31200300
018A            IL1   EQU       IL0+16      INTERRUPT LEVEL 1           31200310
019A            IL2   EQU       IL1+16      INTERRUPT LEVEL 2           31200320
01AA            IL3   EQU       IL2+16      INTERRUPT LEVEL 3           31200330
01BA            IL4   EQU       IL3+16      INTERRUPT LEVEL 4           31200340
01BB            RQTY  EQU       IL4+1       CDR/PRINT REQUEST           31200350
01BC            RQKB  EQU       RQTY+1      USE KEYBOARD REQUEST        31200360
01BD            SVKB  EQU       RQKB+1      KB SERVICE REQUEST          31200370
                ********************************************************31200380
                *                                                       31200390
                *-------------------------------------------------------31200400
                *               SCA WRAP-AROUND TEST                    31200410
                *-------------------------------------------------------31200420
                *                                                       31200430
                ********************************************************31200440
                *               PROGRAM STATUS TABLE                    31200450
                ********************************************************31200460
                *                                                       31200470
05DC 0  0312    PID   DC        /0312       PROGRAM ID                  31200480
05DD 0  0000    RID   DC        /0000       ROUTINE NUMBER              31200490
05DE 0  0000    RAD   DC        /0000       ROUTINE ADDRESS             31200500
05DF 0  0000    SW0   DC        0           PROGRAM CONTROL             31200510
05E0 0  0000    SW1   DC        0           ROUTINE SELECTION           31200520
05E1 0  0000    SW2   DC        0           OPTION SELECTION SW         31200530
C5E2 0  0000    SW3   DC        0           RTN SCAN OPTION             31200540
05E3 1  0863          DC        STRT        LOOP PROGRAM                31200550
05E4 1  0863          DC        STRT        RESTART ADDRESS             31200560
05E5 1  0863    MLSCF DC        STRT        ENTRY SET IN MN/LINE        31200570
05E6 0  FFFF          DC        /FFFF       TERMINATOR                  31200580
                *                                                       31200590
                ********************************************************31200600
                *               LOCK ON FUNCTION ROUTINE                31200610
                ********************************************************31200620
                *                                                       31200630
05E7 C  0000    LOCK  DC        /0000                                   31200640
05E8 C1 C40005DF      LD    L   SW0         LD SW0                      31200650
05EA 00 EC860166      OR    I   ERLCK       OR WITH MON LOCK SW         31200660
05EC C  100A          SLA     10          CHECK BIT 10                31200670
05ED 01 4C9605E7      BSC   I   LOCK,-     BR IF NOT LOCK/FUNC         31200680
```


SCA WRAP-AROUND TEST

```
05EF 01 C40005F5      LD    L   LOOP        LOAD LOOP ADDRS             31200690
05F1 01 4CA005F5      BSC   I   LOOP,Z      LOOP ON LAST FUNC           31200700
05F3 01 4C8005E7      BSC   I   LOCK         IF LOOP ADDRS NOT 0         31200710
05F5 0  0000    LOOP  DC        *-*         LOCK/ERR LOOP ADR.          31200720
                *                                                       31200730
                ********************************************************31200740
                *               TEST INITIALIZATION                     31200750
                ********************************************************31200760
                *                                                       31200770
05F6 00 44800160 BEGN BSI   I   BEGIN       MON INITIALIZATION          31200780
05F8 1  05DC          DC        PID         PST TABLE                   31200790
                *                                                       31200800
                *-------------------------------------------------------31200810
                * START OF TEST AND SINGLE PASS INITIALIZE              31200820
                *-------------------------------------------------------31200830
                *                                                       31200840
                ********************************************************31200850
                *               PROGRAM WAIT                            31200860
                ********************************************************31200870
                *                                                       31200880
                * THIS ROUTINE IS USED BY THE TEST PROGRAM              31200890
                * TO MARK TIME WHILE WAITING FOR AN INTERRUPT           31200900
                * TO OCCUR.                                             31200910
                *                                                       31200920
                ********************************************************31200930
                *                                                       31200940
05F9 C  0000    WCNT  DC        0           WAIT COUNTER                31200950
05FA 0  1000    DELY3 DC        /1000       DELAY CONSTANT              31200960
                *                                                       31200970
05FB C  C0FE    WAIT3 LD        DELY3       LD 4 SEC CONSTANT           31200980
05FC 0  D0FC          STO       WCNT        SET IN WAIT COUNTER         31200990
05FD 01 C40005E1      LD    L   SW2                                     31201000
05FF 0  1008          SLA       11                                      31201010
0600 0  4810          BSC       -                                       31201020
0601 0  7003          MDX       WAIT1                                   31201030
0602 0  C0F6          LD        WCNT                                    31201040
0603 0  1001          SLA       1                                       31201050
0604 0  D0F4          STO       WCNT                                    31201060
0605 0  0864    WAIT1 XIO       DSNSE       SENSE DSW                   31201070
0606 0  E87E          OR        DSWAL       SAVE DSW DATA               31201080
0607 0  D07D          STO       DSWAL                                   31201090
0608 0  0867          XIC       RDIA1       READ DIAG WORD 1            31201100
0609 0  0866          XIO       RDIA2       READ DIAG WORD 2            31201110
060A 0  C07B          LD        DIAW1                                   31201120
060B 0  E86E          OR        DI1AL       SAVE DIAG 1 DATA            31201130
060C 0  D06D          STO       DI1AL                                   31201140
060D 0  C079          LD        DIAW2                                   31201150
060E 0  E86D          OR        DI2AL       SAVE DIAG 2 DATA            31201160
060F 0  D06C          STO       DI2AL                                   31201170
0610 01 6700061E      LDX   L3  WAITB       SET UP MON RETURN           31201180
0612 01 6F0005E5      STX   L3  MLSCF                                   31201190
0614 00 44800161      BSI   I   START       GO TO MONITOR               31201200
0616 01 74FFC5F9 WAITB MDX  L   WCNT,-1      REDUCE WAIT COUNT           31201210
0618 0  70EC          MDX       WAIT1       GO BACK TO DELAY            31201220
061A 0  0854          XIC       DSNSN       SENSE RESET DSW             31201230
061B 01 0C00C8BE      XIO   L   RESET       EXECUTE RESET               31201240
061D 01 4400C8B3      BSI   L   DLYTM       DELAY                       31201250
061F 0  7077          MDX       SNDSN       GO MAKE ANALYSIS            31201260
                *                                                       31201270
                ********************************************************31201280
                *               INTERRUPT                               31201290
                ********************************************************31201300
                * THE MONITOR RETURNS CONTROL TO THIS ROUTINE           31201310
                * AFTER DETECTING A CAT INTERRUPT.                      31201320
                ********************************************************31201330
                *                                                       31201340
0621 0  0000    INTR  DC        /0000                                   31201350
0622 0  084D          XIC       DSWSN       SENSE DSW                   31201360
```

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0621 0  0073          STO     RDWRT   STORE DSW                       31201370
0622 0  E862          OR      DSWAL   SAVE DSW                        31201380
0623 0  0061          STO     DSWAL                                   31201390
0624 0  0847          XIO     RDCAT   READ BUFFER                     31201400
0625 0  C84A          XIO     RDIA1   READ DIAG WORD 1                31201410
0626 0  C84B          XIO     RDIA2   READ DIAG WORD 2                31201420
0627 0  C05F          LD      DIAW2   LD DIAG WD 2                    31201430
0628 0  E853          OR      DI2AL   SAVE DIAG 2 DATA                31201440
0629 0  0052          STO     DI2AL                                   31201450
062A 0  C056          LD      DIAW1   LD DIAG 1 WD                    31201460
062B 0  E84E          OR      DI1AL   SAVE DIAG 1 DATA                31201470
062C 0  0040          STO     DI1AL                                   31201480
062D 0  C062          LD      DIASW   LD DIAG MODE SW                 31201490
062E 0  4820          BSC     Z                                       31201500
062F 0  700C          MDX     DIACK   DIAG MODE SW IS ON              31201510
0630 01 7401568E      MDX  L  CNTIN,+1  ADD 1 TO INTRPT CNT           31201520
0632 0  1000          NOP                                             31201530
0633 0  CC5A          LD      CNTIN   LOAD INTRPT COUNT               31201540
0634 0  905C          S       STOCT   SUB INTRPT END CNT              31201550
0635 01 4C280662      BSC  L  GETON,+Z  END COUNT NOT YET             31201560
0637 01 0C000674  ENDRT XIO   L  ENDOP   EXECUTE END OP                31201570
0639 0  6850          STX     PRTPN   TURN ON INTRPT RCV              31201580
063A 01 4C80061F      BSC  I  INTR    EXIT TO RETURN ADDR             31201590
                      *                                               31201600
063C 0  C058  DIACK   LD      RDWRT   LOAD SENSEC DSW                 31201610
063D 01 4C280644      BSC  L  CNTRD,+Z  BRANCH IF READ INT            31201620
063F 0  C054          LD      WRCNT   LOAD WRT INTRPT SW              31201630
0640 0  4820          BSC     Z       IS WRT INTRPT SW ON             31201640
0641 0  7020          MDX     GETON   NO, GO WITH ROUTINE             31201650
0642 0  6851          STX     WRCNT   TURN ON WRT INT SW              31201660
0643 0  7C1F          MDX     GETCN+1 GO ON WITH ROUTINE              31201670
0644 01 74016693  CNTRD MDX  L  RDCNT,+1  ADD 1 TO RD INT CNT        31201680
0646 0  C04C          LD      RDCNT   LOAD READ INTRPT CNT            31201690
0647 0  903A          S       K0008   CK IF 8TH RD INTRPT             31201700
0648 0  4820          BSC     Z                                       31201710
0649 0  7001          MDX     RD9TH   NO, CK IF 9TH RD INT            31201720
064A 0  700E          MDX     LDSYN   YES, CK IF SYNC MODE            31201730
064B 0  C047  RD9TH   LD      RDCNT   LD RD INTRPT COUNT              31201740
064C 0  9036          S       K0009   CK IF 9TH RD INTRPT             31201750
064D 0  4820          BSC     Z                                       31201760
064E 0  7014          MDX     GETON+1 NO, GO WITH ROUTINE             31201770
064F 0  081C          XIO     RDCAT   READ BUFFER                     31201780
0650 0  CC33          LD      RCVED   SAVE DATA READ                  31201790
0651 0  E83D          OR      INBUF                                   31201800
0652 0  C03C          STO     INBUF                                   31201810
0653 0  6856          STX     PRTPN   TURN ON INTRPT RCV              31201820
0654 0  6301          LDX  3  1                                       31201830
0655 0  6B3D          STX  3  RDCNT   SET RD INT CNT TO 1             31201840
0656 01 7401068D      MDX  L  PASS,+1   ADD 1, RTN PASS CNT           31201850
0658 0  700A          MDX     GETON+1 GO ON WITH ROUTINE              31201860
0659 0  C031  LDSYN   LD      SYCMD   CK IF SYNC MODE                 31201870
065A 0  4820          BSC     Z                                       31201880
065B 0  7003          MDX     SYCON   YES, LD SYNC/IDLE               31201890
065C 0  0821          XIO     WRCAT   NO, LD CHAR IN BUFF             31201900
065D 01 4C80061F      BSC  I  INTR    EXIT TO INTRPT ADDR             31201910
                      *                                               31201920
065F 01 CC0008C0  SYCON XIO   L  SIREG   LD SYNC/IDLE REG             31201930
0661 0  7001          MDX     GETON+1 GO ON WITH ROUTINE              31201940
                      *                                               31201950
0662 0  0813  GETON   XIO     SYALT   LD SYNC ALT PATTERN             31201960
0663 0  6826          STX     PRTPN   TURN ON INTRPT RCV              31201970
0664 0  CC28          LD      PASS    LD RTN PASS CNT                 31201980
0665 0  902C          S       STOPS   SUB END PASS CNT                31201990
0666 01 4C300637      BSC  L  ENDRT,-Z  BRANCH IF LAST PASS           31202000
0668 01 4C80061F      BSC  I  INTR    EXIT TO RETURN ADDR             31202010
                      *                                               31202020
                      ************************************************31202030
                      *     IOCC , STORAGE , AND SWS FOR INTRPT RTN   31202040
```



```
                      ************************************************31202050
                      *                                               31202060
066A    0000          BSS  E  0                                       31202070
066A 0  0000  DSWSE   DC      0       SENSE DSW                       31202080
066B 0  5700          DC      /5700                                   31202090
066C 1  0684  RDCAT   DC      RCVED   READ CAT                        31202100
066D 0  5200          DC      /5200                                   31202110
066E 0  0000  DSWSN   DC      0       SENSE CAT DSW                   31202120
066F 0  5701          DC      /5701                                   31202130
0670 1  0686  RDIA1   DC      DIAW1   READ DIAG WORD 1                31202140
0671 0  5201          DC      /5201                                   31202150
0672 1  0687  RDIA2   DC      DIAW2   READ DIAG WORD 2                31202160
0673 0  5202          DC      /5202                                   31202170
0674 0  0000  ENDOP   DC      0       END OP                          31202180
0675 0  5404          DC      /5404                                   31202190
0676 1  C680  SYALT   DC      ALT     LD SYNC ALT PATTERN             31202200
0677 0  5104          DC      /5104                                   31202210
0678 0  0000  DIAWD   DC      *-*     COMBINED DIAG WORDS             31202220
0679 0  0000          DC      *-*     1 AND 2 MODIFIED                31202230
067A 0  0000  DI1AL   DC      *-*     DIAG 1 DATA                     31202240
067B 0  0000          DC      *-*                                     31202250
067C 0  0000  DI2AL   DC      *-*     DIAG 2 DATA                     31202260
067D 0  0000          DC      *-*                                     31202270
067E 1  0681  WRCAT   DC      SEND    WRITE CAT                       31202280
067F 0  5100          DC      /5100                                   31202290
0680 0  AA00  ALT     DC      /AA00   PATTERN 10101010                31202300
0681 0  FF00  SEND    DC      /FF00   PATTERN 11111111                31202310
0682 0  0008  K0008   DC      /0008   CONSTANT 8                      31202320
0683 0  0009  K0009   DC      /0009   CONSTANT 9                      31202330
0684 0  0000  RCVED   DC      *-*     CAT RECIEVED WORD               31202340
0685 0  0000  DSWAL   DC      *-*     DSW DATA                        31202350
0686 0  0000  DIAW1   DC      *-*     SAVED DIAG 1                    31202360
0687 0  0000  DIAW2   DC      *-*     SAVED DIAG 2                    31202370
0688 0  0000  CADSW   DC      *-*     SAVED DSW                       31202380
0689 0  0000  LOPSW   DC      *-*     EXP INTRPT SW                   31202390
068A 0  0000  PRTPN   DC      *-*     PRINT PEND SW                   31202400
068B 0  CC00  SYCMD   DC      *-*     SYNC MODE SW                    31202410
068C 0  0000  RDCPK   DC      *-*     DATA READ S/B                   31202420
068D 0  0000  PASS    DC      *-*     RTN PASS CNT                    31202430
068E 0  C000  CNTIN   DC      *-*     INTRPT COUNT                    31202440
068F 0  0000  INBUF   DC      *-*     DATA READ WAS                   31202450
0690 0  C000  DIASW   DC      *-*     DIAG MODE SW                    31202460
0691 0  0000  STOCT   DC      *-*     END INTRPT CNT                  31202470
0692 0  0000  STOPS   DC      *-*     END RTN PASS CNT                31202480
0693 0  0000  RDCNT   DC      *-*     READ INTRPT CNT                 31202490
0694 0  0000  WRCNT   DC      *-*     WRITE INTRPT SW                 31202500
0695 0  0000  RDWRT   DC      *-*     SAVED DSW                       31202510
                      *                                               31202520
                      ************************************************31202530
                      *     SET UP DATA ANALYSIS                      31202540
                      ************************************************31202550
                      *                                               31202560
0696 0  C0EE  SNDSW   LD      DSWAL   LOAD DSW DATA                   31202570
0697 0  D0F0          STO     CADSW   STORE DSW DATA                  31202580
0698 0  C0E3          LD      DI2AL   LD DIAG 2 DATA                  31202590
0699 0  1890          SRT     16                                      31202600
069A 0  1010          SLA     16                                      31202610
069B 0  1086          SLT     6                                       31202620
069C 0  1001          SLA     1                                       31202630
069D 0  E8DC          OR      DI1AL   COMBINE DIAG WDS 1+2            31202640
069E 0  D8D9          STO     DIAWD   SAVE COMBINED DIA WD            31202650
069F 01 44C00C66      BSI  L  DATCK   MAKE DATA CHECK                 31202660
06A1 01 44000C03      BSI  L  INTAN   MAKE INTRPT ANAL                31202670
06A3 01 4C00C9F3      BSC  L  CONAN   GO MAKE ANALYSIS                31202680
                      ************************************************31202690
                      *                                               31202700
                      ************************************************31202710
                      *                CONTROL ROUTINE                31202720
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                        ********************************************          31202730
                        * THIS ROUTINE CHECKS SWITCHES AND CONTROLS *          31202740
                        * THE SEQUENCE IN WHICH TEST ROUTINES ARE RUN*          31202750
                        ********************************************          31202760
                        *                                                     31202770
                        ********************************************          31202780
                        *                CONTROL ROUTINE           *          31202790
                        ********************************************          31202800
                        * THIS ROUTINE CHECKS SWITCHES AND CONTROLS *          31202810
                        * THE SEQUENCE IN WHICH TEST ROUTINES ARE RUN*          31202820
                        ********************************************          31202830
                        *                                                     31202840
C6A5 0  CC00    CNTRL   DC      /0000                                       31202850
C6A6 01 C40005E0        LD    L SW1                                         31202860
C6A8 01 4C086684        BSC   L CN20,+    BRANCH IF NO RTN SELECTED         31202870
C6AA 01 D40005DD        STO   L RID       SAVE NEW RTN NUMBER               31202880
C6AC 0  904D            S       RIOCK                                       31202890
C6AD 01 4C08C6BB        BSC   L CN30,+    ER IF VALID RTN                   31202900
C6AF 0  1810            SRA     16                                          31202910
C6B0 01 C4C0C5EC        STO   L SW1       IF INVALID RTN GO                 31202920
C6B2 01 D40005DD        STO   L RID       TO RTN ONE                        31202930
C6B4 01 7401C5DD CN20   MDX   L RID,1     ADV TO NEXT RTN                   31202940
C6B6 01 C40005DD        LD    L RID                                         31202950
C6B8 0  9041            S       RIOCK                                       31202960
C6B9 01 4C3006CB        BSC   L ENMSG,-Z  PRINT RESTORE MSG                 31202970
C6BB 01 6780C5DD CN30   LDX   I3 RID                                        31202980
C6BD 01 C70006E2        LD    L3 RTTBL-1  FETCH RETURN ADRS                 31202990
C6BF 01 D40005DE        STO   L RAD                                         31203000
C6C1 01 D40005F5        STO   L LCCP      LOAD LCCP RTN ADDR.               31203010
C6C3 01 D40005E5        STO   L MLSCF     SET MLSCF FOR RETURN              31203020
C6C5 C0 D4000165        STO   L RTNSW                                       31203030
C6C7 01 44000701        BSI   L CKOPT     CK FOR FUNC 2+3                   31203040
C6C9 00 44800161        BSI   I START     GO TO MONITOR                     31203050
                        *                                                   31203060
C6CB 0  630C    ENMSG   LDX     3 12      CLR PRINT TABLE                   31203070
C6CC 0  1010            SLA     16                                          31203080
C6CD 01 D7000BAF        STO   L3 TABLE-1                                    31203090
C6CF 0  73FF            MDX     3 -1                                        31203100
C6D0 0  7CFC            MDX     ENMSG+2                                     31203110
C6D1 01 D40005DD        STO   L RID       RESET RTN ID                      31203120
C6D3 01 6700CB48        LDX   L3 NMSG                                       31203130
C6D5 01 6F000BB3        STX   L3 TABLE+3  SET ALPHA MSG                     31203140
C6D7 0  6304            LDX     3 4                                         31203150
C6D8 01 6F000BB0        STX   L3 TABLE    SET UP MSG ID                     31203160
C6DA 01 CC00C88C        XIC   L BZON      EXECUTE ALARM ON                  31203170
C6DC 00 44860163        BSI   I LOG       GO TYPE MESSAGE                   31203180
C6DE 1  0BB0            DC      TABLE                                       31203190
C6DF 01 CC00C8C4        XIC   L BZOFF     EXECUTE ALARM OFF                 31203200
C6E1 00 44800164        BSI   I END       END PROGRAM                       31203210
                        *                                                   31203220
                        ********************************************        31203230
                        *          ROUTINE SEQUENCE TABLE          *        31203240
                        ********************************************        31203250
                        *                                                   31203260
C6E3 1  08C8    RTTBL   DC      RT01                                        31203270
C6E4 1  08D0            DC      RT02                                        31203280
C6E5 1  08DE            DC      RT03                                        31203290
C6E6 1  08EC            DC      RT04                                        31203300
C6E7 1  08F5            DC      RT05                                        31203310
C6E8 1  08FE            DC      RT06                                        31203320
C6E9 1  0907            DC      RT07                                        31203330
C6EA 1  0910            DC      RT08                                        31203340
C6EB 1  0919            DC      RT09                                        31203350
C6EC 1  0922            DC      RT0A                                        31203360
C6ED 1  092B            DC      RT0B                                        31203370
C6EE 1  0945            DC      RT0C                                        31203380
C6EF 1  0955            DC      RT0D                                        31203390
C6F0 1  0965            DC      RT0E                                        31203400
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C6F1 1  C970            DC      RT0F                                        31203410
C6F2 1  C97B            DC      RT10                                        31203420
C6F3 1  0984            DC      RT11                                        31203430
C6F4 1  098D            DC      RT12                                        31203440
C6F5 1  C996            DC      RT13                                        31203450
C6F6 1  C99F            DC      RT14                                        31203460
C6F7 1  09A8            DC      RT15                                        31203470
C6F8 1  09B5            DC      RT16                                        31203480
C6F9 1  09C7    LRTN    DC      RT17                                        31203490
                        ********************************************        31203500
                        *                                                   31203510
C6FA 0  0017    RTOCK   DC      LRTN-RTTBL+1                                31203520
C6FB 0  CC00    S2WAS   DC      *-*       SW2 WAS                           31203530
C6FC 0  0000    S3WAS   DC      *-*       SW3 WAS                           31203540
C6FD 01 7401C66B SAVE1  MDX   L RSTSW,+1  ALLOW RESET                       31203550
C6FF 0  0001    K0001   DC      /0001                                       31203560
C70C C  CC00    FSTCK   DC      *-*                                         31203570
                        *                                                   31203580
C701 C  CC00    CKOPT   DC      *-*                                         31203590
0702 0  CCF8            LD      S2WAS     LOAD SW2 WAS                      31203600
0703 01 F40005E1        EOR   L SW2       COMPARE WITH SW2 NOW              31203610
C705 C  4820            BSC     Z         CHK FOR CHANGE                    31203620
C706 0  7060            MDX     S2PNT     SET UP TO PRINT OPTS              31203630
0707 01 C40005E1        LD    L SW2       LD RTN OPTION SW                  31203640
C709 C  100C            SLA     12        CHK FOR DIAGNOSTIC                31203650
C70A 01 442EC79F        BSI   L DIAMD,+Z  SET UP DIAG MD                    31203660
070C 0  6302            LDX     3 2                                         31203670
C70D 01 6F0009BA        STX   L3 RT16+5   SET RTN PASS CNT / 2              31203680
C70F 01 6F0009CC        STX   L3 RT17+5   SET RTN PASS CNT / 2              31203690
0711 01 C40005E1        LD    L SW2       LD RTN OPTION SW                  31203700
0713 C  100C            SLA     13        CHK FOR ALT RESET                 31203710
0714 01 442EC7AC        BSI   L NORST,+Z  SET UP FOR NO RESET               31203720
C716 C  CCE6            LD      SAVE1     ALLOW RESET                       31203730
C717 01 D4000871        STO   L RSCFF                                       31203740
C719 C  C0E4            LD      SAVE1+1                                     31203750
C71A 01 D4000872        STO   L RSCFF+1                                     31203760
C71C 01 C40005E1        LD    L SW2       LD RTN OPTION SW                  31203770
071E C  100E            SLA     14        CHK FOR FAST PASS                 31203780
C71F 01 442E07B7        BSI   L FAST1,+Z  SET UP FAST PASS                  31203790
0721 C0 67C0100C        LDX   L3 /1000                                      31203800
0723 01 6F0005FA        STX   L3 DELY3    RESTORE NORMAL DELAY              31203810
0725 01 C40005E1        LD    L SW2       LOAD SW2                          31203820
0727 C  100A            SLA     10        CHK IF SEL CHAR                   31203830
C728 C1 4C280733        BSC   L OPRTN,+Z  BRANCH IF SEL CHAR                31203840
072A C  C0D1            LD      S3WAS     LOAD SW3 WAS                      31203850
072E 01 F40005E2        EOR   L SW3       COMPARE WITH SW3 NOW              31203860
072D 0  4820            BSC     Z                                           31203870
C72E C  70CE            MDX     S3PNT     SET UP TO PRINT                   31203880
                        *                 SCOPE LOOP                        31203890
C72F 01 C40005E2 NOPNT  LD    L SW3       LD SCOPE OPT SW                   31203900
C731 C  4820            BSC     Z                                           31203910
0732 0  7C22            MDX     SCOPE     CK WHAT TIME BASE                 31203920
0733 01 4C8C0701 OPRTN  BSC   I CKOPT     EXIT TO RETURN                    31203930
                        *                                                   31203940
0735 01 C40005E2 S3PNT  LD    L SW3       LOAD SW3                          31203950
0737 01 D40006FC        STO   L S3WAS     STORE IN SW3 WAS                  31203960
C739 C  4820            BSC     Z         CHK IF ON                         31203970
C73A C  7C01            MDX     LOGO2     LOG SCOPE LOOP                    31203980
073B 0  70F3            MDX     NOPNT     CHK FOR SCOPE OPTION              31203990
                        *                                                   31204000
073C 0  630C    LOGO2   LDX     3 12      CLEAR MSG TABLE                   31204010
073D C  1010            SLA     16                                          31204020
073E 01 D7000BAF        STO   L3 TABLE-1                                    31204030
C740 C  73FF            MDX     3 -1                                        31204040
0741 C  7CFC            MDX     LOGO2+2                                     31204050
0742 01 67000B36        LDX   L3 ADR6     SET UP ALPHA MSG                  31204060
C744 01 6F000BB3        STX   L3 TABLE+3                                    31204070
C746 0  6302            LDX     3 2       SET UP MSG ID                     31204080
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0747 C1 6F0006B0          STX  L3 TABLE                          31204090
0749 0  6300              LDX   3 0                              31204100
074A 01 6F0006B2          STX  L3 TABLE+2                        31204110
074C 01 CC0008BC          XIC  L  BZCN     EXECUTE ALARM CN      31204120
074E C0 44800163          BSI  I  LOG      GO PRINT MESSAGE      31204130
0750 1  0B80              DC       TABLE                         31204140
0751 01 CC0008C4          XIO  L  BZCFF    EXECUTE ALARM CFF     31204150
0753 C1 4C00072F          BSC  L  NCPNT    SET UP SCOPE LOOP     31204160
                          *                                      31204170
0755 C1 C40005DE SCOPE LD   L  RAD       CHK IF NO SCOPE       31204180
0757 0  90A7              S        K0001                         31204190
0758 0  D0A7              STO      FSTCK                         31204200
075S C1 C4800700          LD   I   FSTCK                         31204210
075E 0  4820              BSC      Z                             31204220
075C 0  7001              MDX      SCOP1   NO, ALLOW LOOP        31204230
075D 0  70D5              MDX      OPRTN   EXIT TO RETURN        31204240
075E C1 C40005E2 SCOP1 LD   L  SW3       SET UP SCOPE DELAY    31204250
0760 0  4820              BSC      Z       CHK IF DELAY SELECTED 31204260
0761 0  7001              MDX      SCOP2                         31204270
0762 0  70D0              MDX      OPRTN   EXIT TO RETURN        31204280
0763 0  1004      SCOP2 SLA      4                              31204290
0764 C1 D40005FA          STO  L   DELY3                         31204300
0766 0  70CC              MDX      OPRTN   EXIT TO RETURN        31204310
                          *                                      31204320
0767 0  630C      S2PNT LDX    3 12      CLEAR PRINT TABLE     31204330
0768 0  1010              SLA      16                            31204340
0769 C1 D7000BAF          STO  L3  TABLE-1                       31204350
076B 0  73FF              MDX      -1                            31204360
076C 0  70FC              MDX      S2PNT+2                       31204370
076D 01 C40005E1          LD   L   SW2       LOAD SW2           31204380
076F 0  100A              SLA      10        CHK SELECT CHAR ON  31204390
0770 01 442808CB          BSI  L   LOG10,+Z                      31204400
0772 01 C40005E1          LD   L   SW2       LOAD SW2           31204410
0774 0  100C              SLA      12        CHK DIAG RUN ON     31204420
0775 C1 44280815          BSI  L   LOG12,+Z                      31204430
0777 01 C40005E1          LD   L   SW2       LOAD SW2           31204440
0779 0  100D              SLA      13        CHK NO RESET ON     31204450
077A C1 4428081F          BSI  L   LOG13,+Z                      31204460
077C C1 C40005E1          LD   L   SW2       LOAD SW2           31204470
077E 0  100E              SLA      14        CHK FAST PASS ON    31204480
077F 01 44280829          BSI  L   LOG14,+Z                      31204490
0781 01 C40005E1          LD   L   SW2       LOAD SW2           31204500
0783 01 E40006FB          STO  L   S2WAS     STORE IN SW2 WAS    31204510
0785 01 67000849 LOG01 LDX  L3  LOG1      SET UP ALPHA MSG      31204520
0787 C1 6F0006B3          STX  L3  TABLE+3                       31204530
0789 0  6301              LDX      1        SET UP MSG ID       31204540
078A C1 6F0006B0          STX  L3  TABLE                         31204550
078C 0  6300              LDX      0        SET UP MODIFIERS    31204560
078D 01 6F0006B2          STX  L3  TABLE+2                       31204570
078F C1 0C0008BC          XIO  L   BZCN      EXECUTE ALARM CN    31204580
0791 00 44800163          BSI  I   LOG       GO LOG MESSAGE      31204590
0793 1  0B80              DC       TABLE                         31204600
0794 01 CC0008C4          XIO  L   BZCFF     EXECUTE ALARM CFF   31204610
0796 C  6319              LDX      25        CLEAR OUT MSG TABLE 31204620
0797 C1 C400C854 CLLOG LD   L   LOG1B-1                        31204630
0799 C1 D7000848          STO  L3  LOG1-1                        31204640
079B 0  73FF              MDX      -1                            31204650
079C C  70FA              MDX      CLLOG                         31204660
079D 01 4C000707          BSC  L   CKOPT+6                       31204670
                          *                                      31204680
079F C  0000      DIAMD DC       *-*                           31204690
07A0 01 7401CA00          MDX  L   SWDIA,+1  TURN ON DIAG OPT SW 31204700
07A2 C  1000              NOP                                    31204710
07A3 C  6340              LDX      64                            31204720
07A4 01 6F0009BA          STX  L3  RT16+5    SET RTN PASS TO 64  31204730
07A6 01 6F0009CC          STX  L3  RT17+5    SET RTN PASS TO 64  31204740
07A8 01 7405C79F          MDX  L   DIAMD,+5  MODIFY RETURN ADDR  31204750
07AA 01 4C80C79F          BSC  I   DIAMD     EXIT TO RETURN      31204760
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                          *                                      31204770
                          *                                      31204780
07AC 0  0000      NORST DC       *-*                           31204790
07AD 01 C4000C9C          LD   L   K1000     LOAD NCP            31204800
07AF 01 D4000671          STO  L   RSCFF     PREVENT RESET       31204810
07B1 01 D4000672          STO  L   RSCFF+1                       31204820
07B3 01 740C07AC          MDX  L   NORST,+6  MODIFY RETURN       31204830
07B5 C1 4C8007AC          BSC  I   NORST     EXIT TO RETURN      31204840
                          *                                      31204850
07B7 0  0000      FAST1 DC       *-*                           31204860
07B8 01 C40005DE          LD   L   RAD       CK IF FAST PASS CK  31204870
07BA 01 940006FF          S    L   K0001                         31204880
07BC 01 D4000700          STO  L   FSTCK                         31204890
07BE C1 C4800700          LD   I   FSTCK     CHK FOR FAST PASS   31204900
07CC 0  4820              BSC      Z                             31204910
07C1 C  7002              MDX      FAST2     FAST PASS ALLOWED   31204920
07C2 C1 4C8007B7          BSC  I   FAST1     EXIT TO RETURN      31204930
                          *                                      31204940
07C4 G0 67000100 FAST2 LDX  L3  /0100      SET UP 250 MSEC ANAL 31204950
07C6 C1 6F0005FA          STX  L3  DELY3                         31204960
07C8 C1 740407B7          MDX  L   FAST1,+4  MODIFY RETURN EXIT  31204970
07CA 0  7CF7              MDX      FAST2-2   EXIT TO RETURN      31204980
                          *                                      31204990
07CB C  0000      SELCH DC       *-*                           31205000
07CC 0  C016              LD       PASS1     LOAD 1ST PASS SW    31205010
07CD 0  4820              BSC      Z                             31205020
07CE C  7C1A              MDX      CHPNT     PRINT MSG IF ON     31205030
07CF C1 C400C6FC          LD   L   S3WAS     LOAD SW3            31205040
07D1 G1 F40005E2          EOR  L   SW3       EOR WITH SW3 NOW    31205050
07D3 C  4820              BSC      Z         CHK IF SW3 CHANGED  31205060
07D4 0  7014              MDX      CHPNT     GO PRINT SEL CHAR   31205070
07D5 G1 C40005E2 CHRTN LD   L   SW3       FETCH CHAR          31205080
07D7 C1 E40006FC          STO  L   S3WAS     STORE INTO SW3 WAS  31205090
07D9 C  1C08              SLA      8                             31205100
07DA G1 D4000E8C          STO  L   RDCPR     SET UP RD CHAR S/B  31205110
07DC G1 D4000681          STO  L   SEND      SET UP WRT BUFFER   31205120
07DE G1 F40009C6          EOR  L   RT17+1    SET UP SYNC ALT CHAR31205130
07E0 01 D400068C          STO  L   ALT                           31205140
07E2 C1 6C000A3A          STX  L   MKSW2     TURN ON MASK SW 2   31205150
07E4 0  6300              LDX      0                             31205160
07E5 0  6BC2              STX      3 PASS1   TURN OFF 1ST PASS SW31205170
07E6 01 4C8007CB          BSC  I   SELCH     EXIT TO RETURN      31205180
                          *                                      31205190
07E8 C  CC01      PASS1 DC       /0001                         31205200
                          *                                      31205210
07E9 C1 C40005E2 CHPNT LD   L   SW3       LOAD SW3            31205220
07EB 0  1008              SLA      8                             31205230
07EC C  D001              STO      PNTCH     STORE NEW CHAR      31205240
07ED 0  7001              MDX      LOG03     SET UP MESSAGE      31205250
                          *                                      31205260
07EE C  CC00      PNTCH DC       *-*       NEW CHAR            31205270
                          *                                      31205280
07EF 0  630C      LOG03 LDX    3 12      CLEAR MSG TABLE       31205290
07F0 0  1010              SLA      16                            31205300
07F1 C1 D7000BAF          STO  L3  TABLE-1                       31205310
07F3 C  73FF              MDX      -1                            31205320
07F4 C  70FC              MDX      LOG03+2                       31205330
07F5 C1 67000B3C          LDX  L3  ADR7      SET UP ALPHA MSG    31205340
07F7 C1 6F0006B3          STX  L3  TABLE+3                       31205350
07F9 C  6303              LDX      3 3       SET UP MSG ID       31205360
07FA 01 6F0006B0          STX  L3  TABLE                         31205370
07FC 0  6301              LDX      1         SET UP MODIFIERS    31205380
07FD 01 6F0006B2          STX  L3  TABLE+2                       31205390
07FF C1 C40007EE          LD   L   PNTCH     LOAD NEW CHAR       31205400
0801 G1 E4000BB5          STO  L   TABLE+5                       31205410
0803 01 CC0008BC          XIO  L   BZCN      EXECUTE ALARM CN    31205420
0805 00 44800163          BSI  I   LOG       GO LOG MESSAGE      31205430
0807 1  0B80              DC       TABLE                         31205440
0808 01 CC0008C4          XIO  L   BZCFF     EXECUTE ALARM CFF
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080A C  7CCA            MDX     CHRTN     GO SET UP CHAR          31205450
                        *                                         31205460
080E C  0000    LOG10 DC        *-*                               31205470
080C 0  6306            LDX     3 6       LOAD SELECT CHAR        31205480
080D 01 C700C832        LD      L3 AOLOG-1                        31205490
080F 01 D700C848        STO     L3 LOG1-1                         31205500
0811 C  73FF            MDX     3 -1                              31205510
0812 C  70FA            MDX     LOG10+2                           31205520
0813 01 4C80C80B        BSC  I  LOG10     EXIT TO RETURN ADDR     31205530
                        *                                         31205540
0815 C  0000    LOG12 DC        *-*                               31205550
0816 C  6304            LDX     3 4       LD DIAG RUN FOR MSG     31205560
0817 C1 C700C838        LD      L3 A1LOG-1                        31205570
0819 C1 D700C84F        STO     L3 LOG1A-1                        31205580
081B C  73FF            MDX     3 -1                              31205590
081C 0  70FA            MDX     LOG12+2                           31205600
081D 01 4C80C815        BSC  I  LOG12     EXIT TO RETURN ADDR     31205610
                        *                                         31205620
                                                                  31205630
081F C  0000    LOG13 DC        *-*                               31205640
0820 C  6304            LDX     3 4       LD NO RESET FOR MSG     31205650
0821 01 C700C83C        LD      L3 B1LOG-1                        31205660
0823 01 D700C854        STO     L3 LOG1B-1                        31205670
0825 0  73FF            MDX     3 -1                              31205680
0826 0  70FA            MDX     LOG13+2                           31205690
0827 01 4C80C81F        BSC  I  LOG13     EXIT TO RETURN ADDR     31205700
                        *                                         31205710
0829 C  C000    LOG14 DC        *-*                               31205720
082A 0  6305            LDX     3 5       LD FAST PASS FOR MSG    31205730
082B 01 C700C840        LD      L3 C1LOG-1                        31205740
082D 01 D700C859        STO     L3 LOG1C-1                        31205750
082F 0  73FF            MDX     3 -1                              31205760
0830 C  70FA            MDX     LOG14+2                           31205770
0831 01 4C80C829        BSC  I  LOG14     EXIT TO RETURN ADDR     31205780
                        *                                         31205790
0833 0  9A36    AOLOG DC        /9A36     SE                      31205800
0834 0  5E36            DC      /5E36     LE                      31205810
0835 0  1E9E            DC      /1E9E     CT                      31205820
0836 0  211E            DC      /211E      C                      31205830
0837 C  263E            DC      /263E     HA                      31205840
0838 0  6200            DC      /6200     R.                      31205850
                        *                                         31205860
0839 0  3222    A1LOG DC        /3222     DI                      31205870
083A 0  3E16            DC      /3E16     AG                      31205880
083B 0  2162            DC      /2162      R                      31205890
083C 0  8276            DC      /8276     UN                      31205900
                        *                                         31205910
083D 0  7652    B1LOG DC        /7652     NC                      31205920
083E 0  2162            DC      /2162      R                      31205930
083F 0  3E9A            DC      /369A     ES                      31205940
0840 0  3E9E            DC      /369E     ET                      31205950
                        *                                         31205960
0841 C  123E    C1LOG DC        /123E     FA                      31205970
0842 0  9A9E            DC      /9A9E     ST                      31205980
0843 0  2156            DC      /2156      P                      31205990
0844 0  3E9A            DC      /3E9A     AS                      31206000
0845 0  9A21            DC      /9A21     S                       31206010
                        *                                         31206020
0846 C  2121    D1LOG DC        /2121                             31206030
0847 0  2121            DC      /2121                             31206040
0848 C  2121            DC      /2121                             31206050
                        *                                         31206060
                        ***********************************       31206070
                        *    ALPHA MESSAGE FOR SCA PROG OPTIONS   31206080
                        ***********************************       31206090
                        *                                         31206100
0849 0  2121    LOG1  DC        /2121                             31206110
084A 0  2121            DC      /2121                             31206120
084B 0  2121            DC      /2121
```



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084C 0  2121            DC      /2121                             31206130
084D 0  2121            DC      /2121                             31206140
084E 0  2121            DC      /2121                             31206150
084F 0  2121            DC      /2121                             31206160
                        *                                         31206170
0850 0  2121    LOG1A DC        /2121                             31206180
0851 0  2121            DC      /2121                             31206190
0852 0  2121            DC      /2121                             31206200
0853 0  2121            DC      /2121                             31206210
0854 0  2121            DC      /2121                             31206220
0855 0  2121    LOG1B DC        /2121                             31206230
0856 0  2121            DC      /2121                             31206240
0857 0  2121            DC      /2121                             31206250
0858 0  2121            DC      /2121                             31206260
0859 0  2121            DC      /2121                             31206270
085A 0  2121    LOG1C DC        /2121                             31206280
085B 0  2121            DC      /2121                             31206290
085C 0  2121            DC      /2121                             31206300
085D 0  2121            DC      /2121                             31206310
085E 0  2121            DC      /2121                             31206320
085F 0  2121    LOG1D DC        /2121                             31206330
0860 0  2121            DC      /2121                             31206340
0861 0  2121            DC      /2121                             31206350
0862 0  FFFF            DC      /FFFF     TERMINATER              31206360
                        ***********************************       31206370
                        *        INITIALIZATION ROUTINE           31206380
                        ***********************************       31206390
                        *                                         31206400
                        * THIS ROUTINE PERFORMS THE REQUIRED      31206410
                        * INITIALIZATION FOR RESTART OF THE PROGRAM.  31206420
                        * IT LOADS THE FIRST ROUTINE OR THE DESIRED   31206430
                        * ROUTINE VIA SELECT SWITCHES INTO THE    31206440
                        * MAINLINE SEQUENCE CONTROL FIELD.        31206450
                        ***********************************       31206460
                        *                                         31206470
0863 0  6300    STRT  LDX     3 0                                 31206480
0864 01 6F0005DD        STX     L3 RID    RESET ROUTINE NO.       31206490
0866 01 6500061F        LDX     L1 INTR                           31206500
0868 00 6D000189        STX     L1 IL1-1  SET LP INTRPT ADDR      31206510
086A C  7009            MDX     OFF1      TURN OFF PROG SWS       31206520
                        *                                         31206530
                        ***********************************       31206540
                        *        TURN OFF ALL SWITCHES            31206550
                        ***********************************       31206560
                        *                                         31206570
086B C  CC00    RSTSW DC        *-*       PROG RESET SW           31206580
                        *                                         31206590
086C 0  0000    OFF   DC                  ENTRY AND SAVE AREA     31206600
086D C  C656            XIO     BZOFF     TURN OFF ALARM          31206610
086E 0  C0FC            LD      RSTSW     LD PROG RESET SW        31206620
086F C  4820            BSC     Z                                 31206630
0870 C  7003            MDX     OFF1      SW ON , GO TO OFF1      31206640
0871 01 7401C86B  RSOFF MDX  L  RSTSW,+1  TURN ON RESET SW        31206650
0873 0  7002            MDX     OFF2                              31206660
                        *                                         31206670
0874 0  6300    OFF1  LDX     3 0                                 31206680
0875 0  66F5            STX     3 RSTSW                           31206690
                        *                                         31206700
0876 C  1010    OFF2  SLA     16                                  31206710
0877 0  6306            LDX     3 6                               31206720
0878 01 D700CBBB  OFF3  STO     L3 DIAX1-1                        31206730
087A 0  73FF            MDX     3 -1                              31206740
087B 0  70FC            MDX     OFF3                              31206750
087C 0  6312            LDX     3 18                              31206760
087D 01 D700C683  OFF4  STO     L3 RCVED-1                        31206770
087F 0  73FF            MDX     3 -1                              31206780
0880 0  70FC            MDX     OFF4                              31206790
0881 0  6302            LDX     3 2                               31206800
```

SCA WRAP-AROUND TEST

```
C8CA 0  0877            STO     DSWXX
C8CB 01 74010868        MDX  L  RSTSW,+1    TURN ON PROG RESET
C8CD 01 4C00C5FB        BSC  L  WAIT3
                        *
                        ********************************************
                        *           ROUTINE 02
                        ********************************************
                        *
C8CF C  0001            DC      1
C8D0 00 67C0FF00  RT02  LDX  L3 /FF00
0802 01 6F00068C        STX  L3 RDCPR       SET UP DATA READ S/B
C8D4 0  6301            LDX     3 1
C8D5 01 6F000691        STX  L3 STCCT       SET INT COUNT
C8D7 C  C860            LDD     DSW02
C8D8 0  D8E9            STO     DSWXX       SET UP DATA ANALYSIS
C8D5 01 74010A38        MDX  L  MKSW1,+1
08DE 01 4C00C9E0        BSC  L  DMRTN       GO TO RTN EXECUTE
                        *
                        ********************************************
                        *           ROUTINE 03
                        ********************************************
                        *
C8DE C  0001            DC      1
08DE 00 67008000  RT03  LDX  L3 /8000
08E0 01 6F00068C        STX  L3 RDCPR       SET UP DATA READ S/B
08E2 0  6302            LDX     3 2
08E3 01 6F000691        STX  L3 STCCT       SET INT COUNT
C8E5 C  C854            LDD     DSW03
C8E6 0  D85B            STO     DSWXX       SET UP DATA ANALYSIS
C8E7 01 74010A38        MDX  L  MKSW1,+1
C8E9 01 4C0009E0        BSC  L  DMRTN       GO TO RTN EXECUTE
                        *
                        ********************************************
                        *           ROUTINE 04
                        ********************************************
                        *
C8EB 0  0001            DC      1
08EC 00 6700C000  RT04  LDX  L3 /C000
08EE 01 6F00068C        STX  L3 RDCPR       SET UP DATA READ S/B
C8FC 0  6303            LDX     3 3
C8F1 01 6F0CC691        STX  L3 STCCT       SET INT COUNT
C8F3 0  70F1            MDX     RT03+7
                        *
                        ********************************************
                        *           ROUTINE 05
                        ********************************************
                        *
C8F4 C  CC01            DC      1
C8F5 00 6700E000  RT05  LDX  L3 /E000
C8F7 01 6F00068C        STX  L3 RDCPR       SET UP DATA READ S/B
C8F9 0  6304            LDX     3 4
C8FA 01 6F000691        STX  L3 STCCT       SET INT COUNT
C8FC 0  70E8            MDX     RT03+7
                        *
                        ********************************************
                        *           ROUTINE 06
                        ********************************************
                        *
C8FE C  0001            DC      1
C8FE C0 6700F000  RT06  LDX  L3 /F000
C900 01 6F00068C        STX  L3 RDCPR       SET UP DATA READ S/B
C902 0  6305            LDX     3 5
0903 01 6F00C691        STX  L3 STCCT       SET INT COUNT
C905 C  70DF            MDX     RT03+7
                        *
                        ********************************************
                        *           ROUTINE 07
                        ********************************************
```

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SCA WRAP-AROUND TEST

```
C882 01 D7000A79  OFF5  STO  L3 DSWW1-1
C884 C  73FF            MDX     3 -1
C885 0  70FC            MDX     OFF5
0886 0  6304            LDX     3 4
C887 01 D7000FFC  OFF6  STO  L3 TRGWD-1
C889 0  73FF            MDX     3 -1
C88A C  70FC            MDX     OFF6
C88B 01 D4000942        STO  L  DSWXX
C88D C1 D4000943        STO  L  DIAXX
C88F 01 D400067A        STO  L  DI1AL
C891 01 D400067C        STO  L  DI2AL
C893 01 D4000A38        STO  L  MKSW1
C895 01 D4000A3A        STO  L  MKSW2
C897 C0 67C01000        LDX  L3 /1000
C899 01 6F00C5FA        STX  L3 DELY3       RESTORE DELAY 3
C89B 01 C400C9C8        LD   L  RT17+1      RESTORE DATA WORD
C89D 01 D400C681        STO  L  SEND
C89F 00 67C0AA00        LDX  L3 /AA00       RESTORE SYNC ALT
C8A1 01 6F00068C        STX  L3 ALT
C8A3 01 4400C701        BSI  L  CKOPT       CK FOR FUNC 2+3
08A5 01 4400D5E7        BSI  L  LCCK        CK LCCK,LOOP/ERR FNC
C8A7 0  C00A            LD      LCCPE       LD LCCP ON ERR SW
C8A8 0  6300            LDX     3 0
C8A9 0  6B08            STX     3 LOOPE     CLR LCCP ON ERR SW
C8AA 01 4CA005F5        BSC  I  LCCP,Z      LOOP IF SW IS ON
C8AC 01 C400086B        LD   L  RSTSW
C8AE 01 4C30C8C8        BSC  L  RT01,Z-     BRANCH TO RESET RTN
C8B0 01 4400C6A5        BSI  L  CNTRL
                        *
C8B2 0  0000      LOOPE DC      *-*         LOOP ON ERROR SW
                        *
                        ********************************************
                        *     TIME DELAY - 140 MSEC
                        ********************************************
                        *
C8B3 0  0000      DLYTM DC      *-*
C8B4 0  630C            LDX     3 12
C8B5 0  6B05            STX     3 TMDLY
C8B6 01 74FFC8BB        MDX  L  TMDLY,-1
C8B8 C  70FD            MDX     *-3
C8B9 01 4C80C8B3        BSC  I  DLYTM
                        *
C8BB C  0000      TMDLY DC      *-*
                        *
                        ********************************************
                        *           1130  SCA  IOCC
                        ********************************************
                        *
C8BC    0000            BSS  E
C8BC 0  C000      BZON  DC      0           ALARM ON
C8BD 0  5102            DC      /5102
C8BE 0  0000      RESET DC      0           PROGRAMED RESET
C8BF 0  5540            DC      /5540
C8C0 1  08C6      SIREG DC      ICHAR       SYNC/IDLE REG
C8C1 0  5104            DC      /5104
C8C2 0  0000      DIAG  DC      0           DIAGNOSTIC MODE
C8C3 0  5408            DC      /5408
C8C4 0  0000      BZOFF DC      0           ALARM OFF
C8C5 0  5101            DC      /5101
C8C6 0  3900      ICHAR DC      /3900       IDLE CHARACTER
                        *
                        ********************************************
                        *           ROUTINE 01
                        ********************************************
                        *
C8C7 C  0001            DC      1
08C8 0  08F5      RT01  XIO     RESET       EXECUTE RESET
C8C9 0  C86C            LDD     DSW01       SET UP ANALYSIS DATA
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                        *
C906 C  0001            DC      1                                       31208170
C907 00 6700F800    RT07 LDX  L3 /F800                                  31208180
C909 01 6F00068C        STX  L3 RDCPR       SET UP DATA READ S/B        31208190
C90B C  6306            LDX   3 6                                       31208200
C90C 01 6F000691        STX  L3 STCCT       SET INT COUNT               31208210
C90E C  700B            MDX     RT03+7                                  31208220
                        *                                               31208230
                        ************************************************31208240
                        *           ROUTINE 08                         *31208250
                        ************************************************31208260
                        *                                               31208270
C90F C  0001            DC      1                                       31208280
C910 00 6700FC00    RT08 LDX  L3 /FC00                                  31208290
C912 01 6F00068C        STX  L3 RDCPR       SET UP DATA READ S/B        31208300
0914 0  6307            LDX   3 7                                       31208310
C915 01 6F000691        STX  L3 STCCT       SET INT COUNT               31208320
C917 C  70CD            MDX     RT03+7                                  31208330
                        *                                               31208340
                        ************************************************31208350
                        *           ROUTINE 09                         *31208360
                        ************************************************31208370
                        *                                               31208380
C918 C  CC01            DC      1                                       31208390
0919 00 6700FE00    RT09 LDX  L3 /FE00                                  31208400
C91E 01 6F00068C        STX  L3 RDCPR       SET UP DATA READ S/B        31208410
091C C  6308            LDX   3 8                                       31208420
091E 01 6FC00691        STX  L3 STCCT       SET INT COUNT               31208430
0920 0  70C4            MDX     RT03+7                                  31208440
                        *                                               31208450
                        ************************************************31208460
                        *           ROUTINE 0A                         *31208470
                        ************************************************31208480
                        *                                               31208490
C921 0  CCC1            DC      1                                       31208500
0922 00 67CCFF00    RT0A LDX  L3 /FF00                                  31208510
0924 01 6FC0068C        STX  L3 RDCPR       SET UP DATA READ S/B        31208520
0926 C  63C9            LDX   3 9                                       31208530
0927 01 6F000691        STX  L3 STCCT       SET INT COUNT               31208540
C929 C  70BB            MDX     RT03+7                                  31208550
                        *                                               31208560
                        ************************************************31208570
                        *           ROUTINE 0B                         *31208580
                        ************************************************31208590
                        *                                               31208600
C92A C  0001            DC      1                                       31208610
C92B 00 67C0FF00    RT0B LDX  L3 /FF00                                  31208620
092D 01 6F00068C        STX  L3 RDCPR       SET UP DATA READ S/B        31208630
092F 0  630B            LDX   3 11                                      31208640
0930 01 6F000691        STX  L3 STCCT       SET INT COUNT               31208650
0932 0  C8D7            LDD     DSW03                                   31208660
0933 0  D8DE            STD     DSWXX       SET UP DATA ANALYSIS        31208670
0934 0  70B2            MDX     RT03+5                                  31208680
                        *                                               31208690
                        ************************************************31208700
                        * PREDETERMINED VALUES FOR SCA DSW AND DIAG      31208710
                        * WORDS. THESE VALUES ARE PRINTED AS S/B,       31208720
                        * WHEN AN ERROR EXIST.                          31208730
                        * THE DIA WORD IS THE VALUE FOR DIAGNOSTIC       31208740
                        * WORDS 1 AND 2 COMBINED.                       31208750
                        ************************************************31208760
                        *                                               31208770
C936    0000            BSS  E                                          31208780
C936 0  0080        DSW01 DC      /0080                                 31208790
C937 0  0000        DIA01 DC      /0000                                 31208800
C938 0  6C80        DSW02 DC      /6080                                 31208810
C939 0  3862        DIA02 DC      /3862                                 31208820
093A 0  EC80        DSW03 DC      /EC80                                 31208830
                                                                        31208840
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093B 0  3862        DIA03 DC      /3862                                 31208850
093C 0  E080        DSW04 DC      /E080                                 31208860
093D 0  386A        DIA04 DC      /386A                                 31208870
093E 0  EC80        DSW05 DC      /EC80                                 31208880
093F 0  38EE        DIA05 DC      /38EE                                 31208890
940C 0  E080        DSW06 DC      /E080                                 31208900
0941 0  3866        DIA06 DC      /3866                                 31208910
                    *                                                   31208920
C942 C  0000        DSWXX DC      *-*                                   31208930
C943 C  0000        DIAXX DC      *-*                                   31208940
                    *                                                   31208950
                    ************************************************    31208960
                    *           ROUTINE 0C                         *    31208970
                    ************************************************    31208980
                    *                                                   31208990
C944 C  0001            DC      1                                       31209000
0945 00 67CCFF00    RT0C LDX  L3 /FF00                                  31209010
0947 01 6F00068C        STX  L3 RDCPR       SET UP DATA READ S/B        31209020
0949 0  6301            LDX   3 1                                       31209030
C94A 01 6F000691        STX  L3 STCCT       SET INT COUNT               31209040
C94C 0  C8EB            LDD     DSW02                                   31209050
C94E 0  D8F4            STD     DSWXX       SET UP DATA ANALYSIS        31209060
C94E 01 6C00068B        STX  L  SYCMD       TURN ON SYNC MODE SW        31209070
C950 01 7401CA38        MDX  L  MKSW1,+1                                31209080
0952 01 4C0CC9E0        BSC  L  DMRTN       GO TO RTN EXECUTE           31209090
                    *                                                   31209100
                    ************************************************    31209110
                    *           ROUTINE 0D                         *    31209120
                    ************************************************    31209130
                    *                                                   31209140
C954 C  CC01            DC      1                                       31209150
C955 00 670C800C    RT0D LDX  L3 /8000                                  31209160
C957 01 6F00068C        STX  L3 RDCPR       SET UP DATA READ S/B        31209170
C959 0  6302            LDX   3 2                                       31209180
C95A 01 6F00C691        STX  L3 STCCT       SET INT COUNT               31209190
C95C 0  C8DD            LDD     DSW03                                   31209200
C95D 0  D8E4            STD     DSWXX       SET UP DATA ANALYSIS        31209210
C95E 01 6C00068B        STX  L  SYCMD       TURN ON SYNC MODE SW        31209220
C960 01 74010A38        MDX  L  MKSW1,+1                                31209230
C962 01 4C00C9E0        BSC  L  DMRTN       GO TO RTN EXECUTE           31209240
                    *                                                   31209250
                    ************************************************    31209260
                    *           ROUTINE 0E                         *    31209270
                    ************************************************    31209280
                    *                                                   31209290
C964 0  0001            DC      1                                       31209300
C965 00 67CCC000    RT0E LDX  L3 /C000                                  31209310
C967 01 6F00068C        STX  L3 RDCPR       SET UP DATA READ S/B        31209320
C969 0  6303            LDX   3 3                                       31209330
C96A 01 6F000691        STX  L3 STCCT       SET INT COUNT               31209340
C96C 0  C8CD            LDD     DSW03                                   31209350
C96E 0  D8D4            STD     DSWXX       SET UP DATA ANALYSIS        31209360
C96E 0  70EF            MDX     RT0D+5                                  31209370
                    *                                                   31209380
                    ************************************************    31209390
                    *           ROUTINE 0F                         *    31209400
                    ************************************************    31209410
                    *                                                   31209420
C96F C  0001            DC      1                                       31209430
C97C 00 67C06000    RT0F LDX  L3 /6000                                  31209440
C972 01 6F00C68C        STX  L3 RDCPR       SET UP DATA READ S/B        31209450
0974 0  6304            LDX   3 4                                       31209460
C975 01 6F000691        STX  L3 STCCT       SET INT COUNT               31209470
C977 0  C8C4            LDD     DSW04                                   31209480
C978 0  D8C9            STD     DSWXX       SET UP DATA ANALYSIS        31209490
C979 0  70E4            MDX     RT0D+5                                  31209500
                    *                                                   31209510
                    ************************************************    31209520
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                        *            ROUTINE 10                                 31209530
                        ********************************************************* 31209540
                        *                                                       31209550
C97A 0  0001                    DC      1                                       31209560
0978 00 67003000        RT10    LDX   L3 /3000                                  31209570
C97D 01 6F00068C                STX   L3 RDCPR      SET UP DATA READ S/B        31209580
C97F 0  6305                    LDX     3 5                                     31209590
C980 01 6F000691                STX   L3 STOCT      SET INT COUNT               31209600
C982 0  70F4                    MDX     RTOF+7                                  31209610
                        *                                                       31209620
                        ********************************************************* 31209630
                        *            ROUTINE 11                                 31209640
                        ********************************************************* 31209650
                        *                                                       31209660
C983 0  0001                    DC      1                                       31209670
C984 00 67009800        RT11    LDX   L3 /9800                                  31209680
0986 01 6F00068C                STX   L3 RDCPR      SET UP DATA READ S/B        31209690
C988 0  6306                    LDX     3 6                                     31209700
C989 01 6F000691                STX   L3 STOCT      SET INT COUNT               31209710
C98B 0  70E8                    MDX     RTOF+7                                  31209720
                        *                                                       31209730
                        ********************************************************* 31209740
                        *            ROUTINE 12                                 31209750
                        ********************************************************* 31209760
                        *                                                       31209770
C98C 0  0001                    DC      1                                       31209780
C98D 00 6700CC00        RT12    LDX   L3 /CC00                                  31209790
C98F 01 6F00068C                STX   L3 RDCPR      SET UP DATA READ S/B        31209800
C991 0  6307                    LDX     3 7                                     31209810
C992 01 6F000691                STX   L3 STOCT      SET INT COUNT               31209820
C994 0  70E2                    MDX     RTOF+7                                  31209830
                        *                                                       31209840
                        ********************************************************* 31209850
                        *            ROUTINE 13                                 31209860
                        ********************************************************* 31209870
                        *                                                       31209880
C995 0  0001                    DC      1                                       31209890
0996 00 6700E600        RT13    LDX   L3 /E600                                  31209900
0998 01 6F00068C                STX   L3 RDCPR      SET UP DATA READ S/B        31209910
C99A 0  6308                    LDX     3 8                                     31209920
C99B 01 6F000691                STX   L3 STOCT      SET INT COUNT               31209930
C99D 0  70D9                    MDX     RTOF+7                                  31209940
                        *                                                       31209950
                        ********************************************************* 31209960
                        *            ROUTINE 14                                 31209970
                        ********************************************************* 31209980
                        *                                                       31209990
C99E 0  0001                    DC      1                                       31210000
C99F 00 67007300        RT14    LDX   L3 /7300                                  31210010
09A1 01 6F00068C                STX   L3 RDCPR      SET UP DATA READ S/B        31210020
09A3 0  6309                    LDX     3 9                                     31210030
09A4 01 6F000691                STX   L3 STOCT      SET INT COUNT               31210040
09A6 0  70D0                    MDX     RTOF+7                                  31210050
                        *                                                       31210060
                        ********************************************************* 31210070
                        *            ROUTINE 15                                 31210080
                        ********************************************************* 31210090
                        *                                                       31210100
09A7 0  0001                    DC      1                                       31210110
09A8 00 67003900        RT15    LDX   L3 /3900                                  31210120
09AA 01 6F00068C                STX   L3 RDCPR      SET UP DATA READ S/B        31210130
09AC 0  630B                    LDX     3 11                                    31210140
09AD 01 6F000691                STX   L3 STOCT      SET INT COUNT               31210150
09AF 01 CC00C93C                LDD   L DSW04                                   31210160
09B1 01 DC000942                STD   L DSWXX       SET UP DATA ANALYSIS        31210170
09B3 0  70AA                    MDX     RTOD+5                                  31210180
                        *                                                       31210190
                        ********************************************************* 31210200
```



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                        *            ROUTINE 16                                 31210210
                        ********************************************************* 31210220
                        *                                                       31210230
C9B4 C  CC00                    DC      0                                       31210240
09B5 00 67003900        RT16    LDX   L3 /3900                                  31210250
09B7 01 6F00068C                STX   L3 RDCPR      SET UP DATA READ S/B        31210260
09B9 00 67000002                LDX   L3 /0002                                  31210270
09BB 01 6F000692                STX   L3 STCPS      SET RTN PASS COUNT          31210280
09BD 01 74010690                MDX   L DIASW,+1    TURN ON DIAG MODE SW        31210290
09BF 01 74010688                MDX   L SYCMD,+1    TURN ON SYNC MODE SW        31210300
09C1 01 CC00093E                LDD   L DSW05                                   31210310
09C3 01 DC000942                STD   L DSWXX       SET UP DATA ANALYSIS        31210320
09C5 0  701A                    MDX     DMRTN       GO TO RTN EXECUTE           31210330
                        *                                                       31210340
                        ********************************************************* 31210350
                        *            ROUTINE 17                                 31210360
                        ********************************************************* 31210370
                        *                                                       31210380
C9C6 C  CC00                    DC      0                                       31210390
09C7 00 6700FF00        RT17    LDX   L3 /FF00                                  31210400
09C9 01 6F00068C                STX   L3 RDCPR                                  31210410
09CB 01 6F000681                STX   L3 SEND                                   31210420
09CD 00 67004A00                LDX   L3 /4A00                                  31210430
09CF 01 6F00068C                STX   L3 ALT                                    31210440
09D1 01 C40005E1                LD    L SW2         CHK FOR SELECT CHAR         31210450
09D3 0  100A                    SLA     10                                      31210460
09D4 01 442607DB                BSI   L SELCH,+Z    SET UP SELECTED CHAR        31210470
09D6 C0 67000002                LDX   L3 /0002                                  31210480
09D8 01 6F000692                STX   L3 STCPS      SET RTN PASS COUNT          31210490
09DA 01 74010690                MDX   L DIASW,+1    TURN ON DIAG MODE SW        31210500
09DC 01 CC00C940                LDD   L DSW06                                   31210510
09DE 01 DC000942                STD   L DSWXX       SET UP DATA ANALYSIS        31210520
                        *                                                       31210530
09E0 01 0C0008C0        DMRTN XIC   L SIREG         LOAD SYNC/IDLE REG          31210540
09E2 01 74010685                MDX   L LCPSW,+1    TURN EXP INTRPT SW          31210550
09E4 01 C400068B                LD    L SYCMD       CK IF SYNC MODE ON          31210560
09E6 0  4820                    BSC     Z                                       31210570
09E7 0  7008                    MDX     SYNGO       YES, GO TO SYNGO            31210580
09E8 01 0C0008C2                XIC   L DIAG        NO, EXECUTE DIAG MODE       31210590
09EA 01 0C0008C2                XIC   L DIAG        EXECUTE DIAG MODE           31210600
09EC 01 CC00067E                XIC   L WRCAT       LOAD BUFFER                 31210610
09EE 01 4C0005FB        DIAGO BSC   L WAITS         BRANCH TO DELAY             31210620
                        *                                                       31210630
09F0 01 0C0008C2        SYNGO XIC   L DIAG          EXECUTE DIAG MODE           31210640
09F2 0  70FB                    MDX     DIAGO       GO TO DELAY                 31210650
                        *                                                       31210660
                        ********************************************************* 31210670
                        *            CONTROL ANALYSIS                           31210680
                        *    CONTROLS ANALYSIS OF RESULTS FOR                   31210690
                        *    FUNCTION LAST EXECUTED                             31210700
                        ********************************************************* 31210710
                        *                                                       31210720
09F3 01 C4000942        CONAN LD    L DSWXX         LOAD S/B DSW                31210730
09F5 01 44000A01                BSI   L STGR1                                   31210740
09F7 0  C008                    LD      SWDIA       CHECK IF DIAG OPT ON        31210750
09F8 01 4C1B086D                BSC   L OFF+1,←     RESTORE PROGRAM SWS         31210760
09FA 01 C4000943                LD    L DIAXX       LOAD S/B DIAG WORDS         31210770
09FC 0  700A                    MDX     STGR2                                   31210780
                        *                                                       31210790
                        ********************************************************* 31210800
                        *    STORAGE FOR CONTROL ANALYSIS                       31210810
                        ********************************************************* 31210820
                        *                                                       31210830
09FE 0  0000            TRGWD DC        *-*         DIAG WORD ERR. BITS         31210840
09FE 0  0000            STWD  DC        *-*         STORED WORD                 31210850
09FF 0  0000            DSWRD DC        *-*         DSW ERROR BITS              31210860
0A00 0  0C00            SWDIA DC        *-*         DIAG OPTION SW              31210870
                        *                                                       31210880
```

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                        ********************************************
                        *
CA01 0  0000    STOR1   DC      *-*         SAVED RETURN ADDR
CA02 0  D0FB            STO     STWD        STORE S/B DSW WORD
0A03 01 4400CA0C        BSI  L  ANAL1       GO TO ANAL. 1
CA05 01 4C80CA01        BSC  I  STOR1       RETURN TO SAVED ADDR
                        *
                        ********************************************
                        *
CA07 0  D0F6    STOR2   STO     STWD        STORE S/B DIAG WORD
CA08 01 4400CA19        BSI  L  ANAL2       GO TO ANAL. 2
CA0A 01 4400C86C        BSI  L  OFF         GO TO SW RESET RTN
                        *
                        ********************************************
                        *       CHECK TO SEE IF DSW ERROR EXISTS
                        ********************************************
                        *
CA0C 0  0000    ANAL1   DC      *-*         SAVED RETURN ADDR
CA0E 01 C4000688        LD   L  CADSW       LOAD SENSED DSW
CA0F 01 F4000942        EOR  L  DSWXX       EOR WITH S/B DSW
CA11 0  D0ED            STO     DSWRD       STORE IN DSW ERR BIT
CA12 0  4820            BSC     Z           CHK IF ERR BITS ON
CA13 0  7C01            MDX     ANL01       ERR BITS ARE ON
CA14 0  7C02            MDX     ANL01+2     ERR BITS ARE NOT ON
CA15 01 4400CA3C    ANL01 BSI  L  DSWAN      CHK WHICH BITS ON
CA17 01 4C80CA0C        BSC  I  ANAL1       BRANCH TO RETURN ADR
                        *
                        ********************************************
                        *       CHECK TO SEE IF DIAG TRIG ERROR EXISTS
                        ********************************************
                        *
CA19 0  0000    ANAL2   DC      *-*         SAVED RETURN ADDR
CA1A 0  C01D            LD      MKSW1       LD DATA MASK SW 1
CA1B 0  4820            BSC     Z
CA1C 0  7C0F            MDX     DTMK2       GO MASK OUT DATA BIT
CA1D 0  C01C            LD      MKSW2       LD DATA MASK SW 2
CA1E 0  4820            BSC     Z
CA1F 0  7012            MDX     DTMK3       GO MASK OUT DATA BIT
CA20 01 C4000678    CKIT3 LD    L  DIAWD     LOAD WAS DIAG WDS
CA22 01 F40C0943        EOR  L  DIAXX       EOR S/B DIAG WORDS
CA24 0  D006            STO     TRGWD       SET IN DIAG ERR BITS
CA25 0  4820            BSC     Z           CHK IF ERR BITS ON
CA26 0  7C01            MDX     ANL02       ERROR BITS ARE ON
CA27 0  7002            MDX     ANL02+2     ERR BITS ARE NOT ON
CA28 01 44000B5B    ANL02 BSI  L  TRGAN      GO TO TRIGGER ANAL
CA2A 01 4C80CA19        BSC  I  ANAL2       BRANCH TO SAVED ADDR
CA2C 01 C4000678    DTMK2 LD    L  DIAWD     LD WAS DIAG WD
CA2E 0  E00A            AND     MASK2       MASK OUT DATA BITS
CA2F 01 D4000678        STO  L  DIAWD       STORE IN DIAG WD WAS
CA31 0  7CEE            MDX     CKIT3
CA32 01 C4000678    DTMK3 LD    L  DIAWD     LOAD WAS DIAG WD
CA34 0  E006            AND     MASK3       MASK OUT DATA BITS
CA35 01 D4000678        STO  L  DIAWD       STORE IN DIAG WD WAS
CA37 0  70E8            MDX     CKIT3
                        *
CA38 0  0000    MKSW1   DC      *-*         MASK SW 1
CA39 0  FF7B    MASK2   DC      /FF7B
CA3A 0  0000    MKSW2   DC      *-*         MASK SW 2
CA3B 0  FF77    MASK3   DC      /FF77
                        *
                        ********************************************
                        *
                        ********************************************
                        *           DSW ANALYSIS
                        *     COMPARE SHOULD/BE DSW WITH WAS DSW
                        *     AND ANALIZE ANY ERRORS
                        ********************************************
                        *
```



```
0A3C 0  0000    DSWAN   DC      *-*         SAVED RETURN ADDRESS
0A3D 01 C4000688        LD   L  CADSW       LOAD DSW WAS
0A3F 01 E400C9FF        AND  L  DSWRD       AND WITH DSW ERR
CA41 01 D400CA7A        STO  L  DSWW1       STORE ON/F ERR BITS
CA43 01 C400C9FF        LD   L  DSWRD       LOAD DSW ERR BITS
CA45 01 F4000A7A        EOR  L  DSWW1       EOR WITH ON/F ERR
CA47 01 D4000A7B        STO  L  DSWW2       STORE DSW F/CN ERR
CA49 01 CC00C8BC        XIO  L  BZON        EXECUTE ALARM ON
CA4B 0  6305            LDX     3 5         SET UP MESSAGE ID 5
CA4C 01 8F000ABF        STX  L3 MSGNO       STORE IN MESSAGE =
CA4E 01 44000A7C        BSI  L  MSGID       GO CHK WHICH MSG ID
CA50 00 6700C07F        LDX  L3 /007F
CA52 01 6F00C8B2        STX  L3 TABLE+2     SET IN MODIFIER ID
CA54 01 6700CAC0        LDX  L3 ADR1        LD ALPHA 1 ADDR
CA56 01 6F00C8B3        STX  L3 TABLE+3     SET UP ALPHA MSG
CA58 01 C4000A7A        LD   L  DSWW1       LOAD ON/F ERR BITS
CA5A 01 D4000B89        STO  L  TABLE+9
CA5C 01 C4000A7B        LD   L  DSWW2       LOAD F/CN ERR BITS
CA5E 01 D4000B8A        STO  L  TABLE+10
CA60 01 C4000942        LD   L  DSWXX       LD DSW SHOULD/BE
CA62 01 D4000BB8        STO  L  TABLE+8     SET UP ERR MESSAGE
CA64 01 C4000688        LD   L  CADSW       LOAD SENSED DSW
CA66 01 D4000B87        STO  L  TABLE+7     SET UP ERR MESSAGE
0A68 01 C400067C        LD   L  DI2AL
CA6A 01 E400CC9D        AND  L  MASK1       MASK OUT CE BITS
0A6C 01 D4000BB6        STO  L  TABLE+6     SET UP ERR MESSAGE
CA6E 01 C400067A        LD   L  DI1AL
CA70 01 D4000B85        STO  L  TABLE+5     SET UP ERR MESSAGE
0A72 00 44800162        BSI  I  ERROR       GO PRINT ERROR
CA74 1  0B90            DC      TABLE       MESSAGE TABLE
CA75 1  0B55            DC      LOPRT       LOOP ADDRESS
CA76 01 CC00C8C4        XIO  L  BZOFF       EXECUTE ALARM OFF
0A78 01 4C800A3C        BSC  I  DSWAN       EXIT TO RETURN ADDR
                        *
                        ********************************************
                        *       DSW ANALYSIS SWITCHES + STORAGE
                        ********************************************
                        *
CA7A 0  0000    DSWW1   DC      *-*         DSW F/CN WORD
CA7B 0  0000    DSWW2   DC      *-*         DSW ON/F WORD
                        ********************************************
                        *
                        ********************************************
                        *
CA7C 0  0C00    MSGID   DC      *-*
CA7D 01 C400067B        LD   L  DIAWD+1     LOAD *CE* BITS
CA7F 0  1890            SRT     16
CA80 0  1010            SLA     16
CA81 0  1083            SLT     3
CA82 0  1007            SLA     7
CA83 01 D400CBBB        STO  L  TABLE+11    STORE IN ERR MSG
CA85 01 C400086B        LD   L  RSTSW       CHK FOR P RESET ERR
CA87 0  4820            BSC     Z
CA88 0  702E            MDX     NOTRM       LET PROG RESET MSG
CA89 0  C031            LD      TERM        NO PROG RESET MSG
                        *
0A8A 01 D400CAD5    MSGGO STO   L  TERM1
CA8C 01 D400CAEF        STO  L  TERM2
0A8E 01 D4000B05        STO  L  TERM3
CA90 01 D4000B23        STO  L  TERM4
CA92 0  C02B            LD      INTSW
0A93 01 4C16CAA4        BSC  L  IDRTN+2,+-  BRANCH NOT INT MSG
CA95 01 C400C685        LD   L  LOPSW       CHK FOR INTRPT INFO
CA97 0  4820            BSC     Z
CA98 0  7C14            MDX     PNDCK
CA99 01 C400C68A        LD   L  PRTPN
CA9B 0  4820            BSC     Z
CA9C 0  7C18            MDX     MID3
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0A9C 0  e300          LDX   3 0                                  31212250
0A9E 0  6B1E          STX   3 INTID     RESET INTERRUPT ID       31212260
0A9F 0  6B1E          STX   3 INTSW     RESET INTERRUPT SW       31212270
0AA0 01 4C80CC03      BSC   I INTAN      EXIT TO RETURN           31212280
                      *                                          31212290
0AA2 01 6F000ABC IDRTN STX  L3 INTID    STORE INT MSG ID         31212300
0AA4 0  C01A          LD      MSGNO     LOAD MESSAGE =           31212310
0AA5 0  8C17          A       INTID     ADD INT MSG ID           31212320
0AA6 01 D4000BB0      STO   L TABLE     STORE MESSAGE ID         31212330
0AA8 0  6300          LDX   3 0                                  31212340
0AA9 0  6B13          STX   3 INTID     RESET INTERRUPT ID       31212350
0AAA 0  6B13          STX   3 INTSW     RESET INTERRUPT SW       31212360
0AAB 01 4C80CA7C      BSC   I MSGID     EXIT TO RETURN ADDR      31212370
                      *                                          31212380
0AAD 01 C400C68A PNDCK LD   L PRTPN    LOAD PRINT PEND SW       31212390
0AAF 0  4820          BSC     Z                                  31212400
0AB0 0  7002          MDX     MID1                               31212410
0AB1 0  6302          LDX   3 2         SET MESSAGE ID 2         31212420
0AB2 0  70EF          MDX     IDRTN                              31212430
                      *                                          31212440
0AB3 0  6301          MID1  LDX   3 1   SET UP MESSAGE ID 1      31212450
0AB4 0  70EB          MDX     IDRTN                              31212460
                      *                                          31212470
0AB5 0  6303          MID3  LDX   3 3   SET UP MESSAGE ID 3      31212480
0AB6 0  70EB          MDX     IDRTN                              31212490
                      *                                          31212500
0AB7 01 74010ABF NOTRM MDX  L MSGNO,+1  ADD 1 TO MESSAGE =       31212510
0AB9 0  C002          LD      SPACE     LOAD SPACES              31212520
0ABA 0  70CF          MDX     MSGGO                              31212530
                      *                                          31212540
0ABB C  FFFF     TERM DC      /FFFF     TERMINATOR               31212550
0ABC 0  2121     SPACE DC     /2121     SPACES                   31212560
                      *                                          31212570
0ABD 0  0000     INTID DC     *-*       INTERRUPT ID             31212580
0ABE 0  0000     INTSW DC     *-*       INTERRUPT SW             31212590
0ABF 0  0000     MSGNO DC     *-*       MESSAGE ID               31212600
                      *                                          31212610
                      ********************************************31212620
                      *     ALPHA MESSAGE FOR DSW ERROR          31212630
                      ********************************************31212640
                      *                                          31212650
0AC0 0  3292     ADR1  DC     /3292     DW                       31212660
0AC1 0  FC21           DC     /FC21     1                        31212670
0AC2 0  2132           DC     /2132      D                       31212680
0AC3 0  92D8           DC     /92D8     W2                       31212690
0AC4 0  2121           DC     /2121                              31212700
0AC5 0  923E           DC     /923E     WA                       31212710
0AC6 0  9A21           DC     /9A21     S                        31212720
0AC7 0  219A           DC     /219A      S                       31212730
0AC8 0  BC1A           DC     /BC1A     /B                       31212740
0AC9 0  2121           DC     /2121                              31212750
0ACA 0  5276           DC     /5276     ON                       31212760
0ACB 0  BC12           DC     /BC12     /F                       31212770
0ACC 0  2112           DC     /2112      F                       31212780
0ACD 0  BC52           DC     /BC52     /O                       31212790
0ACE 0  7621           DC     /7621     N                        31212800
0ACF 0  D61E           DC     /D61E     *C                       31212810
0AD0 0  36D6           DC     /36D6     E*                       31212820
0AD1 0  2132           DC     /2132      D                       31212830
0AD2 0  9A92           DC     /9A92     SW                       31212840
0AD3 0  2136           DC     /2136      E                       31212850
0AD4 0  6262           DC     /6262     RR                       31212860
0AD5 0  FFFF     TERM1 DC     /FFFF     TERMINATOR               31212870
0AD6 0  6236           DC     /6236     RE                       31212880
0AD7 0  9A36           DC     /9A36     SE                       31212890
0AD8 0  9E21           DC     /9E21     T                        31212900
0AD9 0  FFFF           DC     /FFFF                              31212910
                      *                                          31212920
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                      ********************************************31212930
                      *     ALPHA MESSAGE FOR DIAG WORD 1 ERROR  31212940
                      ********************************************31212950
                      *                                          31212960
0ADA 0  329A     ADR2  DC     /329A     DS                       31212970
0ADB 0  9221           DC     /9221     W                        31212980
0ADC 0  21D8           DC     /21D8      2                       31212990
0ADD 0  923E           DC     /923E     WA                       31213000
0ADE 0  9A21           DC     /9A21     S                        31213010
0ADF 0  FC92           DC     /FC92     1W                       31213020
0AE0 0  3E9A           DC     /3E9A     AS                       31213030
0AE1 0  21FC           DC     /21FC      1                       31213040
0AE2 0  9A8C           DC     /9A8C     S/                       31213050
0AE3 0  1A21           DC     /1A21     B                        31213060
0AE4 0  5276           DC     /5276     ON                       31213070
0AE5 0  BC12           DC     /BC12     /F                       31213080
0AE6 0  2112           DC     /2112      F                       31213090
0AE7 0  BC52           DC     /BC52     /O                       31213100
0AE8 0  7621           DC     /7621     N                        31213110
0AE9 0  D61E           DC     /D61E     *C                       31213120
0AEA 0  36D6           DC     /36D6     E*                       31213130
0AEB 0  2132           DC     /2132      D                       31213140
0AEC 0  92FC           DC     /92FC     W1                       31213150
0AED 0  2136           DC     /2136      E                       31213160
0AEE 0  6262           DC     /6262     RR                       31213170
0AEF 0  FFFF     TERM2 DC     /FFFF     TERMINATOR               31213180
0AF0 0  6236           DC     /6236     RE                       31213190
0AF1 0  9A36           DC     /9A36     SE                       31213200
0AF2 0  9E21           DC     /9E21     T                        31213210
0AF3 0  FFFF           DC     /FFFF                              31213220
                      *                                          31213230
                      ********************************************31213240
                      *     ALPHA MESSAGE FOR DIAG WORD 2 ERROR  31213250
                      ********************************************31213260
                      *                                          31213270
0AF4 0  329A     ADR3  DC     /329A     DS                       31213280
0AF5 0  9221           DC     /9221     W                        31213290
0AF6 0  21FC           DC     /21FC      1                       31213300
0AF7 0  923E           DC     /923E     WA                       31213310
0AF8 0  9A21           DC     /9A21     S                        31213320
0AF9 0  D892           DC     /D892     2W                       31213330
0AFA 0  3E9A           DC     /3E9A     AS                       31213340
0AFB 0  21D8           DC     /21D8      2                       31213350
0AFC 0  9ABC           DC     /9ABC     S/                       31213360
0AFD 0  1A21           DC     /1A21     B                        31213370
0AFE 0  5276           DC     /5276     ON                       31213380
0AFF 0  BC12           DC     /BC12     /F                       31213390
0B00 0  2112           DC     /2112      F                       31213400
0B01 0  BC52           DC     /BC52     /O                       31213410
0B02 0  7621           DC     /7621     N                        31213420
0B03 0  D61E           DC     /D61E     *C                       31213430
0B04 0  36D6           DC     /36D6     E*                       31213440
0B05 0  2132           DC     /2132      D                       31213450
0B06 0  92D8           DC     /92D8     W2                       31213460
0B07 0  2136           DC     /2136      E                       31213470
0B08 0  6262           DC     /6262     RR                       31213480
0B09 0  FFFF     TERM3 DC     /FFFF     TERMINATOR               31213490
0B0A 0  6236           DC     /6236     RE                       31213500
0B0B 0  9A36           DC     /9A36     SE                       31213510
0B0C 0  9E21           DC     /9E21     T                        31213520
0B0D 0  FFFF           DC     /FFFF                              31213530
                      *                                          31213540
                      ********************************************31213550
                      *     ALPHA MESSAGE FOR INTERRUPT ERROR    31213560
                      ********************************************31213570
                      *                                          31213580
0B0E 0  3292     ADR4  DC     /3292     DW                       31213590
0B0F 0  FC21           DC     /FC21     1                        31213600
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0B10 0  2132            DC      /2132       D                   31213610
0B11 0  92D8            DC      /92D8       W2                  31213620
0B12 0  2121            DC      /2121                           31213630
0B13 0  329A            DC      /329A       DS                  31213640
0B14 0  9221            DC      /9221       W                   31213650
0B15 0  2152            DC      /2152        O                  31213660
0B16 0  768C            DC      /768C       N/                  31213670
0B17 0  1221            DC      /1221       F                   31213680
0B18 0  128C            DC      /128C       F/                  31213690
0B19 0  5276            DC      /5276       ON                  31213700
0B1A 0  21D6            DC      /21D6        *                  31213710
0B1B 0  1E36            DC      /1E36       CE                  31213720
0B1C 0  D621            DC      /D621       *                   31213730
0B1D 0  2121            DC      /2121                           31213740
0B1E 0  2121            DC      /2121                           31213750
0B1F 0  2122            DC      /2122        I                  31213760
0B20 0  769E            DC      /769E       NT                  31213770
0B21 0  2136            DC      /2136        E                  31213780
0B22 0  6262            DC      /6262       RR                  31213790
0B23 0  FFFF    TERM4   DC      /FFFF       TERMINATOR          31213800
0B24 0  6236            DC      /6236       RE                  31213810
0B25 0  9A36            DC      /9A36       SE                  31213820
0B26 0  9E21            DC      /9E21       T                   31213830
0B27 0  FFFF            DC      /FFFF                           31213840
                *****************************************       31213850
                *       ALPHA MESSAGE FOR DATA ERROR        *   31213860
                *****************************************       31213870
                *                                               31213880
0B28 0  923E    ADR5    DC      /923E       WA                  31213890
0B29 0  9A21            DC      /9A21       S                   31213900
0B2A 0  219A            DC      /219A        S                  31213910
0B2B 0  6C1A            DC      /6C1A       /B                  31213920
0B2C 0  2121            DC      /2121                           31213930
0B2D 0  D61E            DC      /D61E       *C                  31213940
0B2E 0  36D6            DC      /36D6       E*                  31213950
0B2F 0  2121            DC      /2121                           31213960
0B30 0  323E            DC      /323E       DA                  31213970
0B31 0  9E3E            DC      /9E3E       TA                  31213980
0B32 0  2136            DC      /2136        E                  31213990
0B33 0  6262            DC      /6262       RR                  31214000
0B34 0  5262            DC      /5262       OR                  31214010
0B35 0  FFFF            DC      /FFFF                           31214020
                *                                               31214030
                *****************************************       31214040
                *       ALPHA MESSAGE FOR SCOPE LOOP        *   31214050
                *****************************************       31214060
                *                                               31214070
0B36 0  9A1E    ADR6    DC      /9A1E       SC                  31214080
0B37 0  5256            DC      /5256       OP                  31214090
0B38 0  3621            DC      /3621       E                   31214100
0B39 0  5E52            DC      /5E52       LO                  31214110
0B3A 0  5256            DC      /5256       OP                  31214120
0B3B 0  FFFF            DC      /FFFF       TERMINATOR          31214130
                *                                               31214140
                *****************************************       31214150
                *       ALPHA MESSAGE FOR SELECT CHAR.      *   31214160
                *****************************************       31214170
                *                                               31214180
0B3C 0  1E26    ADR7    DC      /1E26       CH                  31214190
0B3D 0  3E62            DC      /3E62       AR                  31214200
0B3E 0  219A            DC      /219A        S                  31214210
0B3F 0  365E            DC      /365E       EL                  31214220
0B40 0  361E            DC      /361E       EC                  31214230
0B41 0  9E36            DC      /9E36       TE                  31214240
0B42 0  3221            DC      /3221       D                   31214250
0B43 0  D662            DC      /D662       *R                  31214260
0B44 0  9E76            DC      /9E76       TN                  31214270
0B45 0  21FC            DC      /21FC        1                  31214280
```



```
0B46 0  D4D6            DC      /D4D6       7*                  31214290
0B47 0  FFFF            DC      /FFFF       TERMINATER          31214300
                *                                               31214310
                *****************************************       31214320
                *           RESTORE MESSAGE             *       31214330
                *****************************************       31214340
                *                                               31214350
0B48 0  6236    NMSG    DC      /6236       RE                  31214360
0B49 0  9A9E            DC      /9A9E       ST                  31214370
0B4A 0  5262            DC      /5262       OR                  31214380
0B4B 0  3621            DC      /3621       E                   31214390
0B4C 0  9AA6            DC      /9AA6       SY                  31214400
0B4D 0  9A9E            DC      /9A9E       ST                  31214410
0B4E 0  3672            DC      /3672       EM                  31214420
0B4F 0  219E            DC      /219E        T                  31214430
0B50 0  5221            DC      /5221       O                   31214440
0B51 0  7652            DC      /7652       NO                  31214450
0B52 0  6272            DC      /6272       RM                  31214460
0B53 0  3E5E            DC      /3E5E       AL                  31214470
0B54 0  FFFF            DC      /FFFF       TERMINATER          31214480
                *                                               31214490
0B55 01 6C0008B2 LOPRT  STX  L  LOOPE       TURN ON LOOP ON ERR 31214500
0B57 01 CC0008C4        XIO  L  BZOFF       EXECUTE ALARM OFF   31214510
0B59 01 4C000876        BSC  L  OFF2        GO TO HOUSE/KEEP RTN 31214520
                *                                               31214530
                *****************************************       31214540
                *           DIAG TRIGGER ANALYSIS       *       31214550
                *     COMPARES *WAS* TRIGGERS WITH S/B  *       31214560
                *     TRIGGERS AND ANALIZES ANY ERROR   *       31214570
                *****************************************       31214580
                *                                               31214590
0B5B 0  0000    TRGAN   DC      *-*         SAVES RETURN ADDRESS 31214600
0B5C 01 C400C943        LD   L  DIAXX       LD COMBINED DIAGS   31214610
0B5E 0  1890            SRT     16                              31214620
0B5F 0  1010            SLA     16                              31214630
0B60 0  1089            SLT     9                               31214640
0B61 0  1007            SLA     7                               31214650
0B62 0  D059            STO     DIAX1       STORE DIAG 1 WAS    31214660
0B63 0  1C1C            SLA     16                              31214670
0B64 0  1C86            SLT     6                               31214680
0B65 0  100A            SLA     10                              31214690
0B66 0  D056            STO     DIAX2       STORE DIAG 2 WAS    31214700
0B67 01 C40009FD        LD   L  TRGWD       LOAD DIA ERROR BITS 31214710
0B69 0  1890            SRT     16                              31214720
0B6A 0  1010            SLA     16                              31214730
0B6B 0  1089            SLT     9                               31214740
0B6C 0  1007            SLA     7                               31214750
0B6D 0  D050            STO     TRWD1       STORE DIAG WD 1 ERR 31214760
0B6E 0  1010            SLA     16                              31214770
0B6F 0  1086            SLT     6                               31214780
0B7C 0  100A            SLA     10                              31214790
0B71 0  D04D            STO     TRWD2       STORE DIAG WD 2 ERR 31214800
0B72 0  C048            LD      TRWD1                           31214810
0B73 0  4820            BSC     Z           CHECK FOR ERR BIT ON 31214820
0B74 0  7C2D            MDX     CKIT2       INITIAL ERR BIT CHK 31214830
0B75 0  7C4C            MDX     WDICK       GO CHK DIAG WD 2    31214840
                *                                               31214850
0B76 01 CC000BBC WD1    XIO  L  BZON        EXECUTE ALARM ON    31214860
0B78 0  6307            LDX     3 7                             31214870
0B79 01 6F000ABF        STX  L3 MSGNC       SET UP MESSAGE ID 7 31214880
0B7B 01 44000A7C        BSI  L  MSGID       CHK WHICH MESSAGE ID 31214890
0B7D 00 670C007F        LDX  L3 /007F                           31214900
0B7F 01 6F000BB2        STX  L3 TABLE+2     SET UP MODIFIER ID  31214910
0B81 01 67000ADA        LDX  L3 ADR2        LD ALPHA 2 ADDR     31214920
0B83 01 6F00CBB3        STX  L3 TABLE+3                         31214930
0B85 01 C4000BCC        LD   L  TGWD1       LD CN/F ERROR BITS  31214940
0B87 0  D031            STO     TABLE+5                         31214950
0B88 01 C4000BC1        LD   L  TGWD2       LD F/CN ERROR BITS  31214960
```

SCA WRAP-AROUND TEST

```
CB8A 0  D02F            STC     TABLE+10                                31214970
0B8B 0  C030            LD      DIAX1       LD DIAG WD 1 S/B            31214980
0B8C 0  D02B            STC     TABLE+8                                 31214990
CB8D 01 C400C67A        LD   L  DI1AL       LD DIAG WD 1 WAS            31215000
CB8F 0  D027            STO     TABLE+7                                 31215010
0B90 01 C400067C        LD   L  DI2AL       LD DIAG WD 2 WAS            31215020
0B92 01 E400CC9D        AND  L  MASK1       MASK OUT CE BITS            31215030
C894 0  D021            STO     TABLE+6                                 31215040
CB95 01 C4000688        LD   L  CADSW       LOAD DSW WAS                31215050
CB97 0  D01D            STO     TABLE+5                                 31215060
CB38 00 44800162        BSI  I  ERROR       GO PRINT ERROR              31215070
0B9A 1  0BB0            DC      TABLE       MESSAGE TABLE               31215080
CB9B 1  0B55            DC      LOPRT       LOOP ADDRESS                31215090
CB9C 01 0C00008C4       XIO  L  BZCFF       EXECUTE ALARM OFF           31215100
CB9E 0  6300            LDX     3 0                                     31215110
CB9F 0  6B20            STX     3 TGWD1                                 31215120
CBA0 0  6B20            STX     3 TGWD2                                 31215130
0BA1 0  7020            MDX     WD1CK       GO CHK DIAG WD 2            31215140
                *                                                       31215150
0BA2 01 C4000B8C CKIT2  LD   L  DIAX1       LD DIAG WD 1 WAS            31215160
0BA4 01 E4000B8E        AND  L  TRWD1       AND DIAG WD 1 ERR           31215170
0BA6 01 D4000BC1        STO  L  TGWD2       STORE CN/F ERR BITS         31215180
0BA8 0. C4000B8E        LD   L  TRWD1       LD DIAG WD 1 ERR            31215190
0BAA 01 F4000BC1        EOR  L  TGWD2       EOR DIAG WD 1 CN/F          31215200
0BAC 01 D4000BC0        STO  L  TGWD1       STORE DIAG WD 1 F/CN        31215210
0BAE 0  7CC7            MDX     WD1         *                           31215220
                                                                        31215230
                ********************************************          31215240
                *               ERROR PRINT TABLE                       31215250
                ********************************************          31215260
                *                                                       31215270
CBB0    0000            BSS  E  0                                       31215280
CBB0 0  0000    TABLE   DC      *-*         ERROR PRINT TABLE           31215290
0BB1 0  0000            DC      *-*                                     31215300
CBB2 0  0000            DC      *-*                                     31215310
0BB3 0  0000            DC      *-*                                     31215320
CBB4 0  0000            DC      *-*                                     31215330
0BB5 0  0000            DC      *-*                                     31215340
CBB6 0  0000            DC      *-*                                     31215350
CBB7 0  0000            DC      *-*                                     31215360
0BB8 0  0000            DC      *-*                                     31215370
CBB9 0  0000            DC      *-*                                     31215380
0BBA 0  0000            DC      *-*                                     31215390
CBBB 0  0000            DC      *-*                                     31215400
                ********************************************          31215410
                *               DIAG TRIGGER STORAGE                    31215420
                ********************************************          31215430
                *                                                       31215440
                *                                                       31215450
CBBC 0  0000    DIAX1   DC      *-*         DIAG WD 1 WAS               31215460
CBBD 0  0000    DIAX2   DC      *-*         DIAG WD 2 WAS               31215470
CBBE 0  0000    TRWD1   DC      *-*         DIAG 1 ERROR BITS           31215480
CBBF 0  0000    TRWD2   DC      *-*         DIAG 2 ERROR BITS           31215490
0BC0 0  0000    TGWD1   DC      *-*         F/CN ERROR WORD             31215500
0BC1 0  0000    TGWD2   DC      *-*         CN/F ERROR WORD             31215510
                ********************************************          31215520
                *                                                       31215530
0BC2 C  C0FC    WD1CK LD        TRWD2       LD DIAG WD 2 ERR            31215540
CBC3 C  1890            SRT     16                                      31215550
0BC4 0  1010            SLA     16                                      31215560
CBC5 0  1087            SLT     7                                       31215570
0BC6 0  4820            BSC     Z           CHECK FOR ERR BIT ON        31215580
CBC7 0  7002            MDX     WD2         MAKE ANALYSIS               31215590
CBC8 01 4C800B5B        BSC  I  TRGAN       EXIT TC RETURN ADDR.        31215600
                *                                                       31215610
0BCA 01 C400CBBC WD2    LD   L  DIAX2       LD DIAG WD 2 WAS            31215620
0BCC 01 E4000BBF        AND  L  TRWD2       AND DIAG WD 2 ERR           31215630
CBCE 01 D4000BC1        STO  L  TGWD2       STORE CN/F ERR              31215640
```


SCA WRAP-AROUND TEST

```
CBD0 01 C40006BF        LD   L  TRWD2       LOAD DIAG WD 2 ERR          31215650
0BD2 01 F40006BC1       EOR  L  TGWD2       EOR CN/F ERR BITS           31215660
0BD4 01 D40006BC0       STO  L  TGWD1       STORE F/CN ERR              31215670
CBD6 01 0C00C8BC        XIO  L  BZCN        EXECUTE ALARM CN            31215680
0BD8 0  6309            LDX     3 9                                     31215690
CBD9 01 6F000A8F        STX  L3 MSGNC       SET UP MESSAGE IC 9         31215700
0BDB 01 44000A7C        BSI  L  MSGID       CHK WHICH MESSAGE ID        31215710
0BDC C0 6700C07F        LDX  L3 /CC7F                                   31215720
CBDF 01 6F00CBB2        STX  L3 TABLE+2     SET UP MODIFIER IC          31215730
0BE1 01 67000AF4        LDX  L3 ADR3        LD ALPHA 3 ADDR             31215740
0BE3 01 6F00CBB3        STX  L3 TABLE+3                                 31215750
0BE5 01 C40006C0        LD   L  TGWD1       LD CN/F ERROR BITS          31215760
CBE7 0  D0D1            STO     TABLE+9                                 31215770
0BE8 01 C40006BC1       LD   L  TGWD2       LD F/CN ERROR BITS          31215780
0BEA 0  D0CF            STO     TABLE+10                                31215790
0BEB 0  C0D1            LD      DIAX2       LD DIAG WD 2 S/B            31215800
CBEC 0  D0CB            STO     TABLE+8                                 31215810
0BED 01 C400067C        LD   L  DI2AL       LD DIAG WD 2 WAS            31215820
CBEF 01 E4000C9D        AND  L  MASK1       MASK OUT CE BITS            31215830
CBF1 0  D0C5            STO     TABLE+7                                 31215840
0BF2 01 C400067A        LD   L  DI1AL       LD DIAG WD 1 WAS            31215850
0BF4 0  D0C1            STO     TABLE+6                                 31215860
0BF5 01 C4000688        LD   L  CADSW       LOAD DSW WAS                31215870
CBF7 0  D0BD            STO     TABLE+5                                 31215880
0BF8 00 44800162        BSI  I  ERROR       GO PRINT ERROR              31215890
0BFA 1  0BB0            DC      TABLE       MESSAGE TABLE               31215900
CBFB 1  0B55            DC      LOPRT       LOOP ADDRESS                31215910
0BFC 01 0C00008C4       XIO  L  BZCFF       EXECUTE ALARM OFF           31215920
CBFE 0  6300            LDX     3 0                                     31215930
0BFF 0  6BC0            STX     3 TGWD1                                 31215940
0C00 0  6BC0            STX     3 TGWD2                                 31215950
0C01 01 4C800B5B        BSC  I  TRGAN       EXIT TC RETURN ADDR.        31215960
                *                                                       31215970
                ********************************************          31215980
                *               INTERRUPT ANALYSIS                      31215990
                *     COMPARES SHOULD/BE INTERRUPTS WITH                31216000
                *     ACTUAL INTERRUPTS AND ANALIZES ANY ERRS           31216010
                ********************************************          31216020
                *                                                       31216030
0C03 0  0000    INTAN   DC      *-*         SAVED RETURN ADD.           31216040
0C04 0  630C            LDX     3 0                                     31216050
0C05 01 6F000BB8        STX  L3 TABLE+8     RESET INTRPT ERR LOC        31216060
0C07 01 6F000BB9        STX  L3 TABLE+9     RESET INTRPT ERR LOC        31216070
0C09 01 C4000688        LD   L  CADSW       LD DSW WAS                  31216080
0C0B 01 E400CC6A        AND  L  INTMK       MASK INTRPT BITS            31216090
0C0D 01 D400CC68        STO  L  INWAS       STORE INT BIT WAS           31216100
0C0F 01 C400C942        LD   L  DSWXX       LOAD DSW S/B                31216110
0C11 01 E400CC6A        AND  L  INTMK       MASK INTRPT BITS            31216120
0C13 01 D400CC69        STO  L  INSDB       STORE INT BIT S/B           31216130
0C15 01 F400CC68        EOR  L  INWAS       CHECK FOR ERROR             31216140
0C17 0  4820            BSC     Z                                       31216150
0C18 0  7001            MDX     INERR       GO TC INT ERR ANAL.         31216160
0C19 0  703D            MDX     CKINT       CK FOR NO INTERRUPT         31216170
                *                                                       31216180
0C1A 01 D400CC67 INERR  STO  L  ERINT       SAVE INT ERR BITS           31216190
0C1C 01 C400CC68        LD   L  INWAS       LD INTRPT DSW WAS           31216200
0C1E 01 E400CC67        AND  L  ERINT       AND INT ERROR BITS          31216210
0C20 01 D4000BB8        STO  L  TABLE+8     LD INT ERR CN/F BITS        31216220
0C22 01 C400CC67        LD   L  ERINT       LD INT ERROR BITS           31216230
0C24 01 F400CBB8        EOR  L  TABLE+8     EOR INT CN/F ERROR          31216240
0C26 01 D4000BB9        STO  L  TABLE+9     STORE INT F/CN ERROR        31216250
0C28 0  7CCC            MDX     CKERR                                   31216260
0C29 01 C400CBB8 CKERR  LD   L  TABLE+8                                 31216270
0C2B 0  4820            BSC     Z           CHK IF IT IS 0              31216280
0C2C 0  7005            MDX     INTER       ERR BITS ARE LOADED         31216290
0C2E 01 C400CBB9        LD   L  TABLE+9                                 31216300
0C2F 0  4820            BSC     Z           CHK IF IT IS 0              31216310
0C30 0  7001            MDX     INTER                                   31216320
```

SCA WRAP-AROUND TEST

```
0C31 0  7C25          MDX     CKINT     NO ERR BITS LOADED          31216330
CC32 01 CC00C8BC INTER XIC  L BZCN      EXECUTE ALARM ON            31216340
0C34 0  6300          LDX   3 0                                     31216350
                                                                    31216360
CC35 01 6F000A8F      STX   L3 MSGNO                                31216370
0C37 01 6C000ABE      STX   L  INTSW    TURN ON INT MSG SW          31216380
CC39 01 44000A7C      BSI   L  MSGID    CHK WHICH MSG ID            31216390
CC3B 0  635F          LDX   3 /005F                                 31216400
CC3C 01 6F000BB2      STX   L3 TABLE+2  SET UP MODIFIER ID          31216410
CC3E 01 67000B0E      LDX   L3 ADR4     LOAD ALPHA 4 ADDRESS        31216420
0C40 01 6F000BB3      STX   L3 TABLE+3  SET UP ALPHA MSG            31216430
0C42 01 C400067C      LD    L  DI2AL    LD DIAG WD 2 WAS            31216440
CC44 0  EC56          AND      MASK1    MASK OUT CE BITS            31216450
0C45 01 D4000BB6      STO   L  TABLE+6                              31216460
CC47 01 C400067A      LD    L  DI1AL    LD DIAG WD 1 WAS            31216470
CC49 01 D4000BB5      STO   L  TABLE+5                              31216480
0C4B 01 C4000688      LD    L  CADSW    LOAD DSW WAS                31216490
CC4D 01 D4000BB7      STO   L  TABLE+7                              31216500
0C4F 00 44800162      BSI   I  ERROR    GO PRINT ERROR              31216510
CC51 1  0BB0          DC       TABLE    MESSAGE TABLE               31216520
CC52 1  0B55          DC       LCPRT    LCOP ADDRESS                31216530
0C53 01 CC0008C4      XIO   L  BZOFF    EXECUTE ALARM OFF           31216540
0C55 01 4C80CC03      BSC   I  INTAN    EXIT TO RETURN              31216550
                *                                                   31216560
0C57 01 C4000689 CKINT LD   L  LCPSW    CHK IF INTERRUPT S/B        31216570
CC59 0  4820          BSC      Z                                    31216580
CC5A 0  7002          MDX      INTOK                                31216590
0C5B 01 4C800C03      BSC   I  INTAN    YES, EXIT TO RETURN         31216600
                *                                                   31216610
0C5C 01 C400068A INTOK LD   L  PRTPN    CHK IF INTERRUPT WAS        31216620
CC5F 0  4820          BSC      Z                                    31216630
CC6C 0  70FA          MDX      CKINT+4  YES, EXIT TO RETURN         31216640
0C61 0  6306          LDX   3 11       NO, SET MSG ID B            31216650
CC62 01 6F00CBB0      STX   L3 TABLE                                31216660
0C64 01 CC00C8BC      XIC   L  BZCN     EXECUTE ALARM ON            31216670
0C66 0  7004          MDX      INTER+9  GO SET UP ERR TABLE         31216680
                *                                                   31216690
CC67 0  0000     ERINT DC      *-*      INTERRUPT ERR BITS          31216700
0C68 0  0000     INWAS DC      *-*      DSW INT BITS WAS            31216710
CC69 0  0000     INSDB DC      *-*      DSW INT BITS S/B            31216720
CC6A 0  D800     INTMK DC      /D800                                31216730
                *                                                   31216740
0C6B 0  0000     DATCK DC      *-*                                  31216750
0C6C 01 C4000684       LD    L  RCVED    LOAD BUFFER DATA          31216760
CC6E 01 EC00068F       OR    L  INBUF    SAVE BUFFER DATA          31216770
0C7C 01 D4000684       STO   L  RCVED                              31216780
CC72 01 E400068C       EOR   L  RDCPR    CK FOR DATA ERROR         31216790
0C74 0  4820           BSC      Z                                  31216800
CC75 0  7002           MDX      DATER    GO TO DATA ERR RTN        31216810
0C76 01 4C80CC6B       BSC   I  DATCK    EXIT TO RETURN            31216820
                *                                                   31216830
CC78 01 C4000679 DATER LD   L  DIAWD+1   SET UP C.E. BIT CHK        31216840
0C7A 0  1890           SRT      16                                  31216850
CC7B 0  1010           SLA      16                                  31216860
0C7C 0  1083           SLT      3                                   31216870
0C7D 0  1007           SLA      7                                   31216880
CC7E 01 D4000BB7       STO   L  TABLE+7                            31216890
0C80 01 CC0008BC       XIC   L  BZCN     EXECUTE ALARM ON          31216900
CC82 0  630C           LDX   3 12       SET UP MESSAGE ID C       31216910
CC83 01 6F00CBBC       STX   L3 TABLE                              31216920
CC85 0  6307           LDX   3 /0007                               31216930
0C86 01 6F000BB2       STX   L3 TABLE+2                            31216940
0C88 01 67000B2E       LDX   L3 ADR5                               31216950
0C8A 01 6F000BB3       STX   L3 TABLE+3                            31216960
0C8C 01 C4000684       LD    L  RCVED    LOAD DATA WAS             31216970
CC8E 01 D4000BB5       STO   L  TABLE+5                            31216980
CC90 01 C400068C       LD    L  RDCPR    LOAD DATA S/B             31216990
CC92 01 D400CBB6       STO   L  TABLE+6                            31217000
CC94 00 44800162       BSI   I  ERROR    GO PRINT ERROR
```


SCA WRAP-AROUND TEST

```
CC96 1  0BB0          DC       TABLE                               31217010
CC97 1  0B55          DC       LCPRT                               31217020
CC98 01 0C00C8C4      XIC   L  BZOFF    EXECUTE ALARM OFF          31217030
0C9A 01 4C800C6B      BSC   I  DATCK    EXIT TO RETURN             31217040
                *                                                  31217050
                *****************************************        31217060
                *          CONSTANTS                    *        31217070
                *****************************************        31217080
                *                                                  31217090
CC9C 0  1000     K1000 DC      /1000    CONSTANT 1000              31217100
0C9D 0  FC00     MASK1 DC      /FC00    CE BIT MASK                31217110
                *****************************************        31217120
CC9E    05F6          END      BEGN     LAST STATEMENT             31217130
```

SCA WRAP-AROUND TEST

CROSS REFERENCE LISTING

SYMBOL	VALUE	REFERENCES
ADR1	0AC0	0A54
ADR2	0ACA	0B81
ADR3	0AF4	0BE1
ADR4	0B0E	0C3E
ADR5	0B28	0C88
ADR6	0B36	0742
ADR7	0B3C	07F5
ALT	0680	0676,07E0,C8A1,09CF
ANAL1	0A0C	0A03,0A17
ANAL2	0A19	0A08,0A2A
ANL01	0A15	0A13,0A14
ANL02	0A26	0A26,0A27
AOLOG	0833	080D
AILCC	C839	0817
BEGIN	0160	05DC,C5F6
BEGN	C5F6	0C9E
BZOFF	08C4	06DF,0751,C794,08C8,0E6D,0A76,CB57,0B9C,0BFC,0C53, 0C98
BZON	08BC	06DA,C74C,C78F,0803,0A49,0E76,CBD6,0C32,0C64,0C80
BILOG	083D	0821
CADSW	0686	0697,0A0D,CA3D,0A64,0E95,0BF5,CC09,0C4B
CHPNT	07E9	07CE,07D4
CHRTN	07D5	080A
CKERR	0C29	0C28
CKINT	0C57	0C19,0C31,0C60
CKIT2	0BA2	CB74
CKIT3	0A20	0A31,0A37
CKOPT	0701	06C7,0733,C79D,08A3
CLLOG	0797	079C
CNTIN	C68E	0630,0633
CNTRC	0644	063D
CNTRL	06A5	08B0
CN20	06B4	06A8
CN3G	06BB	06AD
CONAN	09F3	06A3
CILOG	0841	082B
CATCK	0C6B	069F,0C76,CC9A
CATER	0C78	0C75
DELY3	C5FA	05F6,0723,C764,C7C6,CE59
DIACK	0F3C	062F
DIAG	C8C2	09E8,09EA,09F0
DIAGG	C7EE	09F2
DIAMD	079F	070A,C7A8,C7AA
DIASW	C690	062D,C9BD,C9DA
DIAW0	0678	069E,0A20,CA2C,0A2F,0A32,0A35,CA7D,0C78
DIAW1	0686	060A,0C3A,0C7C
DIAW2	0687	060D,0627,C672
DIAXX	0943	088D,09FA,CA22,0B5C
DIAX1	0BBC	0878,0B62,C88B,0BA2
DIAX2	0BBD	0B66,CBCA,CBEB
DIAG1	0937	
DIAG2	0939	
DIAG3	093B	
DIAG4	093D	
DIAG5	C93F	
DIAG6	0941	
DI1AL	067A	060B,060C,062E,062C,0E9D,0E8F,CA6E,0B8D,0BF2,0C47
DI2AL	067C	060E,060F,062E,0629,0E98,0891,0A68,0B90,0BEC,0C42
DLYTM	08B3	061C,08B9
DMRTN	09E0	08DB,08E9,0952,0962,09C5
DSWAL	0685	0606,0607,0622,0623,0E96
DSWAN	0A3C	0A15,CA78
DSWRE	C9FF	0A11,0A3F,CA43
DSWSE	066A	0605
DSWSN	066E	0619,0620

SCA WRAP-AROUND TEST

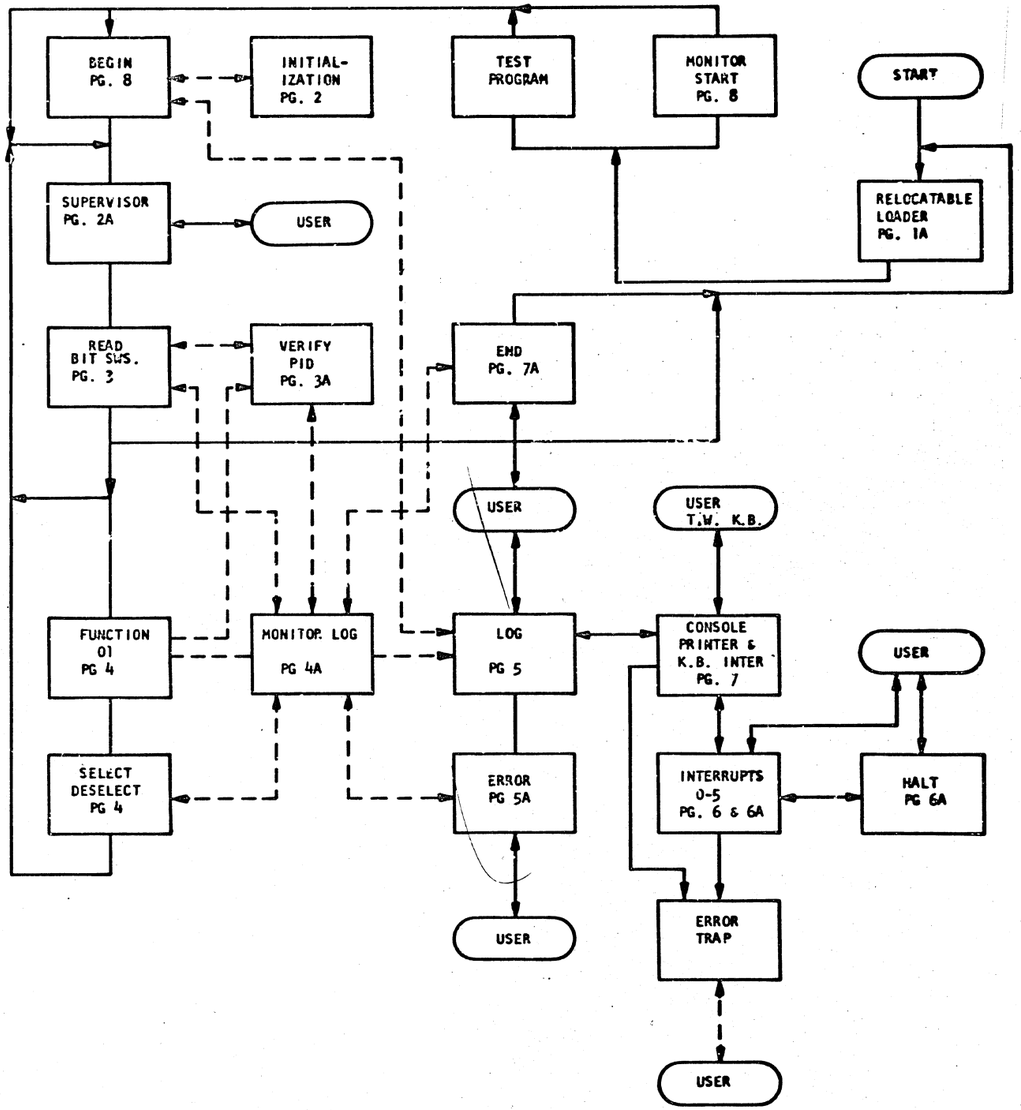
DSWW1	0A7A	0882,CA41,CA45,0A58
DSWW2	0A7B	0A47,CA5C
DSWXX	0942	0888,C8CA,C8D8,08E6,0933,094C,095C,096D,0978,09B1, 09C3,09DE,09F3,0A0F,0A60,0C0F
DSWC1	C936	08C9
DSWC2	C938	08D7,C94C
DSWC3	C93A	08E5,0932,C95C,C96C
DSWC4	C93C	0977,09AF
DSWC5	C93E	09C1
DSWC6	0940	09DC
DTMK2	0A2C	0A1C
DTMK3	0A32	0A1F
EILCC	0E46	
END	0164	05DC,C5DC,C5DC,C5DC,0CE1
ENDCP	0674	0637
ENDRT	0637	0666
ENMSG	06CB	06B9,06D0
ERINT	CC67	0C1A,0C1E,0C22
ERLCK	0166	05EA
ERRGR	0162	05DC,CA72,CB98,0BF8,0C4F,0C94
FAST1	0787	071F,C7C2,C7C8
FAST2	07C4	07C1,C7CA
FSTCK	0700	0758,C759,C7BC,078E
GETCN	0662	0635,0641,0643,064E,0658,0661
ICHAR	08C6	08C0
IDRTN	0AA2	0A93,0AB2,0AB4,0AB6
IL0	017A	05DC
IL1	018A	05DC,C868
IL2	019A	05DC
IL3	01AA	05DC
IL4	01BA	05DC
INBUF	C68F	0651,0652,0C6E
INERR	0C1A	0C18
INSDE	0C69	0C13
INTAN	0C03	06A1,0AA0,CC55,0C5B
INTER	0C32	0C2C,0C30,CC66
INTID	0ABD	0A9E,0AA2,0AA5,0AA9
INTMK	0C6A	0C0B,0C11
INTOK	0C5D	0C5A
INTR	0C1F	063A,065D,C66E,0866
INTSW	0ABE	0A92,CA9F,0AAA,0C37
INWAS	0C68	0C0D,0C15,CC1C
K0001	0CFF	0757,C7BA
K00CE	0682	0647
K00G5	0683	064C
K100C	0C9C	07AD
LDSYN	0659	064A
LOCK	05E7	05ED,C5F3,C8A5
LOG	0163	05DC,C6DC,074E,C791,0EC5
LOGBY	0167	
LOGG1	0785	
LOGG2	073C	073A,C741
LOGG3	07EF	07ED,C7F4
LOG1	0849	0785,C799,C80F
LOG1A	0850	0819
LOG1E	CE55	0797,C823
LOG1C	085A	082D
LOG1D	085F	
LOG1C	C80B	0770,C812,0813
LOG12	0815	0775,C81C,C81D
LOG13	081F	077A,C826,C827
LOG14	0829	077F,C830,CE31
LOOP	C5F5	05EF,C5F1,C6C1,08AA
LOOPE	08B2	08A7,C8A9,0B55
LOPRT	0B55	0A75,0B9B,0BFE,CC52,0C97
LOPSW	C689	09E2,CA95,CC57
LRTN	06F9	06FA
MASK1	0C9D	0A6A,0B92,CBEF,CC44

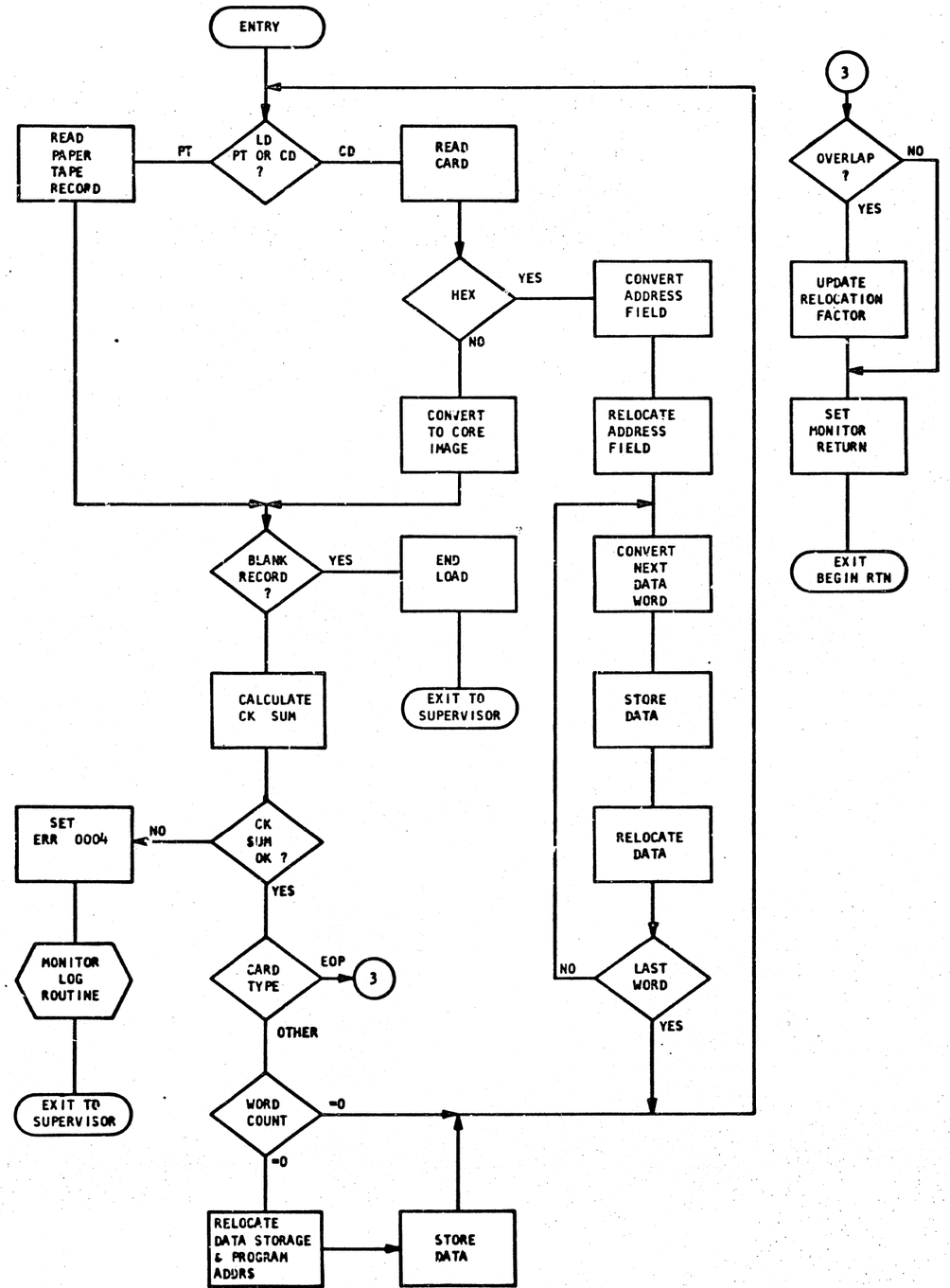
SCA WRAP-AROUND TEST

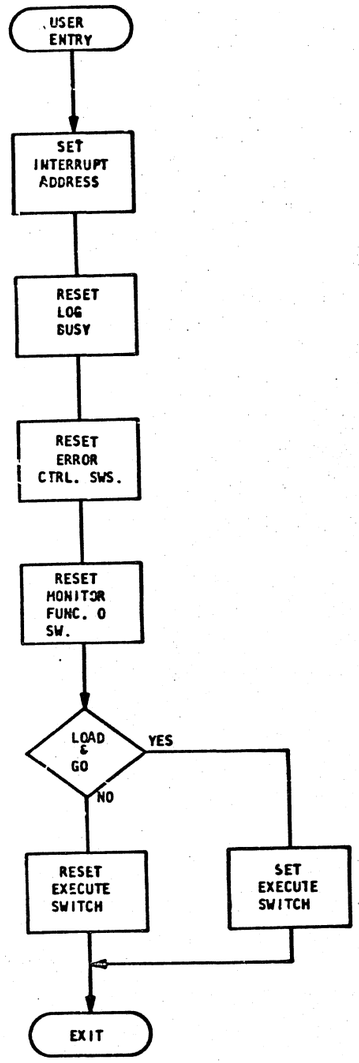
```
MASK2   0A39    0A2E
MASK3   0A3B    0A34
MID1    0AB3    0AB0
MID3    0AB5    0A9C
MKSW1   0A38    0893,08D9,C8E7,0950,0960,0A1A
MKSW2   0A3A    07E2,C895,CA1D
MLSCF   05E5    0612,06C3
MSGGC   0A8A    0ABA
MSGIC   0A7C    0A4E,CAAB,CB7B,0BCB,0C39
MSGNG   0ABF    0A4C,0AA4,CAB7,0B79,0BD9,0C35
NMSG    0B48    06D3
NOPNT   072F    C738,C753
NORST   C7AC    0714,C7B3,C735
NOTRM   0AB7    0A88
OFF     086C    09F8,0A0A
OFF1    0874    086A,C870
OFF2    0876    0873,CB59
OFF3    0878    087B
OFF4    087D    0880
OFF5    0882    0885
OFF6    0887    088A
OPRTN   0733    0728,C75D,C762,0766
PASS    068D    0656,C664
PASS1   07E8    07CC,C7E5
PID     05DC    05F8
PNDCK   0AAD    0A98
PNTCH   C7EE    07EC,C7FF
PRTPN   068A    0639,0653,0663,CA59,0AAD,0C5D
RAD     05DE    06BF,0755,C7B8
RCVEC   0684    0650,066C,C87D,0C6C,0C70,0C8C
RDCAT   066C    0624,064F
RDCNT   0693    0644,0646,C64B,0655
RDCPR   068C    07DA,C8D2,C8F0,08EE,0EF7,0900,C909,0912,091E,0924,
                092D,0947,0957,0967,0972,097D,C986,098F,099E,09A1,
                09AA,C987,C9C9,0C72,0C90
RDIA1   0670    0608,0625
RDIA2   0672    0609,0626
RDWRT   0695    0621,063C
RDYTH   064B    0649
RESET   08BE    0C1A,08C8
RID     05DD    06AA,06B2,06E4,0666,06BB,06D1,C864
RIDCK   06FA    06AC,06B8
RLCF    0168
RQKB    018C    05DC
RQTY    018B    05DC
RSOFF   0871    0717,C71A,C7AF,07B1
RSTSW   086B    06FD,086E,C871,0875,08AC,08CB,CA85
RTNSW   0165    06C5
RTTBL   06E3    06BD,06FA
RTOA    0922    06EC
RTOB    092B    06ED
RTOC    0945    06EE
RTOD    0955    06EF,096E,0979,09B3
RTOE    0965    06F0
RTOF    0970    06F1,0982,C98B,0994,099D,09A6
RT01    08C8    0653,08AE
RT02    08D0    06E4
RT03    08DE    06E5,08F3,C8FC,0905,090E,0917,C920,0929,0934
RT04    08EC    06E6
RT05    08F5    06E7
RT06    08FE    06E8
RT07    0907    06E9
RT08    0910    06EA
RT09    0919    06EB
RT10    0978    06F2
RT11    0984    06F3
RT12    098D    06F4
RT13    0996    06F5
```

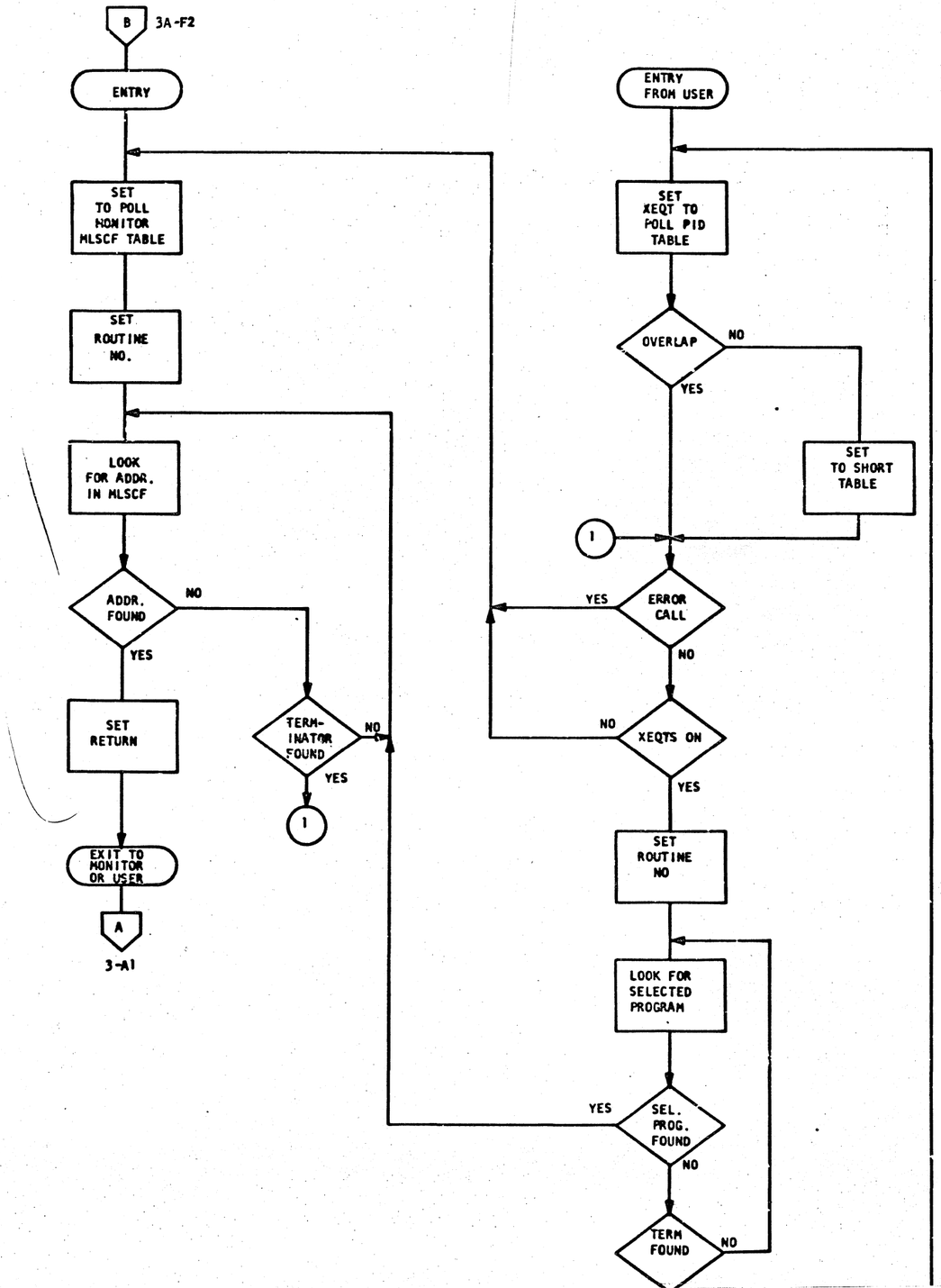

SCA WRAP-AROUND TEST

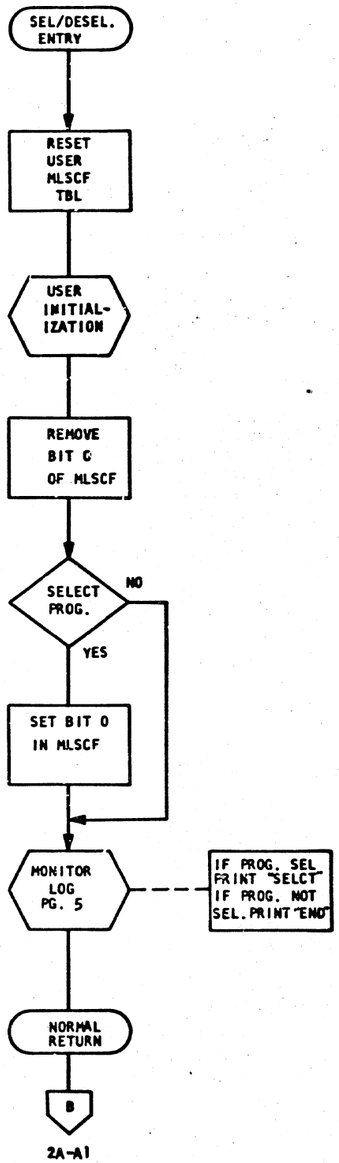
```
RT14    099F    06F6
RT15    09A8    06F7
RT16    0985    06F8,070D,C7A4
RT17    09C7    06F9,070F,C7A6,07DE,0E9B
SAVE1   06FD    0716,C719
SCOPE   0755    0732
SCOP1   075E    075C
SCOP2   0763    0761
SELCH   07CB    07E6,C9D4
SEND    0681    067E,C7DC,C89D,09CB
SIREG   08C0    065F,C9E0
SNDSW   0696    061E
SPACE   0ABC    0AB9
START   0161    05DC,Ce14,C6C9
STOCT   0691    0634,C8D5,C8E3,08F1,0EFA,0903,C90C,0915,091E,0927,
                093 ,C94A,C95A,096A,0975,0980,0989,0992,099B,09A4,
                09AD
STOPS   0692    0665,C9BB,C9D8
STOR1   0A01    09F5,0A05
STOR2   0A07    09FC
STRT    0663    05E3,C5E4,C5E5
STWD    09FE    0A02,0A07
SVKB    018D
SWDIA   0A00    07A0,C9F7
SW0     05DF    05E8
SW1     05E0    06A6,C6B0
SW2     05E1    05FD,0703,0707,0711,071C,0725,076C,0772,0777,077C,
                0781,09D1
SW3     05E2    072B,C72F,C735,075E,07D1,07D5,C7E9
SYALT   0676    0662
SYCMC   068B    0659,C94E,C95E,09BF,09E4
SYCON   065F    065B
SYNCC   09F0    09E7
S2PNT   C7e7    0706,C76C
S2WAS   06FB    0702,G783
S3PNT   0735    072E
S3WAS   06FC    072A,0737,C7CF,07D7
TABLE   0BB0    06CD,06D5,C6DE,06DE,073E,0744,C747,074A,075C,C769,
                0787,C78A,C78D,0793,07F1,07F7,C7FA,07FC,0801,0807,
                CA52,CA56,CA5A,0A5E,0A62,0A66,CA6C,0A70,0A74,0A83,
                0AA6,0B7F,GB83,0B87,0E8A,0B8C,CB8F,0B94,0E97,CB9A,
                0BDF,0BE3,0BE7,0BEA,0EEC,0BF1,CBF4,0BF7,0EFA,0CC5,
                0C07,0C20,CC24,CC26,0C29,0C2D,CC3C,0C40,0C45,0C49,
                0C4D,0C51,CC62,CC7E,0C83,0C86,CC8A,0C8E,0C92,0C96
TERM    0AB8    0A89
TERM1   0AC5    0A8A
TERM2   0AEF    0A8C
TERM3   0BC9    0A8E
TERM4   0B23    0A90
TGWD1   0BC0    0B85,0B9F,0BAC,0BD4,0EE5,0BFF
TGWD2   0BC1    CB88,CBA0,CBA6,CBAA,0ECE,0BD2,CEE8,0CC0
TMDLY   0B8B    0B85,C8B6
TRGAN   0B5B    0A26,CaC8,CC01
TRGWD   09FD    0887,CA24,CB67
TRWD1   0BBE    086D,0B72,CBA4,CBA8
TRWD2   0BBF    0B71,C8C2,CBCC,0BD0
WAITB   0616    0610
WAIT1   0605    0601,0618
WAIT3   05FB    08CD,09EE
WCNT    05F9    05FC,C602,0604,0616
WD1     CB76    0BAE
WD1CK   0BC2    0B75,CBA1
WD2     0BCA    08C7
WRCAT   0676    065C,09EC
WRCNT   0694    063F,0642
```

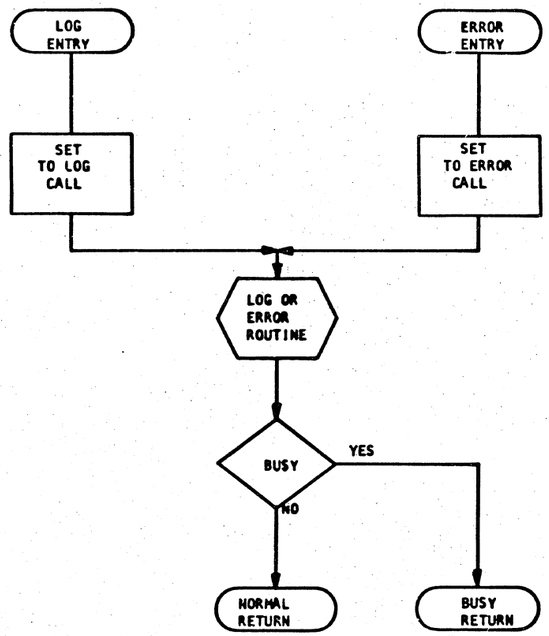

BEGIN
PG. 8
INITIAL-
IZATION
PG. 2
TEST
PROGRAM
MONITOR
START
PG. 8
START
SUPERVISOR
PG. 2A
USER
RELOCATABLE
LOADER
PG. 1A
READ
BIT SWS.
PG. 3
VERIFY
PID
PG. 3A
EMD
PG. 7A
USER
USER
T.W. K.B.
FUNCTION
01
PG 4
MONITOR LOG
PG 4A
LOG
PG 5
CONSOLE
PRINTER &
K.B. INTER
PG. 7
USER
SELECT
DESELECT
PG 4
ERROR
PG 5A
INTERRUPTS
0-5
PG. 6 & 6A
HALT
PG 6A
USER
ERROR
TRAP
USER

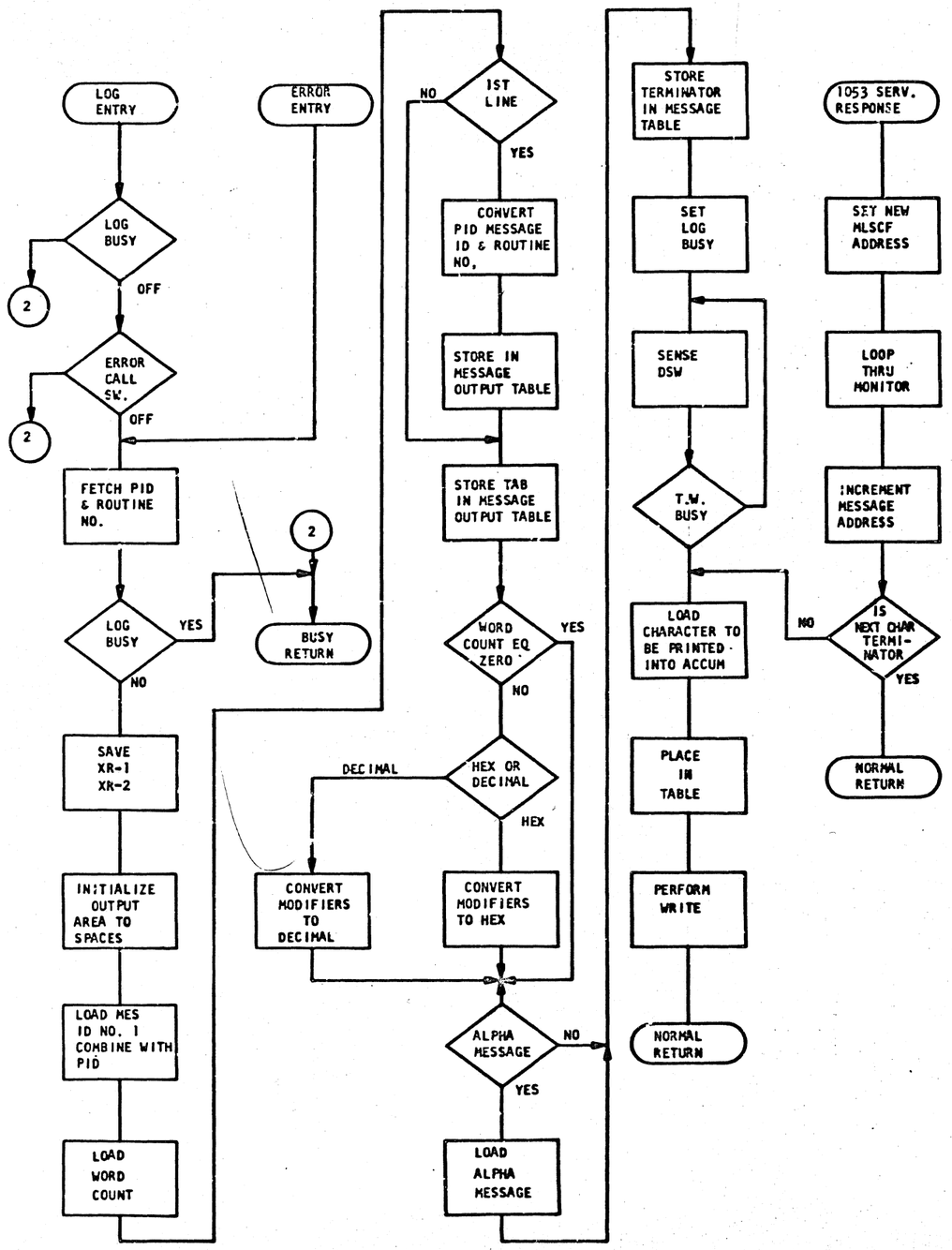

ENTRY
READ
PAPER
TAPE
RECORD
PT
LD
PT OR CD
?
CD
READ
CARD
HEX
YES
NO
CONVERT
ADDRESS
FIELD
CONVERT
TO CORE
IMAGE
RELOCATE
ADDRESS
FIELD
BLANK
RECORD
?
YES
END
LOAD
EXIT TO
SUPERVISOR
CONVERT
NEXT
DATA
WORD
CALCULATE
CK SUM
STORE
DATA
SET
ERR 0004
NO
CK
SUM
OK ?
YES
RELOCATE
DATA
MONITOR
LOG
ROUTINE
CARD
TYPE
EOP
3
NO
LAST
WORD
YES
EXIT TO
SUPERVISOR
OTHER
WORD
COUNT
=0
=0
RELOCATE
DATA STORAGE
& PROGRAM
ADDRS
STORE
DATA
3
OVERLAP
?
NO
YES
UPDATE
RELOCATION
FACTOR
SET
MONITOR
RETURN
EXIT
BEGIN RTN

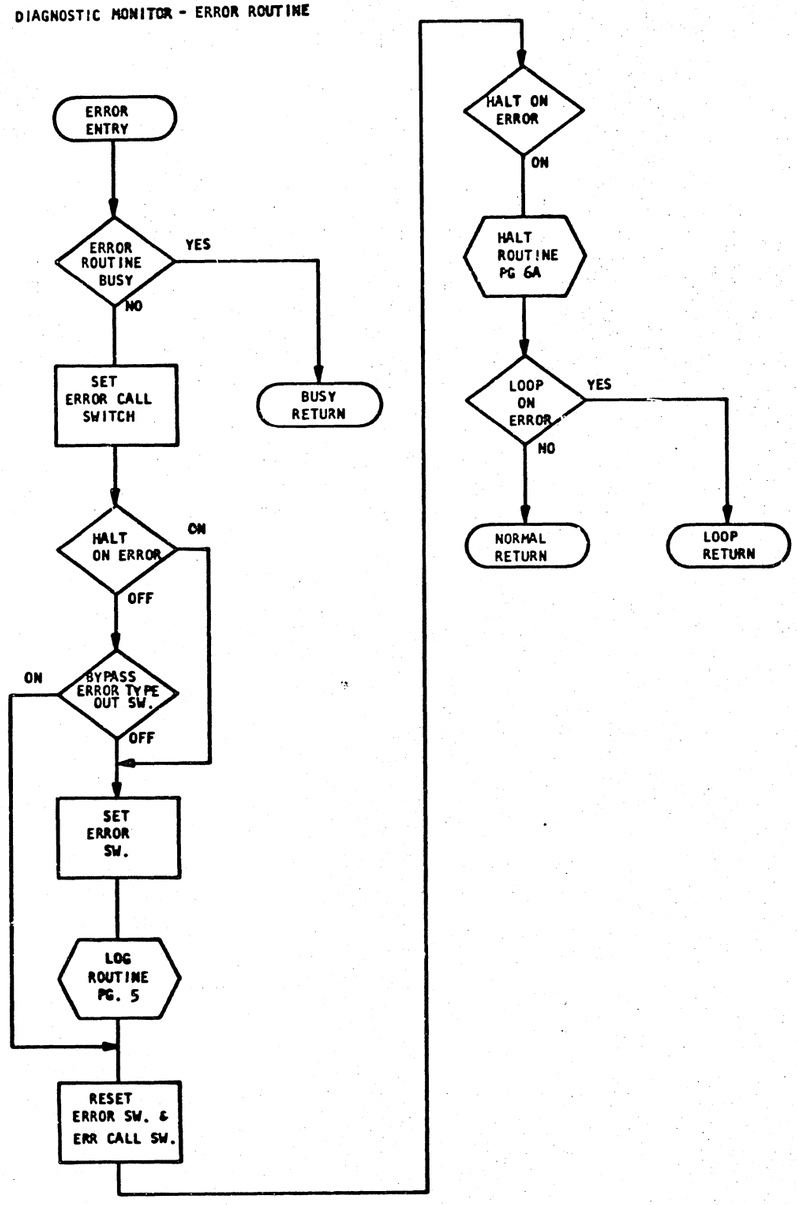

USER ENTRY
SET INTERRUPT ADDRESS
RESET LOG BUSY
RESET ERROR CTRL. SWS.
RESET MONITOR FUNC. 0 SW.
LOAD & GO
YES
NO
RESET EXECUTE SWITCH
SET EXECUTE SWITCH
EXIT

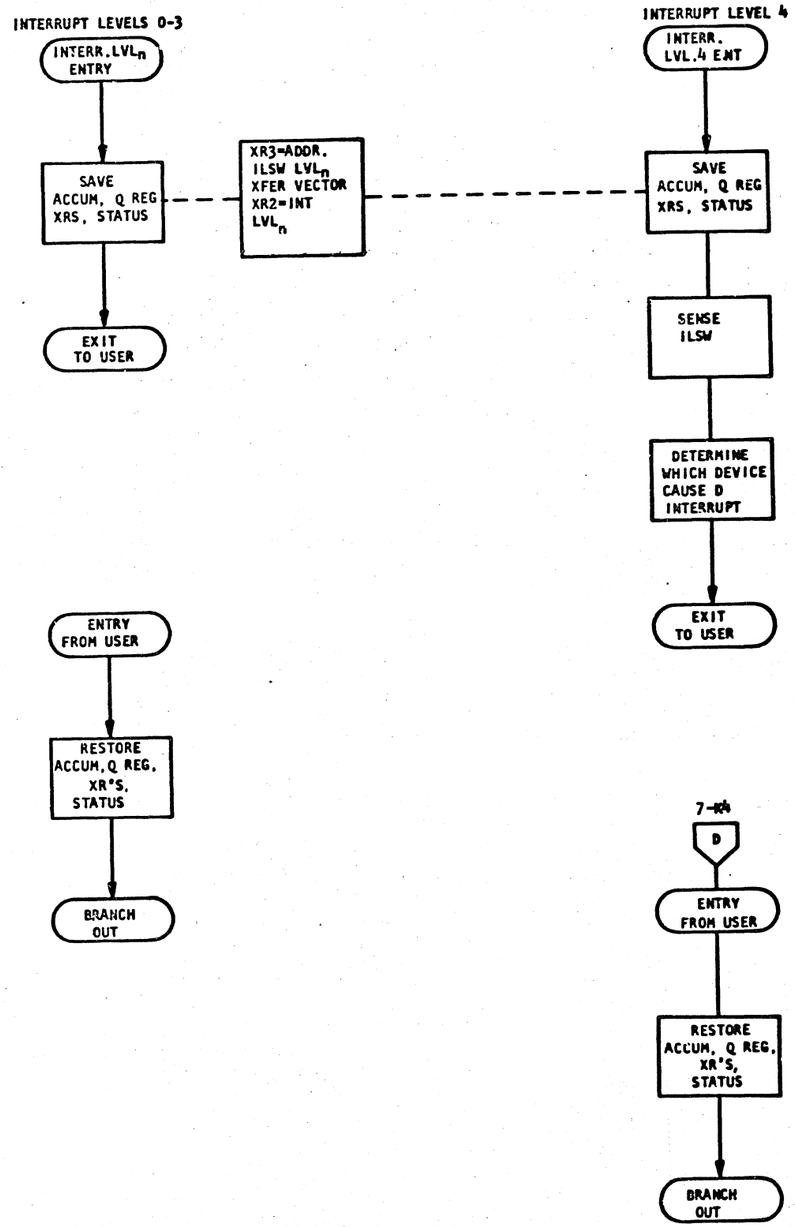

B
3A-F2
ENTRY
SET TO POLL MONITOR MLSCF TABLE
SET ROUTINE NO.
LOOK FOR ADDR. IN MLSCF
ADDR. FOUND
NO
YES
SET RETURN
TERM-INATOR FOUND
NO
YES
1
EXIT TO MONITOR OR USER
A
3-A1
ENTRY FROM USER
SET XEQT TO POLL PID TABLE
OVERLAP
NO
YES
SET TO SHORT TABLE
1
YES
ERROR CALL
NO
NO
XEQTS ON
YES
SET ROUTINE NO
LOOK FOR SELECTED PROGRAM
YES
SEL. PROG. FOUND
NO
TERM FOUND
NO

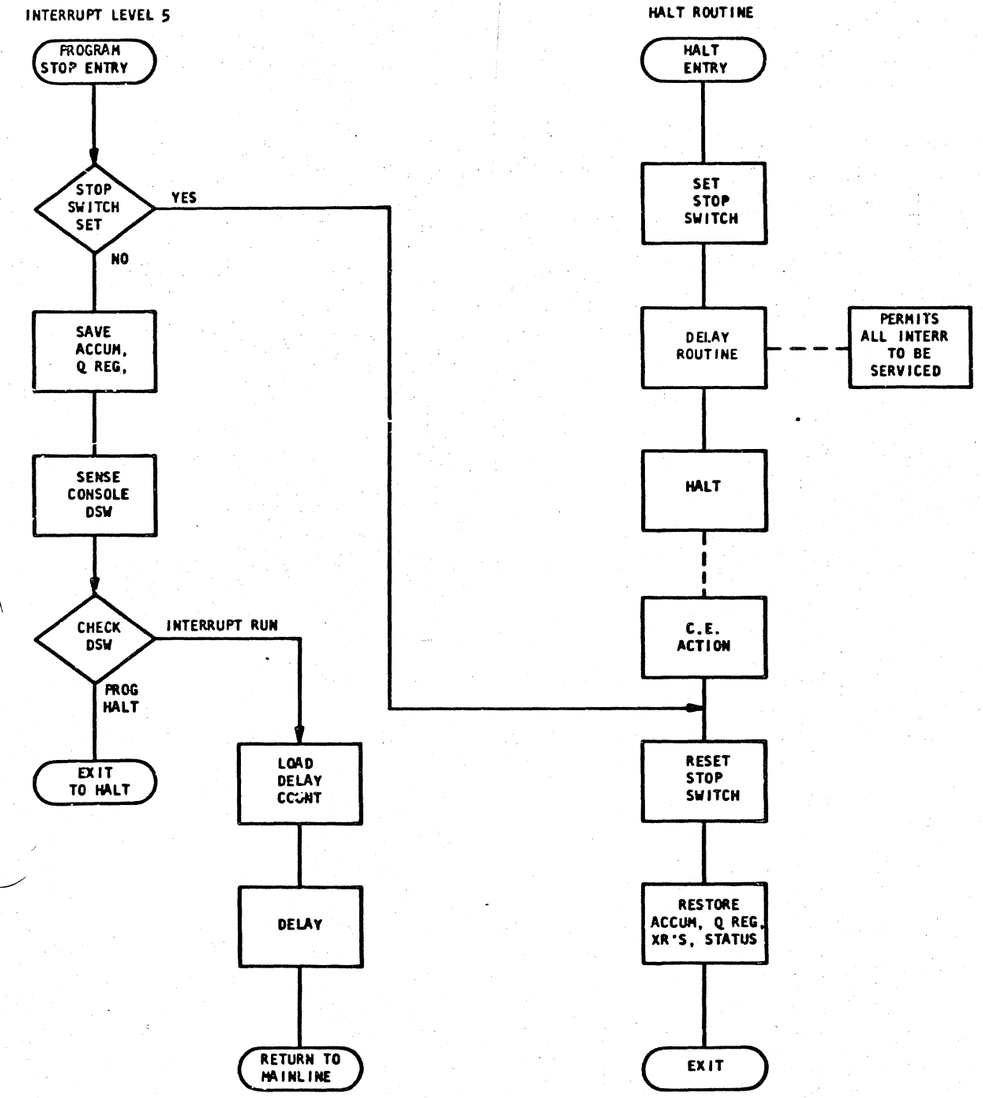

SEL/DESEL. ENTRY
RESET USER MLSCF TBL
USER INITIAL-IZATION
REMOVE BIT C OF MLSCF
SELECT PROG.
NO
YES
SET BIT 0 IN MLSCF
MONITOR LOG PG. 5
IF PROG. SEL. PRINT "SELCT" IF PROG. NOT SEL. PRINT "ENO"
NORMAL RETURN
B
2A-A1

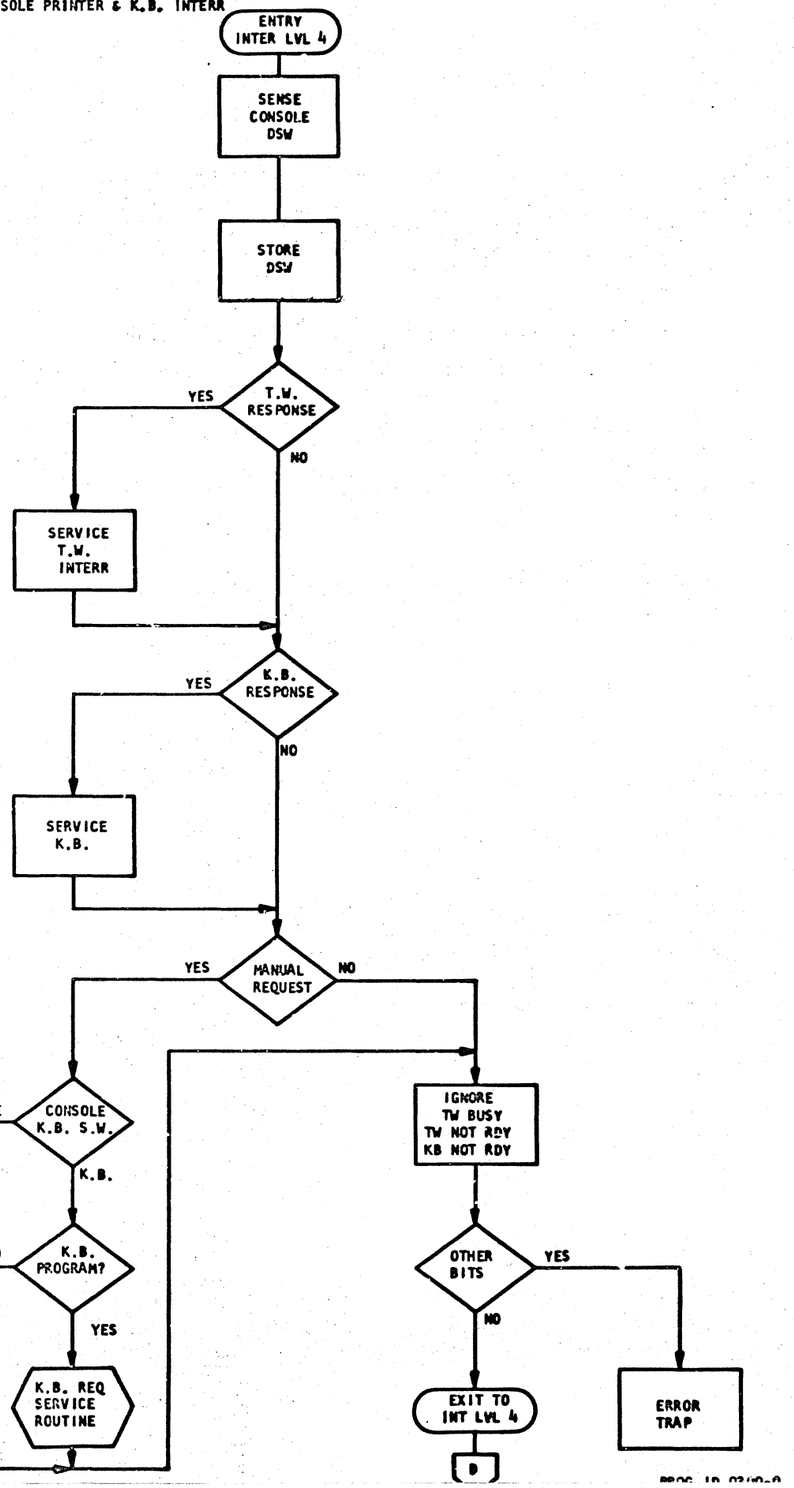

LOG ENTRY
ERROR ENTRY
SET TO LOG CALL
SET TO ERROR CALL
LOG OR ERROR ROUTINE
BUSY
YES
NO
NORMAL RETURN
BUSY RETURN

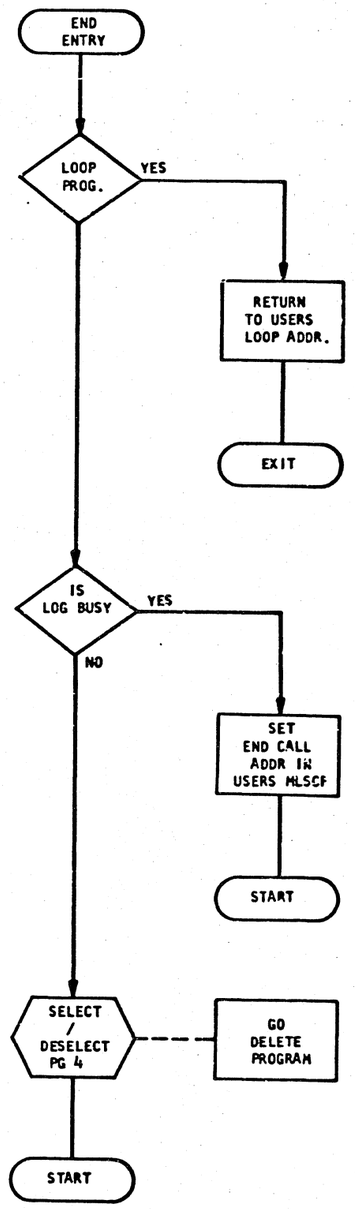

LOG ENTRY
ERROR ENTRY
LOG BUSY
OFF
2
ERROR CALL SW.
OFF
2
FETCH PID & ROUTINE NO.
2
LOG BUSY
YES
BUSY RETURN
NO
SAVE XR-1 XR-2
INITIALIZE OUTPUT AREA TO SPACES
LOAD MES ID NO. 1 COMBINE WITH PID
LOAD WORD COUNT
NO
IST LINE
YES
CONVERT PID MESSAGE ID & ROUTINE NO.
STORE IN MESSAGE OUTPUT TABLE
STORE TAB IN MESSAGE OUTPUT TABLE
WORD COUNT EQ ZERO
YES
NO
HEX OR DECIMAL
DECIMAL
HEX
CONVERT MODIFIERS TO DECIMAL
CONVERT MODIFIERS TO HEX
ALPHA MESSAGE
NO
YES
LOAD ALPHA MESSAGE
STORE TERMINATOR IN MESSAGE TABLE
SET LOG BUSY
SENSE DSW
T.W. BUSY
LOAD CHARACTER TO BE PRINTED INTO ACCUM
PLACE IN TABLE
PERFORM WRITE
NORMAL RETURN
1053 SERV. RESPONSE
SET NEW MLSCF ADDRESS
LOOP THRU MONITOR
INCREMENT MESSAGE ADDRESS
IS NEXT CHAR TERMI-NATOR
NO
YES
NORMAL RETURN

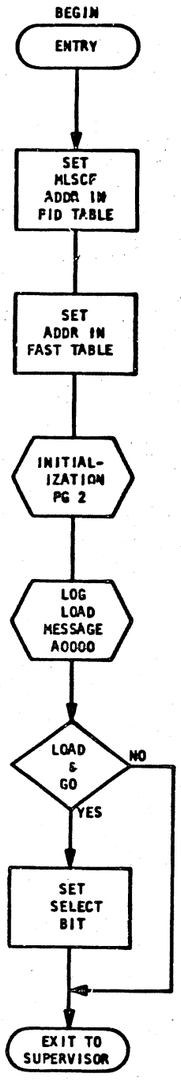

ERROR ENTRY
ERROR ROUTINE BUSY
YES
NO
BUSY RETURN
SET ERROR CALL SWITCH
HALT ON ERROR
ON
OFF
ON
BYPASS ERROR TYPE OUT SW.
OFF
SET ERROR SW.
LOG ROUTINE PG. 5
RESET ERROR SW. & ERR CALL SW.
HALT ON ERROR
ON
HALT ROUTINE PG 6A
LOOP ON ERROR
YES
NO
NORMAL RETURN
LOOP RETURN

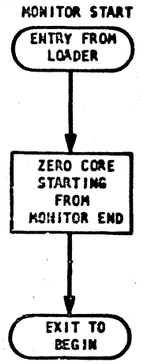

INTERRUPT LEVELS 0-3
INTERR.LVL$_n$ ENTRY
SAVE ACCUM, Q REG XRS, STATUS
XR3=ADDR. ILSW LVL$_n$ XFER VECTOR XR2=INT LVL$_n$
EXIT TO USER
INTERRUPT LEVEL 4
INTERR. LVL.4 ENT
SAVE ACCUM, Q REG XRS, STATUS
SENSE ILSW
DETERMINE WHICH DEVICE CAUSE D INTERRUPT
EXIT TO USER
ENTRY FROM USER
RESTORE ACCUM, Q REG, XR'S, STATUS
BRANCH OUT
7-#4
D
ENTRY FROM USER
RESTORE ACCUM, Q REG, XR'S, STATUS
BRANCH OUT

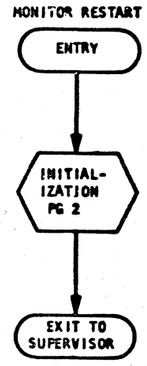

INTERRUPT LEVEL 5
PROGRAM STOP ENTRY
STOP SWITCH SET
YES
NO
SAVE ACCUM, Q REG,
SENSE CONSOLE DSW
CHECK DSW
INTERRUPT RUN
PROG HALT
EXIT TO HALT
LOAD DELAY CCUNT
DELAY
RETURN TO MAINLINE
HALT ROUTINE
HALT ENTRY
SET STOP SWITCH
DELAY ROUTINE
PERMITS ALL INTERR TO BE SERVICED
HALT
C.E. ACTION
RESET STOP SWITCH
RESTORE ACCUM, Q REG, XR'S, STATUS
EXIT

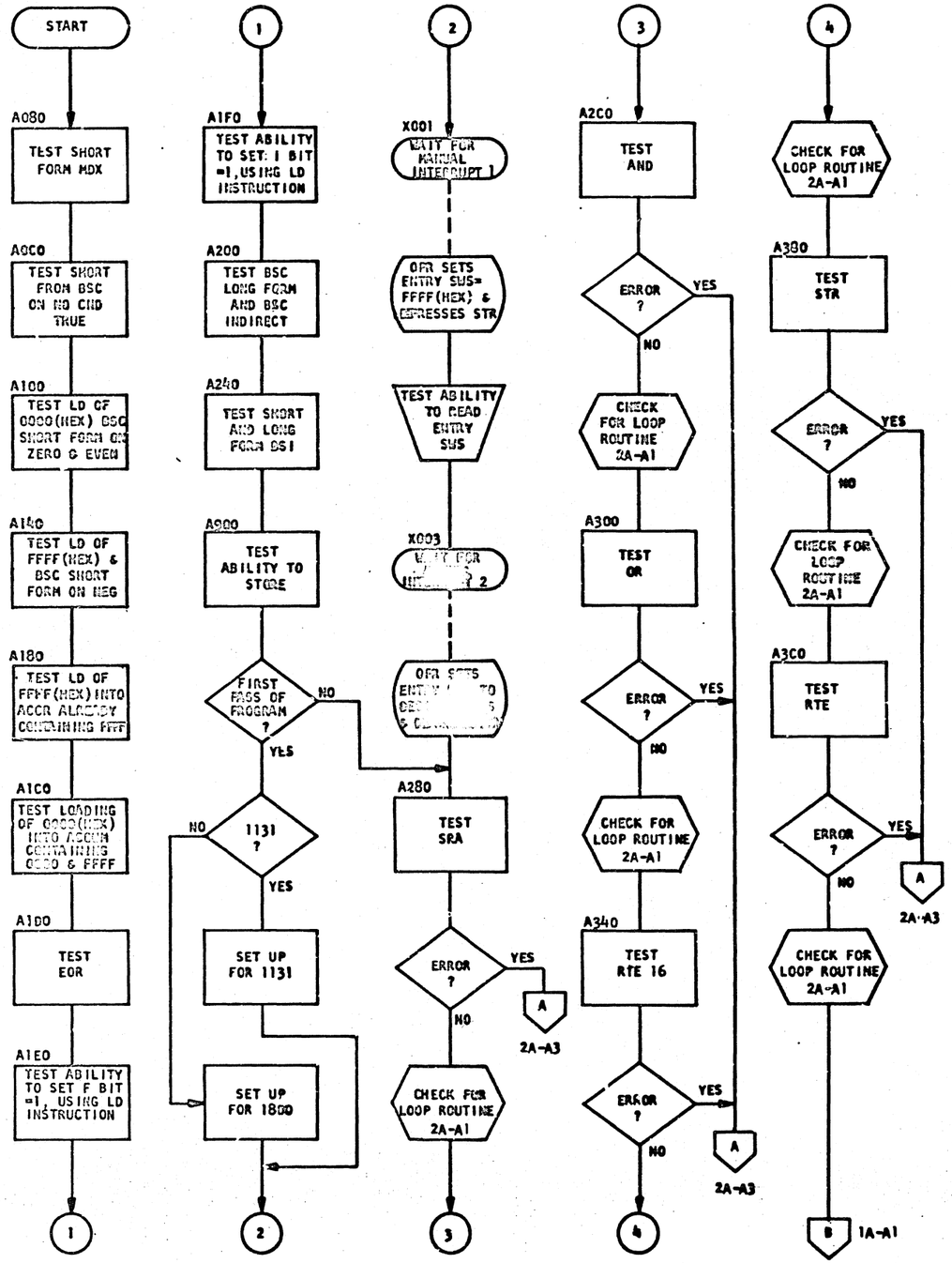

ENTRY INTER LVL 4
SENSE CONSOLE DSW
STORE DSW
T.W. RESPONSE
YES
NO
SERVICE T.W. INTERR
K.B. RESPONSE
YES
NO
SERVICE K.B.
MANUAL REQUEST
YES
NO
CONSOLE K.B. S.W.
CONSOLE
K.B.
INSTRUCT MONITOR TO READ BIT SWS
K.B. PROGRAM?
NO
YES
K.B. REQ SERVICE ROUTINE
IGNORE TW BUSY TW NOT RDY KB NOT RDY
OTHER BITS
YES
NO
EXIT TO INT LVL 4
ERROR TRAP
B

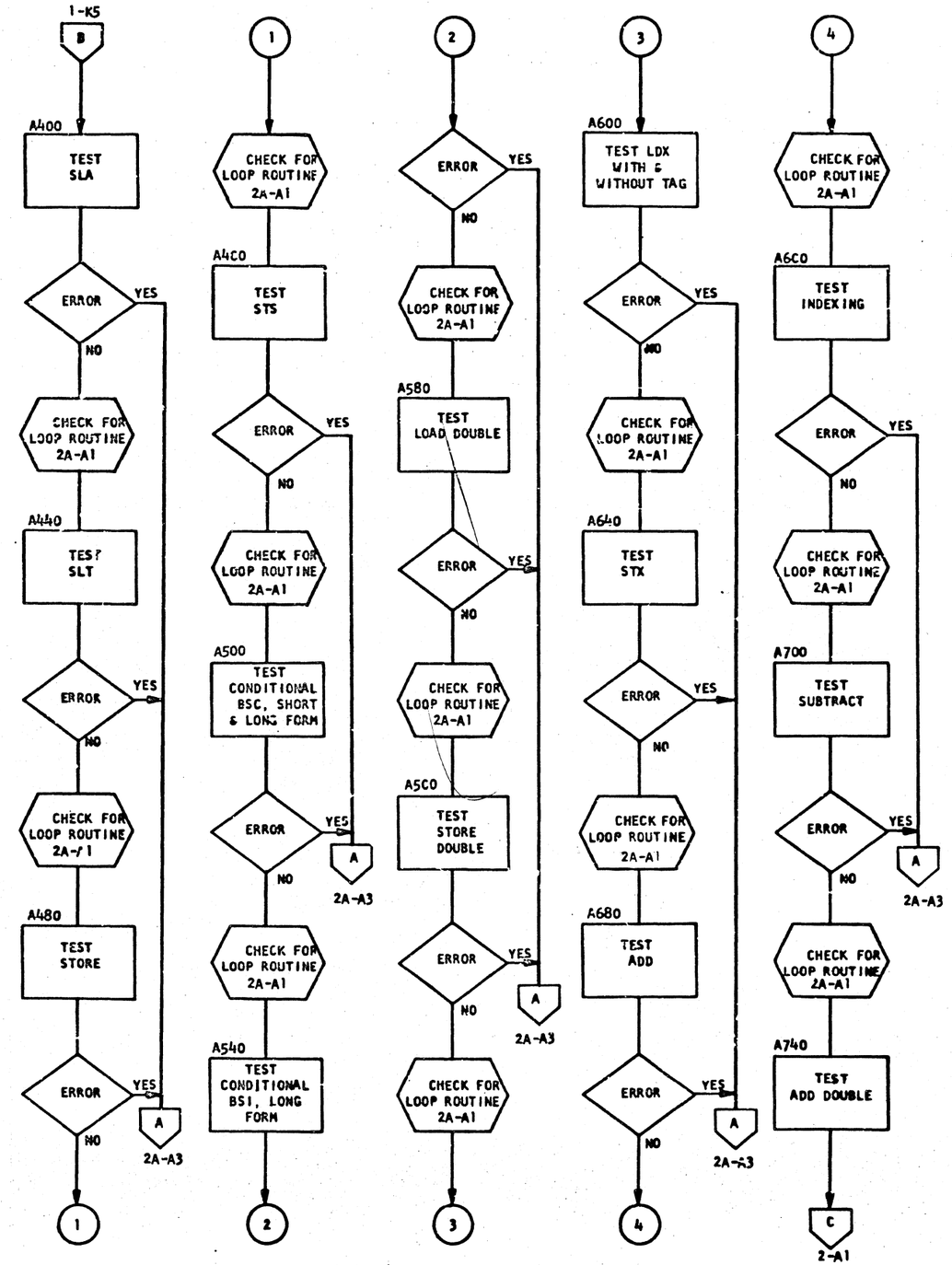

END ENTRY
LOOP PROG.
YES
RETURN TO USERS LOOP ADDR.
EXIT
IS LOG BUSY
YES
NO
SET END CALL ADDR IN USERS MLSCF
START
SELECT / DESELECT PG 4
GO DELETE PROGRAM
START

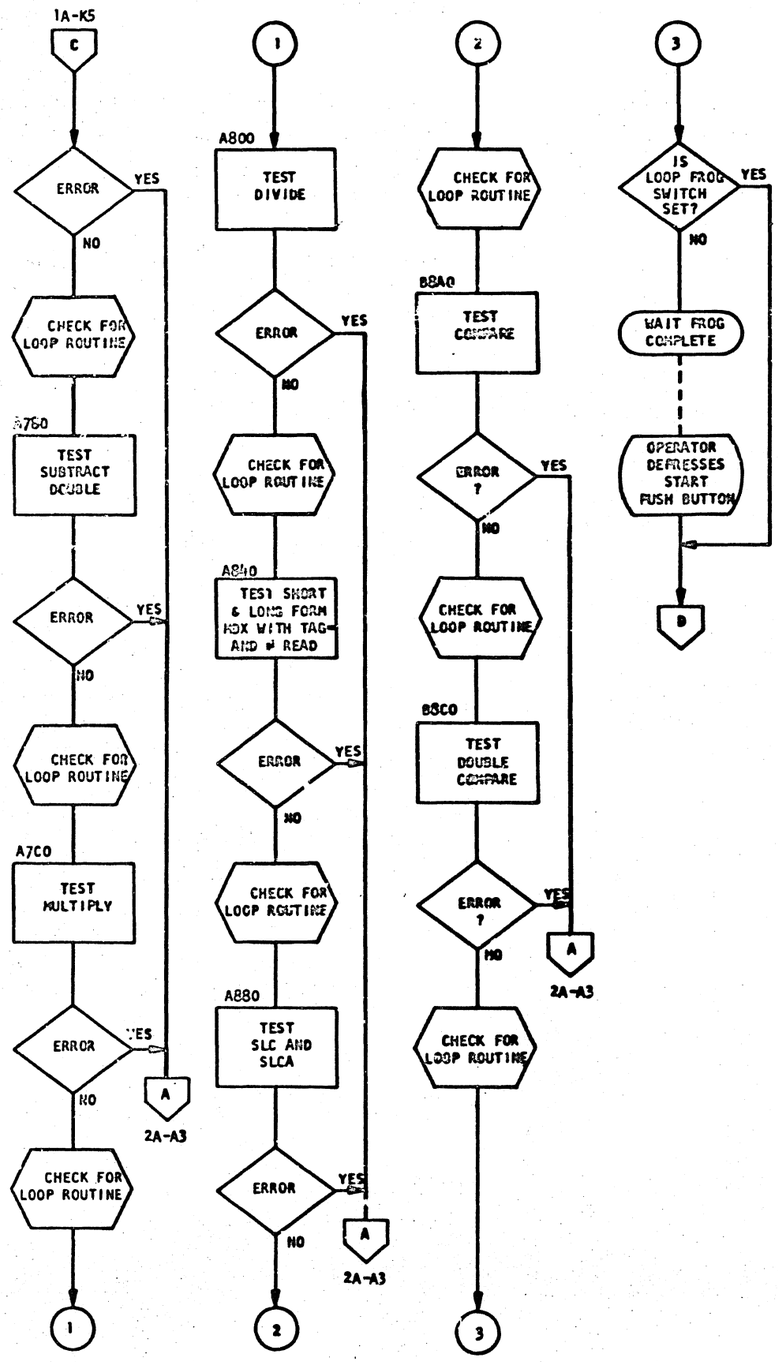

BEGIN
ENTRY
SET MLSCF ADDR IN FID TABLE
SET ADDR IN FAST TABLE
INITIAL-IZATION PG 2
LOG LOAD MESSAGE A0000
LOAD & GO
NO
YES
SET SELECT BIT
EXIT TO SUPERVISOR


MONITOR START
ENTRY FROM LOADER
ZERO CORE STARTING FROM MONITOR END
EXIT TO BEGIN


MONITOR RESTART
ENTRY
INITIAL-IZATION PG 2
EXIT TO SUPERVISOR


START
A080
TEST SHORT FORM MDX
A0C0
TEST SHORT FROM BSC ON NO CND TRUE
A100
TEST LD OF 0000(HEX) BSC SHORT FORM ON ZERO & EVEN
A140
TEST LD OF FFFF(HEX) & BSC SHORT FORM ON NEG
A180
TEST LD OF FFFF(HEX) INTO ACCR ALREADY CONTAINING FFFF
A1C0
TEST LOADING OF 0000(HEX) INTO ACCUM CONTAINING 0000 & FFFF
A1D0
TEST EOR
A1E0
TEST ABILITY TO SET F BIT =1 USING LD INSTRUCTION
1
A1F0
TEST ABILITY TO SET I BIT =1, USING LD INSTRUCTION
A200
TEST BSC LONG FORM AND BSC INDIRECT
A240
TEST SHORT AND LONG FORM BSI
A900
TEST ABILITY TO STORE
FIRST PASS OF PROGRAM ?
NO
YES
1131 ?
NO
YES
SET UP FOR 1131
SET UP FOR 1800
2
X001
WAIT FOR MANUAL INTERRUPT 1
OPR SETS ENTRY SUB= FFFF(HEX) & DEPRESSES STR
TEST ABILITY TO READ ENTRY SUB
X003
WAIT FOR INTERRUPT 2
OPR SETS ENTRY SUB TO 0000 & DEPRESSES STR
A280
TEST SRA
ERROR ?
YES
NO
A
2A-A3
CHECK FOR LOOP ROUTINE 2A-A1
3
A2C0
TEST AND
ERROR ?
YES
NO
CHECK FOR LOOP ROUTINE 2A-A1
A300
TEST OR
ERROR ?
YES
NO
CHECK FOR LOOP ROUTINE 2A-A1
A340
TEST RTE 16
ERROR ?
YES
NO
A
2A-A3
4
CHECK FOR LOOP ROUTINE 2A-A1
A380
TEST STR
ERROR ?
YES
NO
CHECK FOR LOOP ROUTINE 2A-A1
A3C0
TEST RTE
ERROR ?
YES
NO
CHECK FOR LOOP ROUTINE 2A-A1
A
2A-A3
B
1A-A1


1-K5
B
A400
TEST SLA
ERROR
YES
NO
CHECK FOR LOOP ROUTINE 2A-A1
A440
TEST SLT
ERROR
YES
NO
CHECK FOR LOOP ROUTINE 2A-A1
A480
TEST STORE
ERROR
YES
NO
A
2A-A3
1
CHECK FOR LOOP ROUTINE 2A-A1
A4C0
TEST STS
ERROR
YES
NO
CHECK FOR LOOP ROUTINE 2A-A1
A500
TEST CONDITIONAL BSC, SHORT & LONG FORM
ERROR
YES
NO
A
2A-A3
CHECK FOR LOOP ROUTINE 2A-A1
A540
TEST CONDITIONAL BSI, LONG FORM
2
ERROR
YES
NO
CHECK FOR LOOP ROUTINE 2A-A1
A580
TEST LOAD DOUBLE
ERROR
YES
NO
CHECK FOR LOOP ROUTINE 2A-A1
A5C0
TEST STORE DOUBLE
ERROR
YES
NO
A
2A-A3
CHECK FOR LOOP ROUTINE 2A-A1
3
A600
TEST LDX WITH & WITHOUT TAG
ERROR
YES
NO
CHECK FOR LOOP ROUTINE 2A-A1
A640
TEST STX
ERROR
YES
NO
CHECK FOR LOOP ROUTINE 2A-A1
A680
TEST ADD
ERROR
YES
NO
A
2A-A3
CHECK FOR LOOP ROUTINE 2A-A1
4
A6C0
TEST INDEXING
ERROR
YES
NO
CHECK FOR LOOP ROUTINE 2A-A1
A700
TEST SUBTRACT
ERROR
YES
NO
A
2A-A3
CHECK FOR LOOP ROUTINE 2A-A1
A740
TEST ADD DOUBLE
C
2-A1



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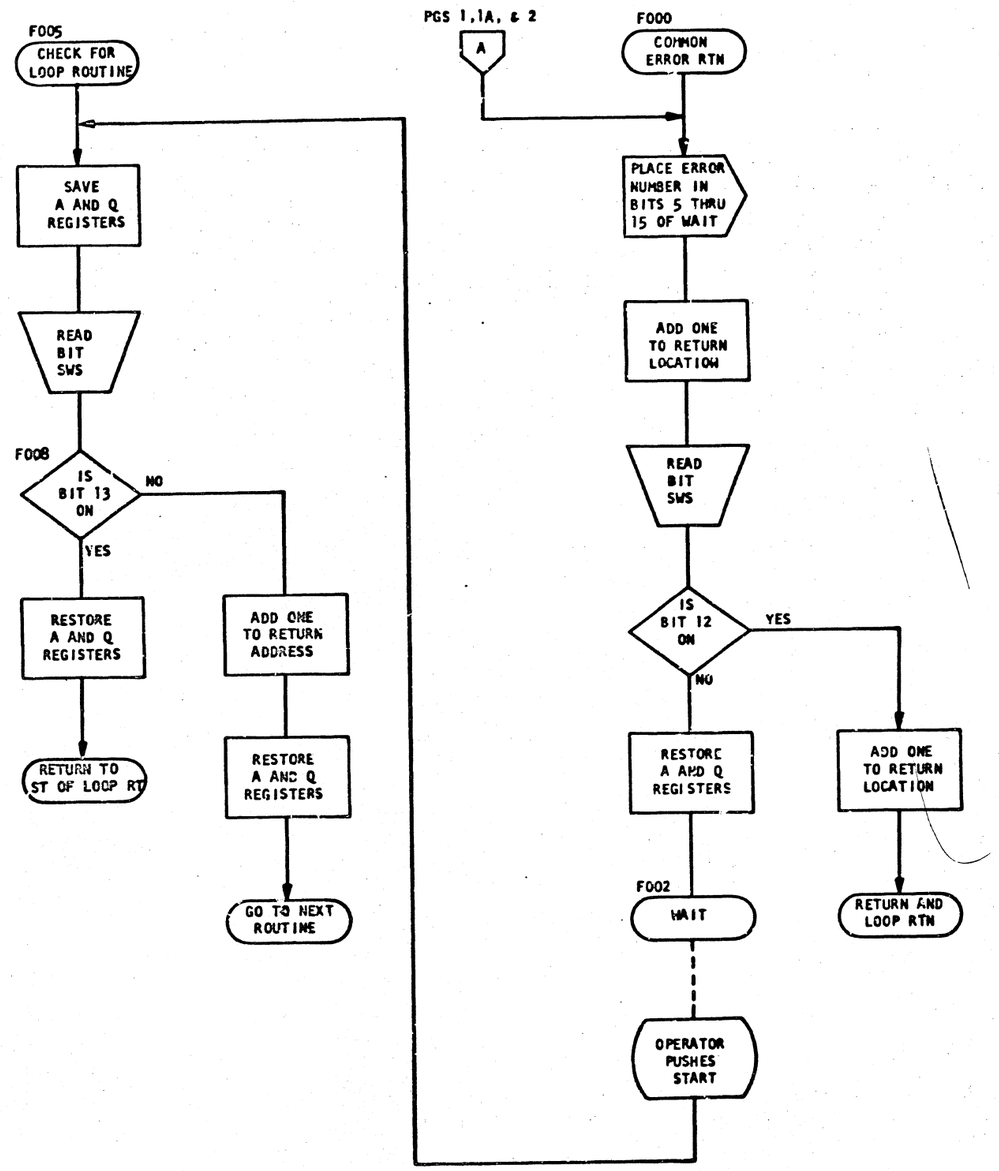

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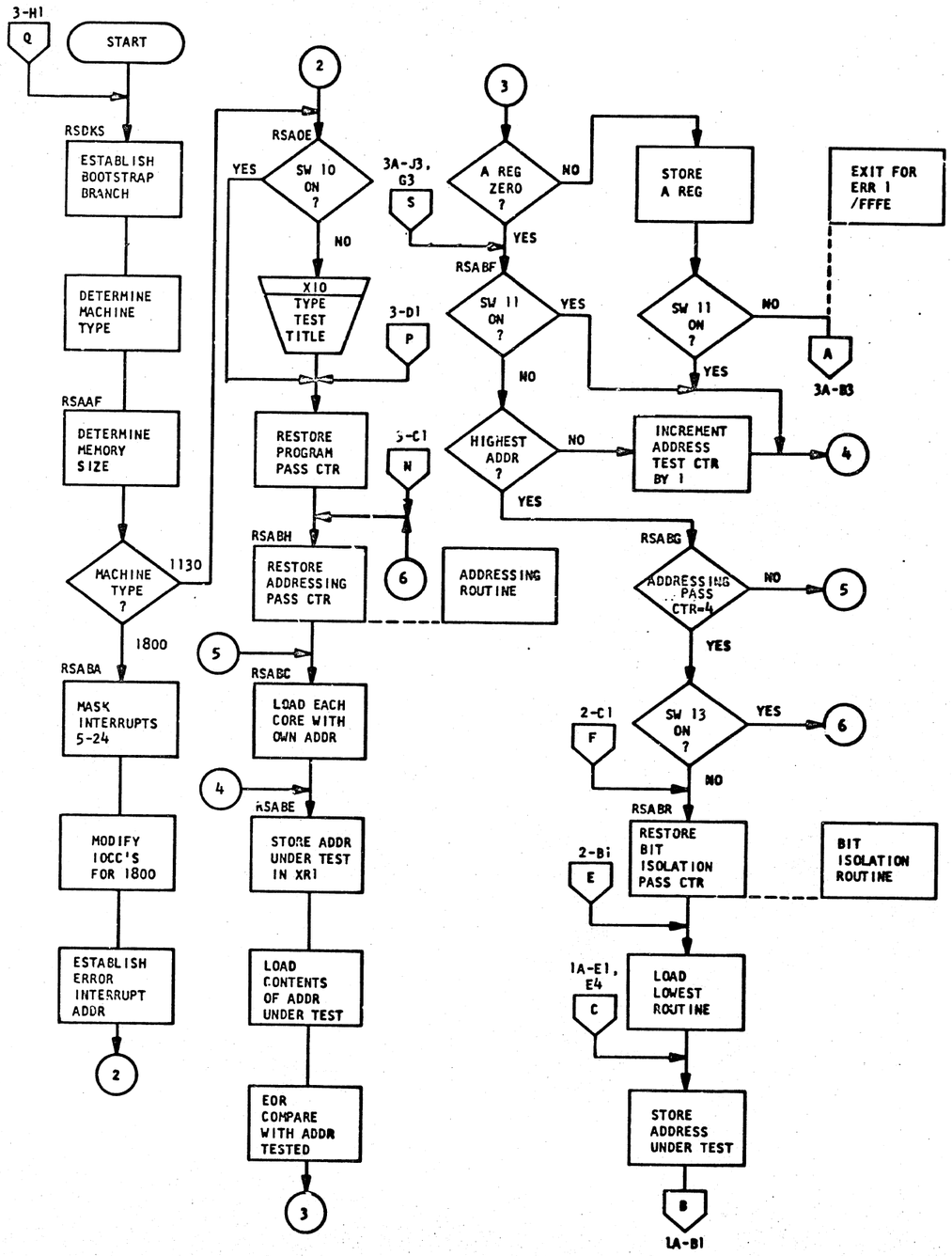

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PROG ID 03A2-0
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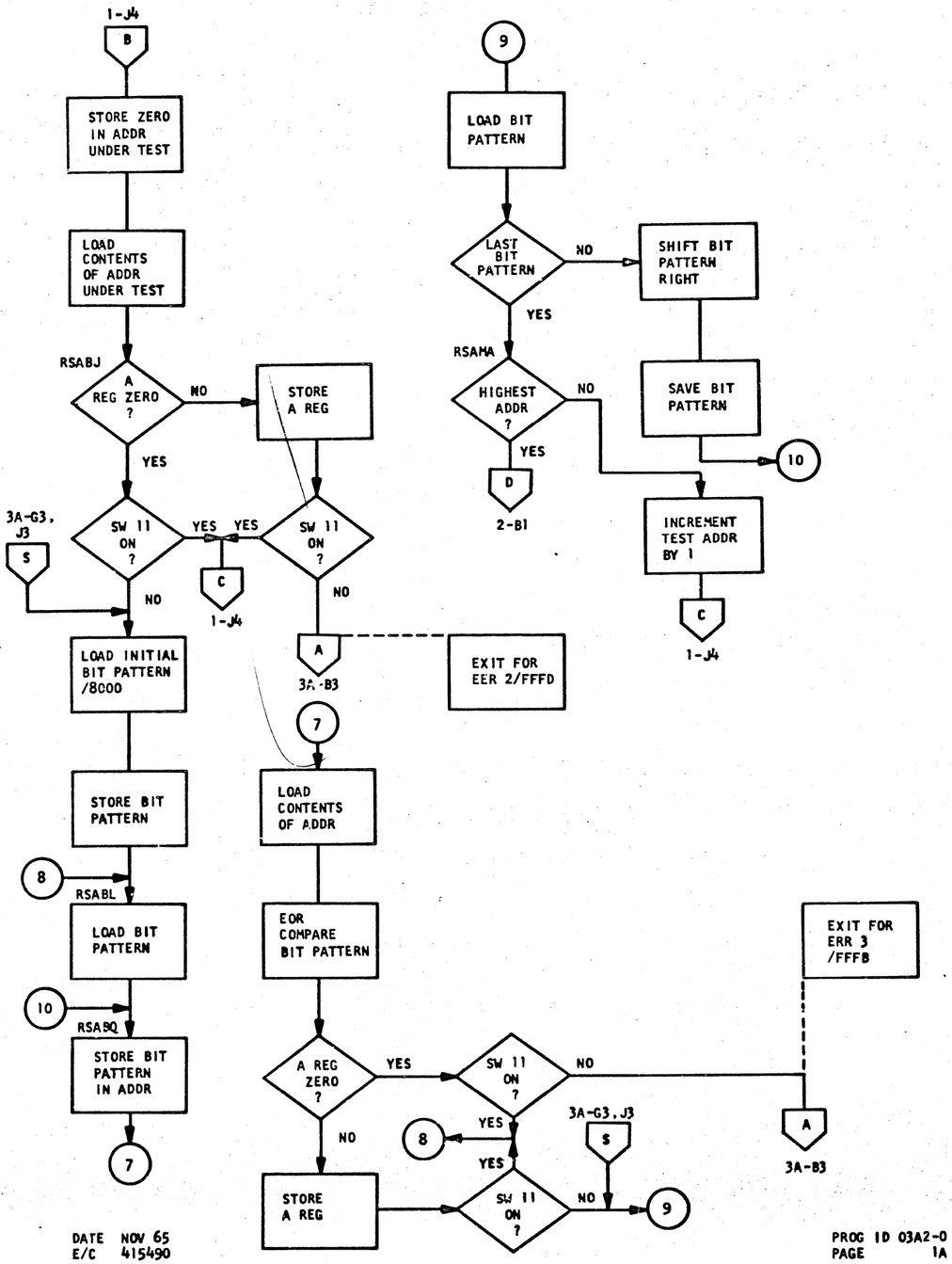

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PROG ID 03A2-0
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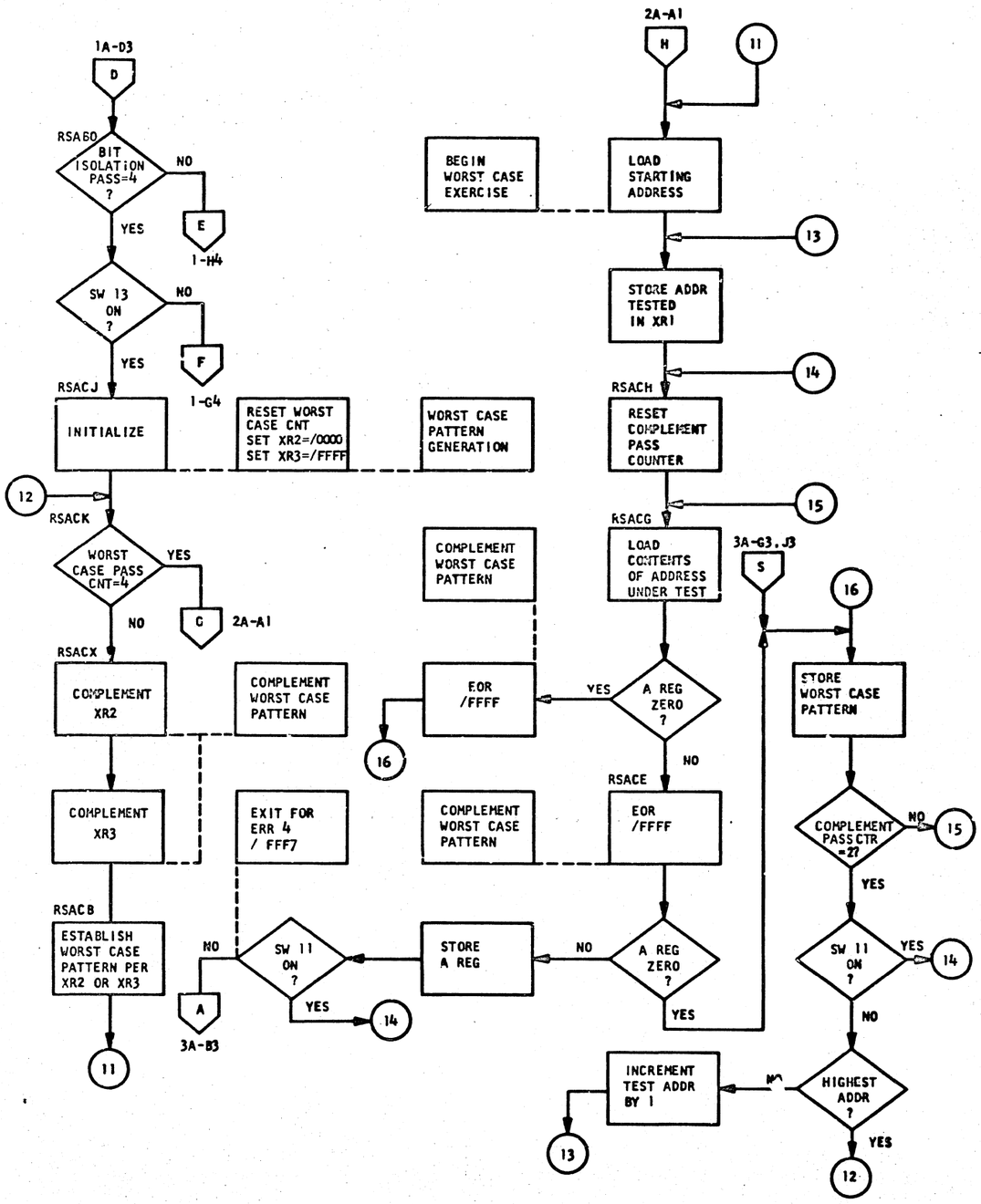

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PROG ID 03A2-0
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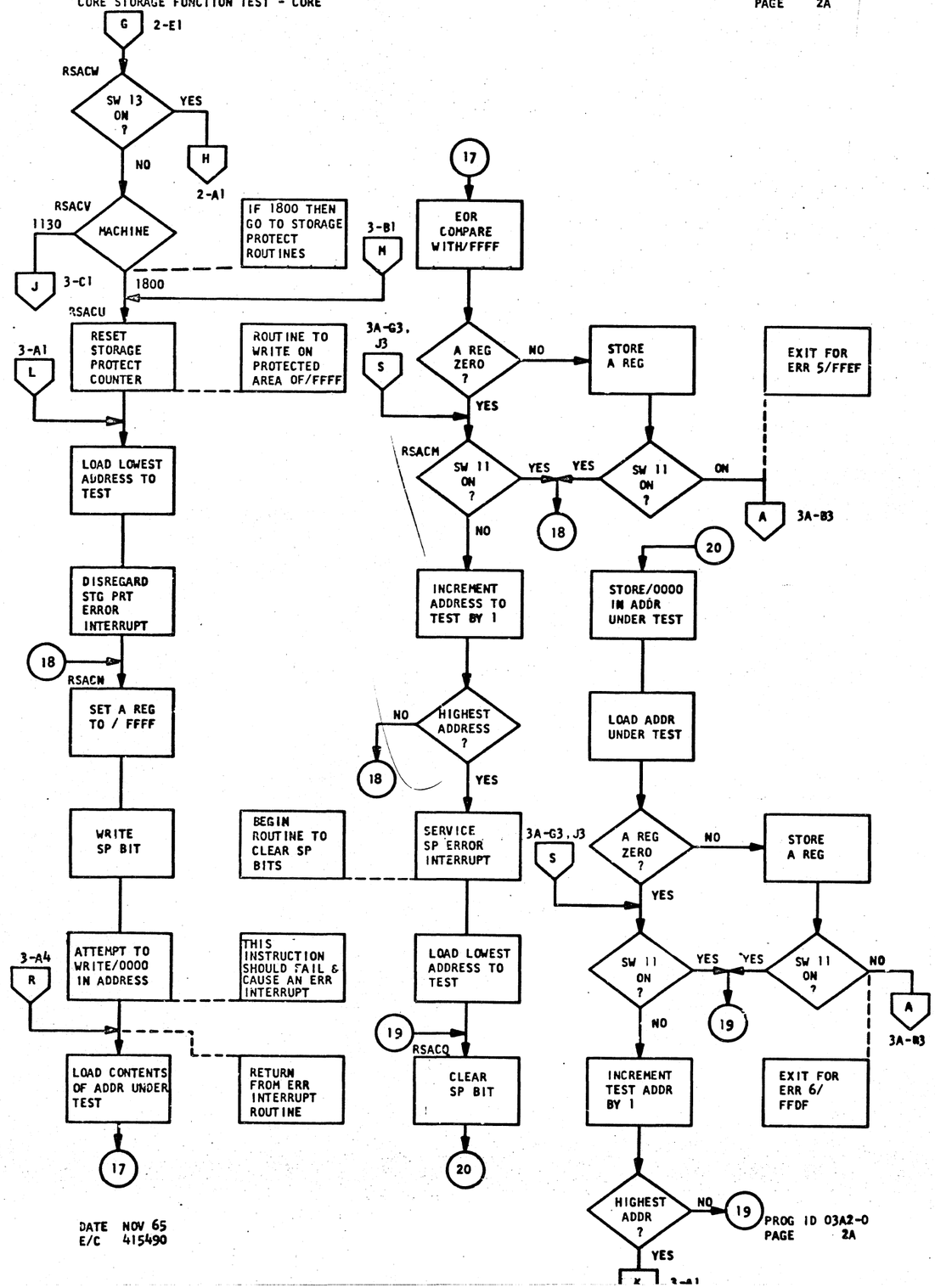

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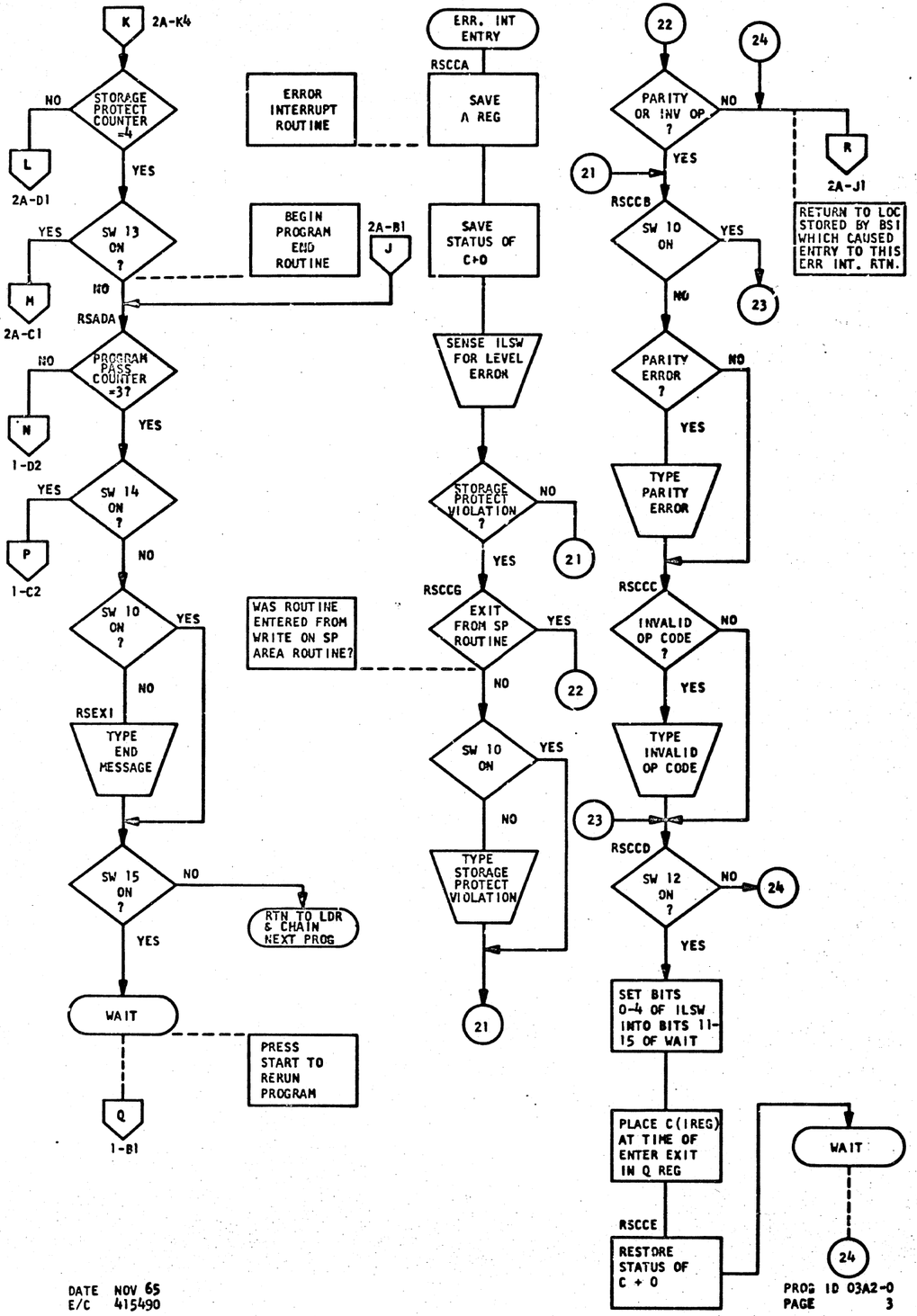
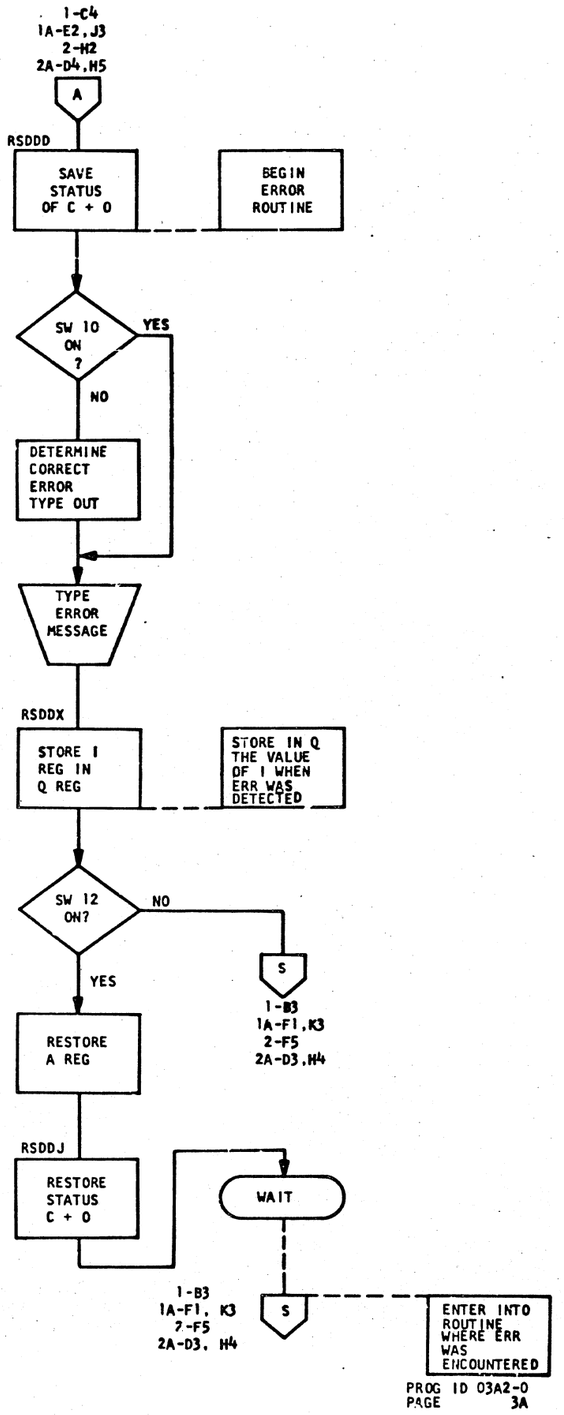
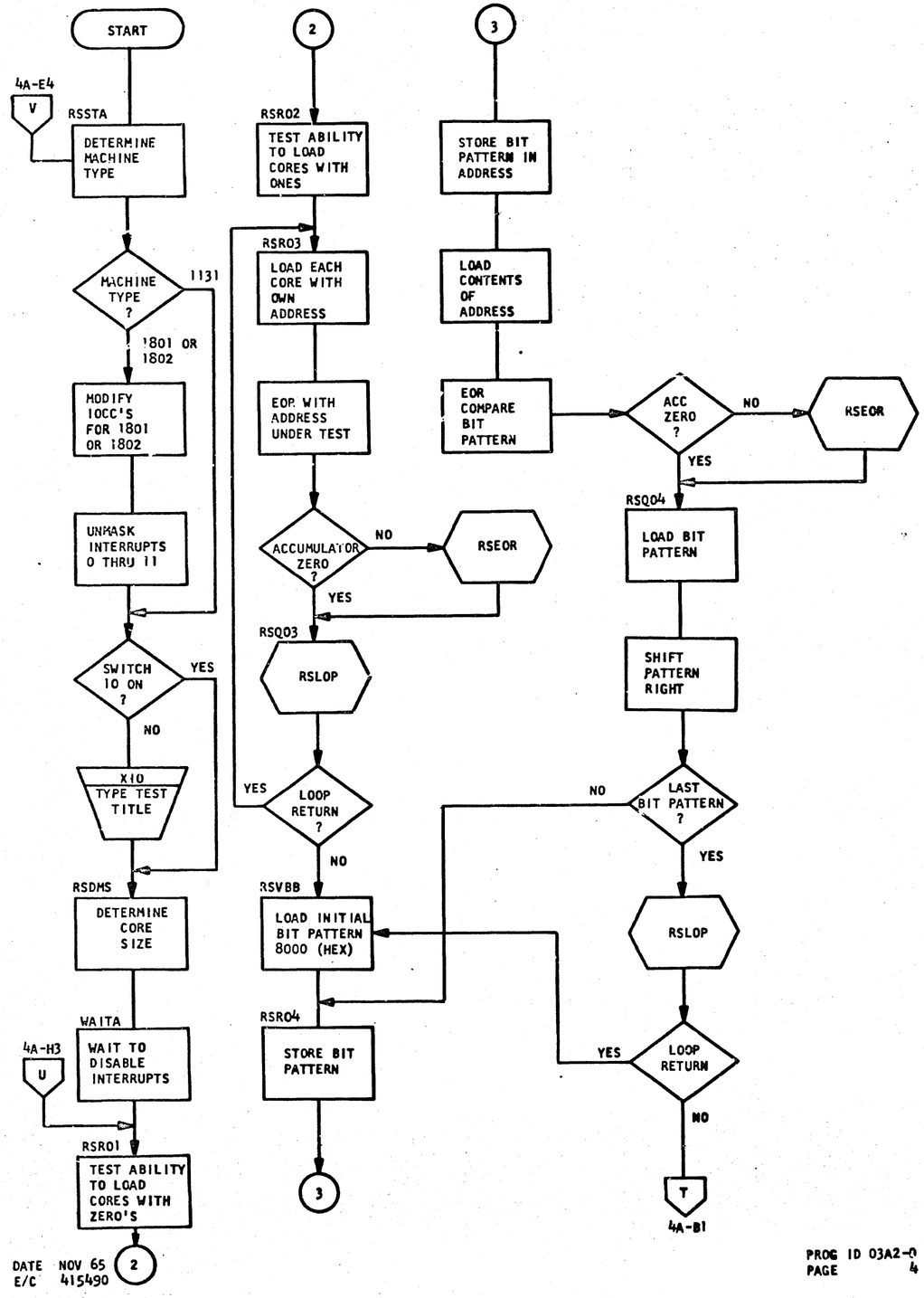
PAGE 2A


K
2A-K4
STORAGE PROTECT COUNTER =4
NO
YES
L
2A-D1
SW 13 ON ?
YES
NO
M
2A-C1
RSADA
PROGRAM PASS COUNTER =37
NO
YES
N
1-D2
SW 14 ON ?
YES
NO
P
1-C2
SW 10 ON ?
YES
NO
RSEXI
TYPE END MESSAGE
SW 15 ON ?
NO
YES
RTN TO LDR & CHAIN NEXT PROG
WAIT
PRESS START TO RERUN PROGRAM
Q
1-B1
ERROR INTERRUPT ROUTINE
BEGIN PROGRAM END ROUTINE
2A-B1
J
WAS ROUTINE ENTERED FROM WRITE ON SP AREA ROUTINE?
ERR. INT ENTRY
RSCCA
SAVE A REG
SAVE STATUS OF C+0
SENSE ILSW FOR LEVEL ERROR
STORAGE PROTECT VIOLATION ?
NO
YES
21
RSCCG
EXIT FROM SP ROUTINE
YES
NO
22
SW 10 ON
YES
NO
TYPE STORAGE PROTECT VIOLATION
21
22
24
PARITY OR INV OP ?
NO
YES
R
2A-J1
RETURN TO LOC STORED BY BSI WHICH CAUSED ENTRY TO THIS ERR INT. RTN.
21
RSCCB
SW 10 ON
YES
NO
23
PARITY ERROR ?
NO
YES
TYPE PARITY ERROR
RSCCC
INVALID OP CODE ?
NO
YES
TYPE INVALID OP CODE
23
RSCCD
SW 12 ON ?
NO
24
YES
SET BITS 0-4 OF ILSW INTO BITS 11-15 OF WAIT
PLACE C(IREG) AT TIME OF ENTER EXIT IN Q REG
RSCCE
RESTORE STATUS OF C + 0
WAIT
24


1-C4
1A-E2, J3
2-H2
2A-D4, H5
A
RSDDD
SAVE STATUS OF C + 0
BEGIN ERROR ROUTINE
SW 10 ON ?
YES
NO
DETERMINE CORRECT ERROR TYPE OUT
TYPE ERROR MESSAGE
RSDDX
STORE I REG IN Q REG
STORE IN Q THE VALUE OF I WHEN ERR WAS DETECTED
SW 12 ON?
NO
YES
S
1-B3
1A-F1, K3
2-F5
2A-D3, H4
RESTORE A REG
RSDDJ
RESTORE STATUS C + 0
WAIT
1-B3
1A-F1, K3
2-F5
2A-D3, H4
S
ENTER INTO ROUTINE WHERE ERR WAS ENCOUNTERED



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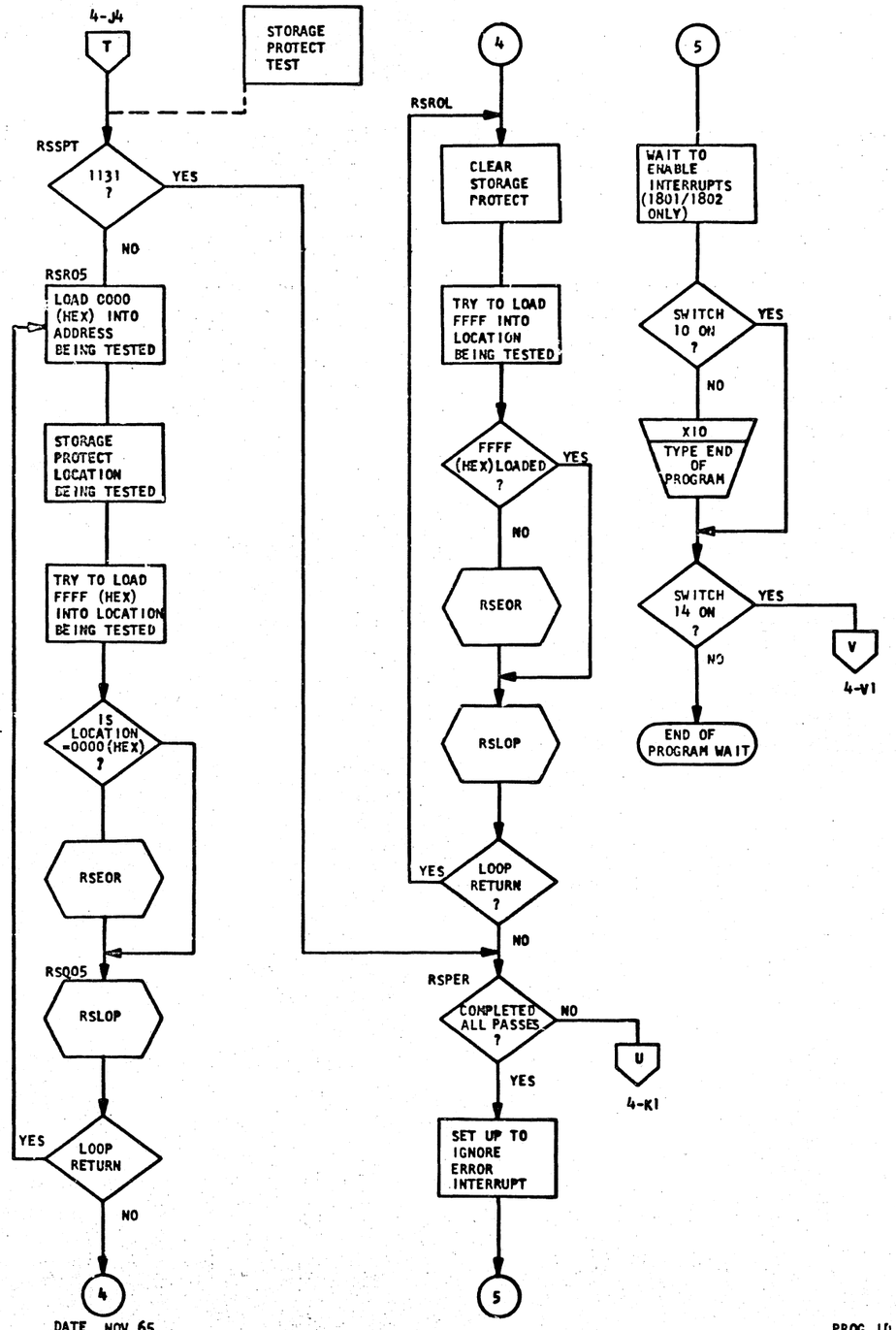

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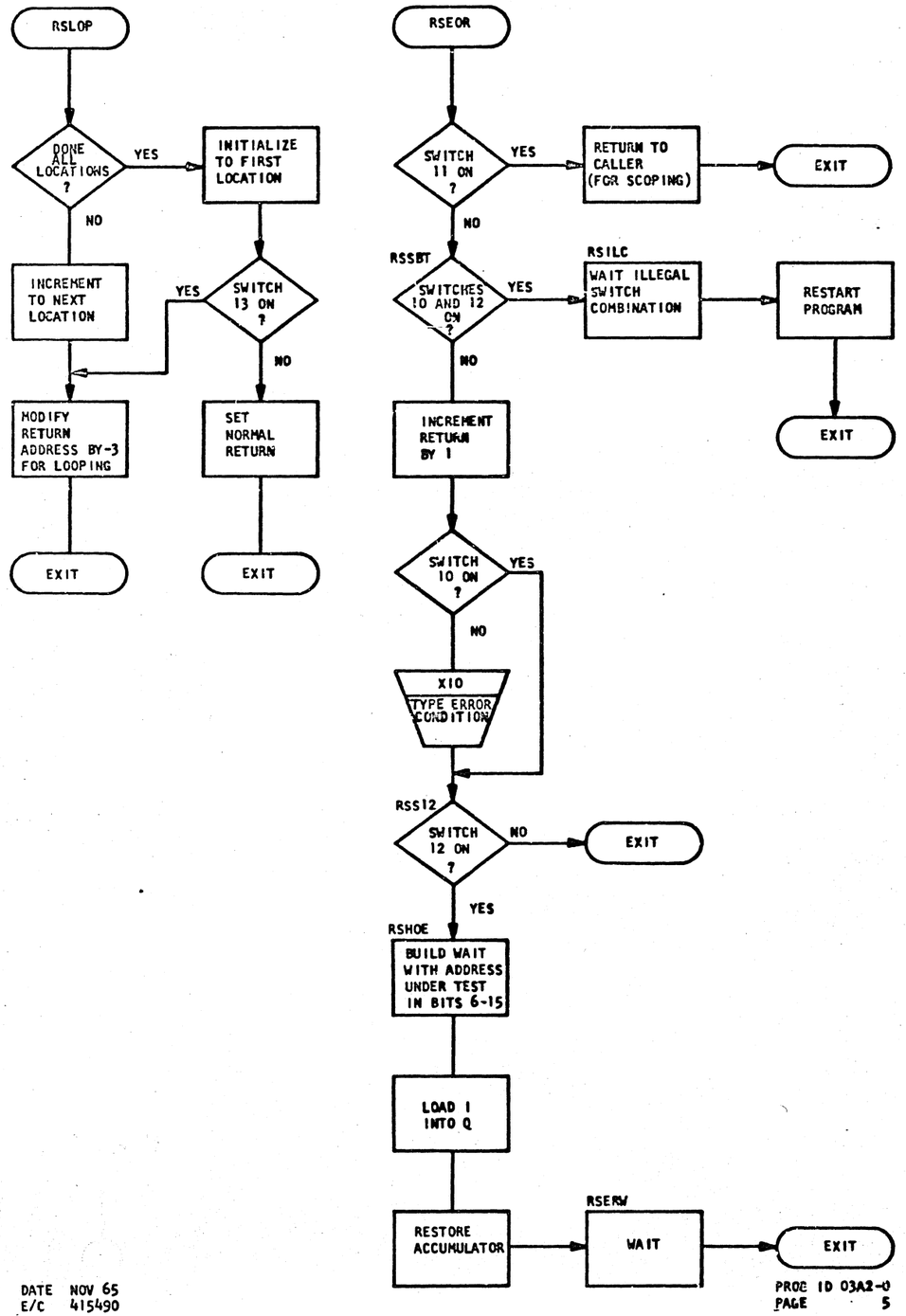
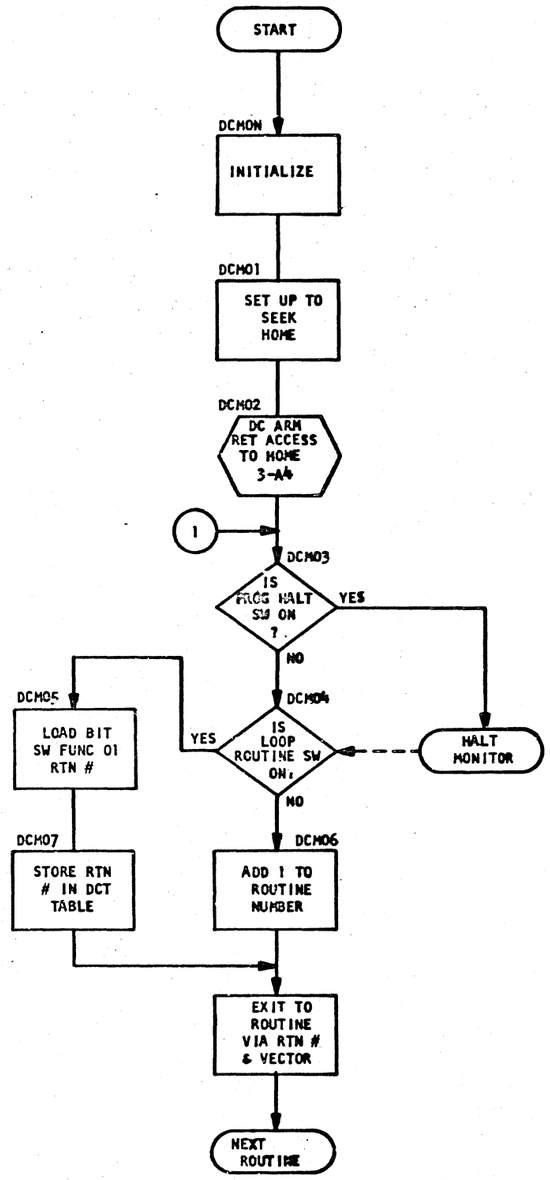
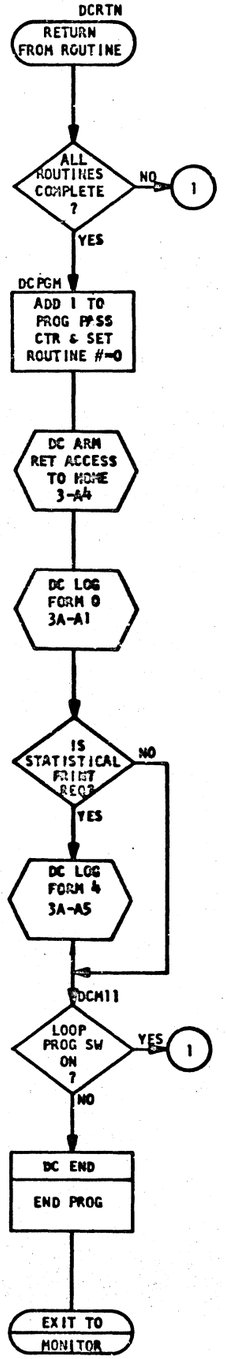
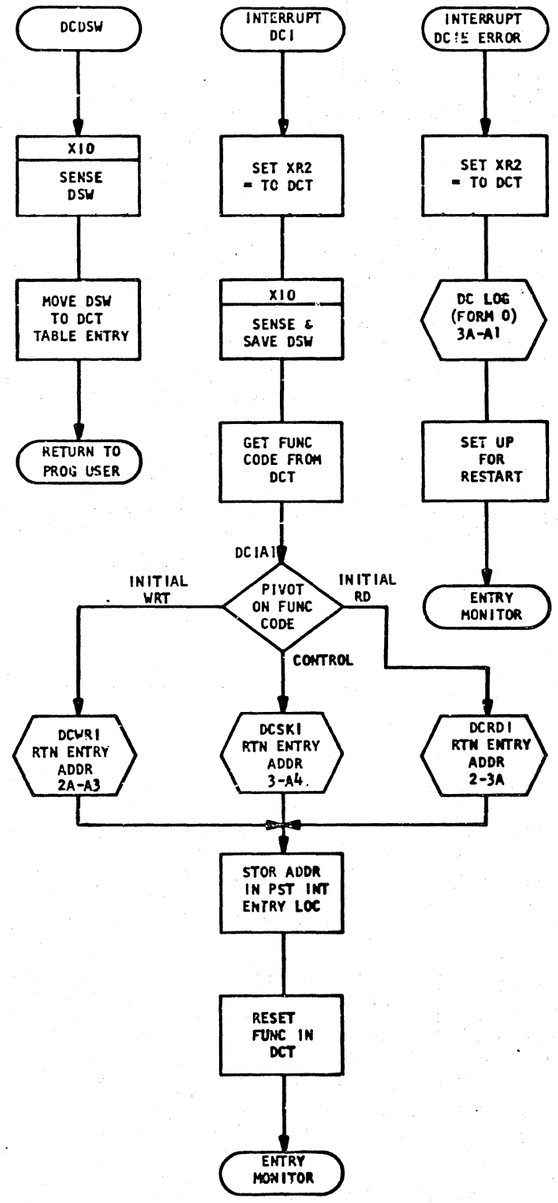
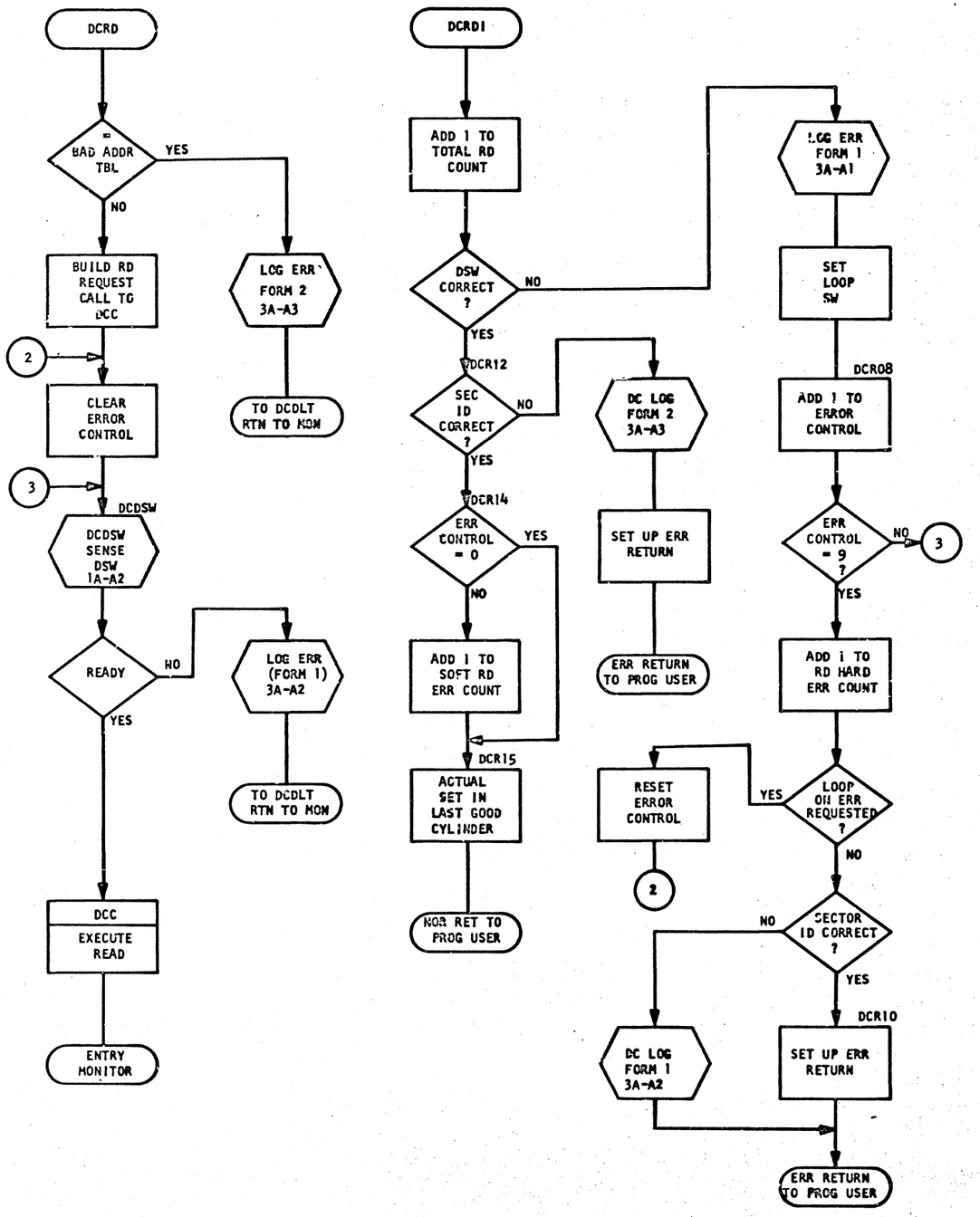
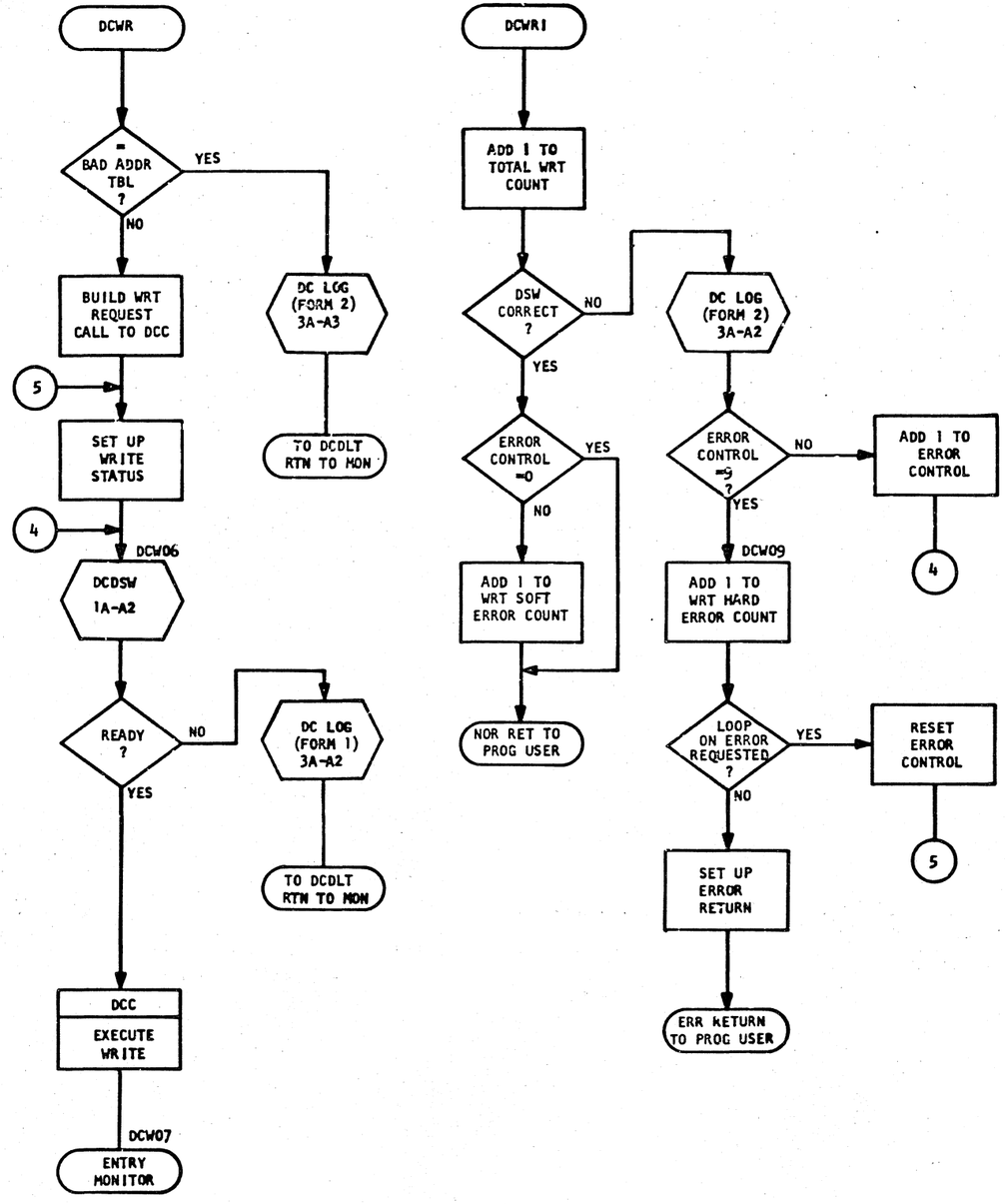

RSLOP
DONE ALL LOCATIONS ?
YES
INITIALIZE TO FIRST LOCATION
NO
INCREMENT TO NEXT LOCATION
YES
SWITCH 13 ON ?
NO
MODIFY RETURN ADDRESS BY-3 FOR LOOPING
SET NORMAL RETURN
EXIT
EXIT
RSEOR
SWITCH 11 ON ?
YES
RETURN TO CALLER (FOR SCOPING)
EXIT
NO
RSSBT
SWITCHES 10 AND 12 ON ?
YES
RSILC
WAIT ILLEGAL SWITCH COMBINATION
RESTART PROGRAM
EXIT
NO
INCREMENT RETURN BY 1
SWITCH 10 ON ?
YES
NO
X10
TYPE ERROR CONDITION
RSS12
SWITCH 12 ON ?
NO
EXIT
YES
RSHOE
BUILD WAIT WITH ADDRESS UNDER TEST IN BITS 6-15
LOAD I INTO Q
RESTORE ACCUMULATOR
RSERW
WAIT
EXIT

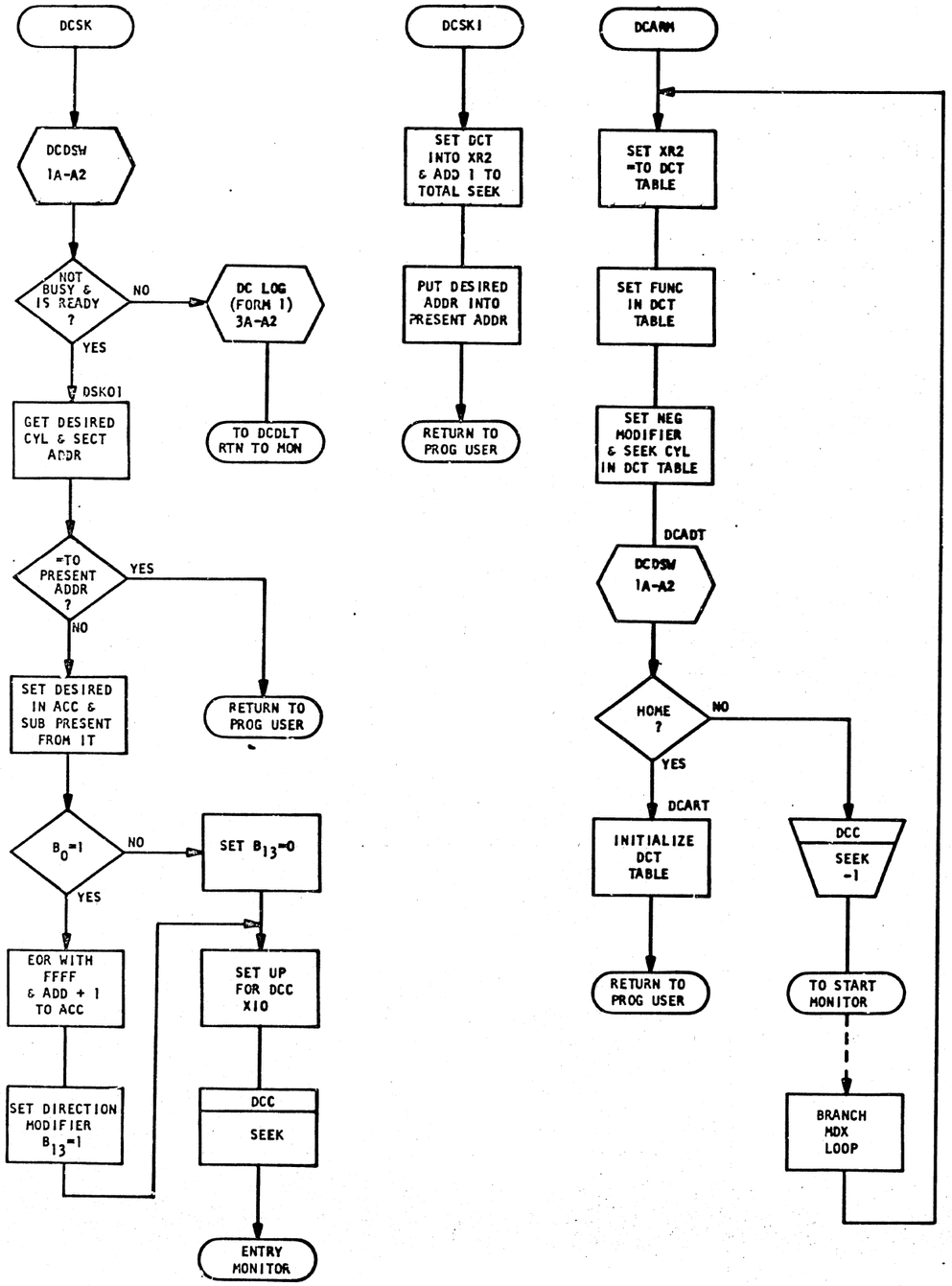

START
DCMON
INITIALIZE
DCM01
SET UP TO SEEK HOME
DCM02
DC ARM RET ACCESS TO HOME 3-A4
1
DCM03
IS PROG HALT SW ON ?
YES
NO
DCM04
IS LOOP ROUTINE SW ON?
YES
HALT MONITOR
NO
DCM05
LOAD BIT SW FUNC 01 RTN #
DCM07
STORE RTN # IN DCT TABLE
DCM06
ADD 1 TO ROUTINE NUMBER
EXIT TO ROUTINE VIA RTN # & VECTOR
NEXT ROUTINE


DCRTN
RETURN FROM ROUTINE
ALL ROUTINES COMPLETE ?
NO
1
YES
DCPGM
ADD 1 TO PROG PASS CTR & SET ROUTINE #=0
DC ARM RET ACCESS TO HOME 3-A4
DC LOG FORM 0 3A-A1
IS STATISTICAL PRINT REQ?
NO
YES
DC LOG FORM 4 3A-A5
DCM11
LOOP PROG SW ON ?
YES
1
NO
DC END
END PROG
EXIT TO MONITOR


DCDSW
XIO
SENSE DSW
MOVE DSW TO DCT TABLE ENTRY
RETURN TO PROG USER
INTERRUPT DC1
SET XR2 = TO DCT
XIO
SENSE & SAVE DSW
GET FUNC CODE FROM DCT
DC1A1
PIVOT ON FUNC CODE
INITIAL WRT
INITIAL RD
CONTROL
DCWR1 RTN ENTRY ADDR 2A-A3
DCSK1 RTN ENTRY ADDR 3-A4.
DCRD1 RTN ENTRY ADDR 2-3A
INTERRUPT DC1E ERROR
SET XR2 = TO DCT
DC LOG (FORM 0) 3A-A1
SET UP FOR RESTART
ENTRY MONITOR
STOR ADDR IN PST INT ENTRY LOC
RESET FUNC IN DCT
ENTRY MONITOR


DCRD
BAD ADDR TBL =
YES
NO
BUILD RD REQUEST CALL TO DCC
LOG ERR FORM 2 3A-A3
2
CLEAR ERROR CONTROL
TO DCDLT RTN TO MON
3
DCDSW
DCDSW SENSE DSW 1A-A2
READY
NO
YES
LOG ERR (FORM 1) 3A-A2
TO DCDLT RTN TO MON
DCC
EXECUTE READ
ENTRY MONITOR
DCRD1
ADD 1 TO TOTAL RD COUNT
DSW CORRECT ?
NO
YES
LOG ERR FORM 1 3A-A1
SET LOOP SW
DCR08
ADD 1 TO ERROR CONTROL
DCR12
SEC ID CORRECT ?
NO
YES
DC LOG FORM 2 3A-A3
DCR14
ERR CONTROL = 0
YES
NO
SET UP ERR RETURN
ERR RETURN TO PROG USER
ERR CONTROL = 9 ?
NO
3
YES
ADD 1 TO SOFT RD ERR COUNT
ADD 1 TO RD HARD ERR COUNT
DCR15
ACTUAL SET IN LAST GOOD CYLINDER
RESET ERROR CONTROL
YES
LOOP ON ERR REQUESTED ?
NO
2
NOR RET TO PROG USER
NO
SECTOR ID CORRECT ?
YES
DC LOG FORM 1 3A-A2
DCR10
SET UP ERR RETURN
ERR RETURN TO PROG USER


DCWR
BAD ADDR TBL ?
YES
NO
BUILD WRT REQUEST CALL TO DCC
DC LOG (FORM 2) 3A-A3
5
SET UP WRITE STATUS
TO DCDLT RTN TO MON
4
DCW06
DCDSW 1A-A2
READY ?
NO
YES
DC LOG (FORM 1) 3A-A2
TO DCDLT RTN TO MON
DCC
EXECUTE WRITE
DCW07
ENTRY MONITOR
DCWR1
ADD 1 TO TOTAL WRT COUNT
DSW CORRECT ?
NO
YES
DC LOG (FORM 2) 3A-A2
ERROR CONTROL =0
YES
NO
ADD 1 TO WRT SOFT ERROR COUNT
NOR RET TO PROG USER
ERROR CONTROL =9 ?
NO
YES
ADD 1 TO ERROR CONTROL
4
DCW09
ADD 1 TO WRT HARD ERROR COUNT
LOOP ON ERROR REQUESTED ?
YES
NO
RESET ERROR CONTROL
5
SET UP ERROR RETURN
ERR RETURN TO PROG USER



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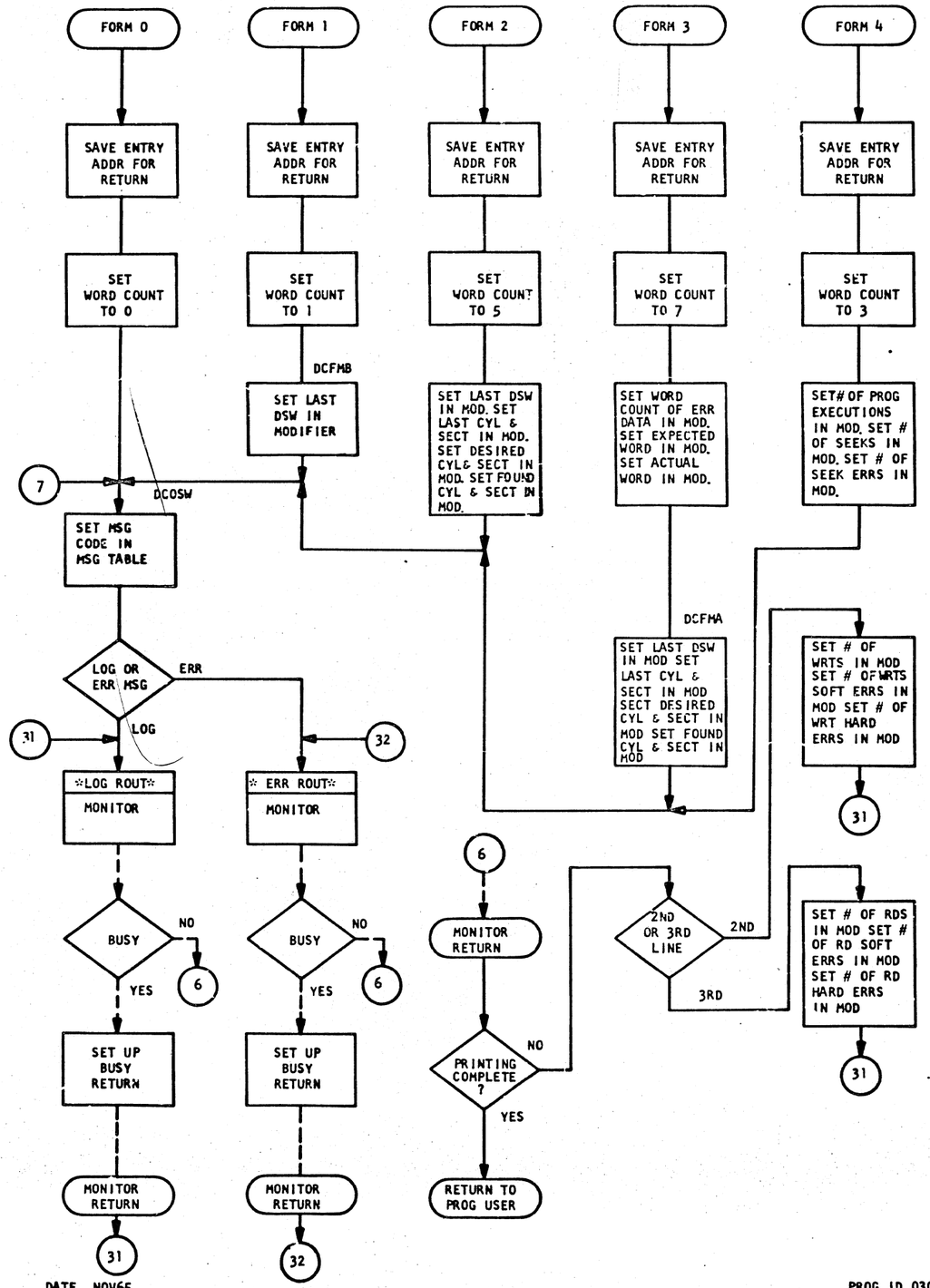

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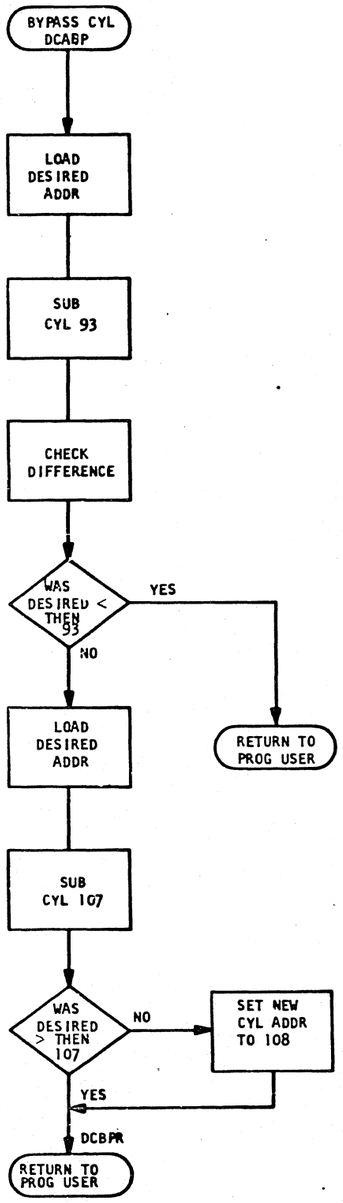
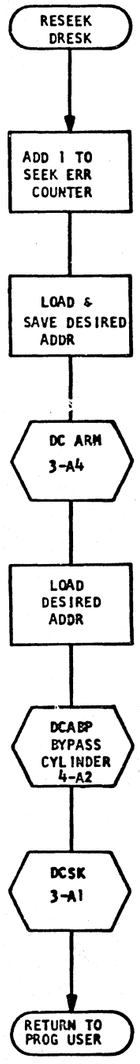
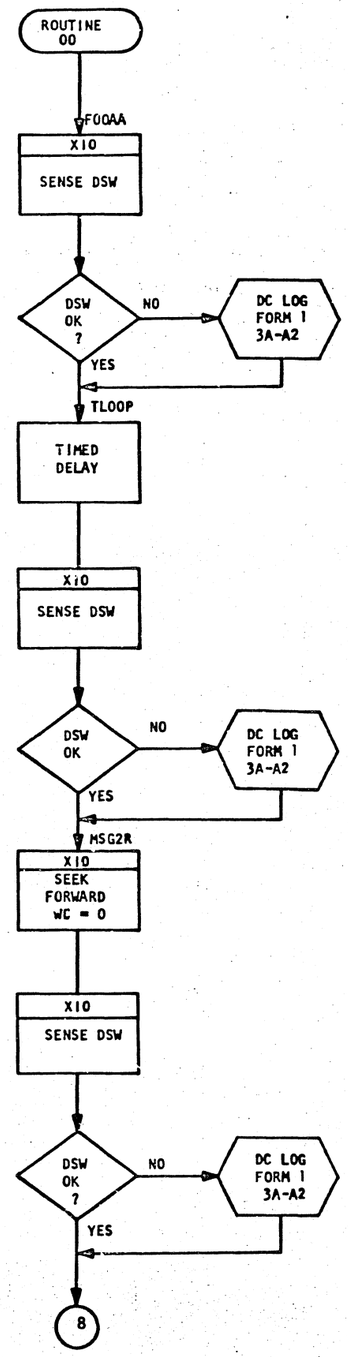
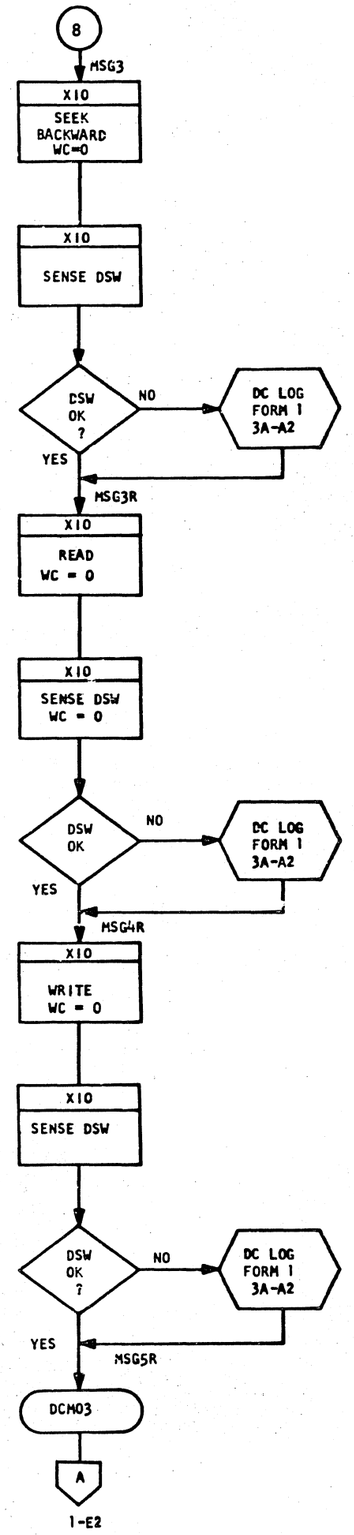
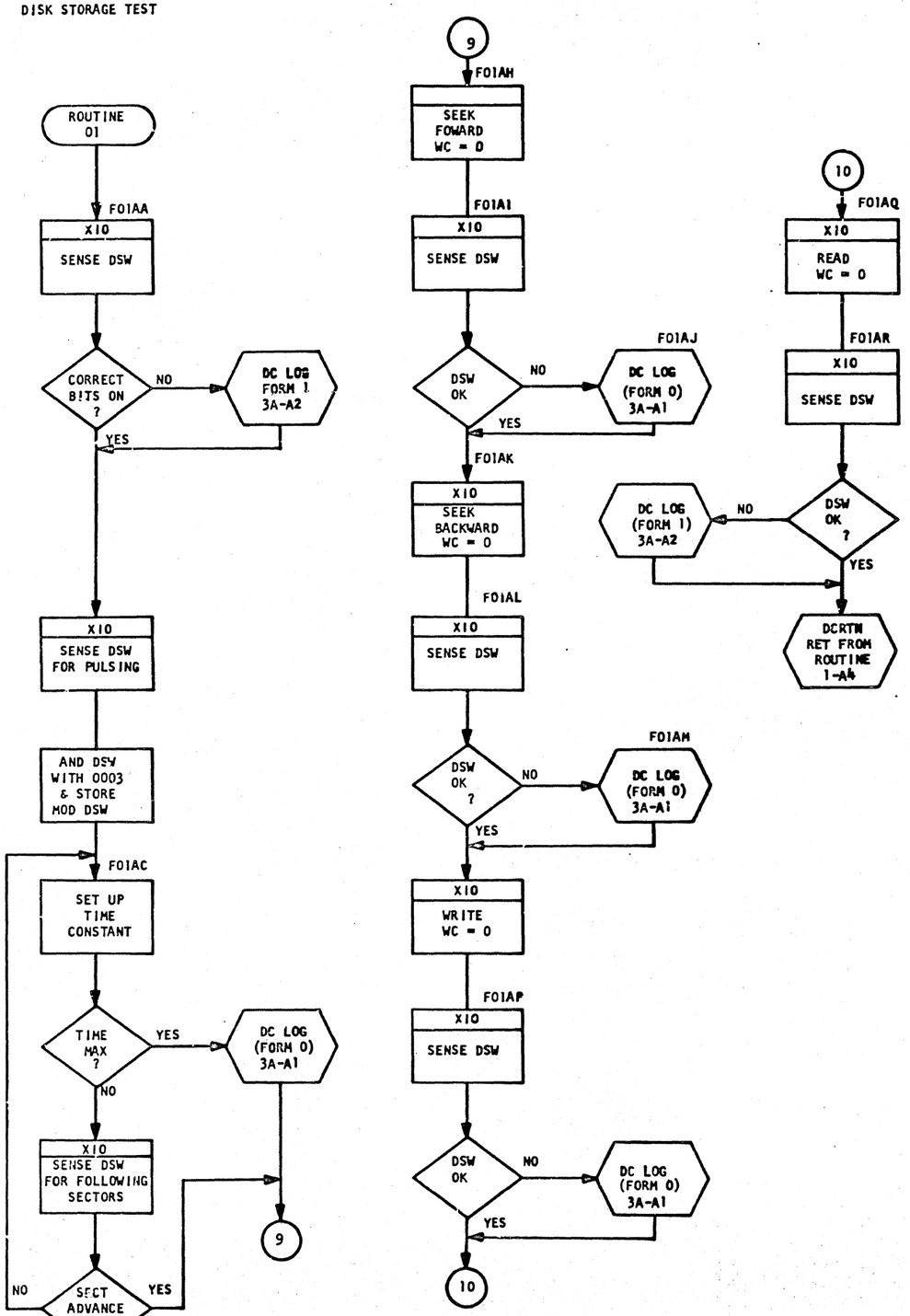
PROG ID 0309-0

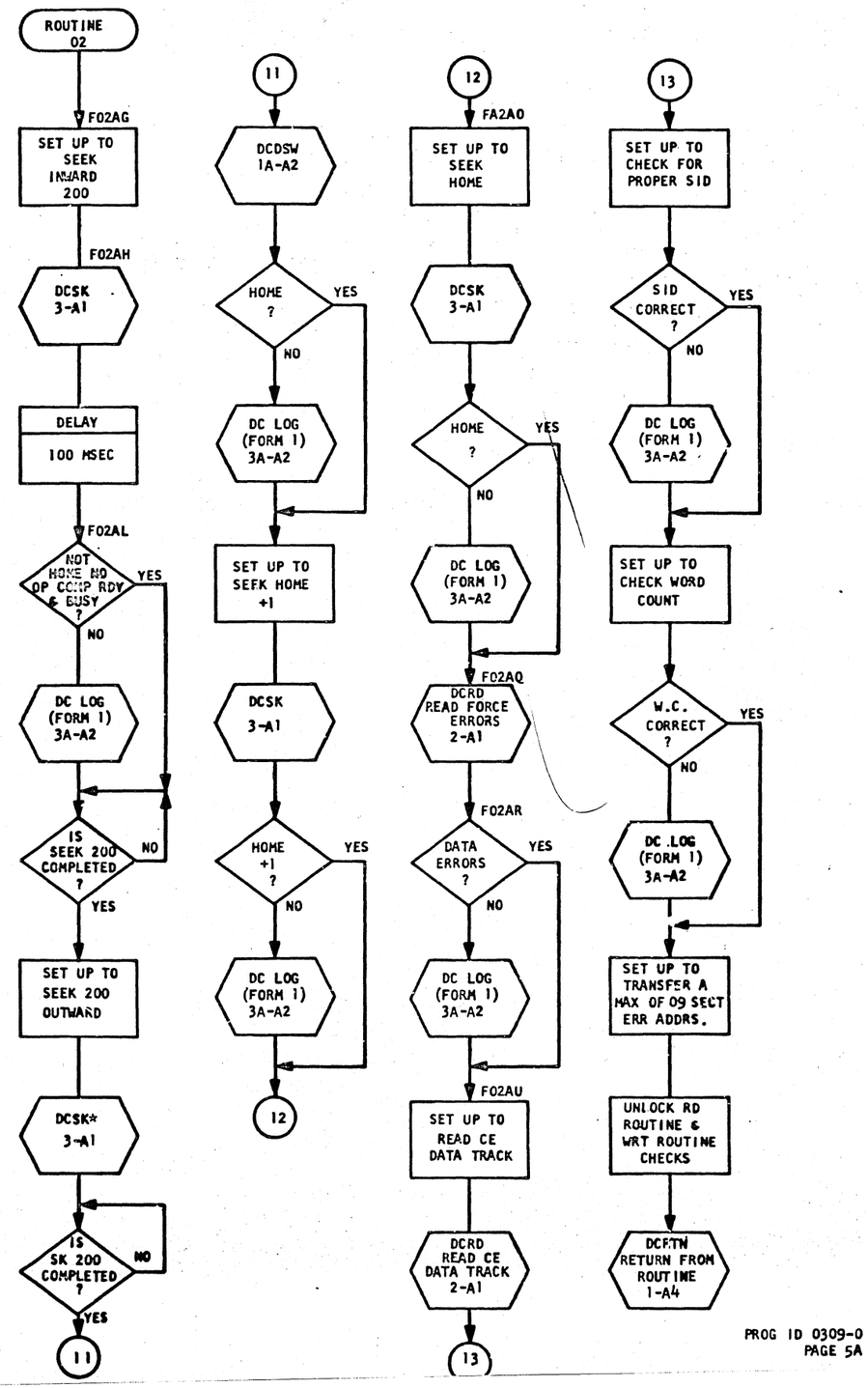

BYPASS CYL
DCABP
LOAD
DESIRED
ADDR
SUB
CYL 93
CHECK
DIFFERENCE
WAS
DESIRED <
THEN
93
YES
NO
RETURN TO
PROG USER
LOAD
DESIRED
ADDR
SUB
CYL 107
WAS
DESIRED
> THEN
107
NO
SET NEW
CYL ADDR
TO 108
YES
DCBPR
RETURN TO
PROG USER

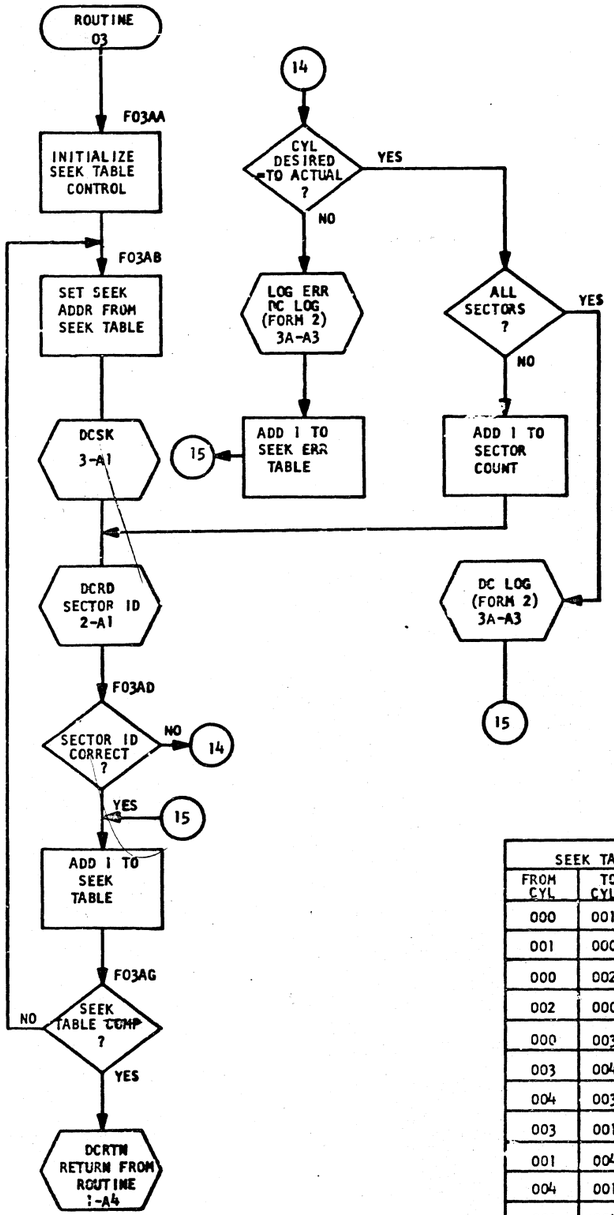

RESEEK
DRESK
ADD 1 TO
SEEK ERR
COUNTER
LOAD &
SAVE DESIRED
ADDR
DC ARM
3-A4
LOAD
DESIRED
ADDR
DCABP
BYPASS
CYLINDER
4-A2
DCSK
3-A1
RETURN TO
PROG USER


ROUTINE
00
F00AA
X10
SENSE DSW
DSW
OK
?
NO
DC LOG
FORM 1
3A-A2
YES
TLOOP
TIMED
DELAY
X10
SENSE DSW
DSW
OK
NO
DC LOG
FORM 1
3A-A2
YES
MSG2R
X10
SEEK
FORWARD
WC = 0
X10
SENSE DSW
DSW
OK
?
NO
DC LOG
FORM 1
3A-A2
YES
8

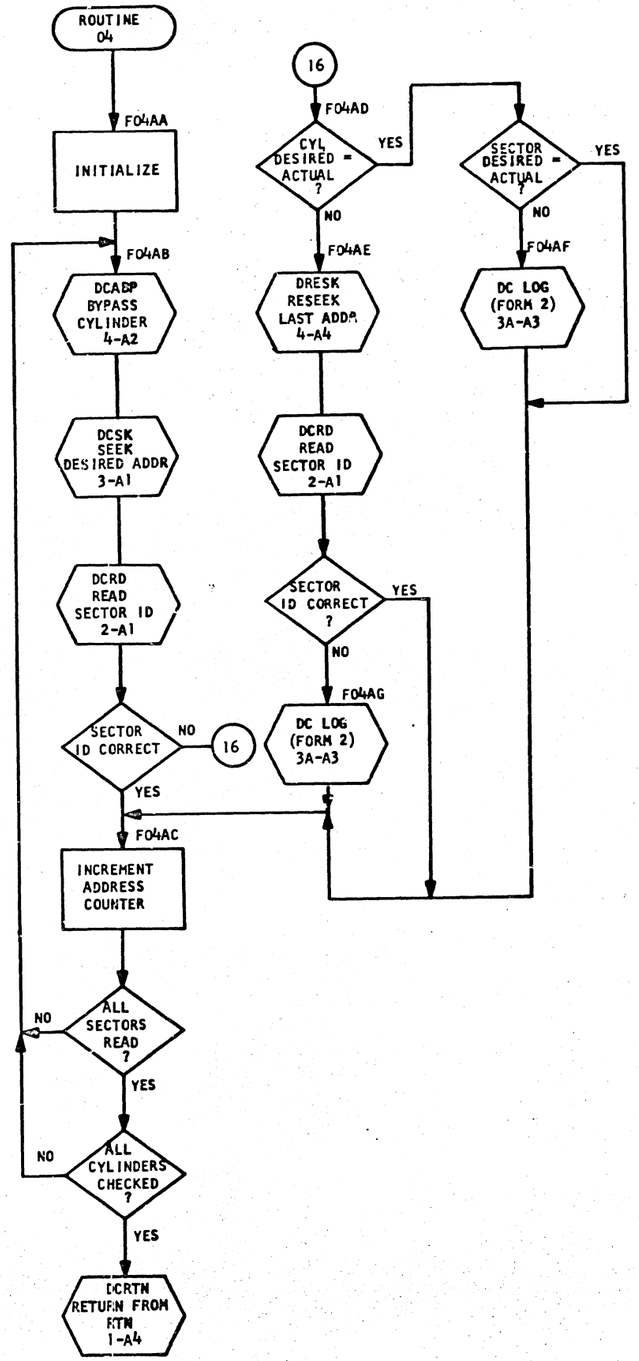

8
MSG3
X10
SEEK
BACKWARD
WC=0
X10
SENSE DSW
DSW
OK
?
NO
DC LOG
FORM 1
3A-A2
YES
MSG3R
X10
READ
WC = 0
X10
SENSE DSW
WC = 0
DSW
OK
NO
DC LOG
FORM 1
3A-A2
YES
MSG4R
X10
WRITE
WC = 0
X10
SENSE DSW
DSW
OK
?
NO
DC LOG
FORM 1
3A-A2
YES
MSG5R
DCM03
A
1-E2

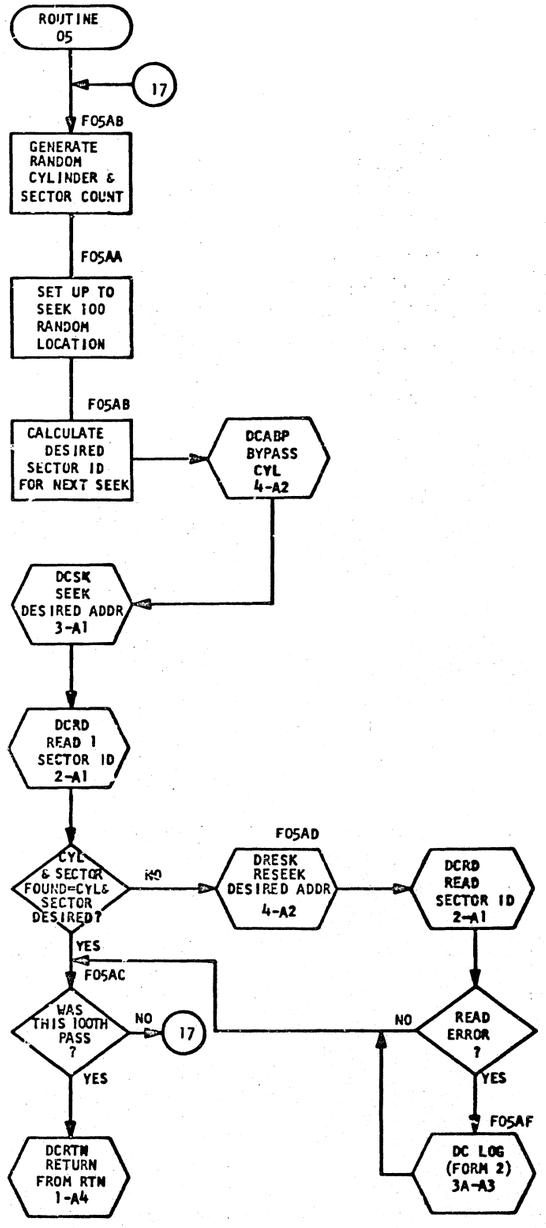

ROUTINE 01
F01AA
X10 SENSE DSW
CORRECT BITS ON ?
NO
DC LOG FORM 1 3A-A2
YES
X10 SENSE DSW FOR PULSING
AND DSW WITH 0003 & STORE MOD DSW
F01AC
SET UP TIME CONSTANT
TIME MAX ?
YES
DC LOG (FORM 0) 3A-A1
NO
X10 SENSE DSW FOR FOLLOWING SECTORS
SECT ADVANCE ?
NO
YES
9
F01AH
SEEK FOWARD WC = 0
F01AI
X10 SENSE DSW
DSW OK
NO
F01AJ
DC LOG (FORM 0) 3A-A1
YES
F01AK
X10 SEEK BACKWARD WC = 0
F01AL
X10 SENSE DSW
DSW OK ?
NO
F01AM
DC LOG (FORM 0) 3A-A1
YES
X10 WRITE WC = 0
F01AP
X10 SENSE DSW
DSW OK
NO
DC LOG (FORM 0) 3A-A1
YES
10
10
F01AQ
X10 READ WC = 0
F01AR
X10 SENSE DSW
DSW OK ?
NO
DC LOG (FORM 1) 3A-A2
YES
DCRTN RET FROM ROUTINE 1-A4

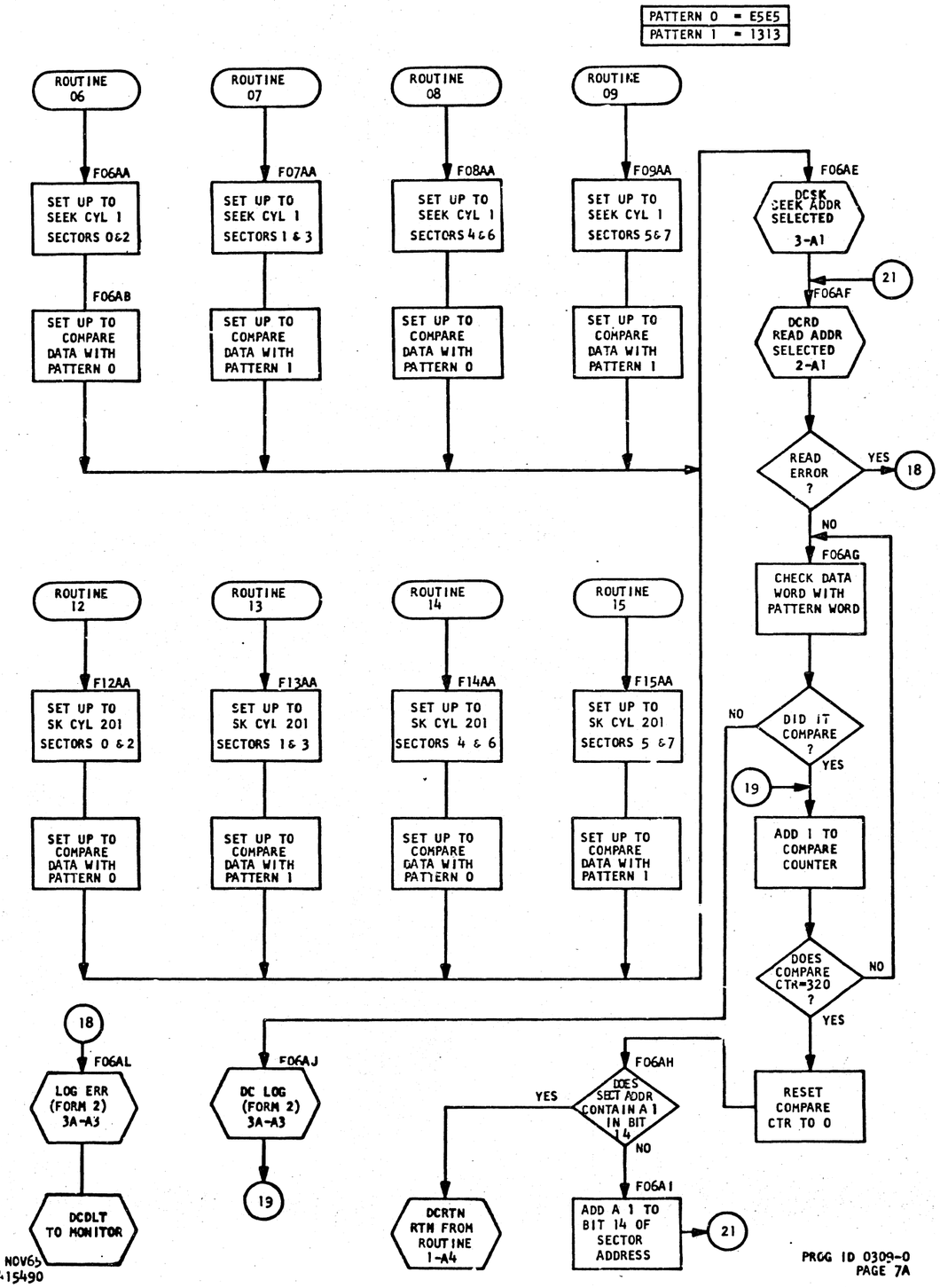

ROUTINE 02
F02AG
SET UP TO SEEK INWARD 200
F02AH
DCSK 3-A1
DELAY 100 MSEC
F02AL
NOT HOME NO OP COMP RDY & BUSY ?
YES
NO
DC LOG (FORM 1) 3A-A2
IS SEEK 200 COMPLETED ?
NO
YES
SET UP TO SEEK 200 OUTWARD
DCSK* 3-A1
IS SK 200 COMPLETED ?
NO
YES
11
11
DCDSW 1A-A2
HOME ?
YES
NO
DC LOG (FORM 1) 3A-A2
SET UP TO SEFK HOME +1
DCSK 3-A1
HOME +1 ?
YES
NO
DC LOG (FORM 1) 3A-A2
12
12
FA2A0
SET UP TO SEEK HOME
DCSK 3-A1
HOME ?
YES
NO
DC LOG (FORM 1) 3A-A2
F02AQ
DCRD READ FORCE ERRORS 2-A1
F02AR
DATA ERRORS ?
YES
NO
DC LOG (FORM 1) 3A-A2
F02AU
SET UP TO READ CE DATA TRACK
DCRD READ CE DATA TRACK 2-A1
13
13
SET UP TO CHECK FOR PROPER SID
SID CORRECT ?
YES
NO
DC LOG (FORM 1) 3A-A2
W.C. CORRECT ?
YES
NO
DC .LOG (FORM 1) 3A-A2
SET UP TO TRANSFER A MAX OF 09 SECT ERR ADDRS.
UNLOCK RD ROUTINE & WRT ROUTINE CHECKS
DCRTN RETURN FROM ROUTINE 1-A4

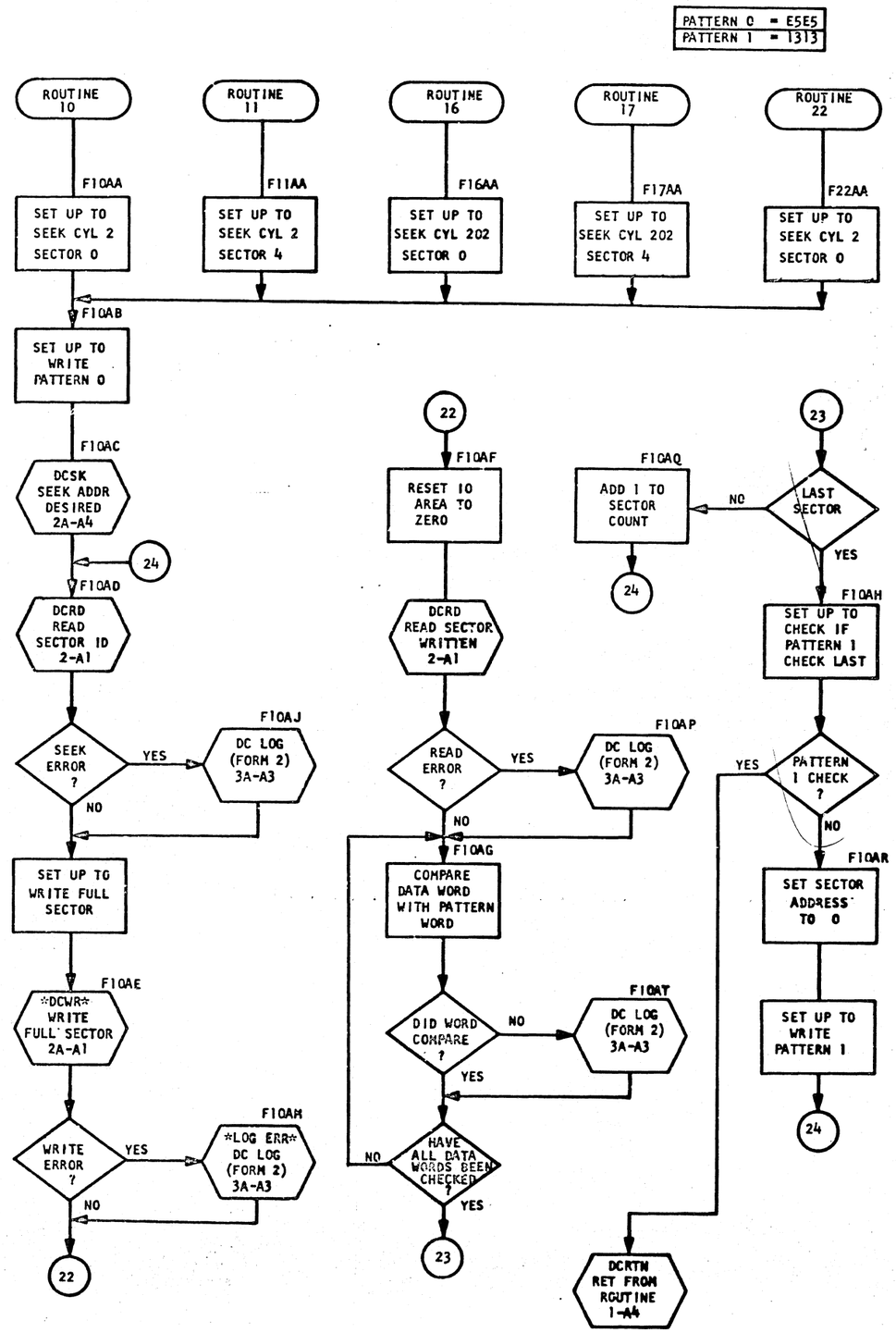


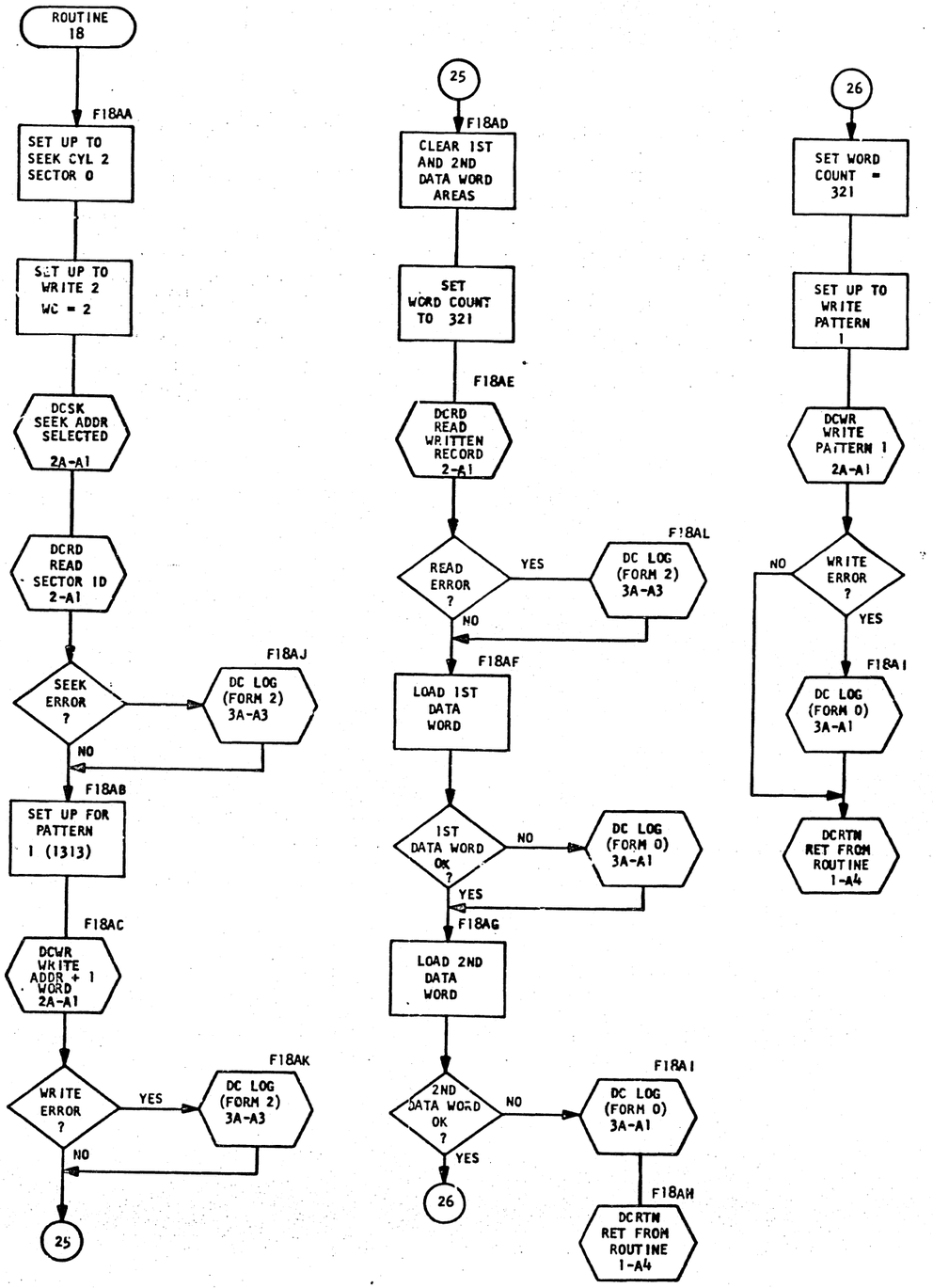
SEEK TABLE		
FROM CYL	TO CYL	CHECKS SEEKS
000	001	+1
001	000	-1
000	002	+2
002	000	-2
000	003	+3
003	004	+1
004	003	-1
003	001	-2
001	004	+3
004	001	-3
001	004	+3
004	001	-3
001	003	+2
003	000	-3

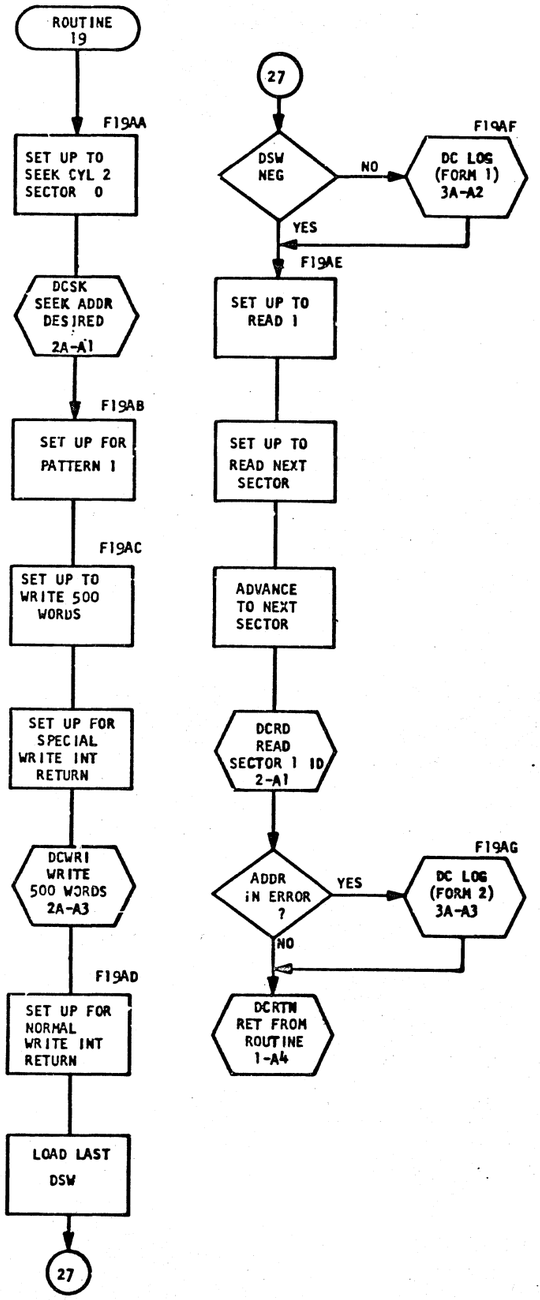


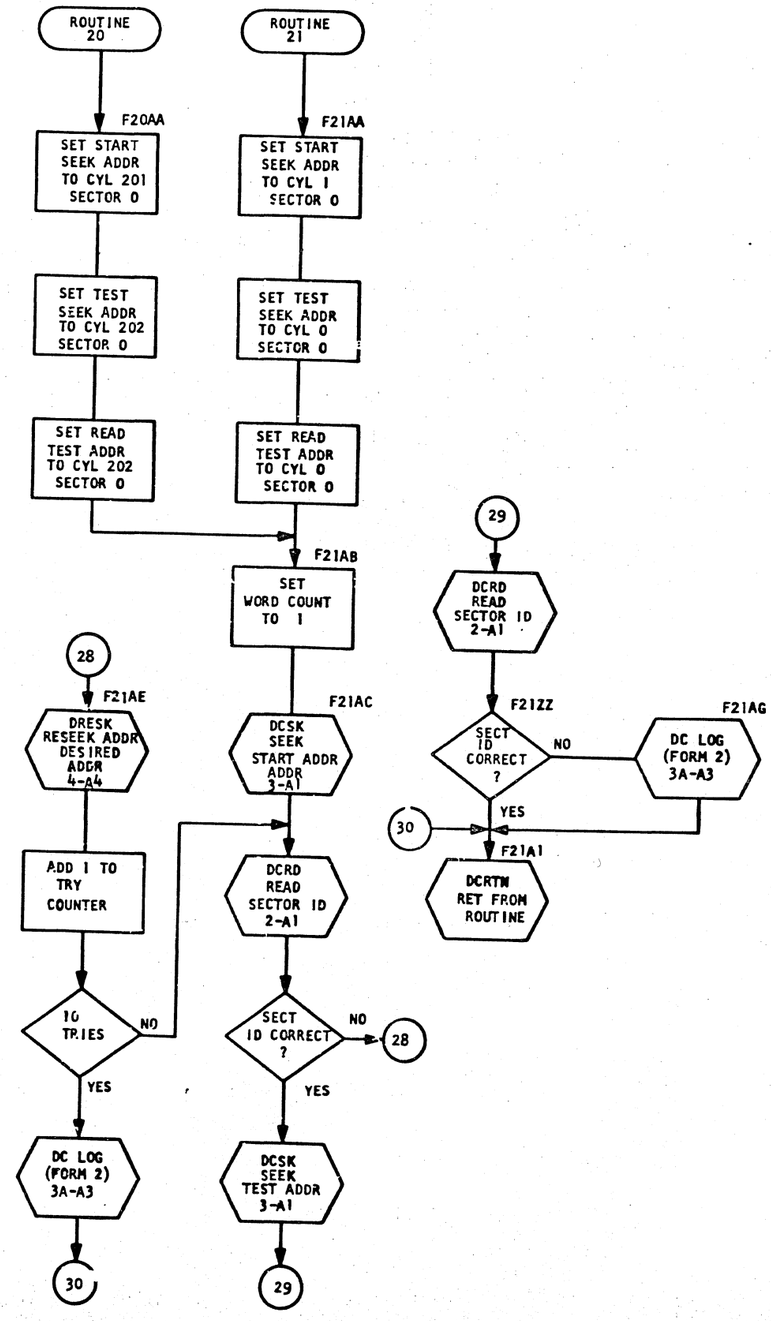

ROUTINE 05
17
F05AB
GENERATE RANDOM CYLINDER & SECTOR COUNT
F05AA
SET UP TO SEEK 100 RANDOM LOCATION
F05AB
CALCULATE DESIRED SECTOR ID FOR NEXT SEEK
DCABP BYPASS CYL 4-A2
DCSK SEEK DESIRED ADDR 3-A1
DCRD READ 1 SECTOR ID 2-A1
F05AD
CYL & SECTOR FOUND=CYL& SECTOR DESIRED?
NO
DRESK RESEEK DESIRED ADDR 4-A2
DCRD READ SECTOR ID 2-A1
YES
F05AC
WAS THIS 100TH PASS ?
NO
17
YES
NO
READ ERROR ?
YES
F05AF
DCRTN RETURN FROM RTN 1-A4
DC LOG (FORM 2) 3A-A3

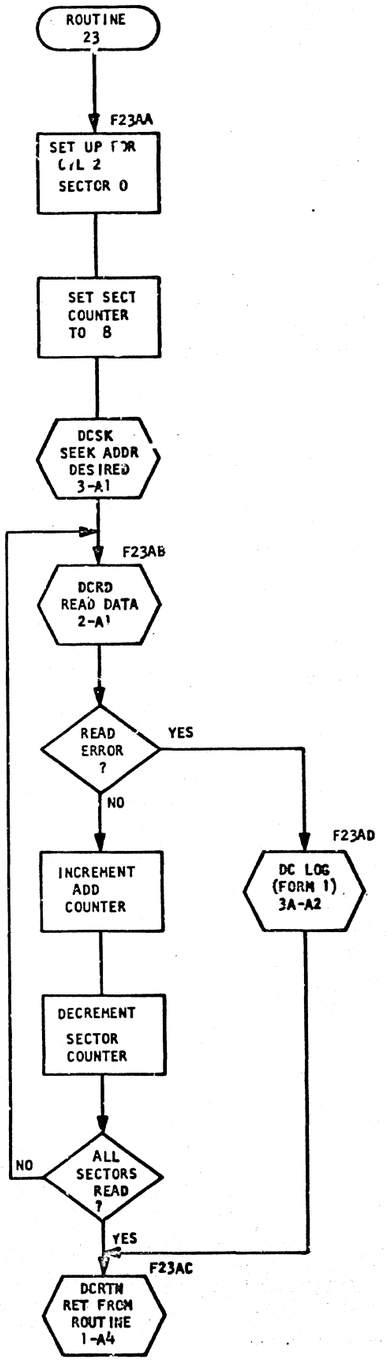

PATTERN 0 = E5E5
PATTERN 1 = 1313
ROUTINE 06
F06AA
SET UP TO SEEK CYL 1 SECTORS 0&2
F06AB
SET UP TO COMPARE DATA WITH PATTERN 0
ROUTINE 07
F07AA
SET UP TO SEEK CYL 1 SECTORS 1 & 3
SET UP TO COMPARE DATA WITH PATTERN 1
ROUTINE 08
F08AA
SET UP TO SEEK CYL 1 SECTORS 4&6
SET UP TO COMPARE DATA WITH PATTERN 0
ROUTINE 09
F09AA
SET UP TO SEEK CYL 1 SECTORS 5&7
SET UP TO COMPARE DATA WITH PATTERN 1
F06AE
DCSK SEEK ADDR SELECTED 3-A1
21
F06AF
DCRD READ ADDR SELECTED 2-A1
READ ERROR ?
YES
18
NO
F06AG
CHECK DATA WORD WITH PATTERN WORD
DID IT COMPARE ?
NO
YES
19
ADD 1 TO COMPARE COUNTER
DOES COMPARE CTR=320 ?
NO
YES
RESET COMPARE CTR TO 0
ROUTINE 12
F12AA
SET UP TO SK CYL 201 SECTORS 0 &2
SET UP TO COMPARE DATA WITH PATTERN 0
ROUTINE 13
F13AA
SET UP TO SK CYL 201 SECTORS 1& 3
SET UP TO COMPARE DATA WITH PATTERN 1
ROUTINE 14
F14AA
SET UP TO SK CYL 201 SECTORS 4 & 6
SET UP TO COMPARE DATA WITH PATTERN 0
ROUTINE 15
F15AA
SET UP TO SK CYL 201 SECTORS 5 &7
SET UP TO COMPARE DATA WITH PATTERN 1
18
F06AL
LOG ERR (FORM 2) 3A-A3
DCDLT TO MONITOR
F06AJ
DC LOG (FORM 2) 3A-A3
19
F06AH
DOES SECT ADDR CONTAIN A 1 IN BIT 14
YES
NO
DCRTN RTN FROM ROUTINE 1-A4
F06AI
ADD A 1 TO BIT 14 OF SECTOR ADDRESS
21

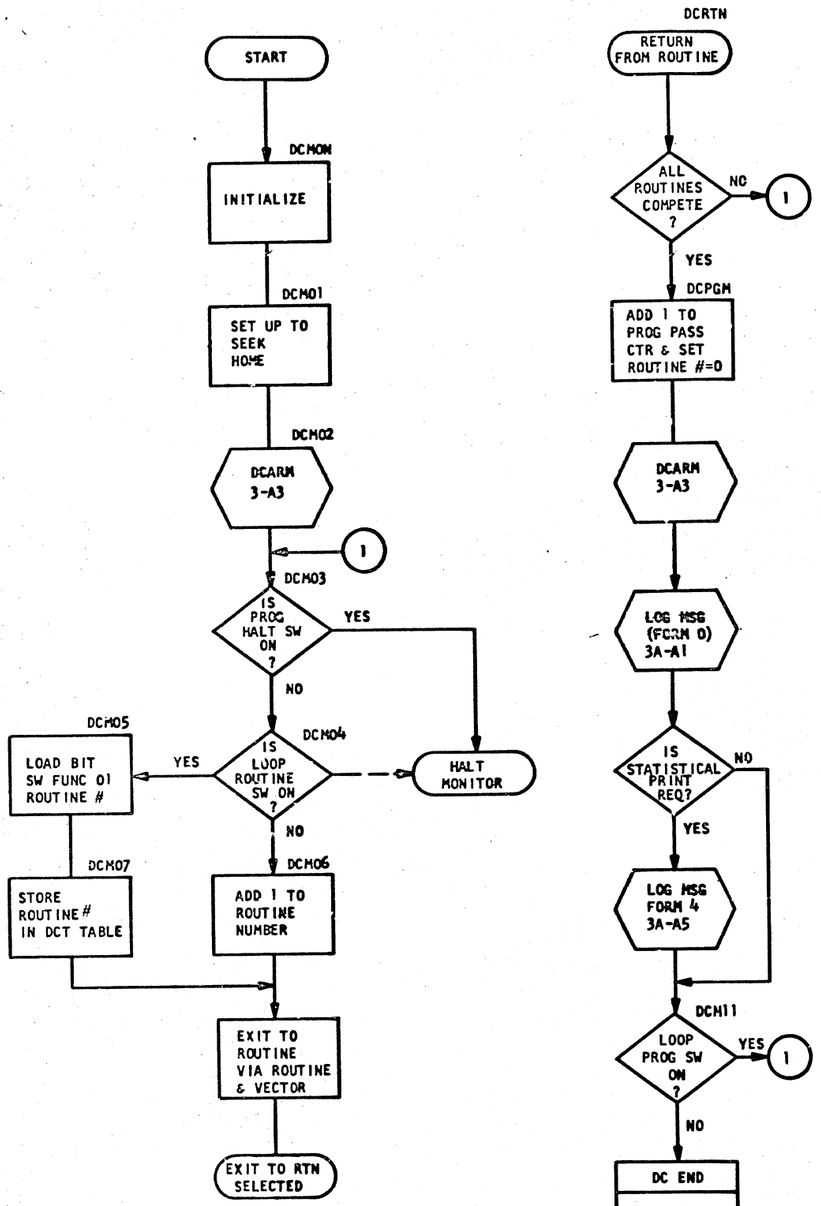

PATTERN 0 = E5E5
PATTERN 1 = 1313
ROUTINE 10
ROUTINE 11
ROUTINE 16
ROUTINE 17
ROUTINE 22
F10AA
SET UP TO SEEK CYL 2 SECTOR 0
F11AA
SET UP TO SEEK CYL 2 SECTOR 4
F16AA
SET UP TO SEEK CYL 202 SECTOR 0
F17AA
SET UP TO SEEK CYL 202 SECTOR 4
F22AA
SET UP TO SEEK CYL 2 SECTOR 0
F10AB
SET UP TO WRITE PATTERN 0
F10AC
DCSK SEEK ADDR DESIRED 2A-A4
24
F10AD
DCRD READ SECTOR ID 2-A1
SEEK ERROR ?
YES
F10AJ
DC LOG (FORM 2) 3A-A3
NO
SET UP TO WRITE FULL SECTOR
F10AE
DCWR WRITE FULL SECTOR 2A-A1
WRITE ERROR ?
YES
F10AM
LOG ERR DC LOG (FORM 2) 3A-A3
NO
22
22
F10AF
RESET IO AREA TO ZERO
DCRD READ SECTOR WRITTEN 2-A1
READ ERROR ?
YES
F10AP
DC LOG (FORM 2) 3A-A3
NO
F10AG
COMPARE DATA WORD WITH PATTERN WORD
DID WORD COMPARE ?
NO
F10AT
DC LOG (FORM 2) 3A-A3
YES
HAVE ALL DATA WORDS BEEN CHECKED ?
NO
YES
23
F10AQ
ADD 1 TO SECTOR COUNT
24
23
LAST SECTOR
NO
YES
F10AH
SET UP TO CHECK IF PATTERN 1 CHECK LAST
PATTERN 1 CHECK ?
YES
NO
F10AR
SET SECTOR ADDRESS TO 0
SET UP TO WRITE PATTERN 1
24
DCRTN RET FROM ROUTINE 1-A4


ROUTINE 18
F18AA
SET UP TO SEEK CYL 2 SECTOR 0
SET UP TO WRITE 2 WC = 2
DCSK SEEK ADDR SELECTED 2A-A1
DCRD READ SECTOR ID 2-A1
SEEK ERROR ?
YES
F18AJ
DC LOG (FORM 2) 3A-A3
NO
F18AB
SET UP FOR PATTERN 1 (1313)
F18AC
DCWR WRITE ADDR + 1 WORD 2A-A1
WRITE ERROR ?
YES
F18AK
DC LOG (FORM 2) 3A-A3
NO
25
25
F18AD
CLEAR 1ST AND 2ND DATA WORD AREAS
SET WORD COUNT TO 321
F18AE
DCRD READ WRITTEN RECORD 2-A1
READ ERROR ?
YES
F18AL
DC LOG (FORM 2) 3A-A3
NO
F18AF
LOAD 1ST DATA WORD
1ST DATA WORD OK ?
NO
DC LOG (FORM 0) 3A-A1
YES
F18AG
LOAD 2ND DATA WORD
2ND DATA WORD OK ?
NO
F18AI
DC LOG (FORM 0) 3A-A1
YES
26
26
SET WORD COUNT = 321
SET UP TO WRITE PATTERN 1
DCWR WRITE PATTERN 1 2A-A1
WRITE ERROR ?
NO
YES
F18AI
DC LOG (FORM 0) 3A-A1
DCRTN RET FROM ROUTINE 1-A4


ROUTINE 19
F19AA
SET UP TO SEEK CYL 2 SECTOR 0
DCSK SEEK ADDR DESIRED 2A-A1
F19AB
SET UP FOR PATTERN 1
F19AC
SET UP TO WRITE 500 WORDS
SET UP FOR SPECIAL WRITE INT RETURN
DCWRI WRITE 500 WORDS 2A-A3
F19AD
SET UP FOR NORMAL WRITE INT RETURN
LOAD LAST DSW
27
27
DSW NEG
NO
F19AF
DC LOG (FORM 1) 3A-A2
YES
F19AE
SET UP TO READ 1
SET UP TO READ NEXT SECTOR
ADVANCE TO NEXT SECTOR
DCRD READ SECTOR 1 ID 2-A1
ADDR IN ERROR ?
YES
F19AG
DC LOG (FORM 2) 3A-A3
NO
DCRTN RET FROM ROUTINE 1-A4

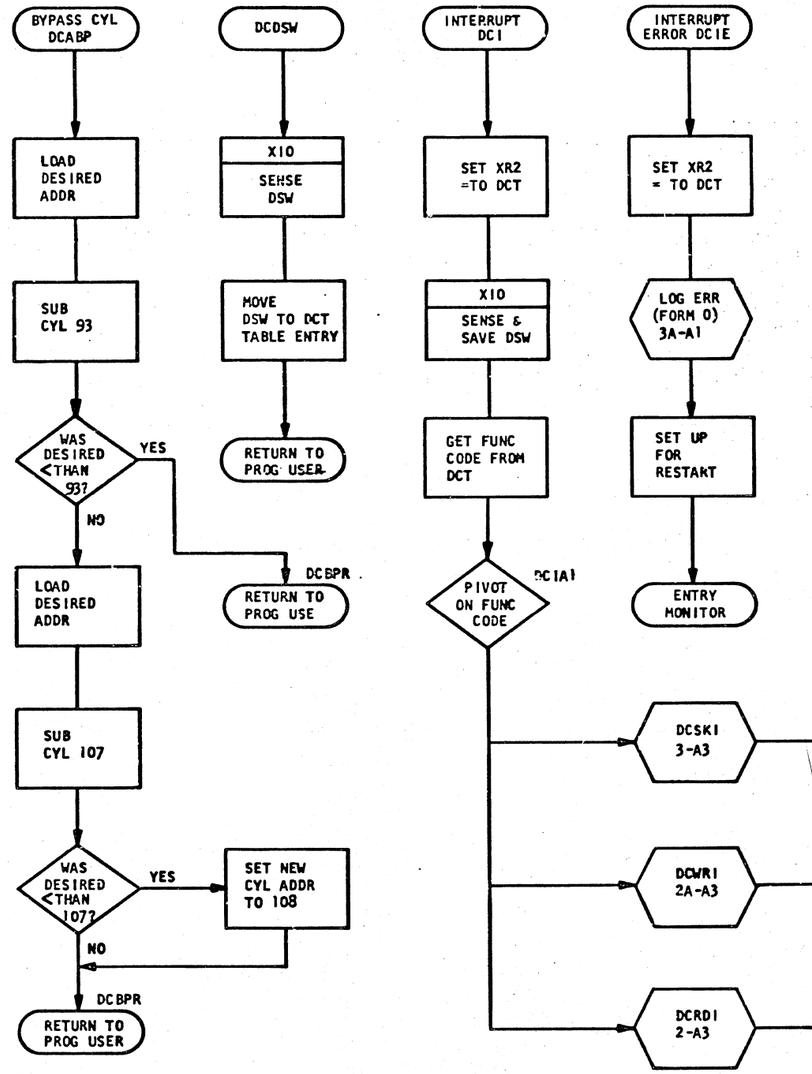

ROUTINE 20
F20AA
SET START SEEK ADDR TO CYL 201 SECTOR 0
SET TEST SEEK ADDR TO CYL 202 SECTOR 0
SET READ TEST ADDR TO CYL 202 SECTOR 0
ROUTINE 21
F21AA
SET START SEEK ADDR TO CYL 1 SECTOR 0
SET TEST SEEK ADDR TO CYL 0 SECTOR 0
SET READ TEST ADDR TO CYL 0 SECTOR 0
F21AB
SET WORD COUNT TO 1
28
F21AE
DRESK RESEEK ADDR DESIRED ADDR 4-A4
ADD 1 TO TRY COUNTER
10 TRIES
NO
YES
DC LOG (FORM 2) 3A-A3
30
F21AC
DCSK SEEK START ADDR ADDR 3-A1
DCRD READ SECTOR ID 2-A1
SECT ID CORRECT ?
NO
28
YES
DCSK SEEK TEST ADDR 3-A1
29
29
DCRD READ SECTOR ID 2-A1
F21ZZ
SECT ID CORRECT ?
NO
F21AG
DC LOG (FORM 2) 3A-A3
YES
30
F21A1
DCRTN RET FROM ROUTINE


ROUTINE 23
F23AA
SET UP FOR C/L 2 SECTOR 0
SET SECT COUNTER TO 8
DCSK SEEK ADDR DESIRED 3-A1
F23AB
DCRD READ DATA 2-A1
READ ERROR ?
YES
NO
F23AD
DC LOG (FORM 1) 3A-A2
INCREMENT ADD COUNTER
DECREMENT SECTOR COUNTER
NO
ALL SECTORS READ ?
YES
F23AC
DCRTN RET FROM ROUTINE 1-A4



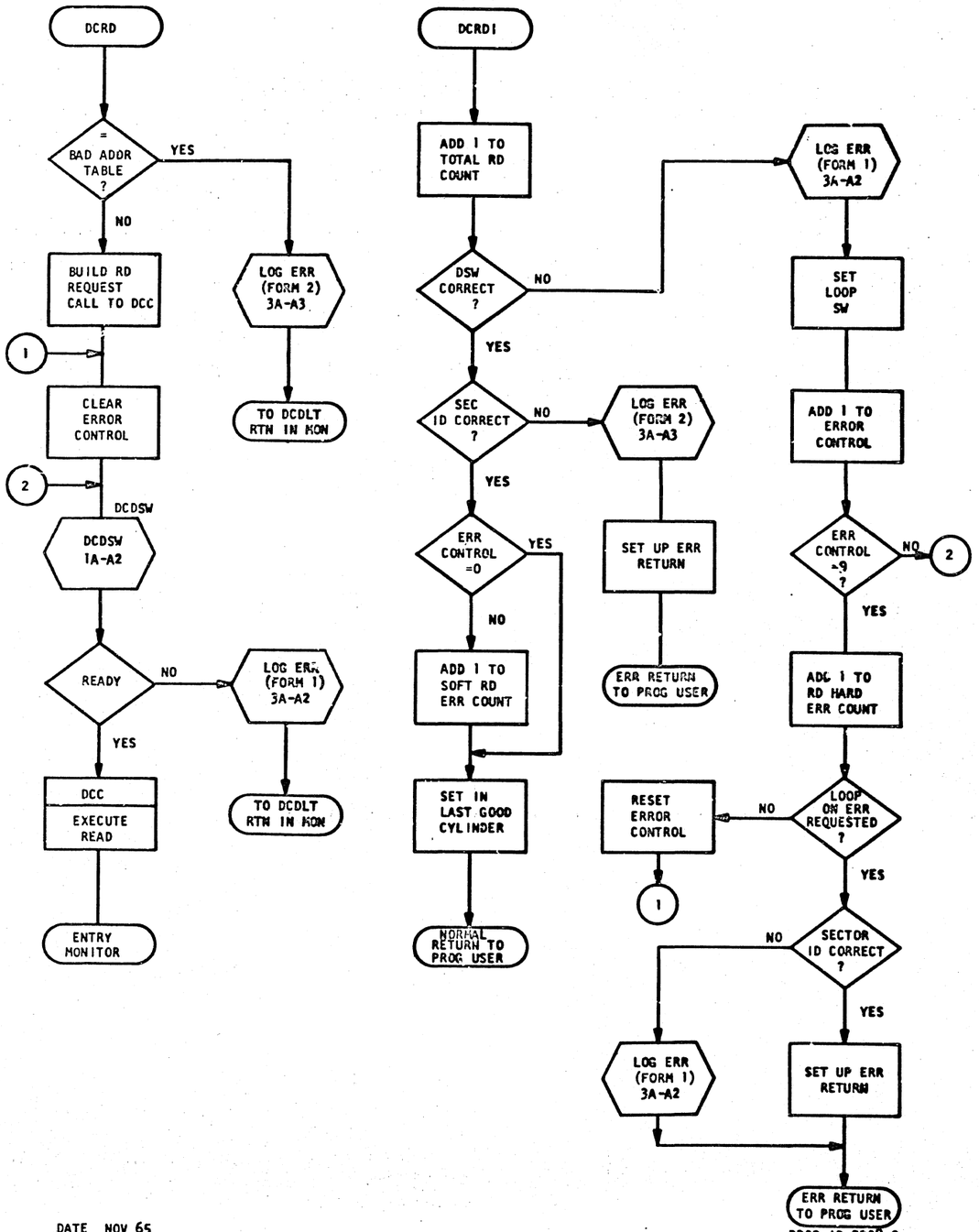
DATE NOV 65
E/C 415490

PROG 0308-0
PAGE 1



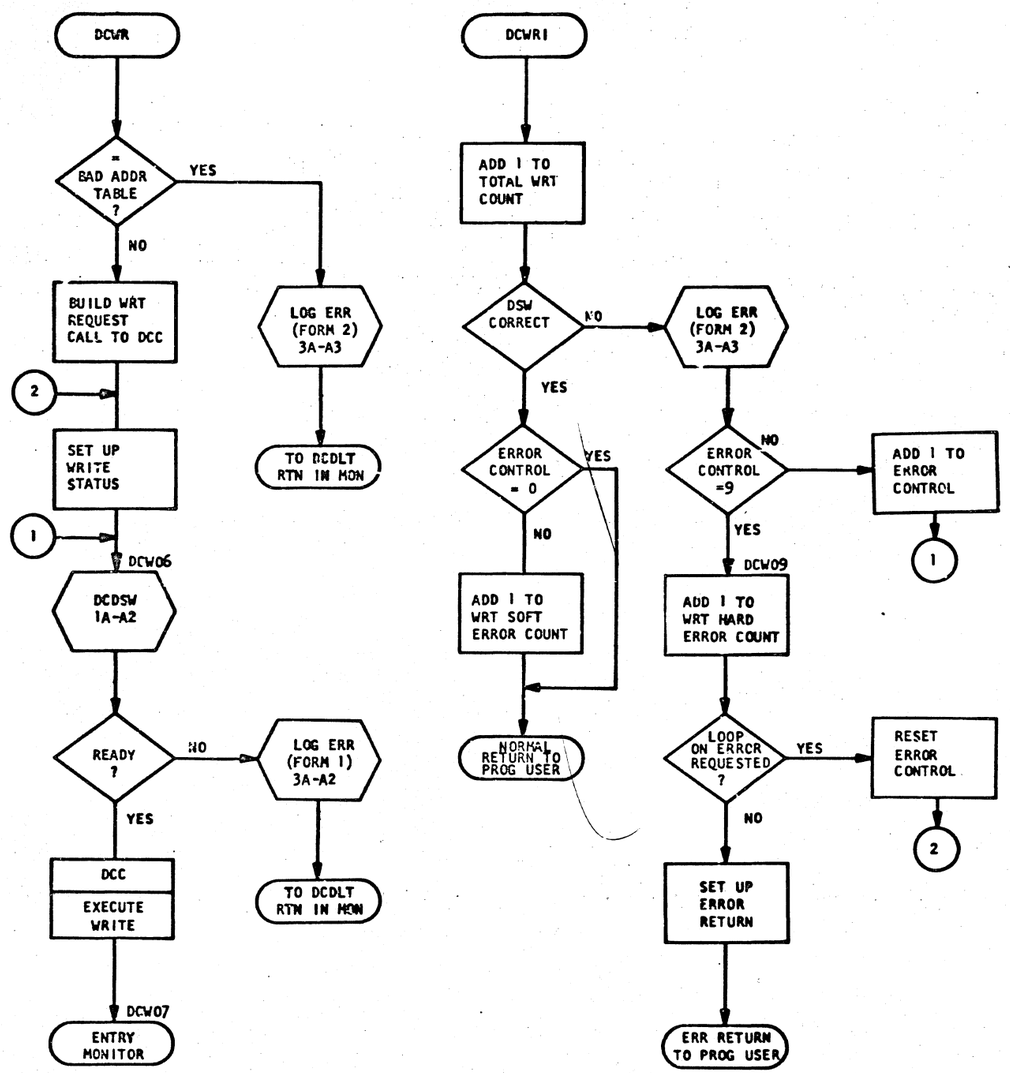
DATE NOV 65
E/C 415490

PROG ID 0308-0
PAGE 1A



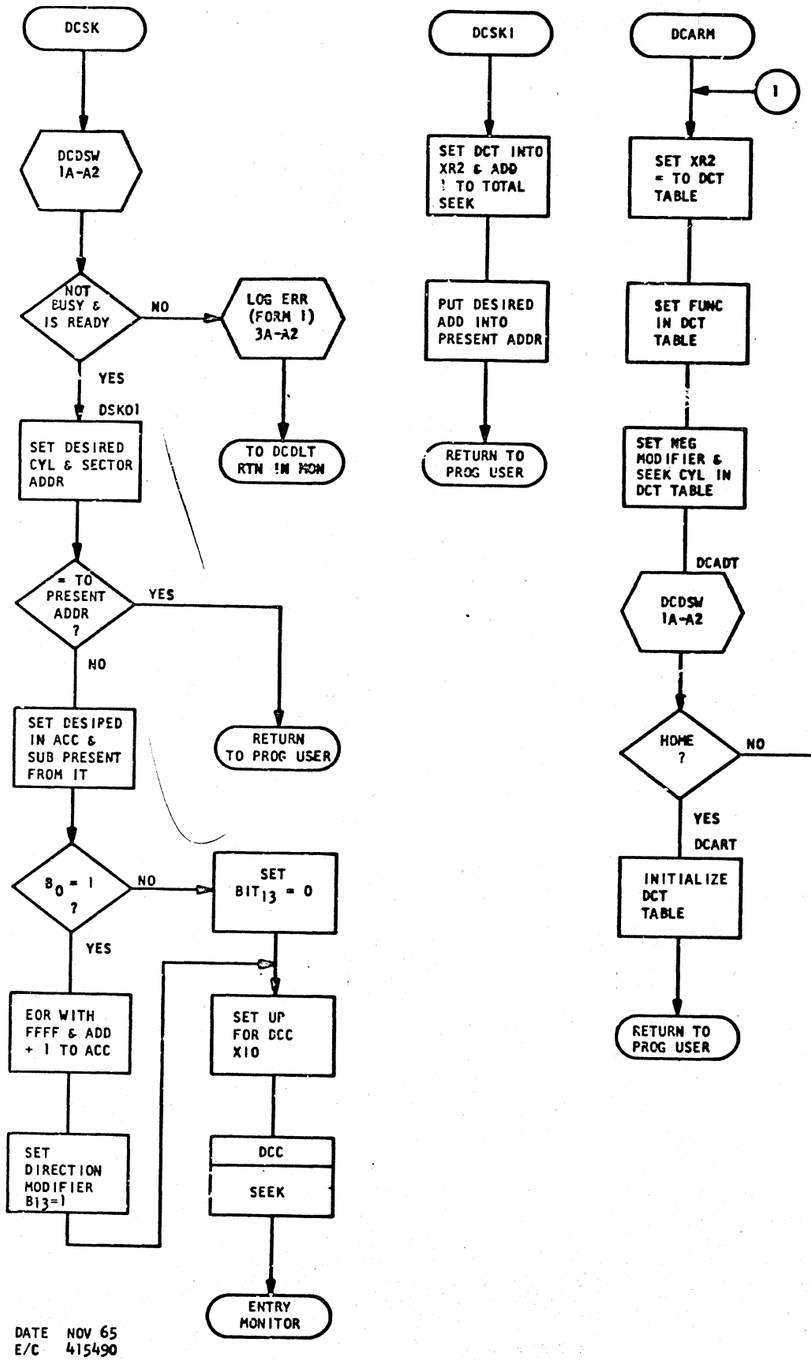
DATE NOV 65
E/C 415490

PROG ID 0308-0
PAGE 2



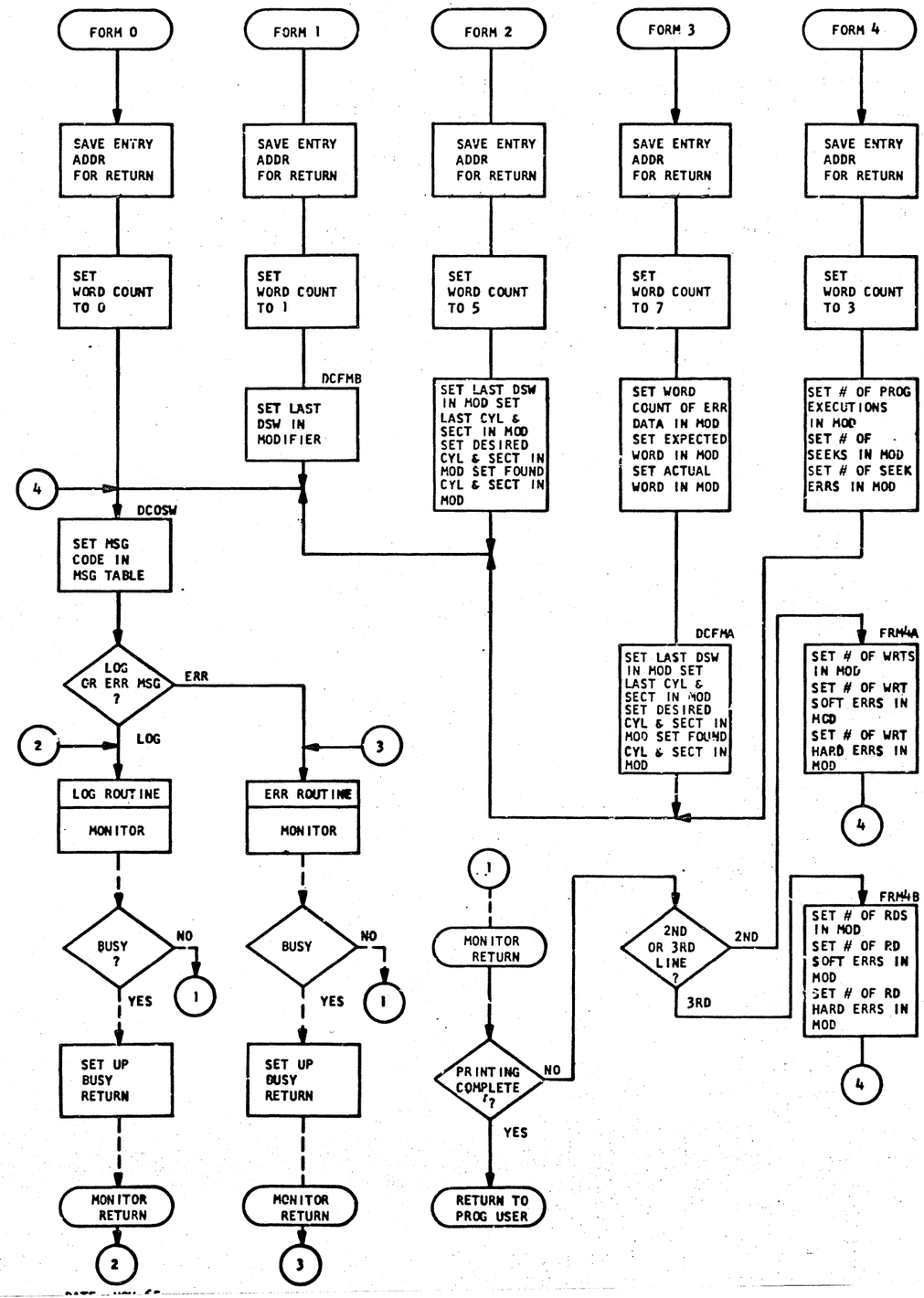
DATE NOV 65
E/C 415490

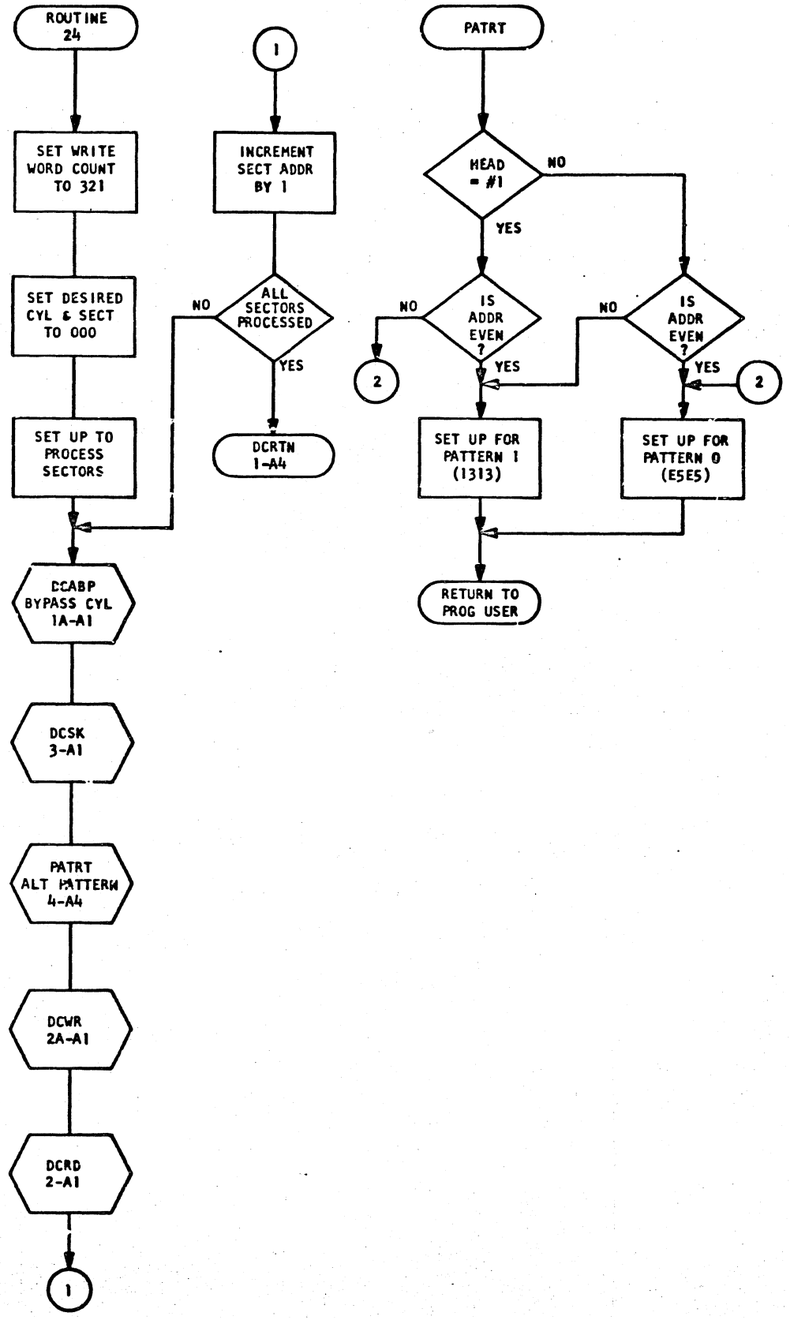
PROG ID 0308-0
PAGE 2A

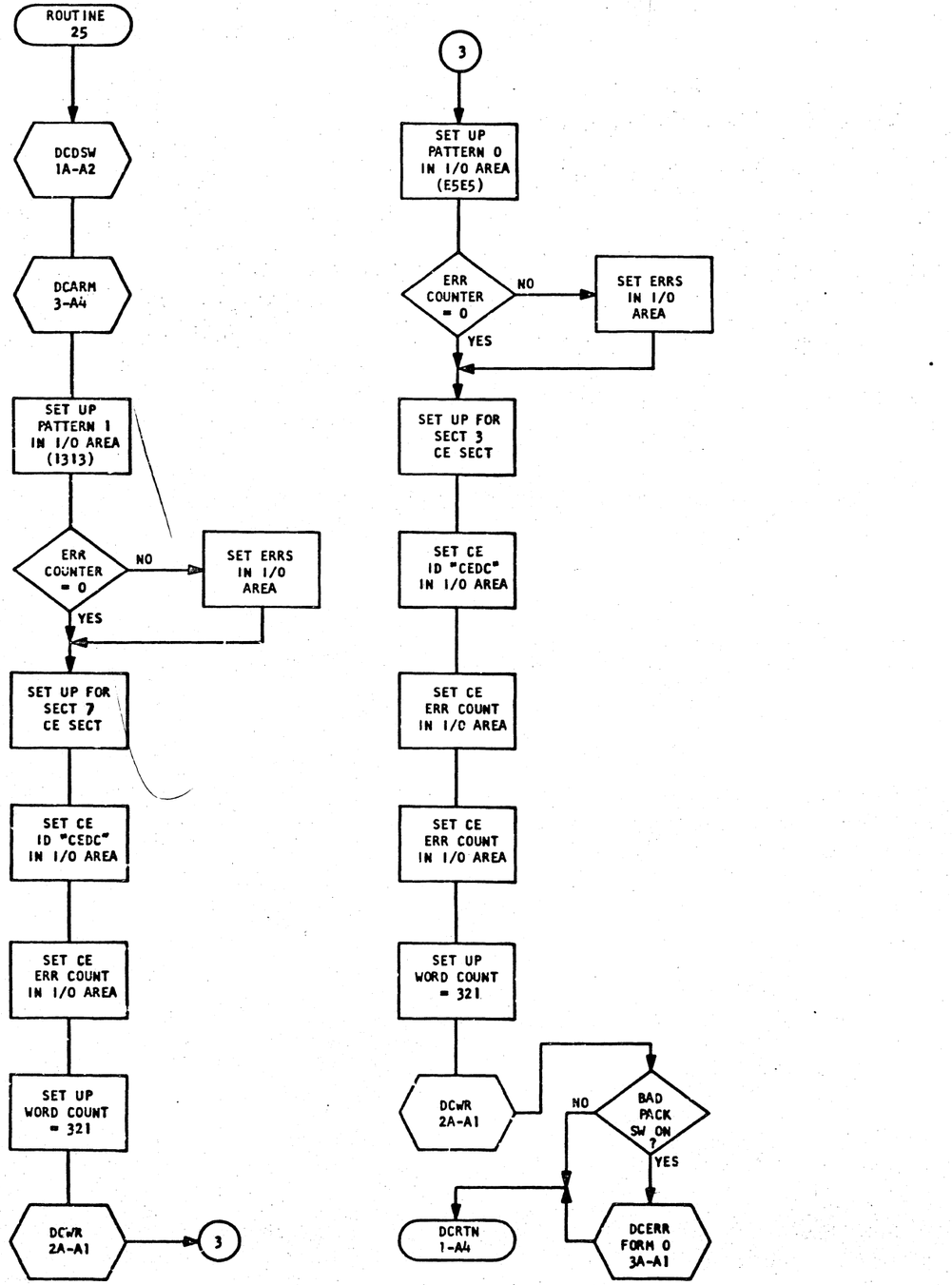


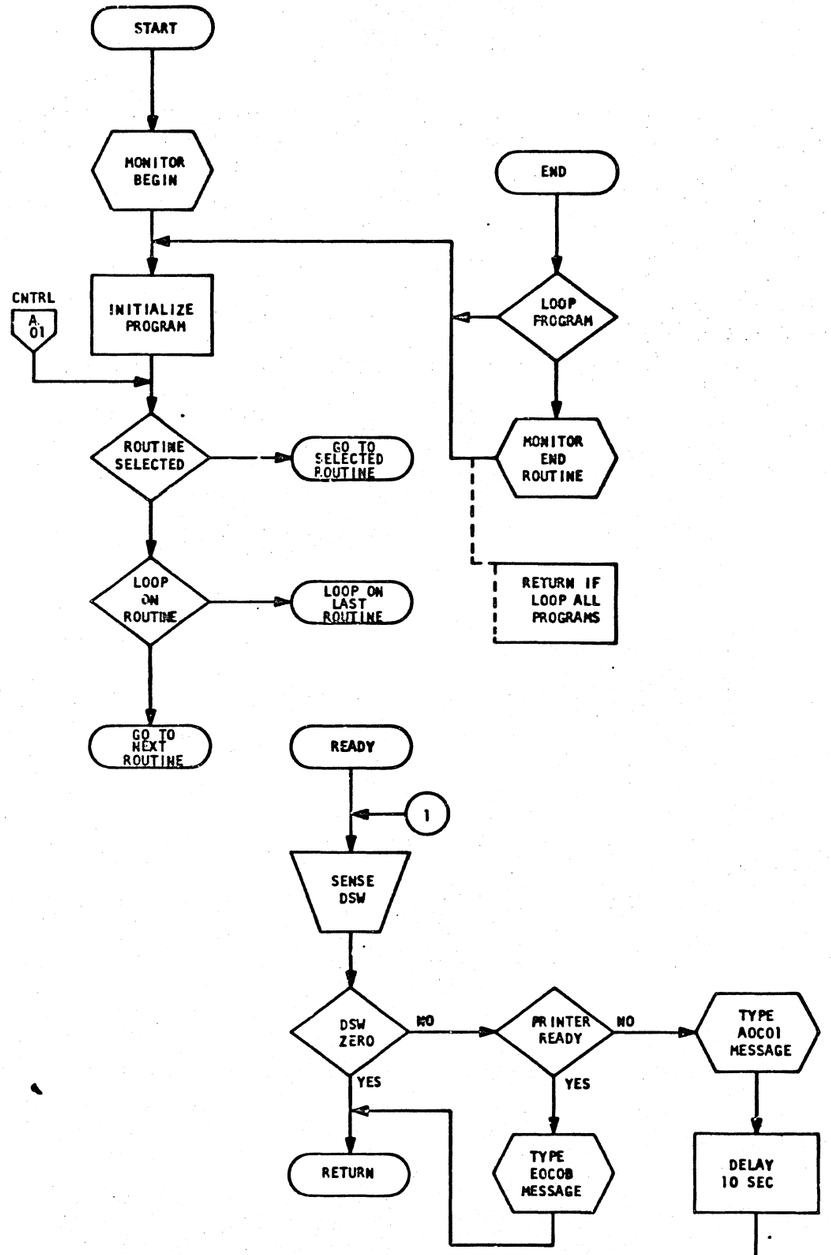
DATE NOV 65
E/C 415490

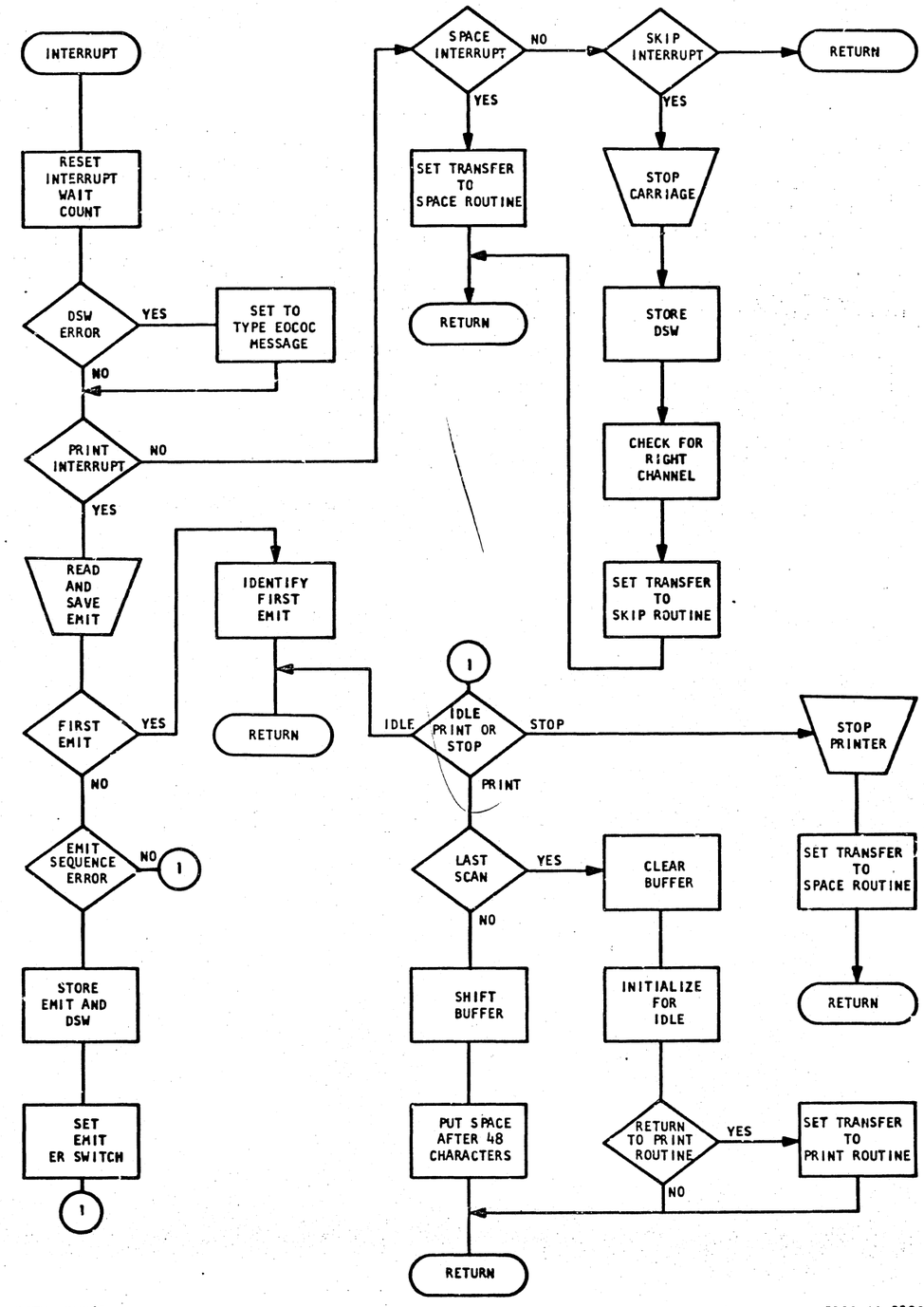
PROG ID 0308-0
PAGE 3

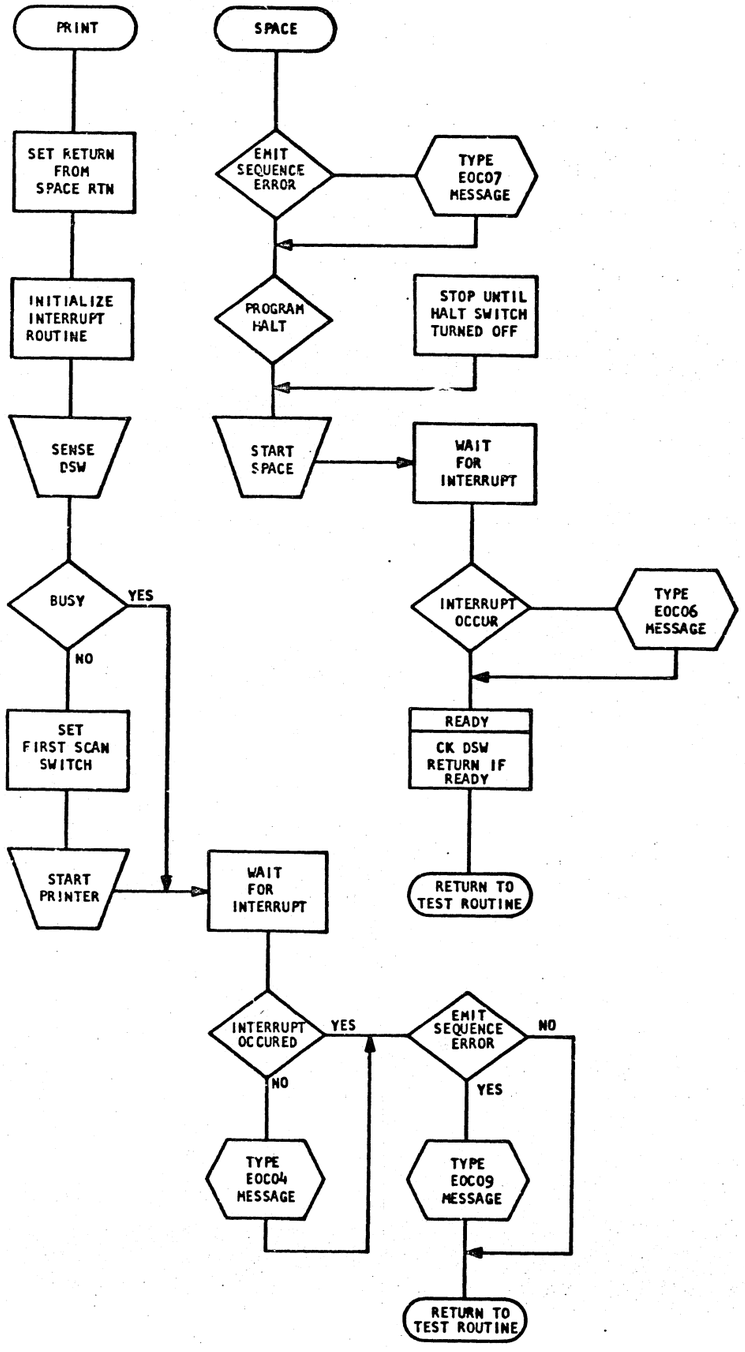


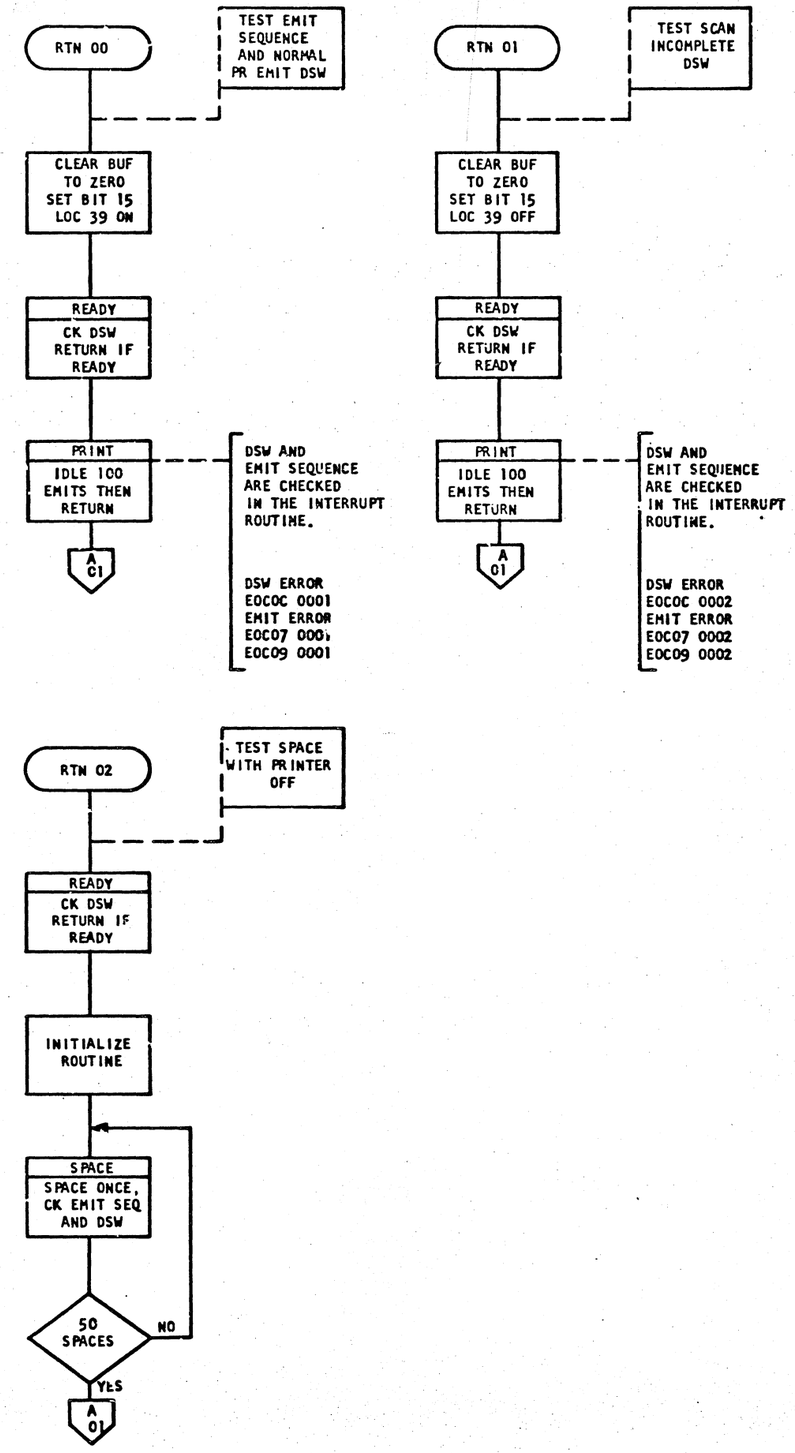

ROUTINE 24
SET WRITE WORD COUNT TO 321
SET DESIRED CYL & SECT TO 000
SET UP TO PROCESS SECTORS
DCABP BYPASS CYL 1A-A1
DCSK 3-A1
PATRT ALT PATTERN 4-A4
DCWR 2A-A1
DCRD 2-A1
1
INCREMENT SECT ADDR BY 1
ALL SECTORS PROCESSED
NO
YES
DCRTN 1-A4
PATRT
HEAD = #1
NO
YES
IS ADDR EVEN ?
NO
YES
2
SET UP FOR PATTERN 1 (1313)
IS ADDR EVEN ?
NO
YES
2
SET UP FOR PATTERN 0 (E5E5)
RETURN TO PROG USER

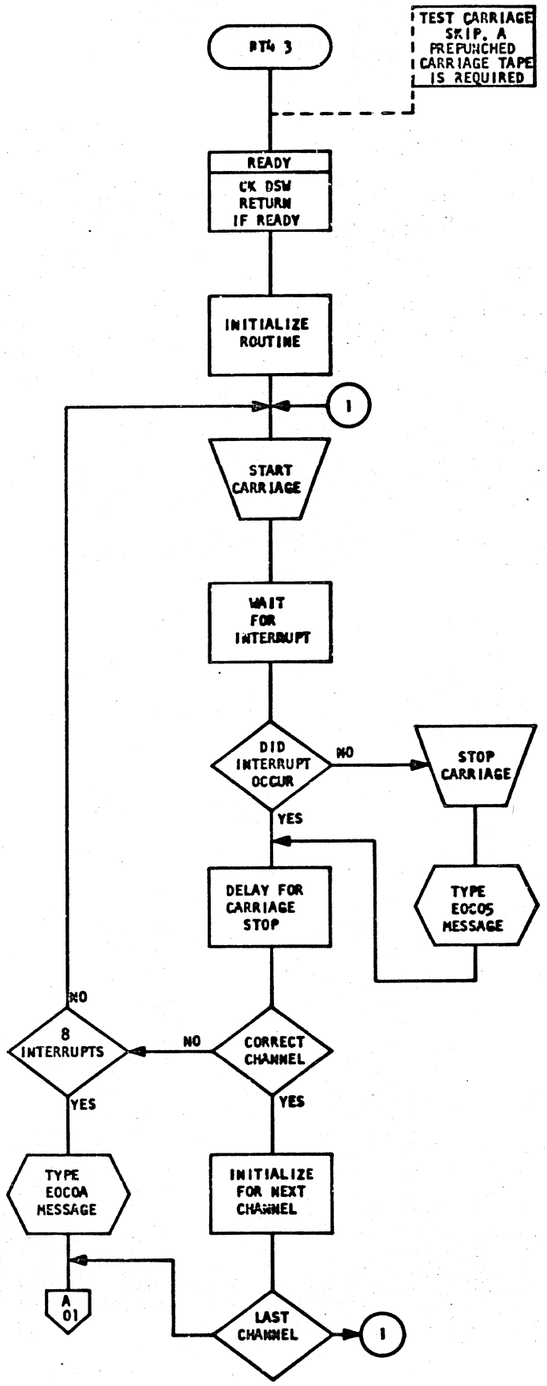

ROUTINE 25
DCDSW 1A-A2
DCARM 3-A4
SET UP PATTERN 1 IN I/O AREA (1313)
ERR COUNTER = 0
NO
YES
SET ERRS IN I/O AREA
SET UP FOR SECT 7 CE SECT
SET CE ID "CEDC" IN I/O AREA
SET CE ERR COUNT IN I/O AREA
SET UP WORD COUNT = 321
DCWR 2A-A1
3
3
SET UP PATTERN 0 IN I/O AREA (E5E5)
ERR COUNTER = 0
NO
YES
SET ERRS IN I/O AREA
SET UP FOR SECT 3 CE SECT
SET CE ID "CEDC" IN I/O AREA
SET CE ERR COUNT IN I/O AREA
SET CE ERR COUNT IN I/O AREA
SET UP WORD COUNT = 321
DCWR 2A-A1
NO
BAD PACK SW ON ?
YES
DCRTN 1-A4
DCERR FORM 0 3A-A1

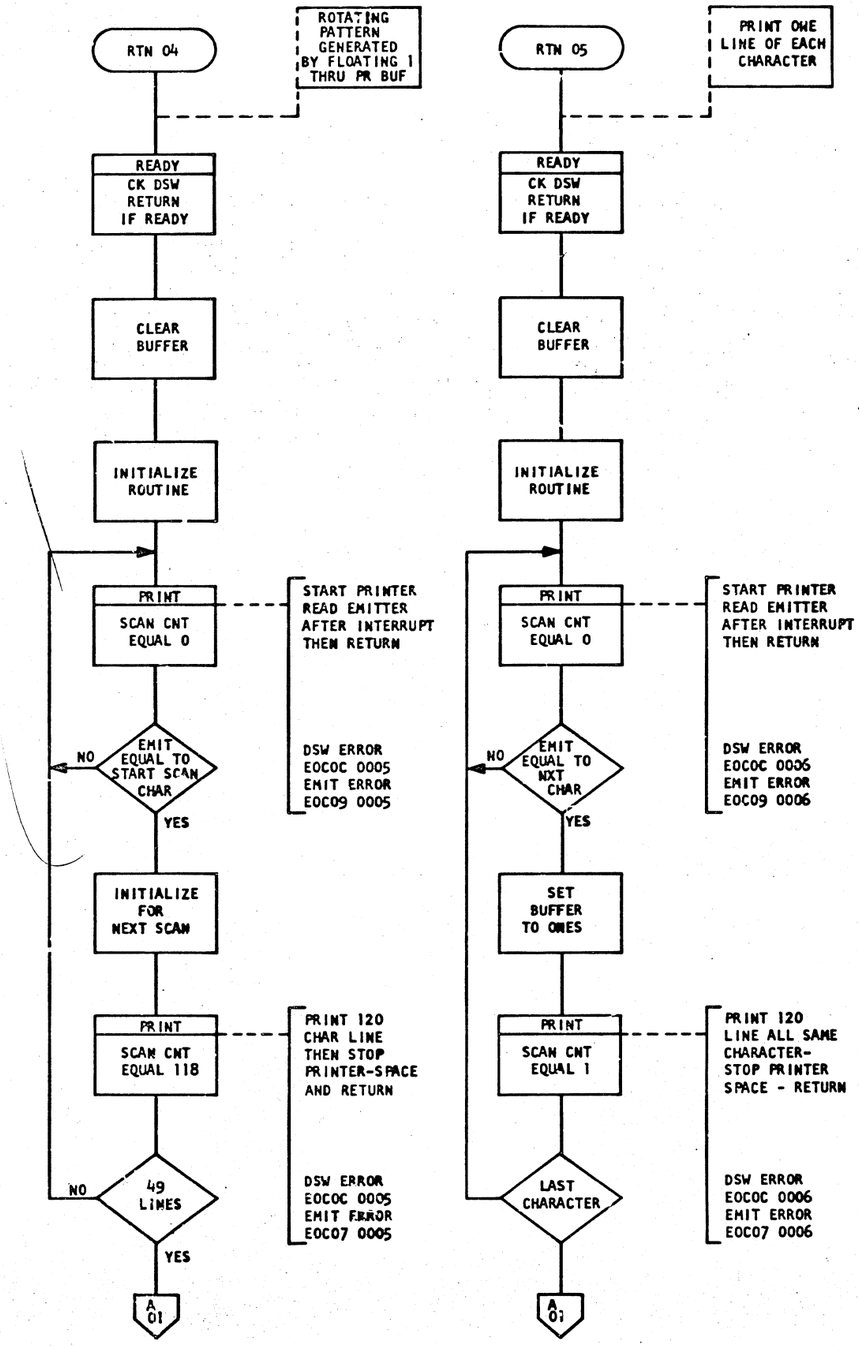

START
MONITOR BEGIN
CNTRL A 01
INITIALIZE PROGRAM
ROUTINE SELECTED
GO TO SELECTED ROUTINE
LOOP ON ROUTINE
LOOP ON LAST ROUTINE
GO TO NEXT ROUTINE
END
LOOP PROGRAM
MONITOR END ROUTINE
RETURN IF LOOP ALL PROGRAMS
READY
1
SENSE DSW
DSW ZERO
NO
YES
PRINTER READY
NO
YES
TYPE A0C01 MESSAGE
RETURN
TYPE E0C0B MESSAGE
DELAY 10 SEC
1

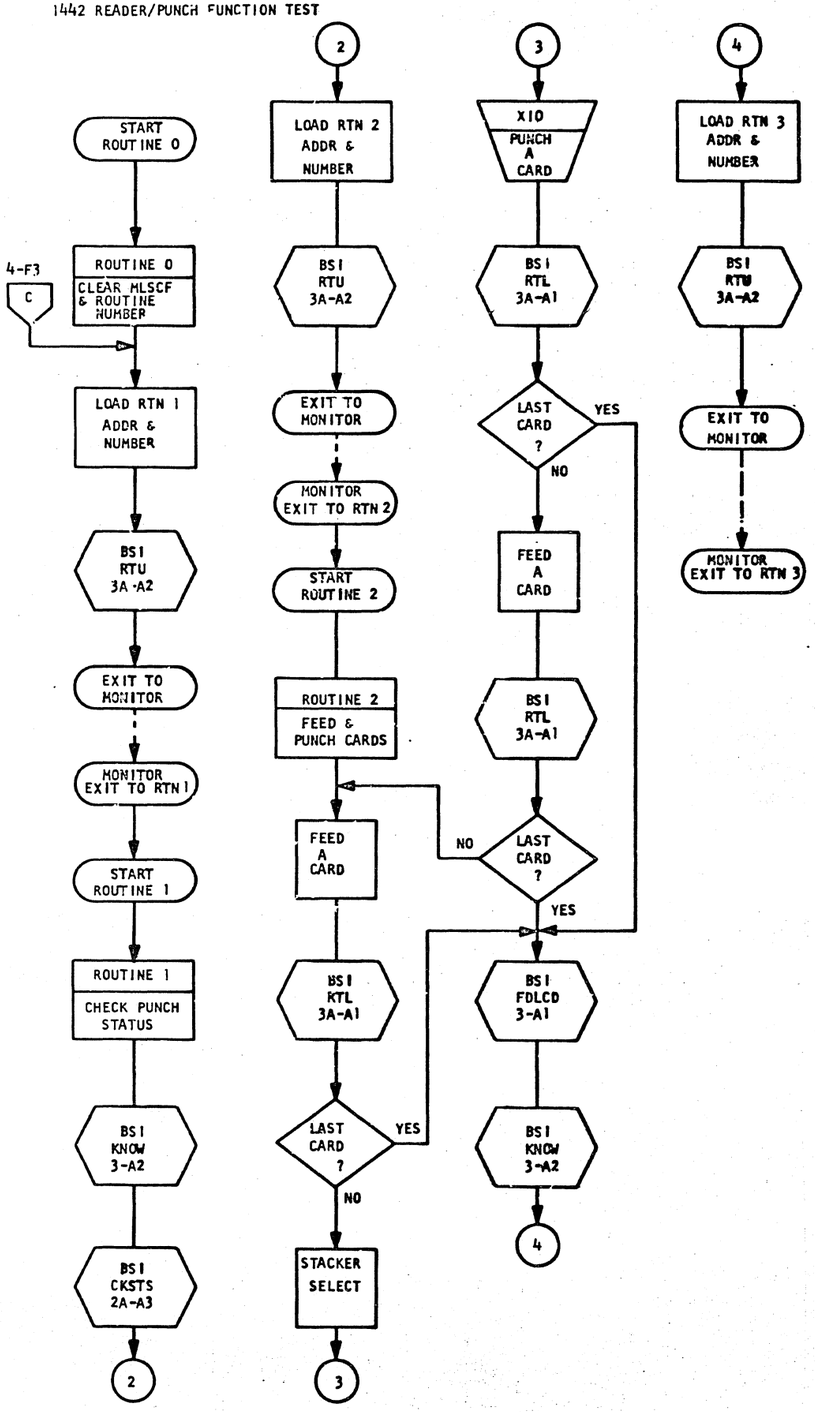

INTERRUPT
RESET INTERRUPT WAIT COUNT
DSW ERROR
YES
SET TO TYPE E0C0C MESSAGE
NO
PRINT INTERRUPT
NO
YES
READ AND SAVE EMIT
FIRST EMIT
YES
NO
EMIT SEQUENCE ERROR
NO
1
STORE EMIT AND DSW
SET EMIT ER SWITCH
1
IDENTIFY FIRST EMIT
RETURN
SPACE INTERRUPT
NO
YES
SET TRANSFER TO SPACE ROUTINE
RETURN
SKIP INTERRUPT
YES
RETURN
STOP CARRIAGE
STORE DSW
CHECK FOR RIGHT CHANNEL
SET TRANSFER TO SKIP ROUTINE
1
IDLE
IDLE PRINT OR STOP
STOP
PRINT
STOP PRINTER
SET TRANSFER TO SPACE ROUTINE
RETURN
LAST SCAN
YES
NO
CLEAR BUFFER
INITIALIZE FOR IDLE
RETURN TO PRINT ROUTINE
YES
NO
SET TRANSFER TO PRINT ROUTINE
SHIFT BUFFER
PUT SPACE AFTER 48 CHARACTERS
RETURN

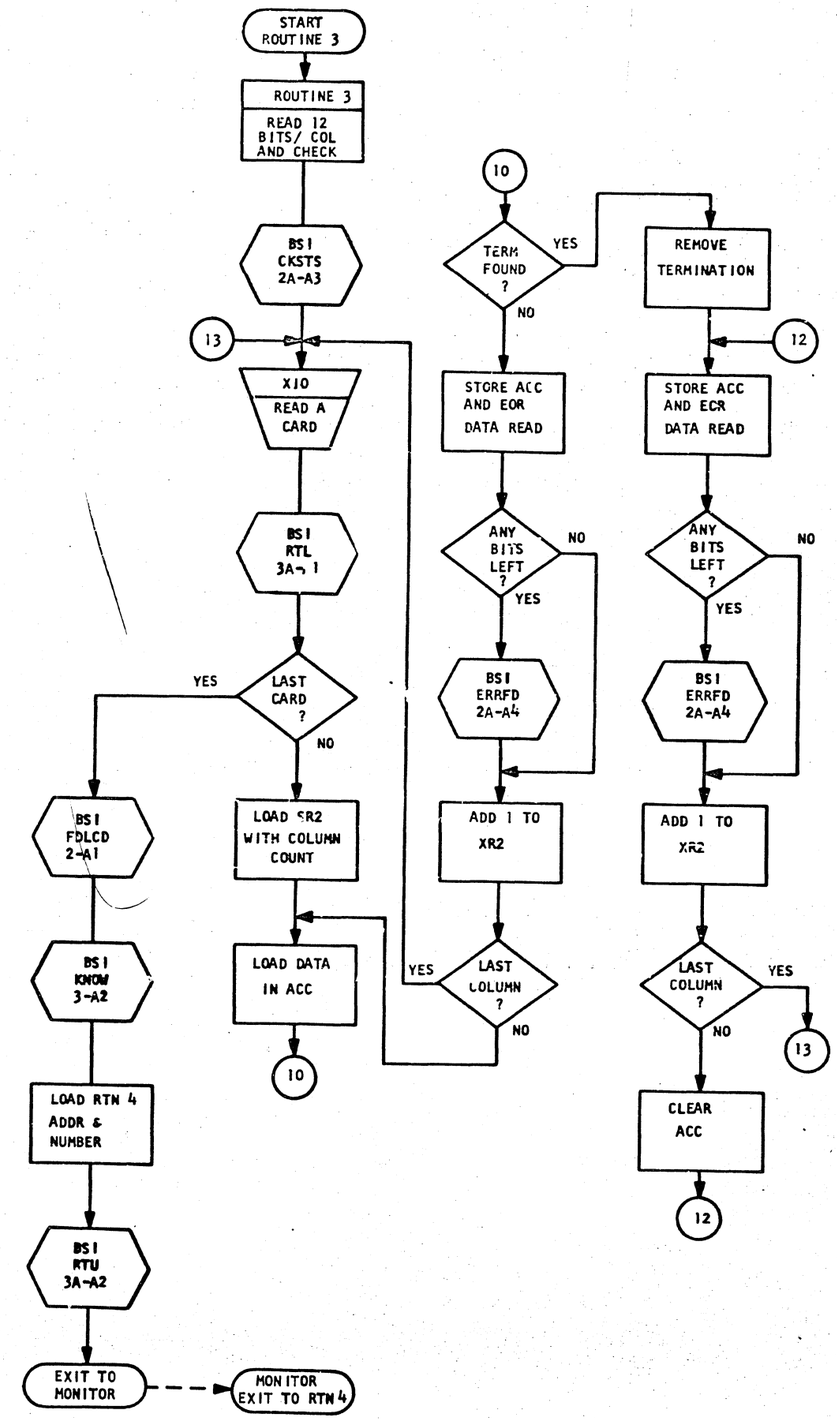

PRINT
SET RETURN FROM SPACE RTN
INITIALIZE INTERRUPT ROUTINE
SENSE DSW
BUSY
YES
NO
SET FIRST SCAN SWITCH
START PRINTER
WAIT FOR INTERRUPT
INTERRUPT OCCURED
YES
NO
TYPE E0C04 MESSAGE
EMIT SEQUENCE ERROR
NO
YES
TYPE E0C09 MESSAGE
RETURN TO TEST ROUTINE
SPACE
EMIT SEQUENCE ERROR
TYPE E0C07 MESSAGE
PROGRAM HALT
STOP UNTIL HALT SWITCH TURNED OFF
START SPACE
WAIT FOR INTERRUPT
INTERRUPT OCCUR
TYPE E0C06 MESSAGE
READY
CK DSW RETURN IF READY
RETURN TO TEST ROUTINE

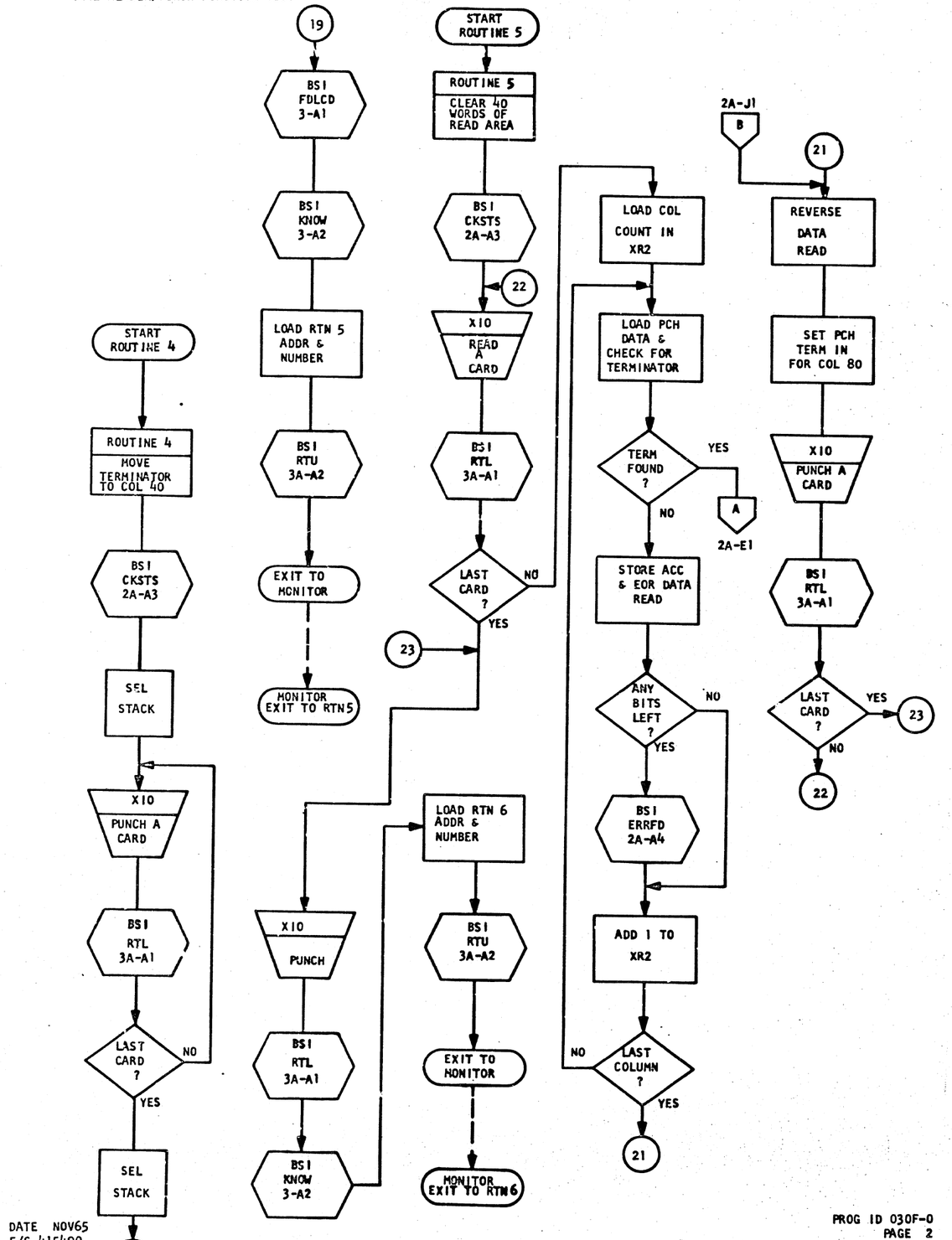

RTN 00
TEST EMIT SEQUENCE AND NORMAL PR EMIT DSW
CLEAR BUF TO ZERO SET BIT 15 LOC 39 ON
READY
CK DSW RETURN IF READY
PRINT
IDLE 100 EMITS THEN RETURN
A C1
DSW AND EMIT SEQUENCE ARE CHECKED IN THE INTERRUPT ROUTINE.
DSW ERROR E0C0C 0001 EMIT ERROR E0C07 0001 E0C09 0001
RTN 01
TEST SCAN INCOMPLETE DSW
CLEAR BUF TO ZERO SET BIT 15 LOC 39 OFF
READY
CK DSW RETURN IF READY
PRINT
IDLE 100 EMITS THEN RETURN
A 01
DSW AND EMIT SEQUENCE ARE CHECKED IN THE INTERRUPT ROUTINE.
DSW ERROR E0C0C 0002 EMIT ERROR E0C07 0002 E0C09 0002
RTN 02
TEST SPACE WITH PRINTER OFF
READY
CK DSW RETURN IF READY
INITIALIZE ROUTINE
SPACE
SPACE ONCE, CK EMIT SEQ AND DSW
50 SPACES
NO
YES
A 01

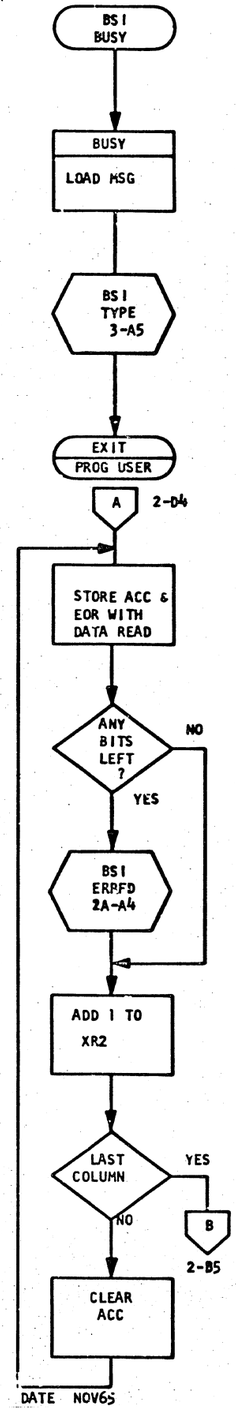

RT4 3
TEST CARRIAGE SKIP. A PREPUNCHED CARRIAGE TAPE IS REQUIRED
READY
CK DSW RETURN IF READY
INITIALIZE ROUTINE
1
START CARRIAGE
WAIT FOR INTERRUPT
DID INTERRUPT OCCUR
NO
STOP CARRIAGE
YES
DELAY FOR CARRIAGE STOP
TYPE EOC05 MESSAGE
NO
8 INTERRUPTS
NO
CORRECT CHANNEL
YES
YES
TYPE EOC0A MESSAGE
INITIALIZE FOR NEXT CHANNEL
A 01
LAST CHANNEL
1

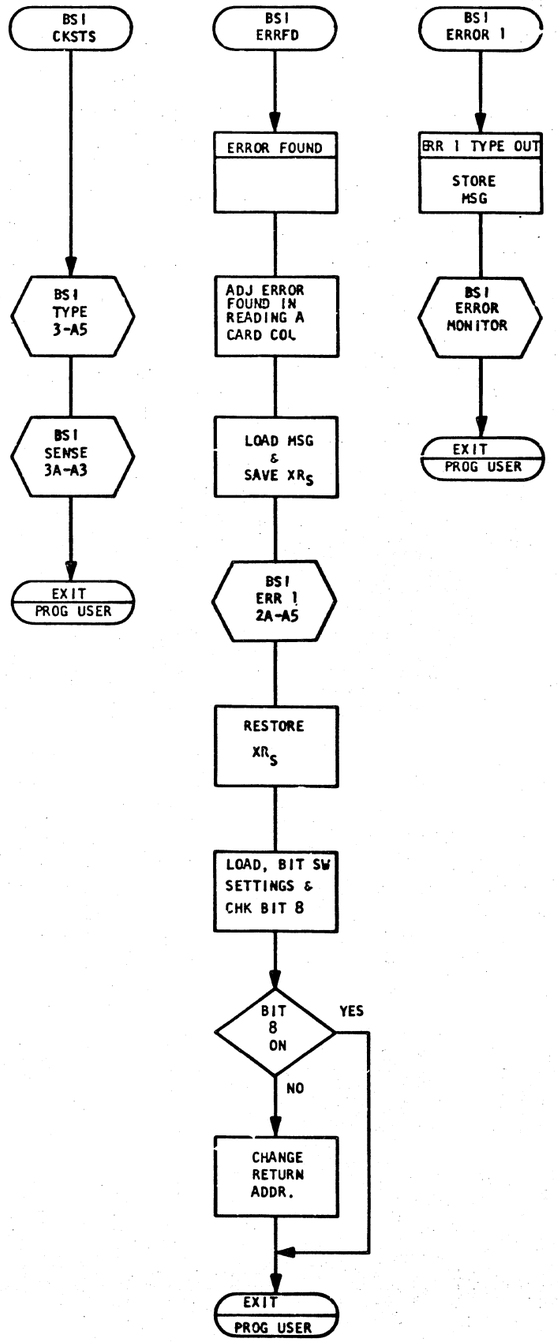

RTN 04
ROTATING PATTERN GENERATED BY FLOATING 1 THRU PR BUF
READY
CK DSW RETURN IF READY
CLEAR BUFFER
INITIALIZE ROUTINE
PRINT
SCAN CNT EQUAL 0
START PRINTER READ EMITTER AFTER INTERRUPT THEN RETURN
NO
EMIT EQUAL TO START SCAN CHAR
DSW ERROR EOCOC 0005 EMIT ERROR EOC09 0005
YES
INITIALIZE FOR NEXT SCAN
PRINT
SCAN CNT EQUAL 118
PRINT 120 CHAR LINE THEN STOP PRINTER-SPACE AND RETURN
NO
49 LINES
DSW ERROR EOCOC 0005 EMIT ERROR EOC07 0005
YES
A 01
RTN 05
PRINT ONE LINE OF EACH CHARACTER
READY
CK DSW RETURN IF READY
CLEAR BUFFER
INITIALIZE ROUTINE
PRINT
SCAN CNT EQUAL 0
START PRINTER READ EMITTER AFTER INTERRUPT THEN RETURN
NO
EMIT EQUAL TO NXT CHAR
DSW ERROR EOCOC 0006 EMIT ERROR EOC09 0006
YES
SET BUFFER TO ONES
PRINT
SCAN CNT EQUAL 1
PRINT 120 LINE ALL SAME CHARACTER- STOP PRINTER SPACE - RETURN
LAST CHARACTER
DSW ERROR EOCOC 0006 EMIT ERROR EOC07 0006
A 01

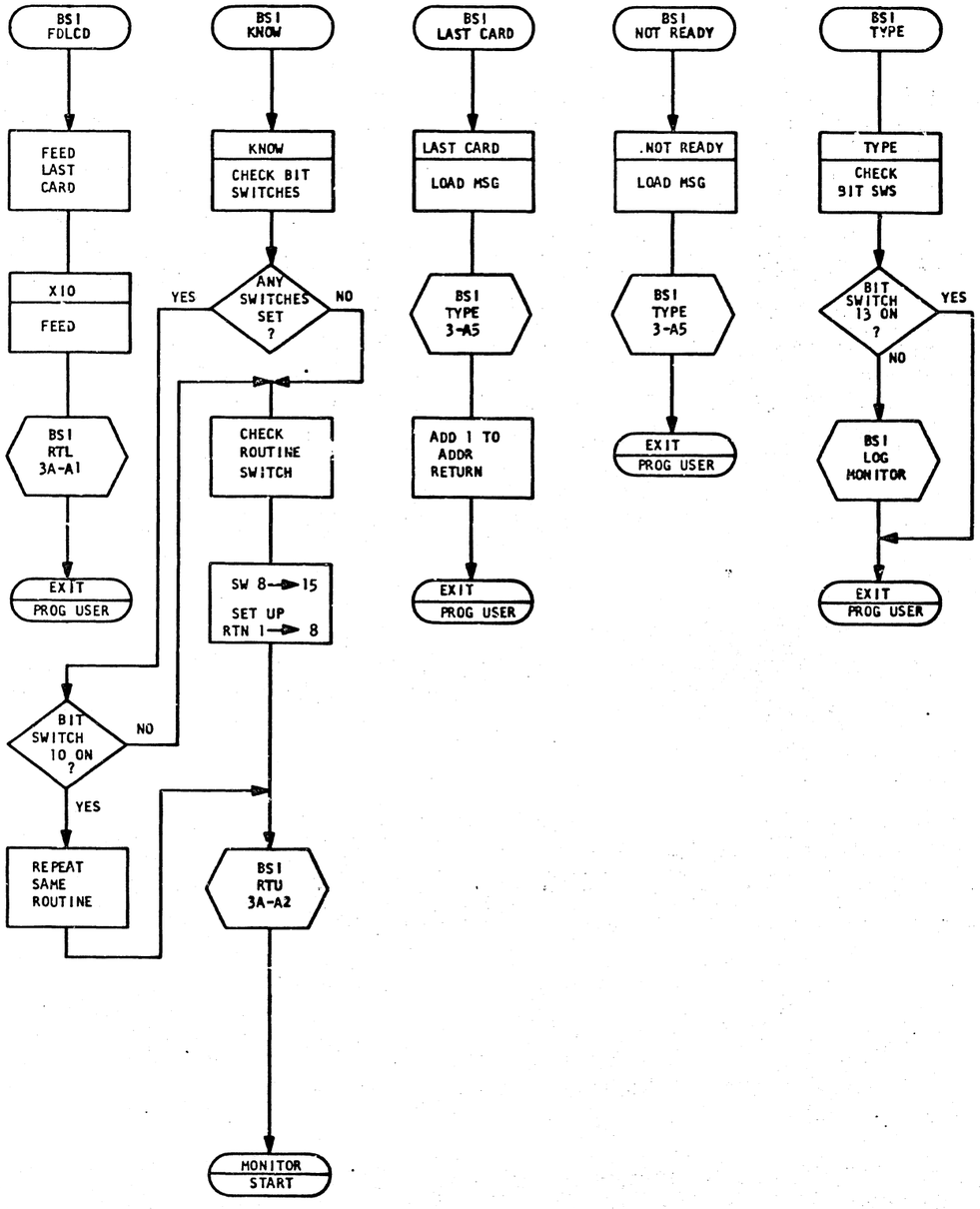

START ROUTINE 0
ROUTINE 0
CLEAR MLSCF & ROUTINE NUMBER
4-F3
C
LOAD RTN 1 ADDR & NUMBER
BSI RTU 3A-A2
EXIT TO MONITOR
MONITOR EXIT TO RTN 1
START ROUTINE 1
ROUTINE 1
CHECK PUNCH STATUS
BSI KNOW 3-A2
BSI CKSTS 2A-A3
2
2
LOAD RTN 2 ADDR & NUMBER
BSI RTU 3A-A2
EXIT TO MONITOR
MONITOR EXIT TO RTN 2
START ROUTINE 2
ROUTINE 2
FEED & PUNCH CARDS
FEED A CARD
BSI RTL 3A-A1
LAST CARD ?
NO
YES
STACKER SELECT
3
3
XIO
PUNCH A CARD
BSI RTL 3A-A1
LAST CARD ?
YES
NO
FEED A CARD
BSI RTL 3A-A1
BSI FDLCD 3-A1
BSI KNOW 3-A2
4
4
LOAD RTN 3 ADDR & NUMBER
BSI RTU 3A-A2
EXIT TO MONITOR
MONITOR EXIT TO RTN 3

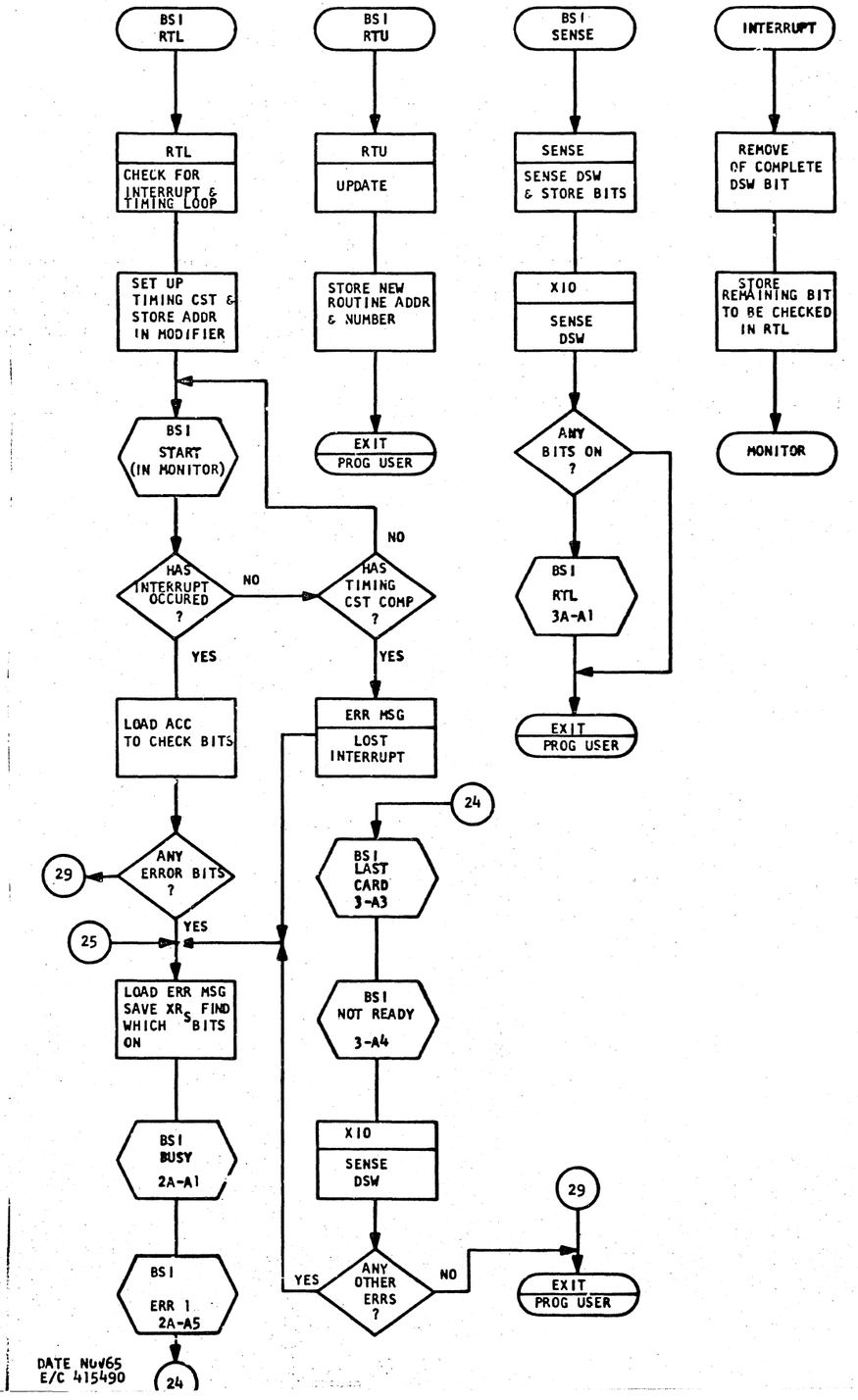

START ROUTINE 3
ROUTINE 3
READ 12 BITS/ COL AND CHECK
BSI CKSTS 2A-A3
13
XIO
READ A CARD
BSI RTL 3A-A1
LAST CARD ?
YES
NO
BSI FDLCD 2-A1
BSI KNOW 3-A2
LOAD RTN 4 ADDR & NUMBER
BSI RTU 3A-A2
EXIT TO MONITOR
MONITOR EXIT TO RTN 4
LOAD SR2 WITH COLUMN COUNT
LOAD DATA IN ACC
10
10
TERM FOUND ?
YES
NO
STORE ACC AND EOR DATA READ
ANY BITS LEFT ?
NO
YES
BSI ERRFD 2A-A4
ADD 1 TO XR2
LAST COLUMN ?
YES
NO
REMOVE TERMINATION
12
STORE ACC AND ECR DATA READ
ANY BITS LEFT ?
NO
YES
BSI ERRFD 2A-A4
ADD 1 TO XR2
LAST COLUMN ?
YES
NO
13
CLEAR ACC
12

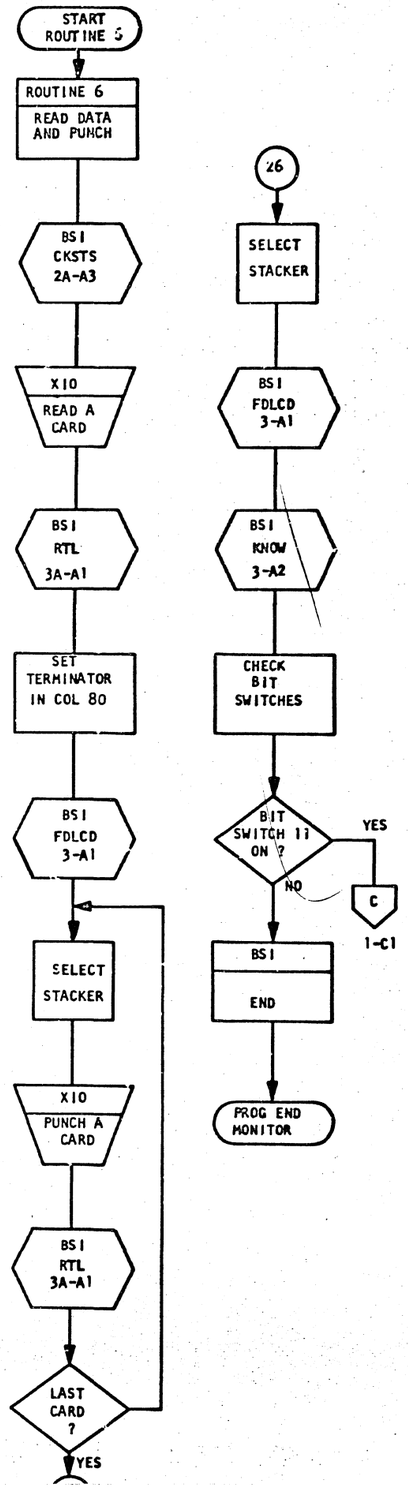

START ROUTINE 4
ROUTINE 4
MOVE TERMINATOR TO COL 40
BSI CKSTS 2A-A3
SEL STACK
X10
PUNCH A CARD
BSI RTL 3A-A1
LAST CARD ?
NO
YES
SEL STACK
19
19
BSI FDLCD 3-A1
BSI KNOW 3-A2
LOAD RTN 5 ADDR & NUMBER
BSI RTU 3A-A2
EXIT TO MONITOR
MONITOR EXIT TO RTN5
START ROUTINE 5
ROUTINE 5
CLEAR 40 WORDS OF READ AREA
BSI CKSTS 2A-A3
22
X10
READ A CARD
BSI RTL 3A-A1
LAST CARD ?
NO
YES
23
X10
PUNCH
BSI RTL 3A-A1
BSI KNOW 3-A2
LOAD RTN 6 ADDR & NUMBER
BSI RTU 3A-A2
EXIT TO MONITOR
MONITOR EXIT TO RTN6
LOAD COL COUNT IN XR2
LOAD PCH DATA & CHECK FOR TERMINATOR
TERM FOUND ?
YES
NO
A
2A-E1
STORE ACC & EOR DATA READ
ANY BITS LEFT ?
NO
YES
BSI ERRFD 2A-A4
ADD 1 TO XR2
LAST COLUMN ?
NO
YES
21
2A-J1
B
21
REVERSE DATA READ
SET PCH TERM IN FOR COL 80
X10
PUNCH A CARD
BSI RTL 3A-A1
LAST CARD ?
YES
NO
23
22

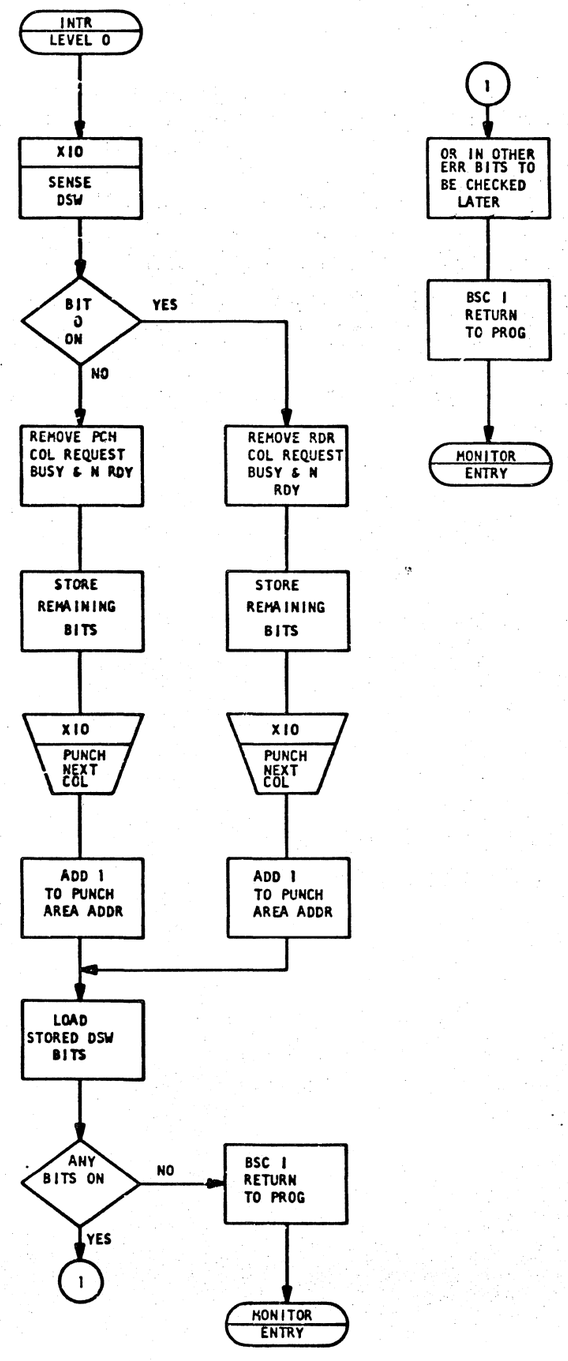

BSI BUSY
BUSY
LOAD MSG
BSI TYPE 3-A5
EXIT PROG USER
A
2-D4
STORE ACC & EOR WITH DATA READ
ANY BITS LEFT ?
NO
YES
BSI ERRFD 2A-A4
ADD 1 TO XR2
LAST COLUMN
YES
NO
B
2-B5
CLEAR ACC

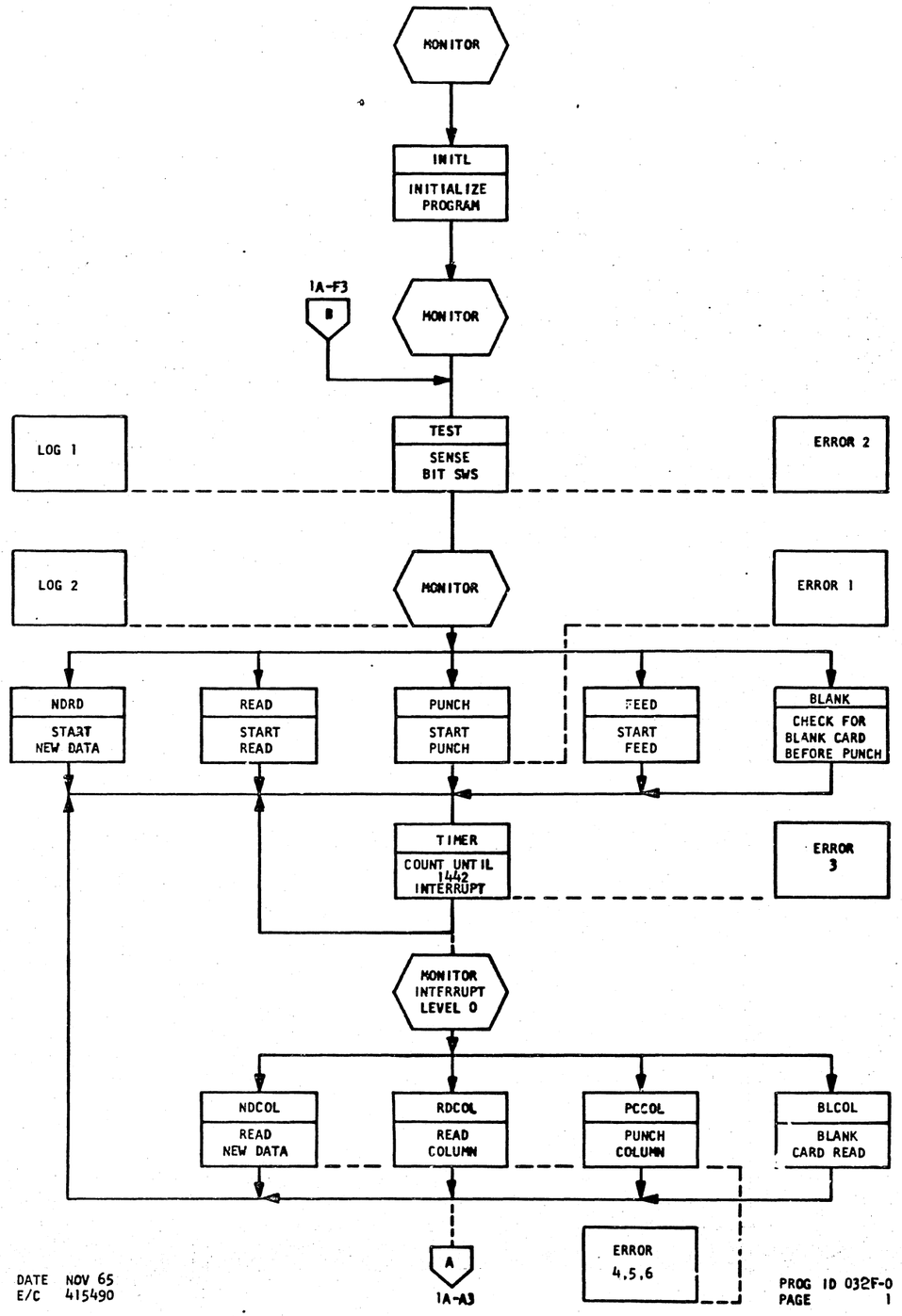

BSI CKSTS
BSI TYPE 3-A5
BSI SENSE 3A-A3
EXIT PROG USER
BSI ERRFD
ERROR FOUND
ADJ ERROR FOUND IN READING A CARD COL
LOAD MSG & SAVE XRS
BSI ERR 1 2A-A5
RESTORE XRS
LOAD, BIT SW SETTINGS & CHK BIT 8
BIT 8 ON
YES
NO
CHANGE RETURN ADDR.
EXIT PROG USER
BSI ERROR 1
ERR 1 TYPE OUT
STORE MSG
BSI ERROR MONITOR
EXIT PROG USER

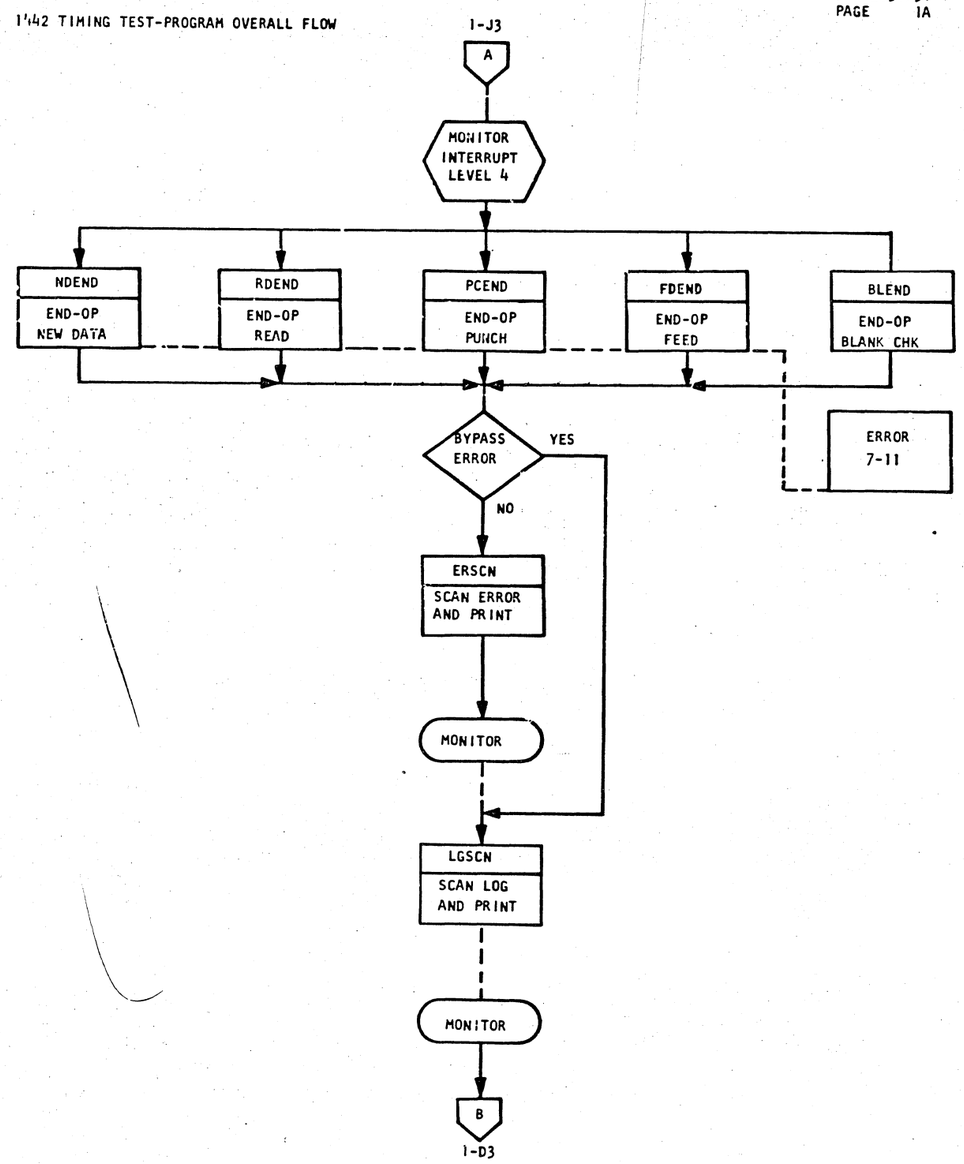

BSI FDLCD
FEED LAST CARD
X10 FEED
BSI RTL 3A-A1
EXIT PROG USER
BIT SWITCH 10 ON ?
YES
NO
REPEAT SAME ROUTINE
BSI KNOW
KNOW CHECK BIT SWITCHES
ANY SWITCHES SET ?
YES
NO
CHECK ROUTINE SWITCH
SW 8→15 SET UP RTN 1→8
BSI RTU 3A-A2
MONITOR START
BSI LAST CARD
LAST CARD LOAD MSG
BSI TYPE 3-A5
ADD 1 TO ADDR RETURN
EXIT PROG USER
BSI NOT READY
.NOT READY LOAD MSG
BSI TYPE 3-A5
EXIT PROG USER
BSI TYPE
TYPE CHECK BIT SWS
BIT SWITCH 13 ON ?
YES
NO
BSI LOG MONITOR
EXIT PROG USER

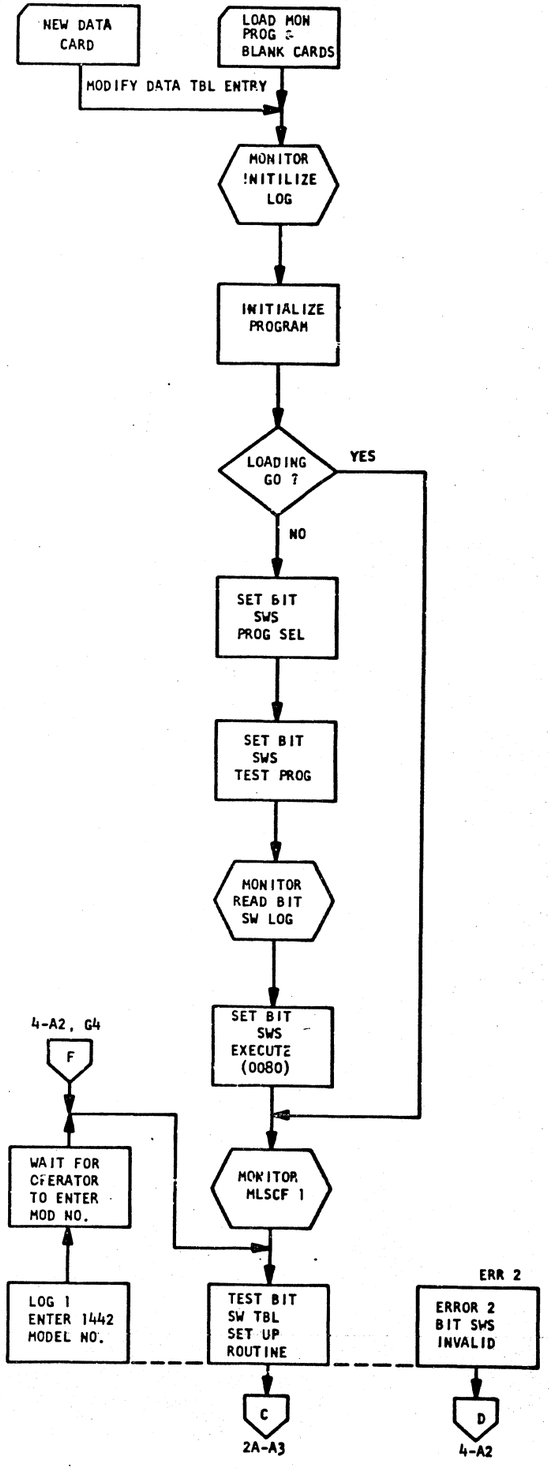

BSI RTL
RTL CHECK FOR INTERRUPT & TIMING LOOP
SET UP TIMING CST & STORE ADDR IN MODIFIER
BSI START (IN MONITOR)
HAS INTERRUPT OCCURED ?
NO
YES
LOAD ACC TO CHECK BITS
ANY ERROR BITS ?
29
YES
25
LOAD ERR MSG SAVE XR5 FIND WHICH BITS ON
BSI BUSY 2A-A1
BSI ERR 1 2A-A5
24
BSI RTU
RTU UPDATE
STORE NEW ROUTINE ADDR & NUMBER
EXIT PROG USER
HAS TIMING CST COMP ?
NO
YES
ERR MSG LOST INTERRUPT
24
BSI LAST CARD 3-A3
BSI NOT READY 3-A4
X10 SENSE DSW
ANY OTHER ERRS ?
YES
NO
29
EXIT PROG USER
BSI SENSE
SENSE SENSE DSW & STORE BITS
X10 SENSE DSW
ANY BITS ON ?
BSI RTL 3A-A1
EXIT PROG USER
INTERRUPT
REMOVE OF COMPLETE DSW BIT
STORE REMAINING BIT TO BE CHECKED IN RTL
MONITOR

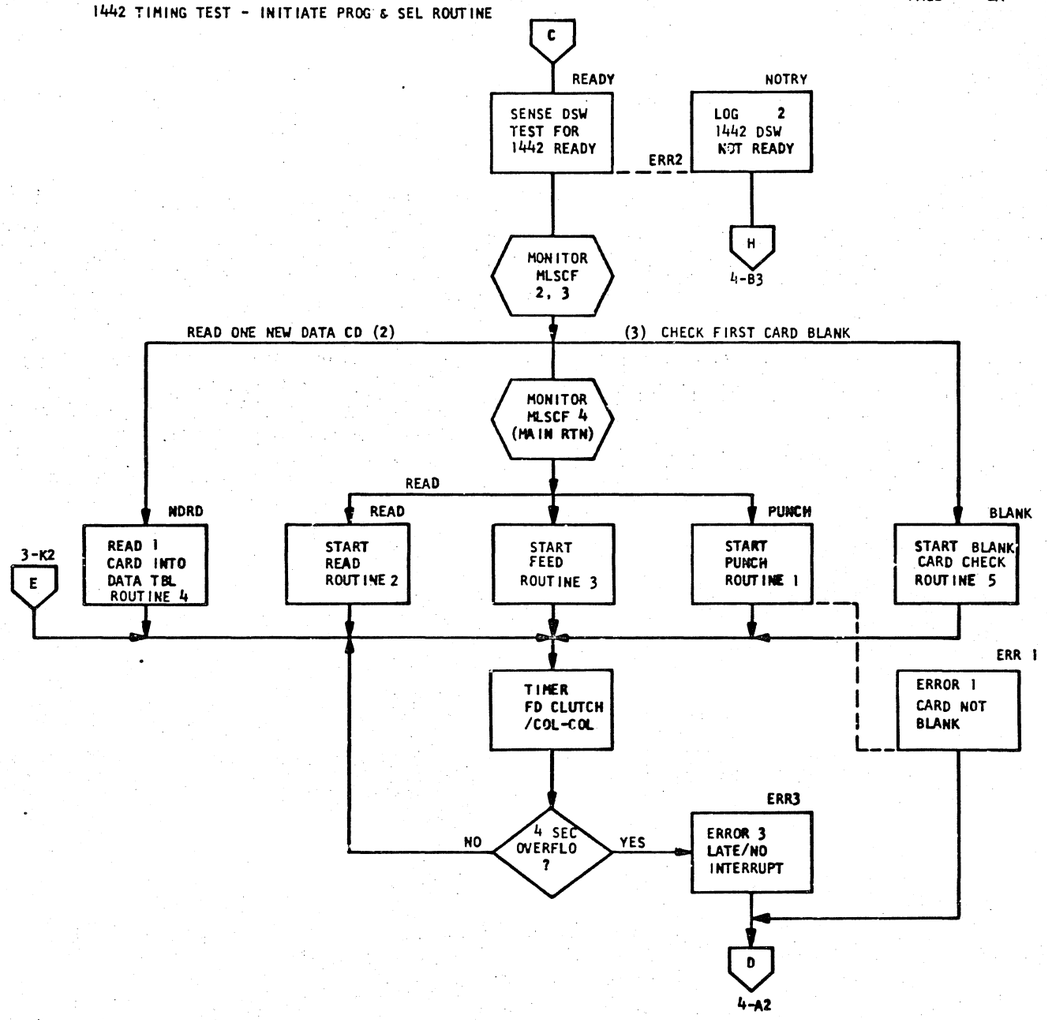

START ROUTINE 5
ROUTINE 6
READ DATA AND PUNCH
BSI CKSTS 2A-A3
X10 READ A CARD
BSI RTL 3A-A1
SET TERMINATOR IN COL 80
BSI FDLCD 3-A1
SELECT STACKER
X10 PUNCH A CARD
BSI RTL 3A-A1
LAST CARD ?
YES
NO
26
SELECT STACKER
BSI FDLCD 3-A1
BSI KNOW 3-A2
CHECK BIT SWITCHES
BIT SWITCH 11 ON ?
YES
NO
C
1-C1
BSI END
PROG END MONITOR

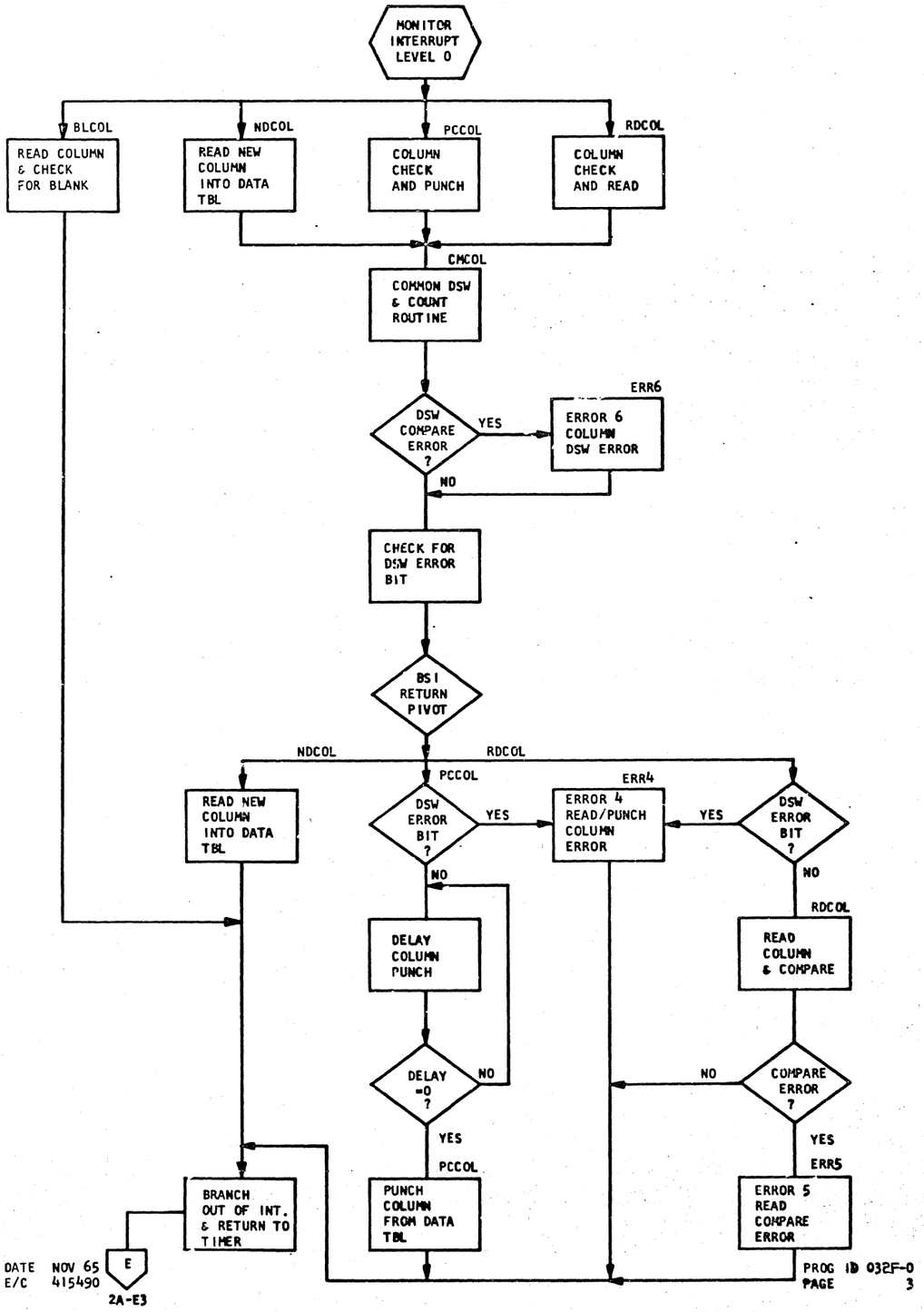

INTR LEVEL 0
X10 SENSE DSW
BIT 3 ON
YES
NO
REMOVE PCH COL REQUEST BUSY & N RDY
STORE REMAINING BITS
X10 PUNCH NEXT COL
ADD 1 TO PUNCH AREA ADDR
REMOVE RDR COL REQUEST BUSY & N RDY
STORE REMAINING BITS
X10 PUNCH NEXT COL
ADD 1 TO PUNCH AREA ADDR
LOAD STORED DSW BITS
ANY BITS ON
NO
YES
1
BSC I RETURN TO PROG
MONITOR ENTRY
1
OR IN OTHER ERR BITS TO BE CHECKED LATER
BSC I RETURN TO PROG
MONITOR ENTRY

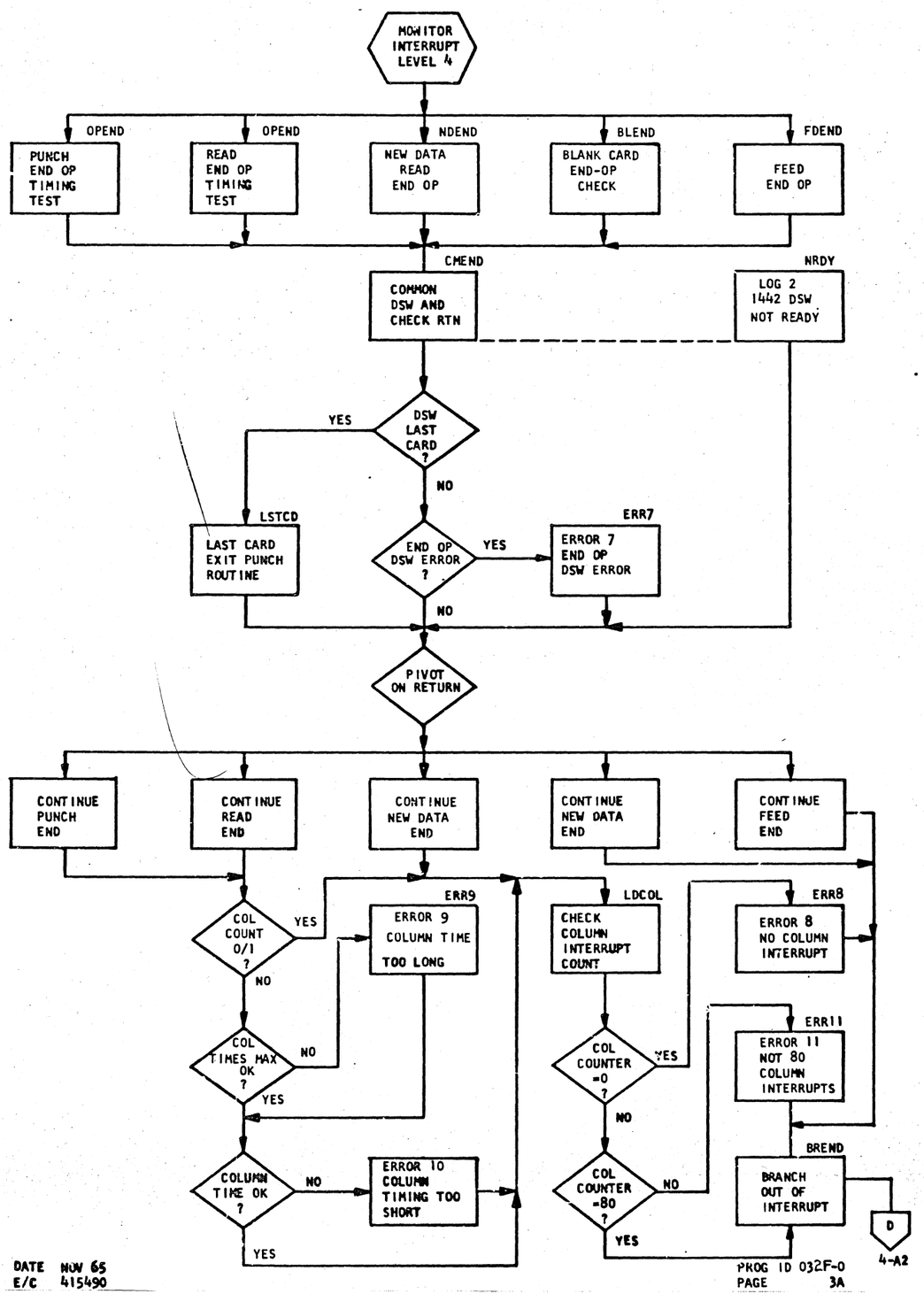

MONITOR
INITL
INITIALIZE PROGRAM
1A-F3
B
MONITOR
TEST
SENSE BIT SWS
LOG 1
ERROR 2
LOG 2
MONITOR
ERROR 1
NDRD
START NEW DATA
READ
START READ
PUNCH
START PUNCH
FEED
START FEED
BLANK
CHECK FOR BLANK CARD BEFORE PUNCH
TIMER
COUNT UNTIL 1442 INTERRUPT
ERROR 3
MONITOR INTERRUPT LEVEL 0
NDCOL
READ NEW DATA
RDCOL
READ COLUMN
PCCOL
PUNCH COLUMN
BLCOL
BLANK CARD READ
A
1A-A3
ERROR 4,5,6

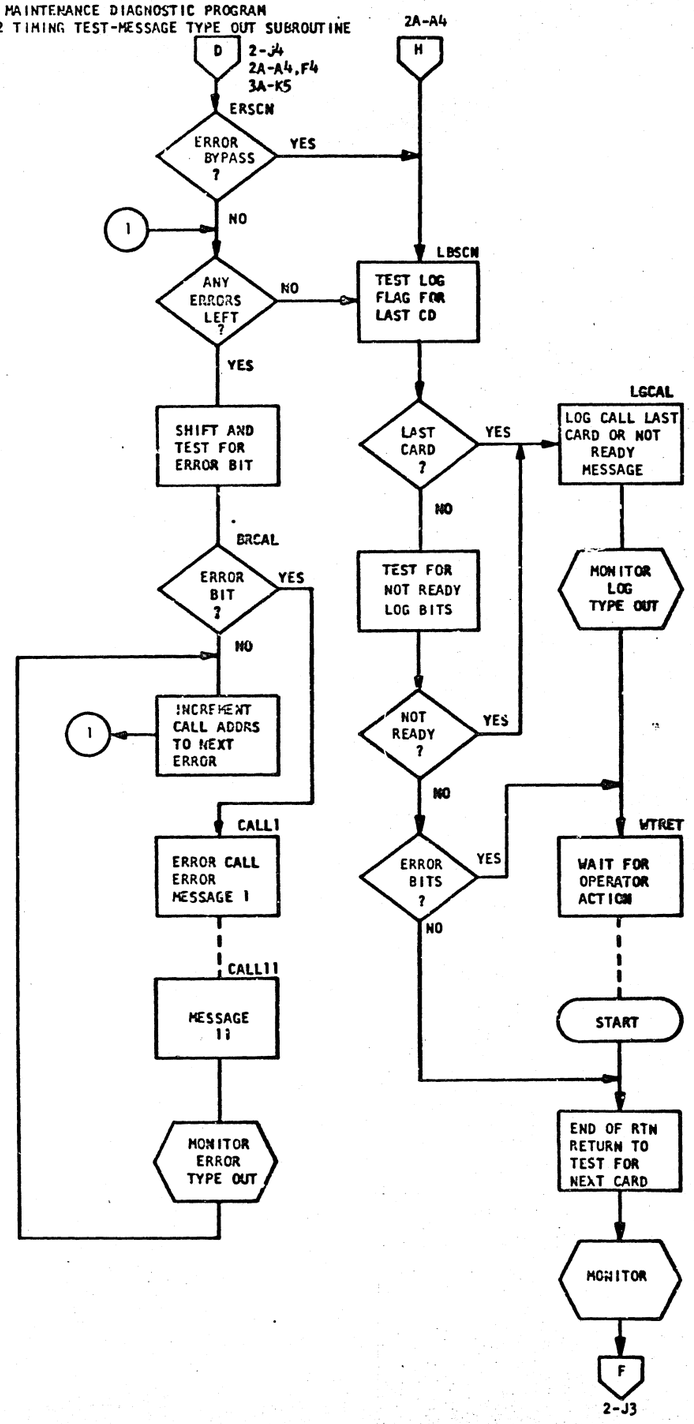

1-J3
A
MONITOR INTERRUPT LEVEL 4
NDEND
END-OP NEW DATA
RDEND
END-OP READ
PCEND
END-OP PUNCH
FDEND
END-OP FEED
BLEND
END-OP BLANK CHK
ERROR 7-11
BYPASS ERROR
YES
NO
ERSCN
SCAN ERROR AND PRINT
MONITOR
LGSCN
SCAN LOG AND PRINT
MONITOR
B
1-D3

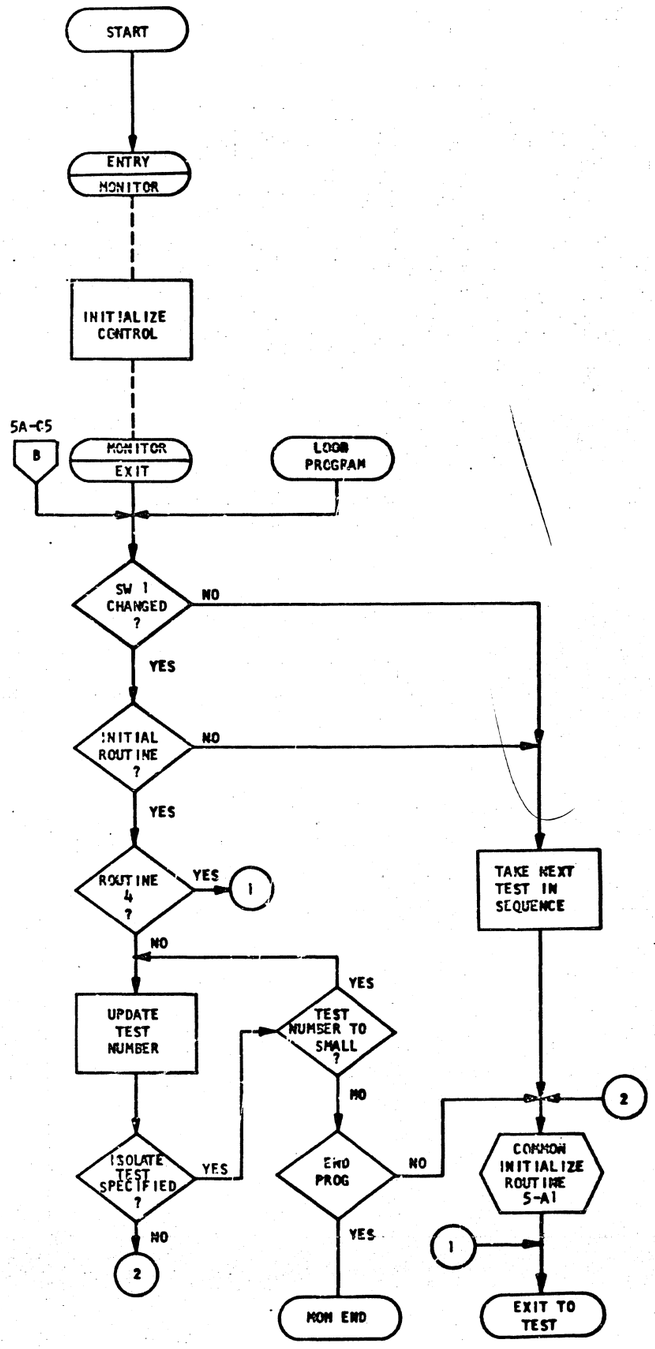

NEW DATA CARD
LOAD MON PROG & BLANK CARDS
MODIFY DATA TBL ENTRY
MONITOR INITILIZE LOG
INITIALIZE PROGRAM
LOADING GO ?
YES
NO
SET BIT SWS PROG SEL
SET BIT SWS TEST PROG
MONITOR READ BIT SW LOG
SET BIT SWS EXECUTE (0080)
4-A2, G4
F
WAIT FOR OPERATOR TO ENTER MOD NO.
LOG 1 ENTER 1442 MODEL NO.
MONITOR MLSCF 1
TEST BIT SW TBL SET UP ROUTINE
ERR 2
ERROR 2 BIT SWS INVALID
C
2A-A3
D
4-A2

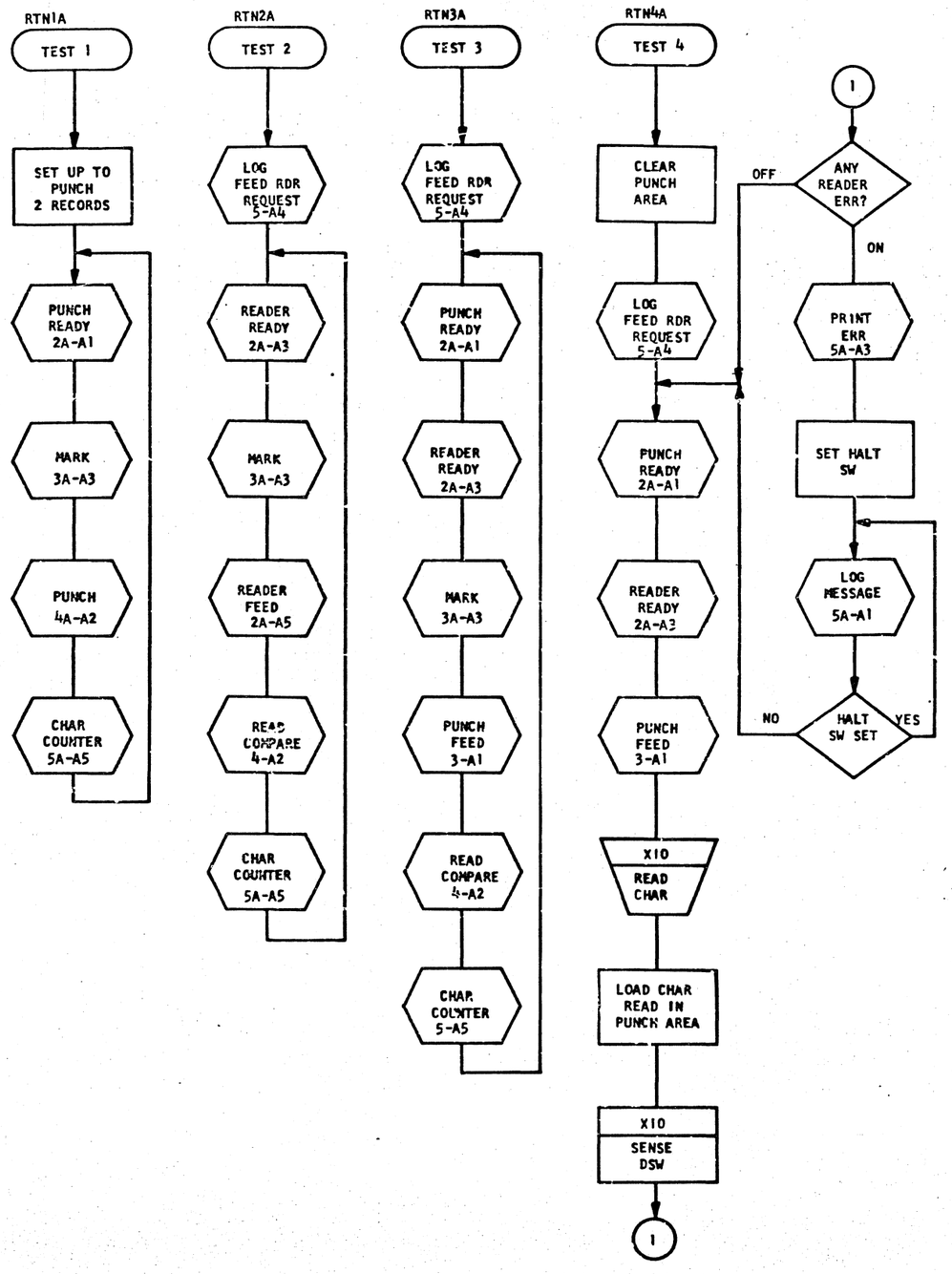

C
READY
NOTRY
SENSE DSW TEST FOR 1442 READY
ERR2
LOG 2 1442 DSW NOT READY
H
4-B3
MONITOR MLSCF 2, 3
READ ONE NEW DATA CD (2)
(3) CHECK FIRST CARD BLANK
MONITOR MLSCF 4 (MAIN RTN)
READ
NDRD
READ
PUNCH
BLANK
3-K2
E
READ 1 CARD INTO DATA TBL ROUTINE 4
START READ ROUTINE 2
START FEED ROUTINE 3
START PUNCH ROUTINE 1
START BLANK CARD CHECK ROUTINE 5
ERR 1
ERROR 1 CARD NOT BLANK
TIMER FD CLUTCH /COL-COL
ERR3
NO
4 SEC OVERFLO ?
YES
ERROR 3 LATE/NO INTERRUPT
D
4-A2

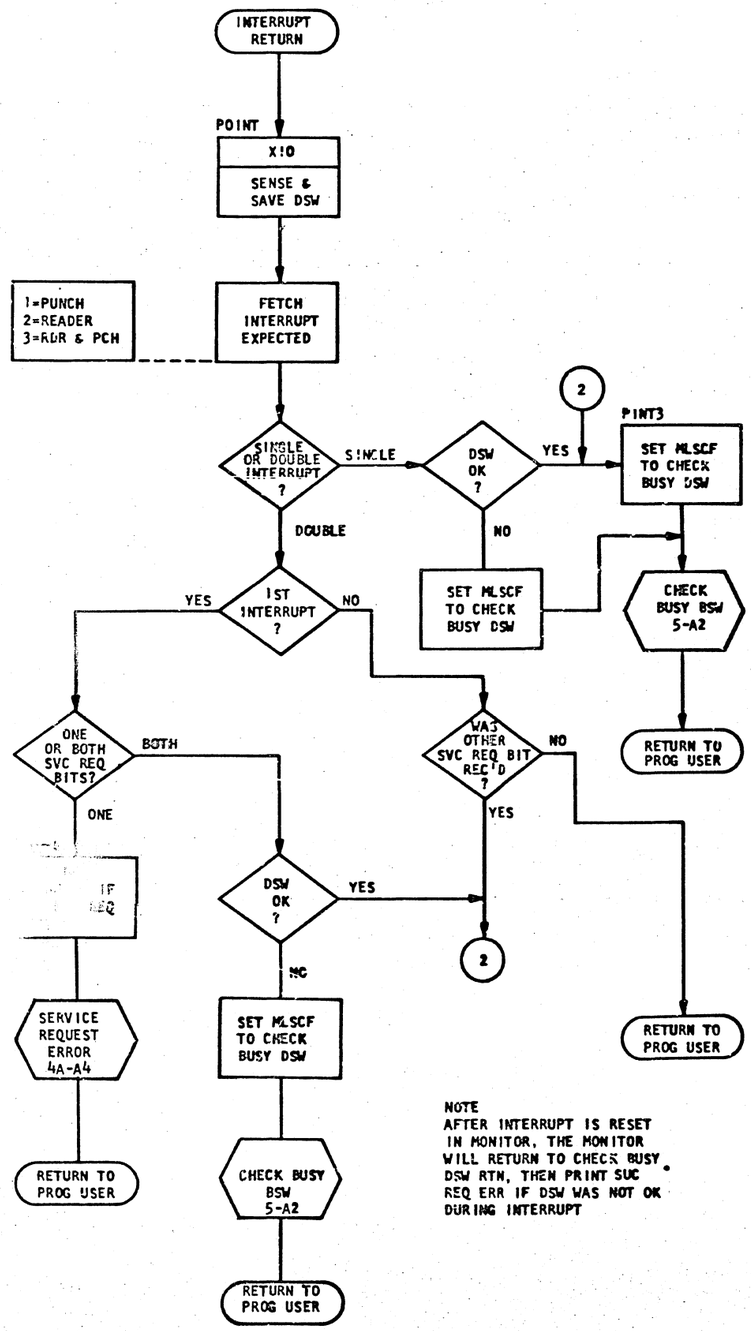

MONITOR INTERRUPT LEVEL 0
BLCOL
READ COLUMN & CHECK FOR BLANK
NDCOL
READ NEW COLUMN INTO DATA TBL
PCCOL
COLUMN CHECK AND PUNCH
RDCOL
COLUMN CHECK AND READ
CMCOL
COMMON DSW & COUNT ROUTINE
DSW COMPARE ERROR ?
YES
ERR6
ERROR 6 COLUMN DSW ERROR
NO
CHECK FOR DSW ERROR BIT
BSI RETURN PIVOT
NDCOL
RDCOL
PCCOL
READ NEW COLUMN INTO DATA TBL
DSW ERROR BIT ?
YES
ERR4
ERROR 4 READ/PUNCH COLUMN ERROR
YES
DSW ERROR BIT ?
NO
NO
RDCOL
DELAY COLUMN PUNCH
READ COLUMN & COMPARE
DELAY =0 ?
NO
NO
COMPARE ERROR ?
YES
YES
PCCOL
ERR5
BRANCH OUT OF INT. & RETURN TO TIMER
PUNCH COLUMN FROM DATA TBL
ERROR 5 READ COMPARE ERROR
E
2A-E3


MONITOR INTERRUPT LEVEL 4
OPEND
PUNCH END OP TIMING TEST
OPEND
READ END OP TIMING TEST
NDEND
NEW DATA READ END OP
BLEND
BLANK CARD END-OP CHECK
FDEND
FEED END OP
CMEND
COMMON DSW AND CHECK RTN
NRDY
LOG 2 1442 DSW NOT READY
YES
DSW LAST CARD ?
NO
LSTCD
LAST CARD EXIT PUNCH ROUTINE
ERR7
END OP DSW ERROR ?
YES
ERROR 7 END OP DSW ERROR
NO
PIVOT ON RETURN
CONTINUE PUNCH END
CONTINUE READ END
CONTINUE NEW DATA END
CONTINUE NEW DATA END
CONTINUE FEED END
ERR9
COL COUNT 0/1 ?
YES
ERROR 9 COLUMN TIME TOO LONG
NO
COL TIMES MAX OK ?
NO
YES
COLUMN TIME OK ?
NO
ERROR 10 COLUMN TIMING TOO SHORT
YES
LDCOL
CHECK COLUMN INTERRUPT COUNT
ERR8
ERROR 8 NO COLUMN INTERRUPT
ERR11
ERROR 11 NOT 80 COLUMN INTERRUPTS
COL COUNTER =0 ?
YES
NO
COL COUNTER =80 ?
NO
YES
BREND
BRANCH OUT OF INTERRUPT
D
4-A2

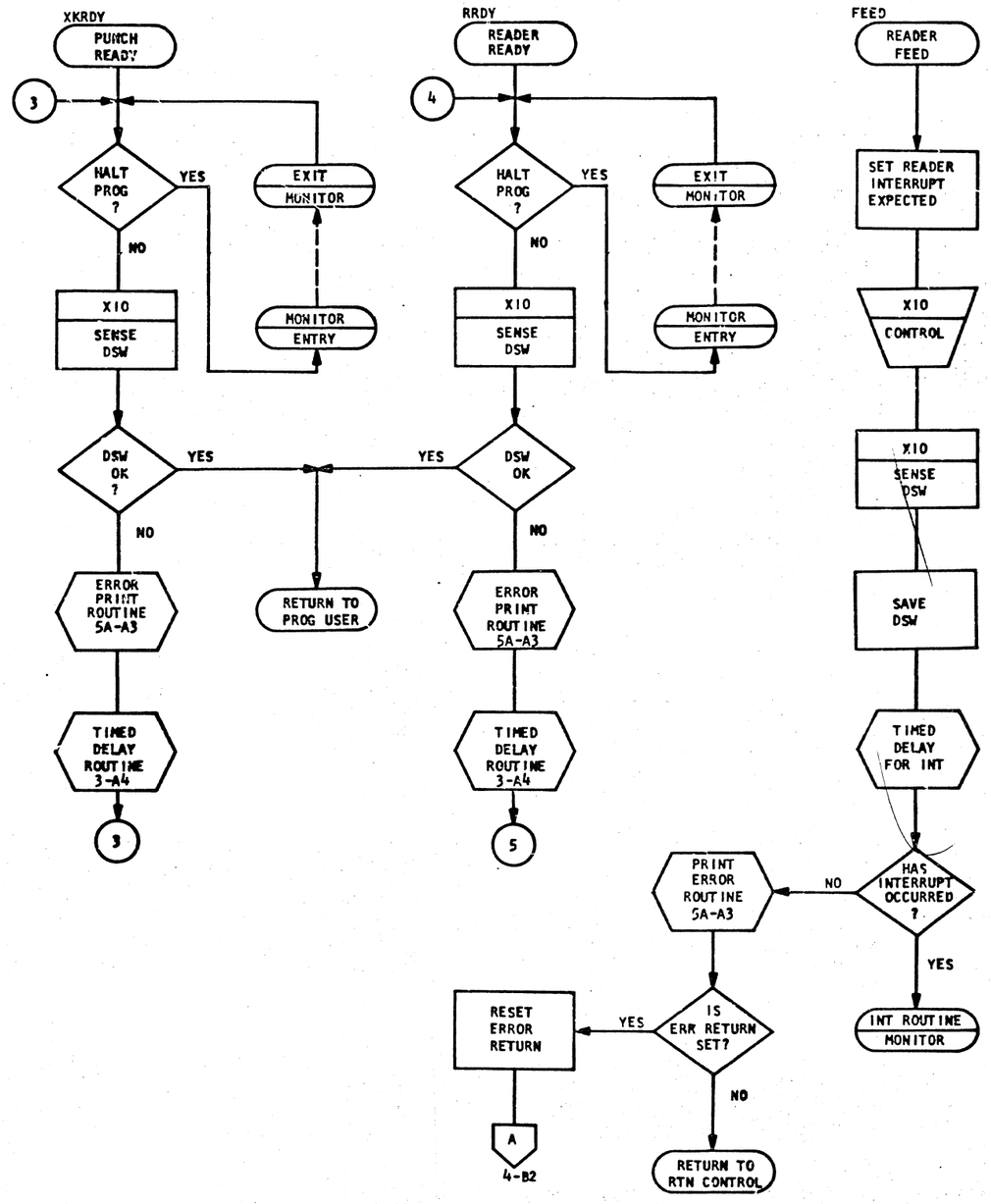

D
2-J4
2A-A4,F4
3A-K5
2A-A4
H
ERSCN
ERROR BYPASS ?
YES
NO
1
ANY ERRORS LEFT ?
NO
YES
LBSCN
TEST LOG FLAG FOR LAST CD
LGCAL
LOG CALL LAST CARD OR NOT READY MESSAGE
LAST CARD ?
YES
NO
SHIFT AND TEST FOR ERROR BIT
BRCAL
ERROR BIT ?
YES
NO
TEST FOR NOT READY LOG BITS
MONITOR LOG TYPE OUT
1
INCREMENT CALL ADDRS TO NEXT ERROR
NOT READY ?
YES
NO
CALL1
ERROR CALL ERROR MESSAGE 1
ERROR BITS ?
YES
NO
WTRET
WAIT FOR OPERATOR ACTION
CALL11
MESSAGE 11
START
MONITOR ERROR TYPE OUT
END OF RTN RETURN TO TEST FOR NEXT CARD
MONITOR
F
2-J3

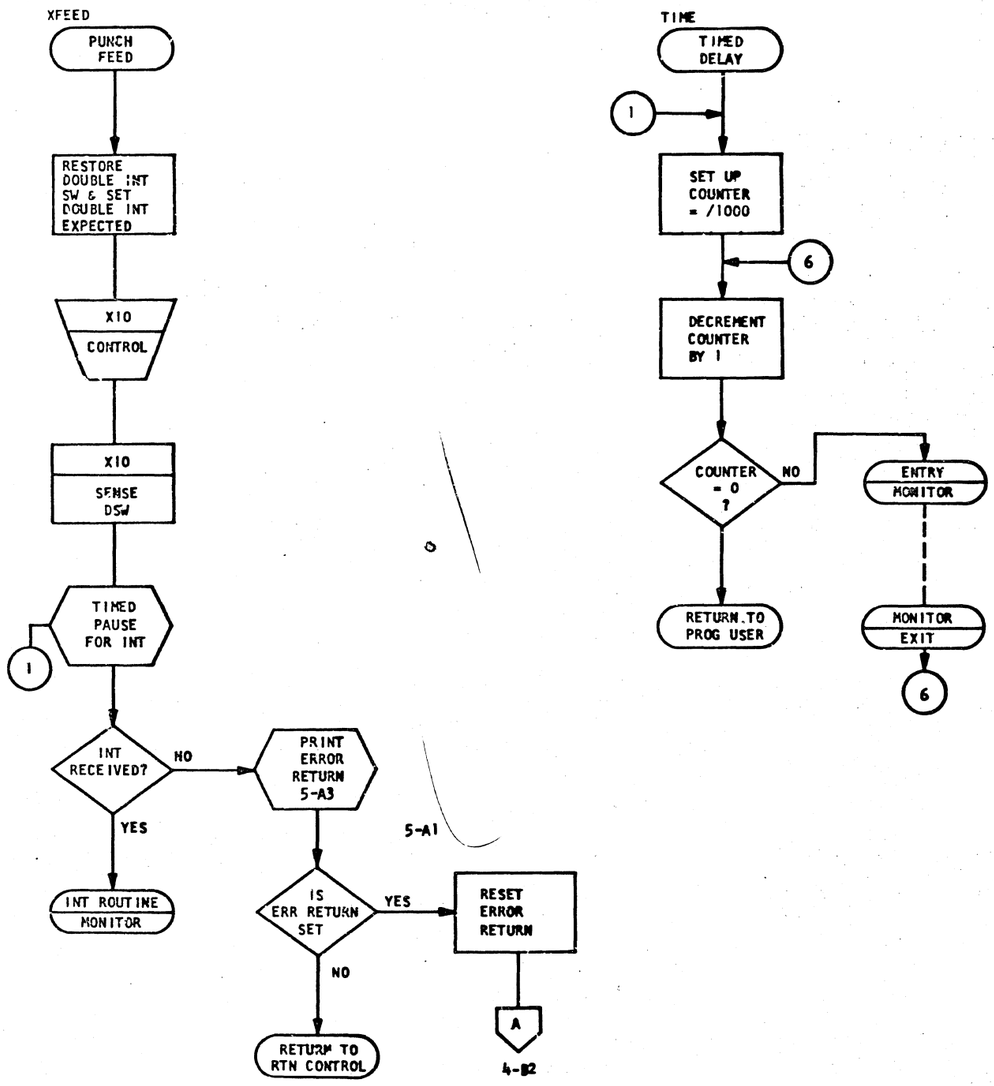

START
ENTRY
MONITOR
INITIALIZE CONTROL
5A-C5
B
MONITOR
EXIT
LOOP PROGRAM
SW 1 CHANGED ?
NO
YES
INITIAL ROUTINE ?
NO
YES
ROUTINE 4 ?
YES
1
NO
TAKE NEXT TEST IN SEQUENCE
UPDATE TEST NUMBER
YES
TEST NUMBER TO SMALL ?
NO
ISOLATE TEST SPECIFIED ?
YES
NO
2
END PROG
NO
YES
2
COMMON INITIALIZE ROUTINE 5-A1
1
EXIT TO TEST
MON END

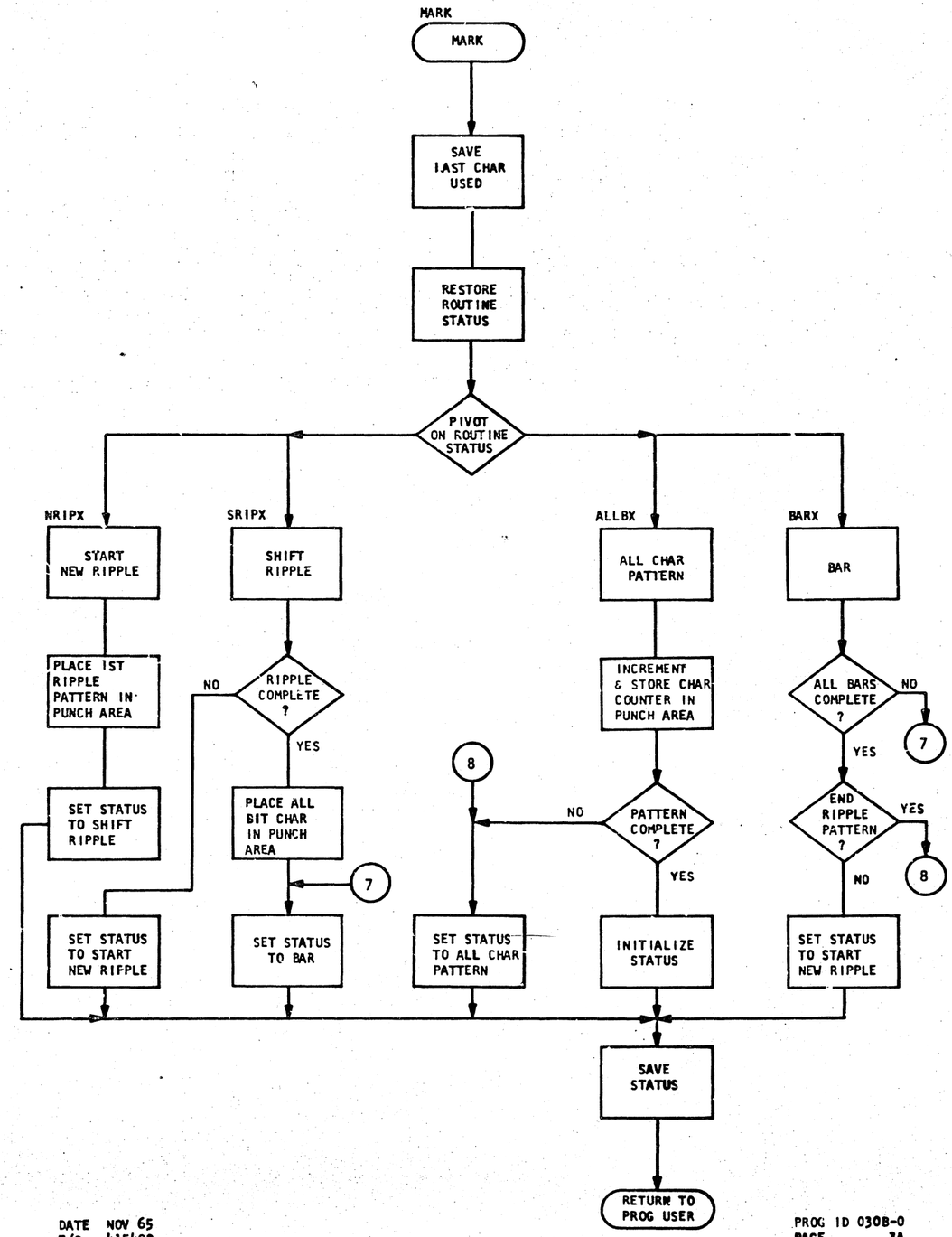

RTN1A
TEST 1
SET UP TO PUNCH 2 RECORDS
PUNCH READY 2A-A1
MARK 3A-A3
PUNCH 4A-A2
CHAR COUNTER 5A-A5
RTN2A
TEST 2
LOG FEED RDR REQUEST 5-A4
READER READY 2A-A3
MARK 3A-A3
READER FEED 2A-A5
READ COMPARE 4-A2
CHAR COUNTER 5A-A5
RTN3A
TEST 3
LOG FEED RDR REQUEST 5-A4
PUNCH READY 2A-A1
READER READY 2A-A3
MARK 3A-A3
PUNCH FEED 3-A1
READ COMPARE 4-A2
CHAR COUNTER 5-A5
RTN4A
TEST 4
CLEAR PUNCH AREA
LOG FEED RDR REQUEST 5-A4
PUNCH READY 2A-A1
READER READY 2A-A3
PUNCH FEED 3-A1
X10
READ CHAR
LOAD CHAR READ IN PUNCH AREA
X10
SENSE DSW
1
OFF
ANY READER ERR?
ON
PRINT ERR 5A-A3
SET HALT SW
LOG MESSAGE 5A-A1
NO
HALT SW SET
YES
1

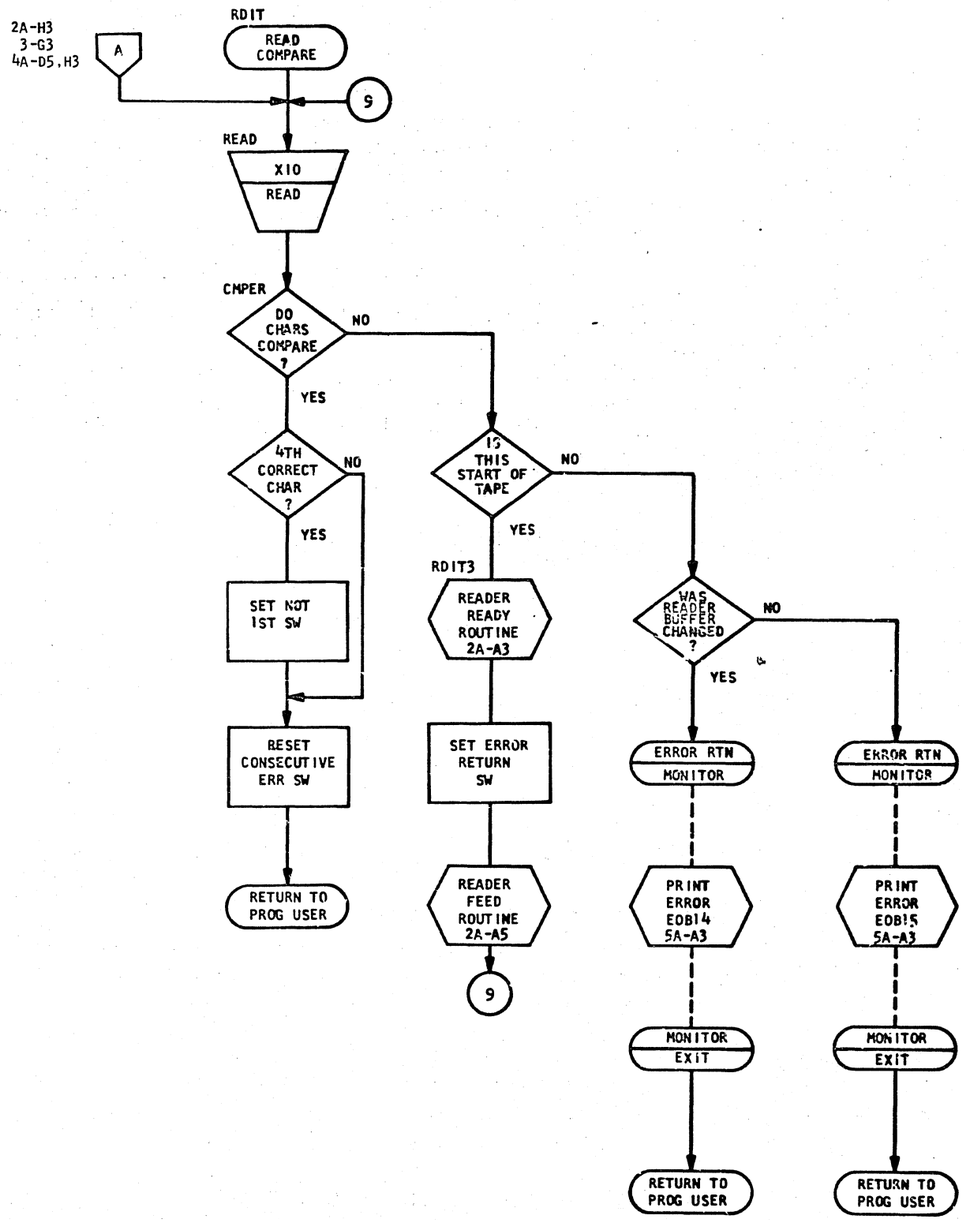


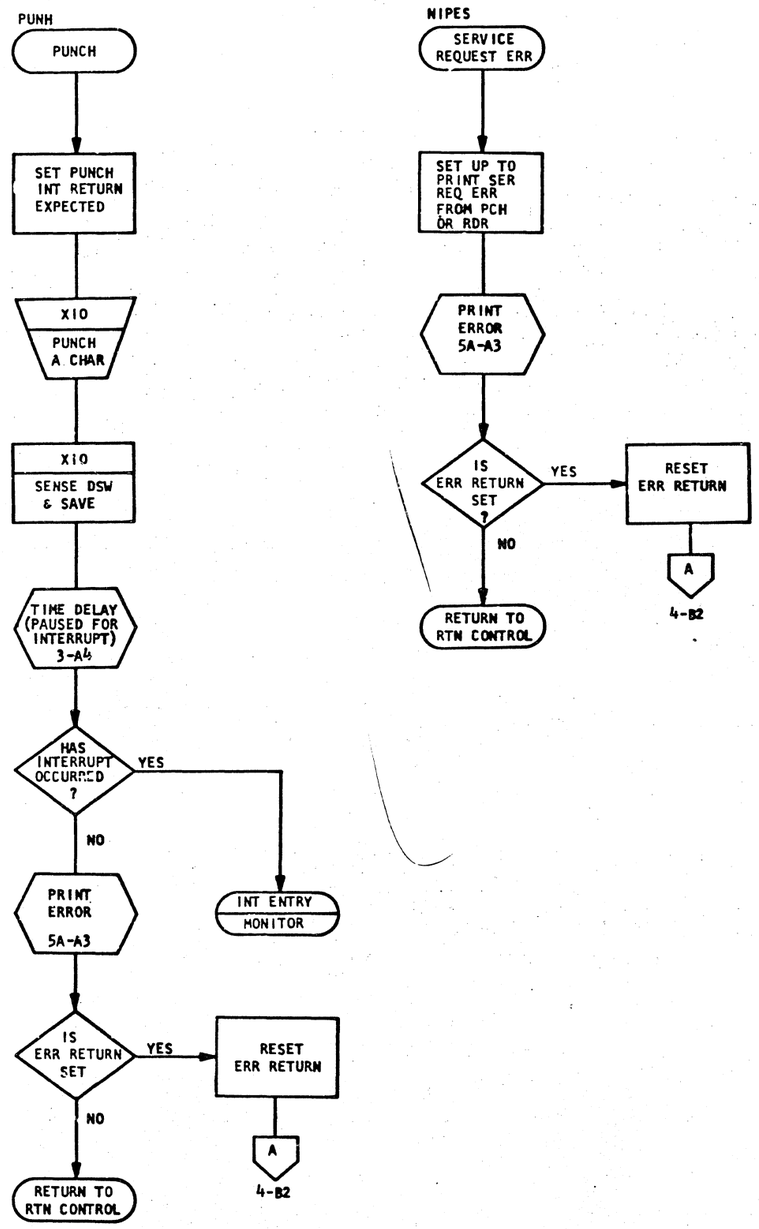
NOTE
AFTER INTERRUPT IS RESET IN MONITOR, THE MONITOR WILL RETURN TO CHECK BUSY DSW RTN, THEN PRINT SUC REQ ERR IF DSW WAS NOT OK DURING INTERRUPT

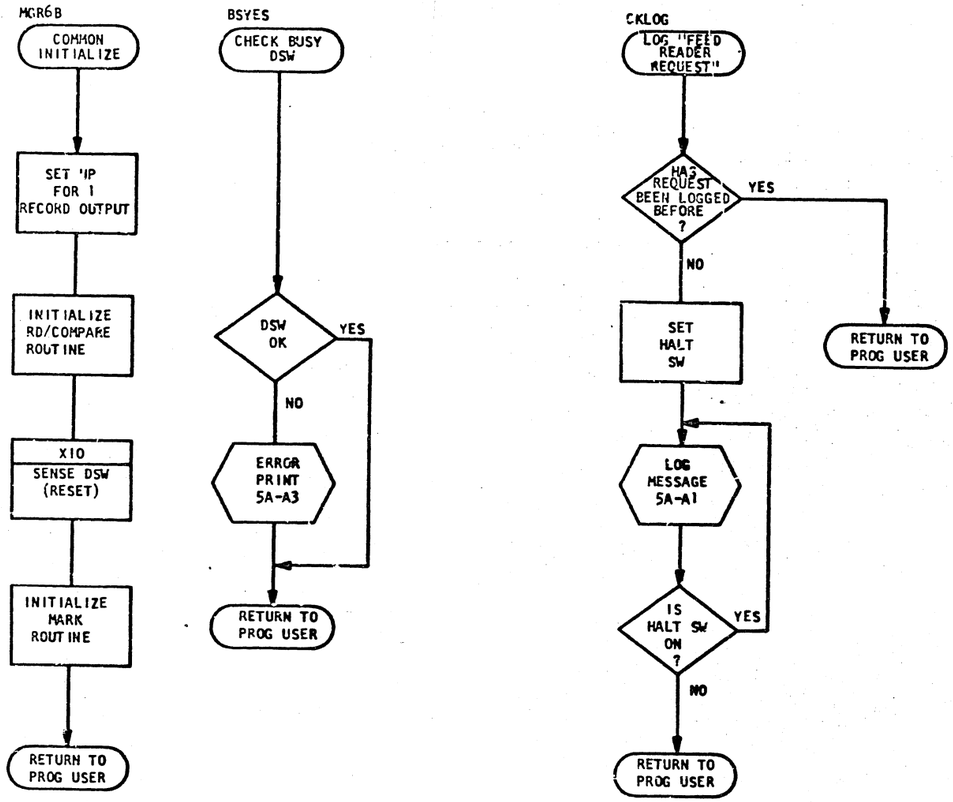


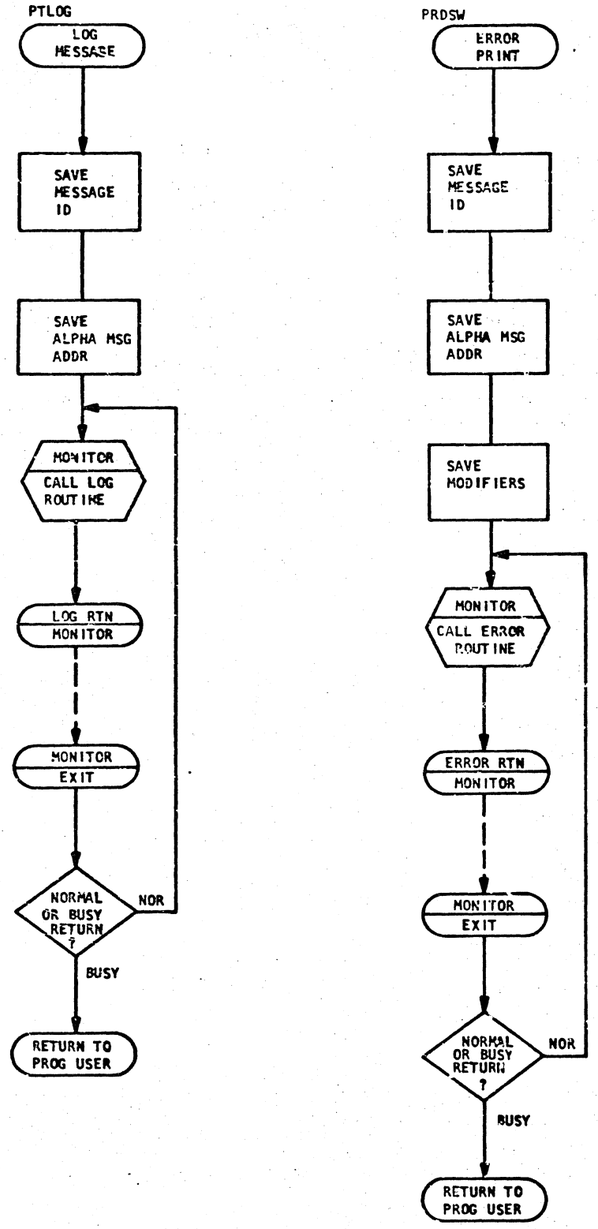

XFEED
PUNCH FEED
RESTORE DOUBLE INT SW & SET DOUBLE INT EXPECTED
X10 CONTROL
X10 SENSE DSW
TIMED PAUSE FOR INT
1
INT RECEIVED?
NO
YES
PRINT ERROR RETURN 5-A3
INT ROUTINE MONITOR
IS ERR RETURN SET
YES
NO
RESET ERROR RETURN
A
4-B2
RETURN TO RTN CONTROL
5-A1
TIME
TIMED DELAY
1
SET UP COUNTER = /1000
6
DECREMENT COUNTER BY 1
COUNTER = 0 ?
NO
YES
ENTRY MONITOR
RETURN TO PROG USER
MONITOR EXIT
6

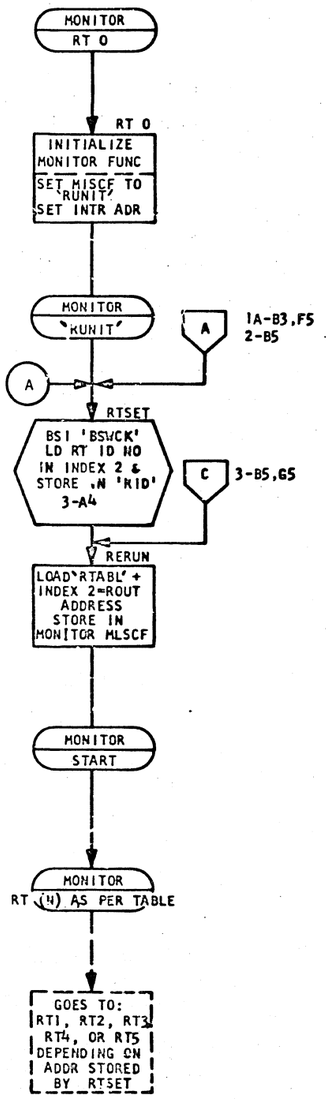

MARK
MARK
SAVE LAST CHAR USED
RESTORE ROUTINE STATUS
PIVOT ON ROUTINE STATUS
NRIPX
START NEW RIPPLE
PLACE 1ST RIPPLE PATTERN IN PUNCH AREA
SET STATUS TO SHIFT RIPPLE
SET STATUS TO START NEW RIPPLE
SRIPX
SHIFT RIPPLE
RIPPLE COMPLETE ?
NO
YES
PLACE ALL BIT CHAR IN PUNCH AREA
7
SET STATUS TO BAR
ALLBX
ALL CHAR PATTERN
INCREMENT & STORE CHAR COUNTER IN PUNCH AREA
8
PATTERN COMPLETE ?
NO
YES
SET STATUS TO ALL CHAR PATTERN
INITIALIZE STATUS
BARX
BAR
ALL BARS COMPLETE ?
NO
7
YES
END RIPPLE PATTERN ?
YES
8
NO
SET STATUS TO START NEW RIPPLE
SAVE STATUS
RETURN TO PROG USER

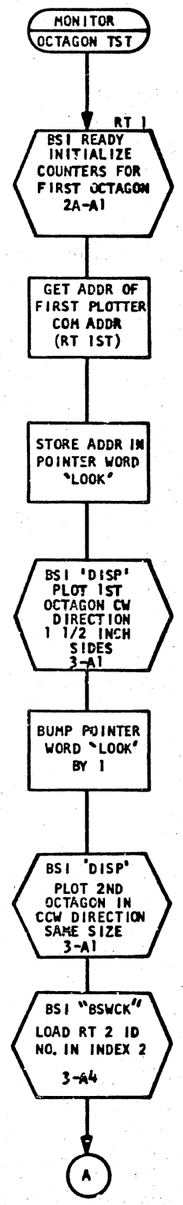

2A-H3
3-G3
4A-D5,H3
A
RDIT
READ COMPARE
9
READ
X10
READ
CMPER
DO CHARS COMPARE ?
NO
YES
4TH CORRECT CHAR ?
NO
YES
SET NOT 1ST SW
RESET CONSECUTIVE ERR SW
RETURN TO PROG USER
IS THIS START OF TAPE
NO
YES
RDIT3
READER READY ROUTINE 2A-A3
SET ERROR RETURN SW
READER FEED ROUTINE 2A-A5
9
WAS READER BUFFER CHANGED ?
NO
YES
ERROR RTN
MONITOR
PRINT ERROR EOB14 5A-A3
MONITOR
EXIT
RETURN TO PROG USER
ERROR RTN
MONITOR
PRINT ERROR EOB15 5A-A3
MONITOR
EXIT
RETURN TO PROG USER

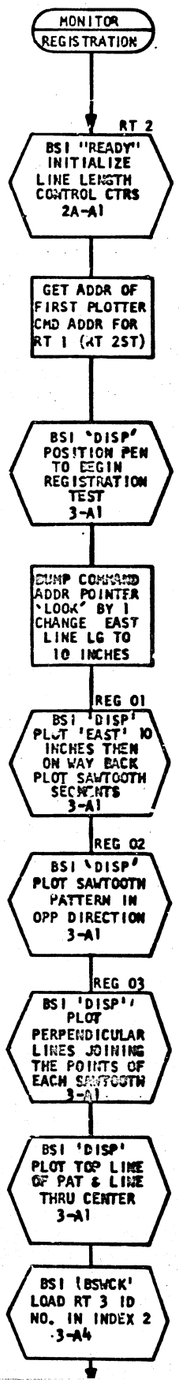

PUNH
PUNCH
SET PUNCH INT RETURN EXPECTED
X10
PUNCH A CHAR
X10
SENSE DSW & SAVE
TIME DELAY (PAUSED FOR INTERRUPT) 3-A4
HAS INTERRUPT OCCURRED ?
YES
NO
PRINT ERROR 5A-A3
INT ENTRY
MONITOR
IS ERR RETURN SET
YES
NO
RESET ERR RETURN
A
4-B2
RETURN TO RTN CONTROL
NIPES
SERVICE REQUEST ERR
SET UP TO PRINT SER REQ ERR FROM PCH OR RDR
PRINT ERROR 5A-A3
IS ERR RETURN SET
YES
NO
RESET ERR RETURN
A
4-B2
RETURN TO RTN CONTROL

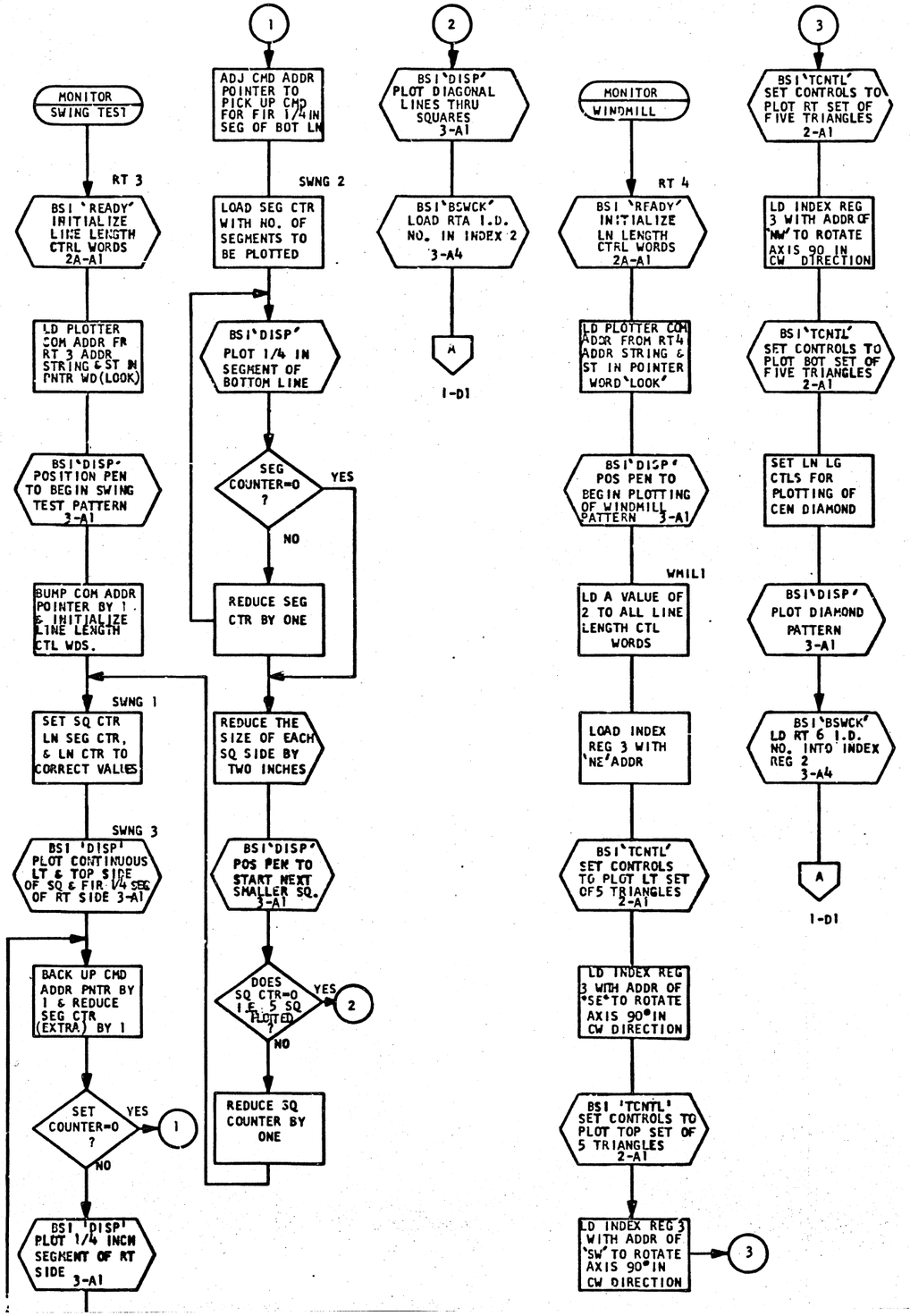

MGR6B
COMMON INITIALIZE
SET UP FOR 1 RECORD OUTPUT
INITIALIZE RD/COMPARE ROUTINE
XIO
SENSE DSW (RESET)
INITIALIZE MARK ROUTINE
RETURN TO PROG USER
BSYES
CHECK BUSY DSW
DSW OK
YES
NO
ERROR PRINT 5A-A3
RETURN TO PROG USER
CKLOG
LOG "FEED READER REQUEST"
HAS REQUEST BEEN LOGGED BEFORE ?
YES
NO
SET HALT SW
RETURN TO PROG USER
LOG MESSAGE 5A-A1
IS HALT SW ON ?
YES
NO
RETURN TO PROG USER

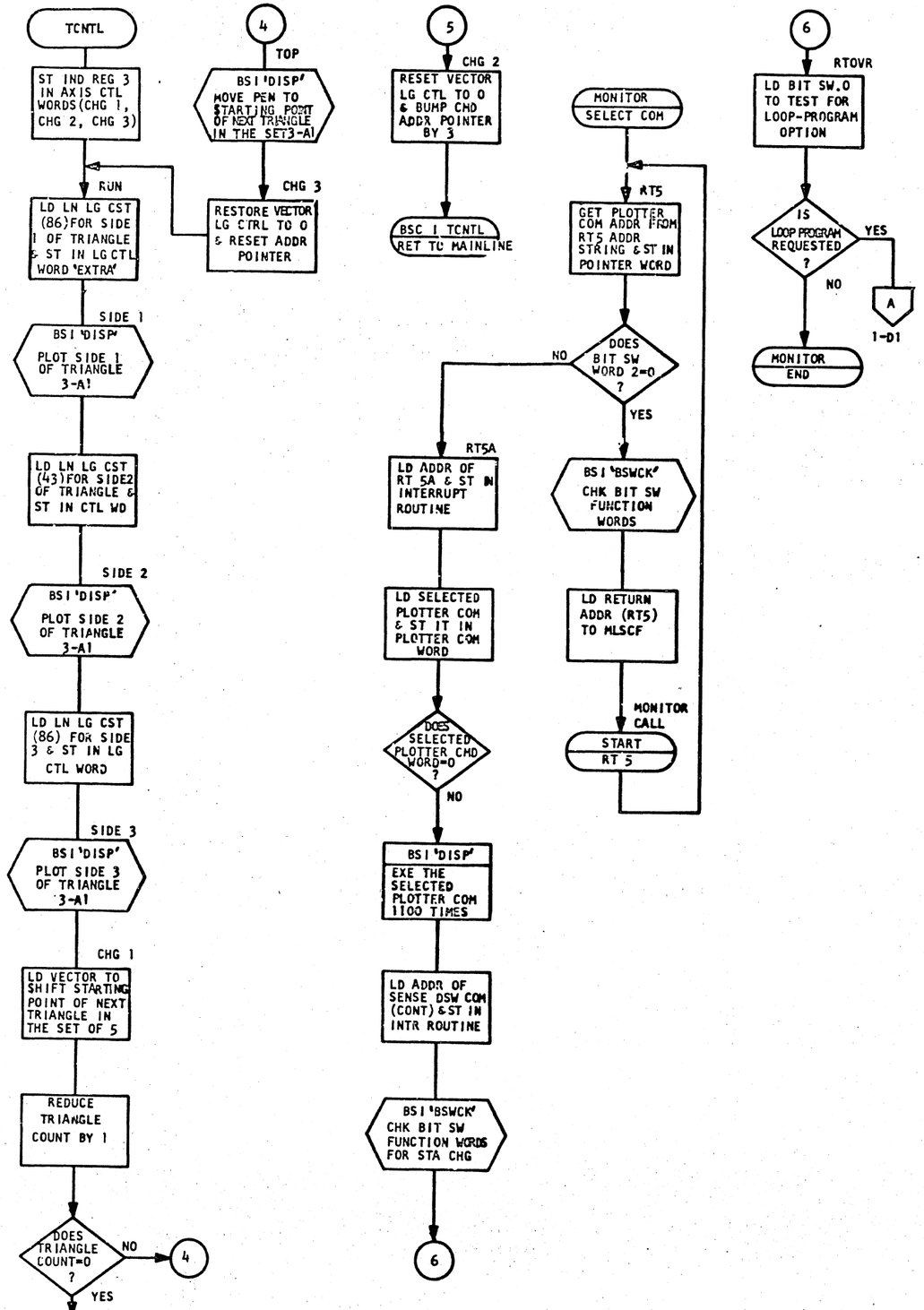

PTLOG
LOG MESSAGE
SAVE MESSAGE ID
SAVE ALPHA MSG ADDR
MONITOR CALL LOG ROUTINE
LOG RTN MONITOR
MONITOR EXIT
NORMAL OR BUSY RETURN ?
NOR
BUSY
RETURN TO PROG USER
PRDSW
ERROR PRINT
SAVE MESSAGE ID
SAVE ALPHA MSG ADDR
SAVE MODIFIERS
MONITOR CALL ERROR ROUTINE
ERROR RTN MONITOR
MONITOR EXIT
NORMAL OR BUSY RETURN ?
NOR
BUSY
RETURN TO PROG USER
CRASH
CHAR COUNTER ROUTINE
DECREMENT CHAR COUNT BY 1
CHAR COUNT = 0
NO
YES
RETURN TO PROG USER
B
1-E2

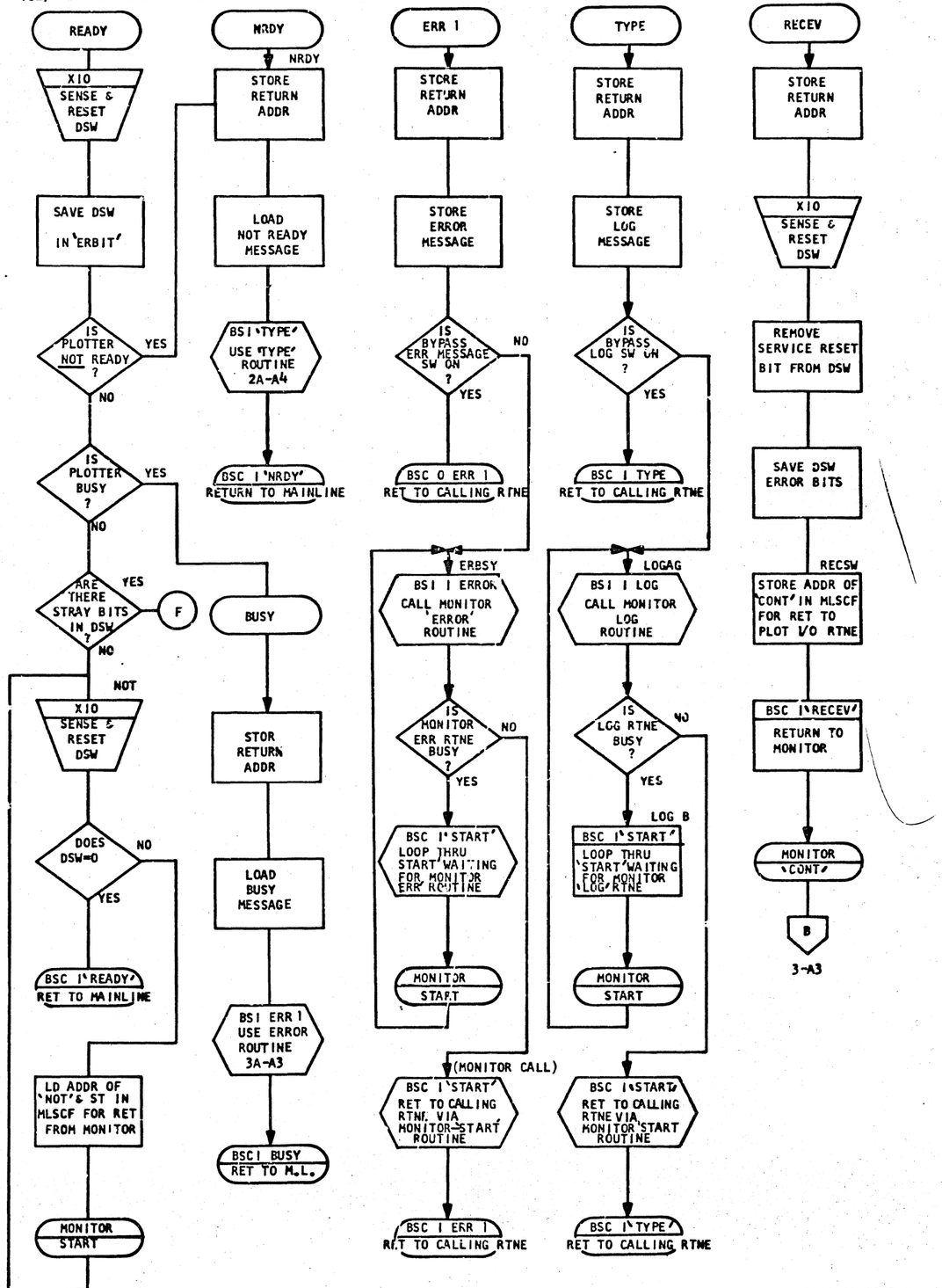

MONITOR
RT 0
RT 0
INITIALIZE MONITOR FUNC
SET MISCF TO 'RUNIT'
SET INTR ADR
MONITOR
'RUNIT'
A
1A-B3,F5
2-B5
A
RTSET
BSI 'BSWCK'
LD RT ID NO IN INDEX 2 & STORE IN 'RID'
3-A4
C
3-B5,G5
RERUN
LOAD 'RTABL' + INDEX 2=ROUT ADDRESS STORE IN MONITOR MLSCF
MONITOR
START
MONITOR
RT (4) AS PER TABLE
GOES TO:
RT1, RT2, RT3, RT4, OR RT5 DEPENDING ON ADDR STORED BY RTSET


MONITOR
OCTAGON TST
RT 1
BSI READY INITIALIZE COUNTERS FOR FIRST OCTAGON
2A-A1
GET ADDR OF FIRST PLOTTER COM ADDR (RT 1ST)
STORE ADDR IN POINTER WORD 'LOOK'
BSI 'DISP'
PLOT 1ST OCTAGON CW DIRECTION 1 1/2 INCH SIDES
3-A1
BUMP POINTER WORD 'LOOK' BY 1
BSI 'DISP'
PLOT 2ND OCTAGON IN CCW DIRECTION SAME SIZE
3-A1
BSI "BSWCK"
LOAD RT 2 ID NO. IN INDEX 2
3-A4
A

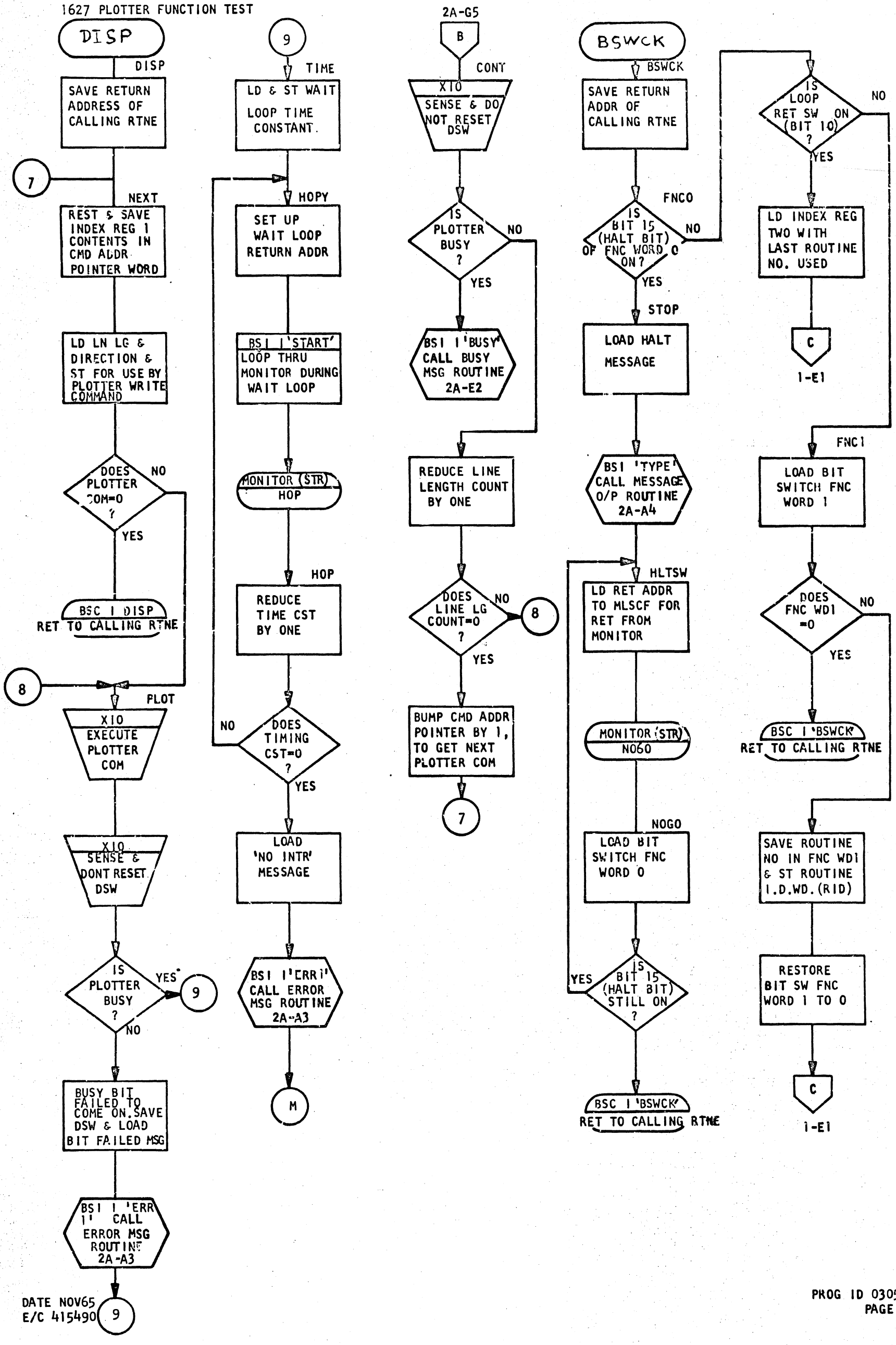

MONITOR
REGISTRATION
RT 2
BSI "READY" INITIALIZE LINE LENGTH CONTROL CTRS
2A-A1
GET ADDR OF FIRST PLOTTER CMD ADDR FOR RT 1 (AT 2ST)
BSI 'DISP'
POSITION PEN TO BEGIN REGISTRATION TEST
3-A1
BUMP COMMAND ADDR POINTER 'LOOK' BY 1 CHANGE EAST LINE LG TO 10 INCHES
REG 01
BSI 'DISP'
PLOT 'EAST' 10 INCHES THEN ON WAY BACK PLOT SAWTOOTH SEGMENTS
3-A1
REG 02
BSI 'DISP'
PLOT SAWTOOTH PATTERN IN OPP DIRECTION
3-A1
REG 03
BSI 'DISP'
PLOT PERPENDICULAR LINES JOINING THE POINTS OF EACH SAWTOOTH
3-A1
BSI 'DISP'
PLOT TOP LINE OF PAT & LINE THRU CENTER
3-A1
BSI 'BSWCK'
LOAD RT 3 ID NO. IN INDEX 2
3-A4

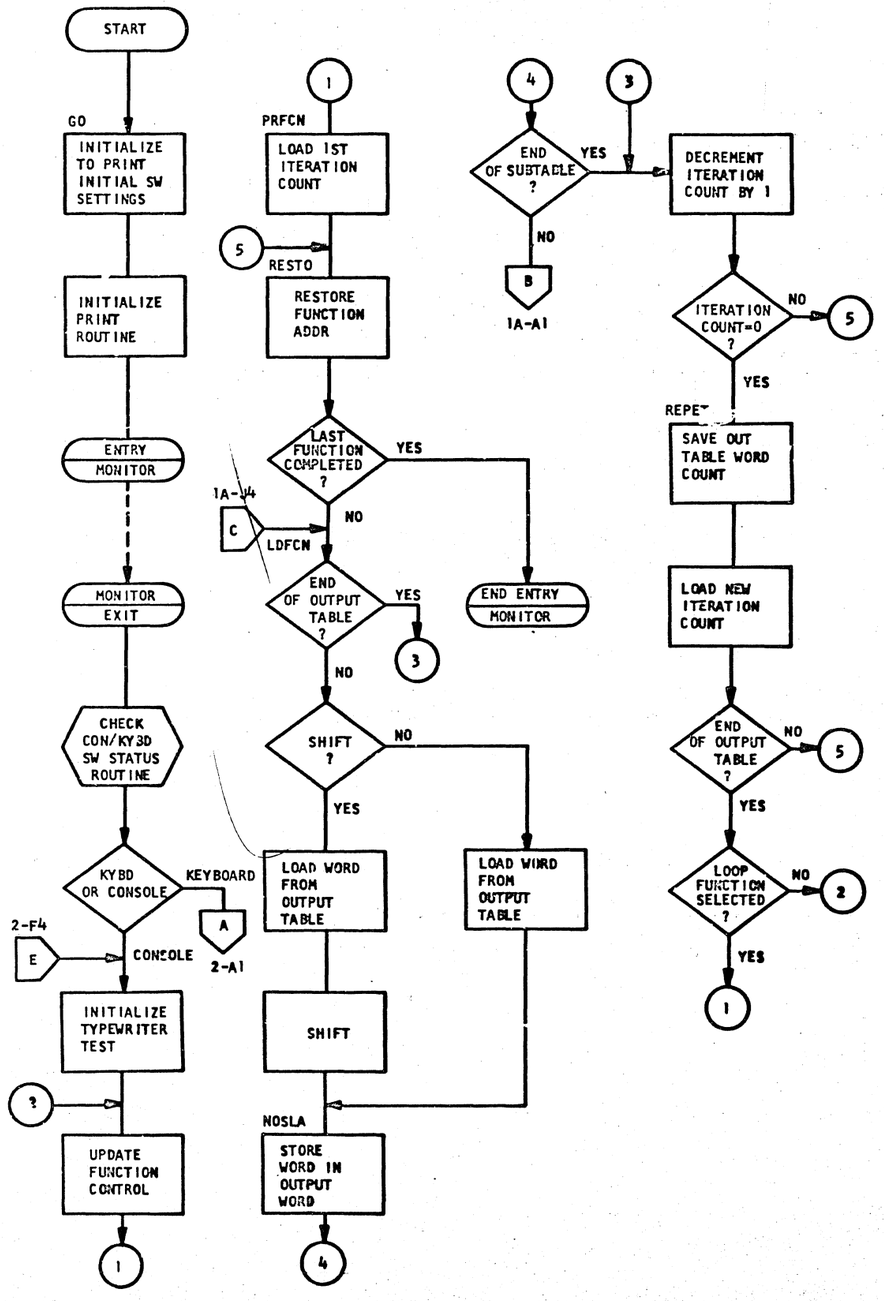

MONITOR
SWING TEST
RT 3
BSI 'READY' INITIALIZE LINE LENGTH CTRL WORDS
2A-A1
LD PLOTTER COM ADDR FR RT 3 ADDR STRING & ST IN PNTR WD(LOOK)
BSI 'DISP'
POSITION PEN TO BEGIN SWING TEST PATTERN
3-A1
BUMP COM ADDR POINTER BY 1 & INITIALIZE LINE LENGTH CTL WDS.
SWNG 1
SET SQ CTR LN SEG CTR, & LN CTR TO CORRECT VALUES
SWNG 3
BSI 'DISP'
PLOT CONTINUOUS LT & TOP SIDE OF SQ & FIR 1/4 SEG OF RT SIDE 3-A1
BACK UP CMD ADDR PNTR BY 1 & REDUCE SEG CTR (EXTRA) BY 1
SET COUNTER=0 ?
YES
1
NO
BSI 'DISP'
PLOT 1/4 INCH SEGMENT OF RT SIDE
3-A1
1
ADJ CMD ADDR POINTER TO PICK UP CMD FOR FIR 1/4 IN SEG OF BOT LN
SWNG 2
LOAD SEG CTR WITH NO. OF SEGMENTS TO BE PLOTTED
BSI 'DISP'
PLOT 1/4 IN SEGMENT OF BOTTOM LINE
SEG COUNTER=0 ?
YES
NO
REDUCE SEG CTR BY ONE
REDUCE THE SIZE OF EACH SQ SIDE BY TWO INCHES
BSI 'DISP'
POS PEN TO START NEXT SMALLER SQ.
3-A1
DOES SQ CTR=0 I.E. 5 SQ PLOTTED ?
YES
2
NO
REDUCE SQ COUNTER BY ONE
2
BSI 'DISP'
PLOT DIAGONAL LINES THRU SQUARES
3-A1
BSI 'BSWCK'
LOAD RTA I.D. NO. IN INDEX 2
3-A4
M
1-D1
MONITOR
WINDMILL
RT 4
BSI 'READY'
INITIALIZE LN LENGTH CTRL WORDS
2A-A1
LD PLOTTER COM ADDR FROM RT4 ADDR STRING & ST IN POINTER WORD 'LOOK'
BSI 'DISP'
POS PEN TO BEGIN PLOTTING OF WINDMILL PATTERN 3-A1
WHILI
LD A VALUE OF 2 TO ALL LINE LENGTH CTL WORDS
LOAD INDEX REG 3 WITH 'NE' ADDR
BSI 'TCNTL'
SET CONTROLS TO PLOT LT SET OF 5 TRIANGLES
2-A1
LD INDEX REG 3 WITH ADDR OF 'SE' TO ROTATE AXIS 90° IN CW DIRECTION
BSI 'TCNTL'
SET CONTROLS TO PLOT TOP SET OF 5 TRIANGLES
2-A1
LD INDEX REG 3 WITH ADDR OF 'SW' TO ROTATE AXIS 90° IN CW DIRECTION
3
3
BSI 'TCNTL'
SET CONTROLS TO PLOT RT SET OF FIVE TRIANGLES
2-A1
LD INDEX REG 3 WITH ADDR OF 'NW' TO ROTATE AXIS 90 IN CW DIRECTION
BSI 'TCNTL'
SET CONTROLS TO PLOT BOT SET OF FIVE TRIANGLES
2-A1
SET LN LG CTLS FOR PLOTTING OF CEN DIAMOND
BSI 'DISP'
PLOT DIAMOND PATTERN
3-A1
BSI 'BSWCK'
LD RT 6 I.D. NO. INTO INDEX REG 2
3-A4
A
1-D1

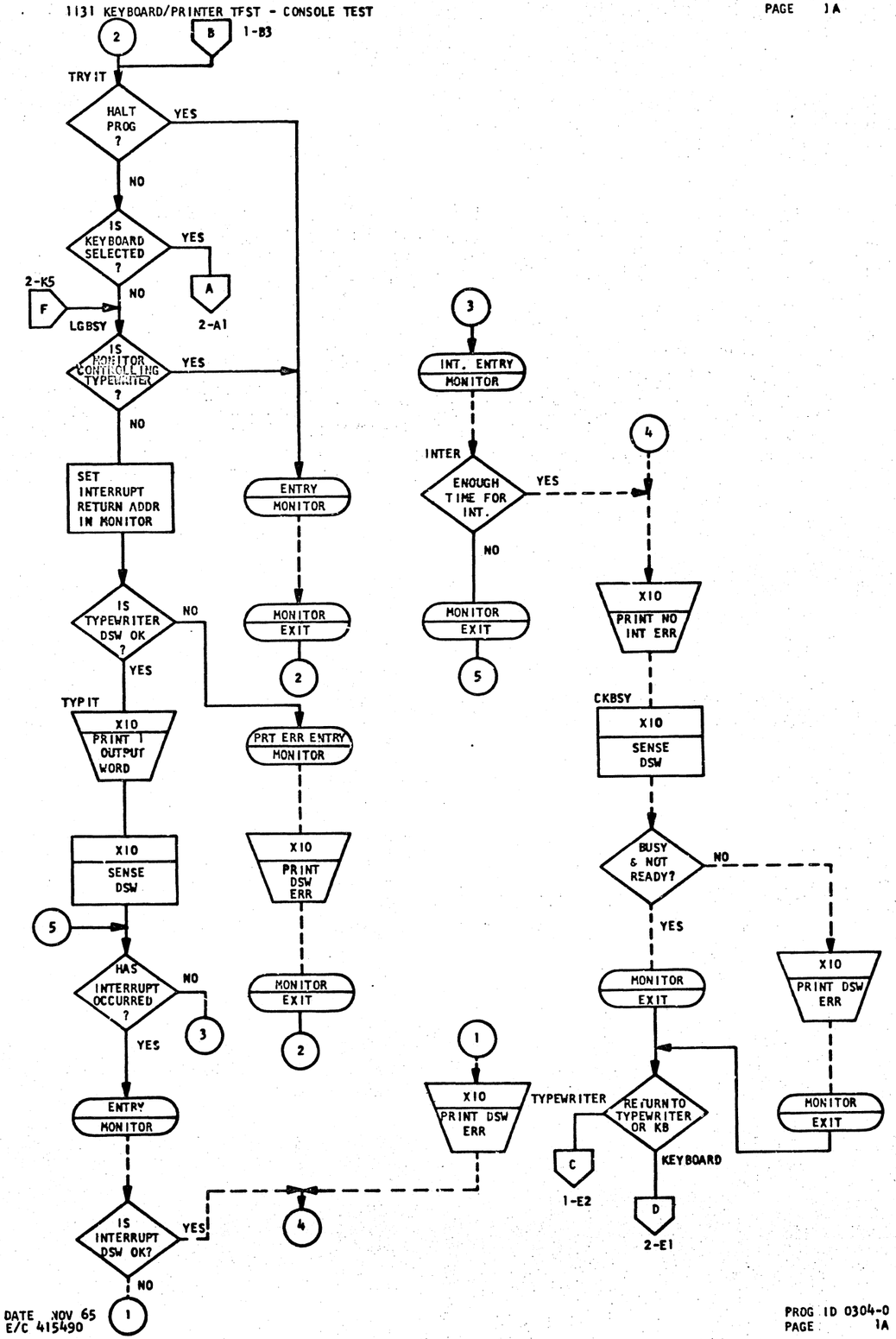

TCNTL
ST IND REG 3 IN AXIS CTL WORDS (CHG 1, CHG 2, CHG 3)
RUN
LD LN LG CST (86) FOR SIDE 1 OF TRIANGLE & ST IN LG CTL WORD 'EXTRA'
SIDE 1
BSI 'DISP' PLOT SIDE 1 OF TRIANGLE 3-A1
LD LN LG CST (43) FOR SIDE2 OF TRIANGLE & ST IN CTL WD
SIDE 2
BSI 'DISP' PLOT SIDE 2 OF TRIANGLE 3-A1
LD LN LG CST (86) FOR SIDE 3 & ST IN LG CTL WORD
SIDE 3
BSI 'DISP' PLOT SIDE 3 OF TRIANGLE 3-A1
CHG 1
LD VECTOR TO SHIFT STARTING POINT OF NEXT TRIANGLE IN THE SET OF 5
REDUCE TRIANGLE COUNT BY 1
DOES TRIANGLE COUNT=0 ?
NO
YES
4
TOP
BSI 'DISP' MOVE PEN TO STARTING POINT OF NEXT TRIANGLE IN THE SET3-A1
CHG 3
RESTORE VECTOR LG CTRL TO 0 & RESET ADDR POINTER
5
CHG 2
RESET VECTOR LG CTL TO 0 & BUMP CHD ADDR POINTER BY 3
BSC I TCNTL
RET TO MAINLINE
RT5A
LD ADDR OF RT 5A & ST IN INTERRUPT ROUTINE
LD SELECTED PLOTTER COM & ST IT IN PLOTTER COM WORD
DOES SELECTED PLOTTER CMD WORD=0 ?
NO
BSI 'DISP' EXE THE SELECTED PLOTTER COM 1100 TIMES
LD ADDR OF SENSE DSW COM (CONT) & ST IN INTR ROUTINE
BSI 'BSWCK' CHK BIT SW FUNCTION WORDS FOR STA CHG
6
MONITOR
SELECT COM
RT5
GET PLOTTER COM ADDR FROM RT5 ADDR STRING & ST IN POINTER WORD
DOES BIT SW WORD 2=0 ?
NO
YES
BSI 'BSWCK' CHK BIT SW FUNCTION WORDS
LD RETURN ADDR (RT5) TO MLSCF
MONITOR CALL
START RT 5
6
RTOVR
LD BIT SW.0 TO TEST FOR LOOP-PROGRAM OPTION
IS LOOP PROGRAM REQUESTED ?
YES
NO
A
1-D1
MONITOR
END

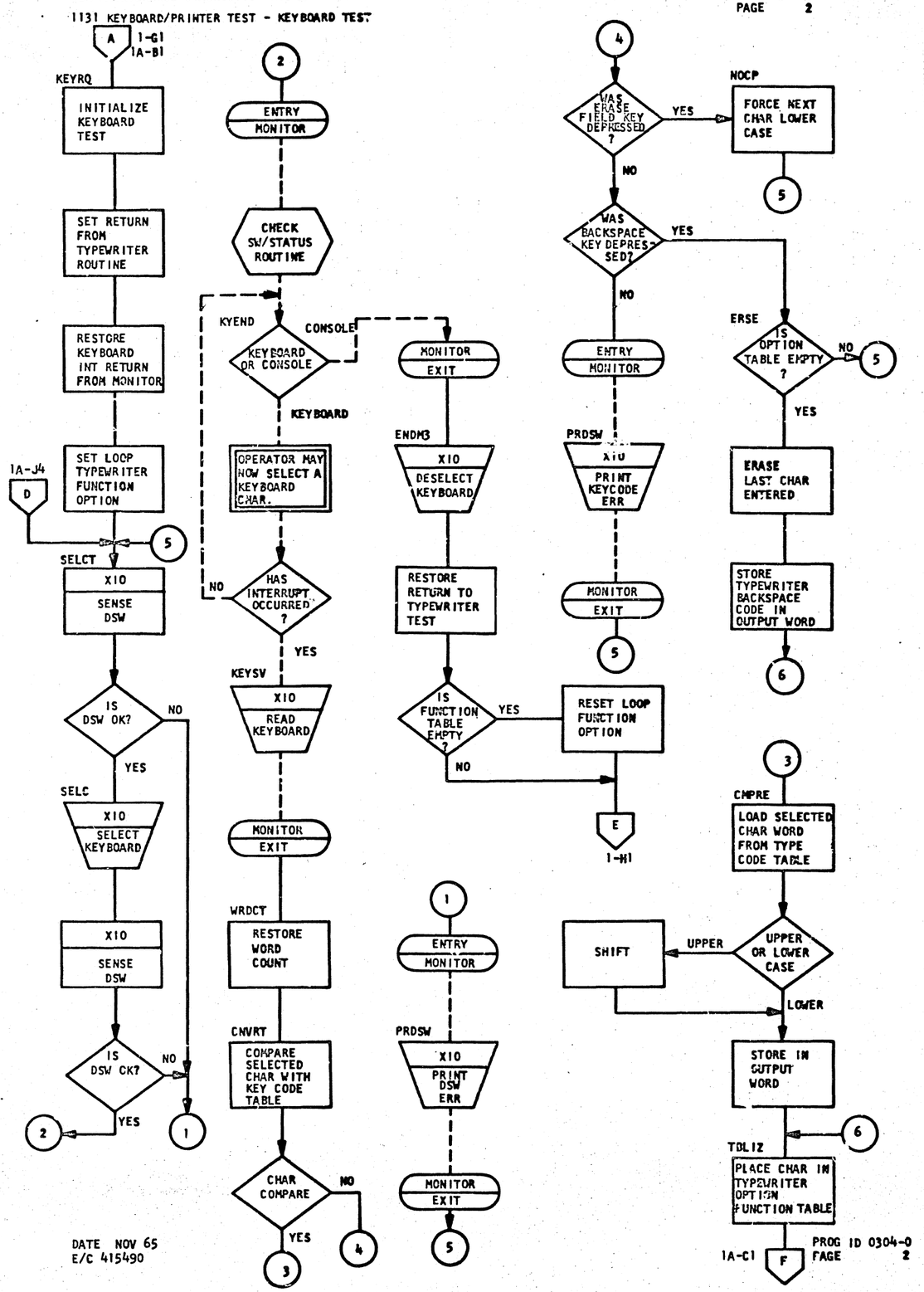

READY
XIO SENSE & RESET DSW
SAVE DSW IN 'ERBIT'
IS PLOTTER NOT READY ?
YES
NO
IS PLOTTER BUSY ?
YES
NO
ARE THERE STRAY BITS IN DSW ?
YES
F
NO
NOT XIO SENSE & RESET DSW
DOES DSW=0
NO
YES
BSC I 'READY' RET TO MAINLINE
LD ADDR OF 'NOT' & ST IN MLSCF FOR RET FROM MONITOR
MONITOR START
NRDY
NRDY
STORE RETURN ADDR
LOAD NOT READY MESSAGE
BSI 'TYPE' USE 'TYPE' ROUTINE 2A-A4
BSC I 'NRDY' RETURN TO MAINLINE
BUSY
STOR RETURN ADDR
LOAD BUSY MESSAGE
BSI ERR 1 USE ERROR ROUTINE 3A-A3
BSC I BUSY RET TO M.L.
ERR 1
STORE RETURN ADDR
STORE ERROR MESSAGE
IS BYPASS ERR MESSAGE SW ON ?
NO
YES
BSC O ERR 1 RET TO CALLING RTNE
ERBSY
BSI I ERROR CALL MONITOR 'ERROR' ROUTINE
IS MONITOR ERR RTNE BUSY ?
NO
YES
BSC I 'START' LOOP THRU 'START' WAITING FOR MONITOR ERR ROUTINE
MONITOR START
(MONITOR CALL)
BSC I 'START' RET TO CALLING RTNE VIA MONITOR 'START' ROUTINE
BSC I ERR 1 RET TO CALLING RTNE
TYPE
STORE RETURN ADDR
STORE LOG MESSAGE
IS BYPASS LOG SW ON ?
NO
YES
BSC I TYPE RET TO CALLING RTNE
LOGAG
BSI I LOG CALL MONITOR LOG ROUTINE
IS LOG RTNE BUSY ?
NO
YES
LOG B
BSC I 'START' LOOP THRU 'START' WAITING FOR MONITOR 'LOG' RTNE
MONITOR START
BSC I 'START' RET TO CALLING RTNE VIA MONITOR 'START' ROUTINE
BSC I 'TYPE' RET TO CALLING RTNE
RECEV
STORE RETURN ADDR
XIO SENSE & RESET DSW
REMOVE SERVICE RESET BIT FROM DSW
SAVE DSW ERROR BITS
RECSW
STORE ADDR OF 'CONT' IN MLSCF FOR RET TO PLOT I/O RTNE
BSC I 'RECEV' RETURN TO MONITOR
MONITOR 'CONT'
B
3-A3

1627 PLOTTER FUNCTION TEST



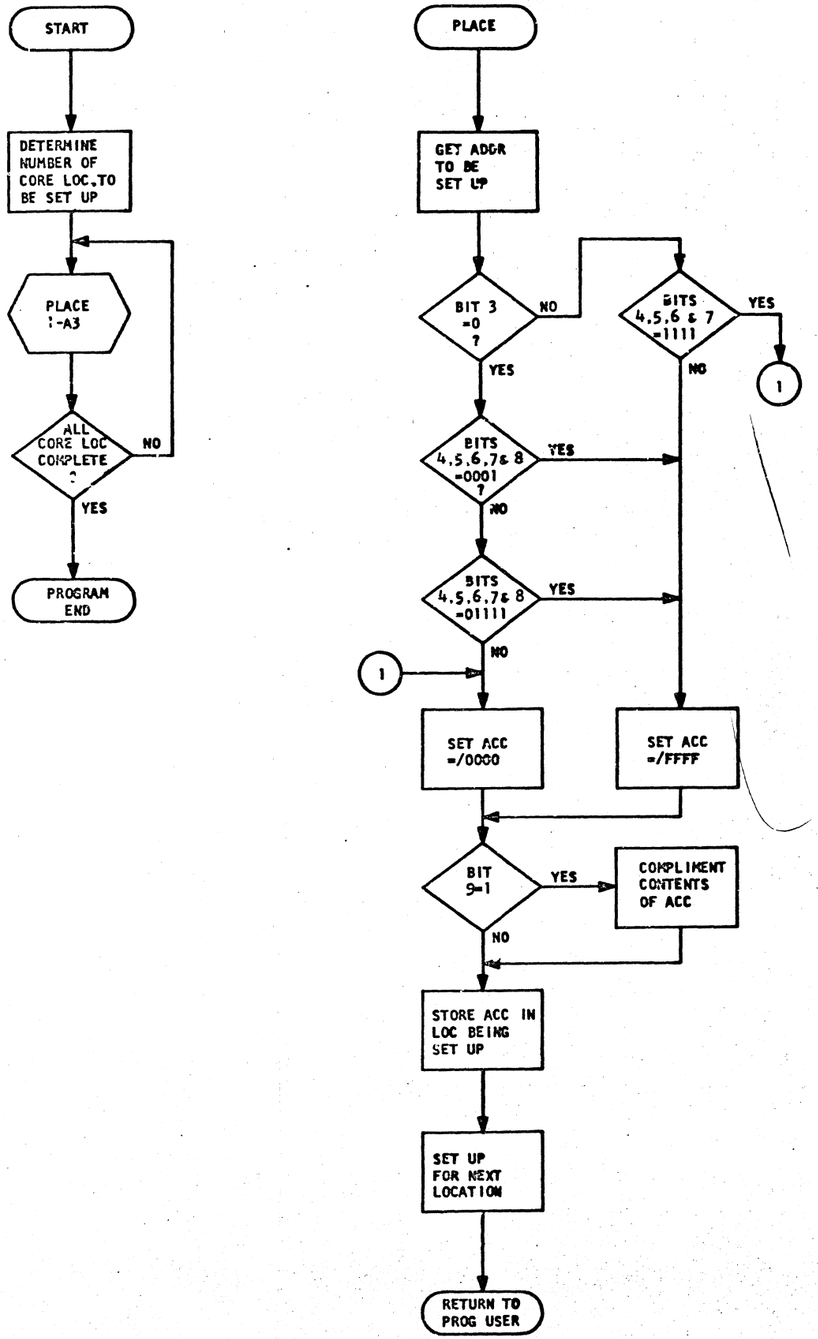

START
GO
INITIALIZE TO PRINT INITIAL SW SETTINGS
INITIALIZE PRINT ROUTINE
ENTRY MONITOR
MONITOR EXIT
CHECK CON/KY3D SW STATUS ROUTINE
KYBD OR CONSOLE
KEYBOARD
A
2-A1
2-F4
E
CONSOLE
INITIALIZE TYPEWRITER TEST
2
UPDATE FUNCTION CONTROL
1
1
PRFCN
LOAD 1ST ITERATION COUNT
5
RESTO
RESTORE FUNCTION ADDR
LAST FUNCTION COMPLETED ?
YES
NO
1A-D4
C
LDFCN
END OF OUTPUT TABLE ?
YES
3
NO
SHIFT ?
NO
YES
LOAD WORD FROM OUTPUT TABLE
SHIFT
NOSLA
STORE WORD IN OUTPUT WORD
4
LOAD WORD FROM OUTPUT TABLE
END ENTRY MONITOR
4
3
END OF SUBTABLE ?
YES
NO
B
1A-A1
DECREMENT ITERATION COUNT BY 1
ITERATION COUNT=0 ?
NO
5
YES
REPE
SAVE OUT TABLE WORD COUNT
LOAD NEW ITERATION COUNT
END OF OUTPUT TABLE ?
NO
5
YES
LOOP FUNCTION SELECTED ?
NO
2
YES
1


2
B
1-B3
TRYIT
HALT PROG ?
YES
NO
IS KEYBOARD SELECTED ?
YES
A
2-A1
NO
2-K5
F
LGBSY
IS MONITOR CONTROLLING TYPEWRITER ?
YES
NO
SET INTERRUPT RETURN ADDR IN MONITOR
IS TYPEWRITER DSW OK ?
NO
YES
TYPIT
X10 PRINT 1 OUTPUT WORD
X10 SENSE DSW
5
HAS INTERRUPT OCCURRED ?
NO
3
YES
ENTRY MONITOR
IS INTERRUPT DSW OK?
YES
NO
1
ENTRY MONITOR
MONITOR EXIT
2
PRT ERR ENTRY MONITOR
X10 PRINT DSW ERR
MONITOR EXIT
2
3
INT. ENTRY MONITOR
INTER
ENOUGH TIME FOR INT.
YES
NO
MONITOR EXIT
5
4
X10 PRINT NO INT ERR
CKBSY
X10 SENSE DSW
BUSY & NOT READY?
NO
YES
MONITOR EXIT
X10 PRINT DSW ERR
MONITOR EXIT
1
X10 PRINT DSW ERR
TYPEWRITER
RETURN TO TYPEWRITER OR KB
KEYBOARD
C
1-E2
D
2-E1
4

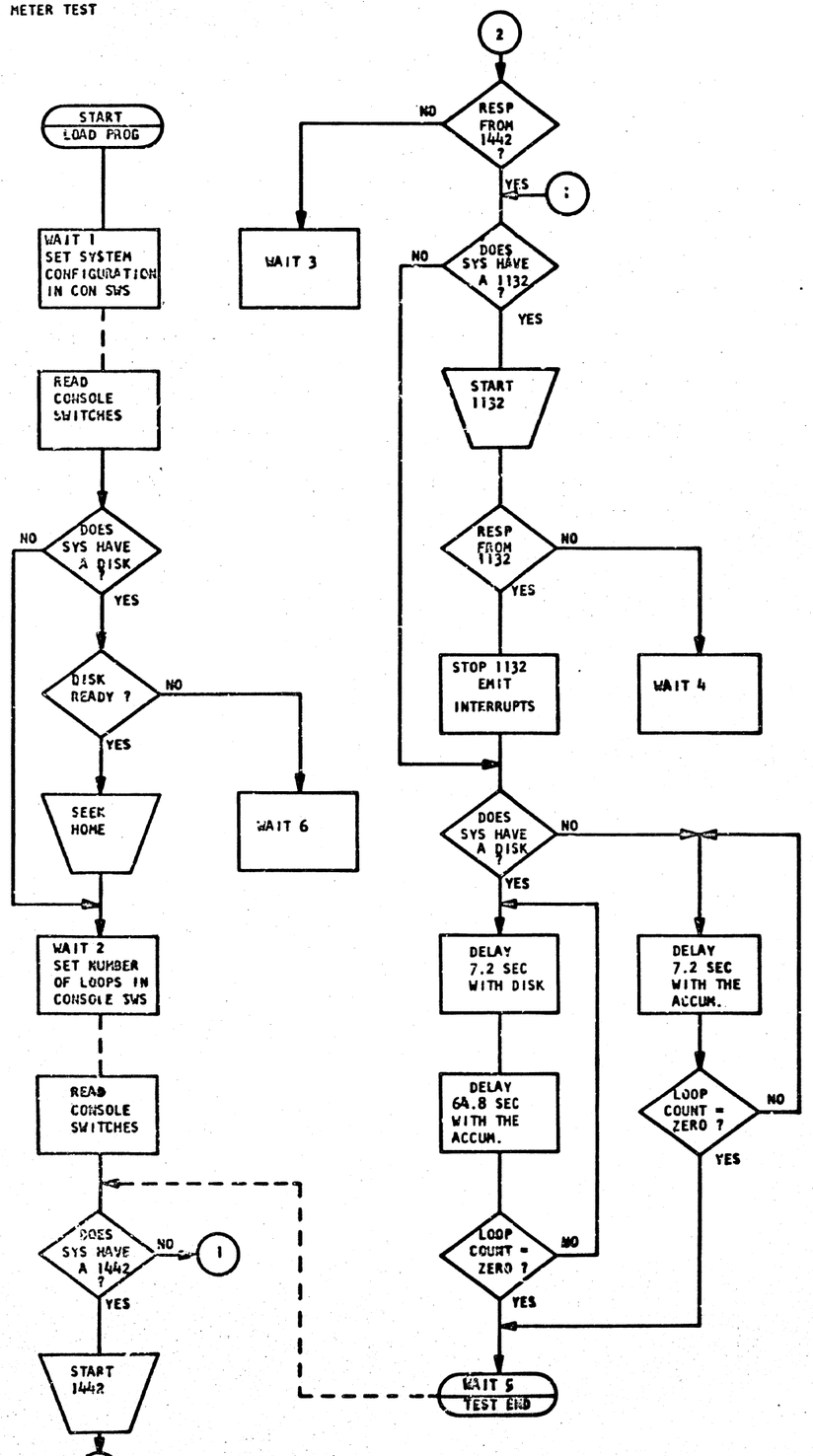


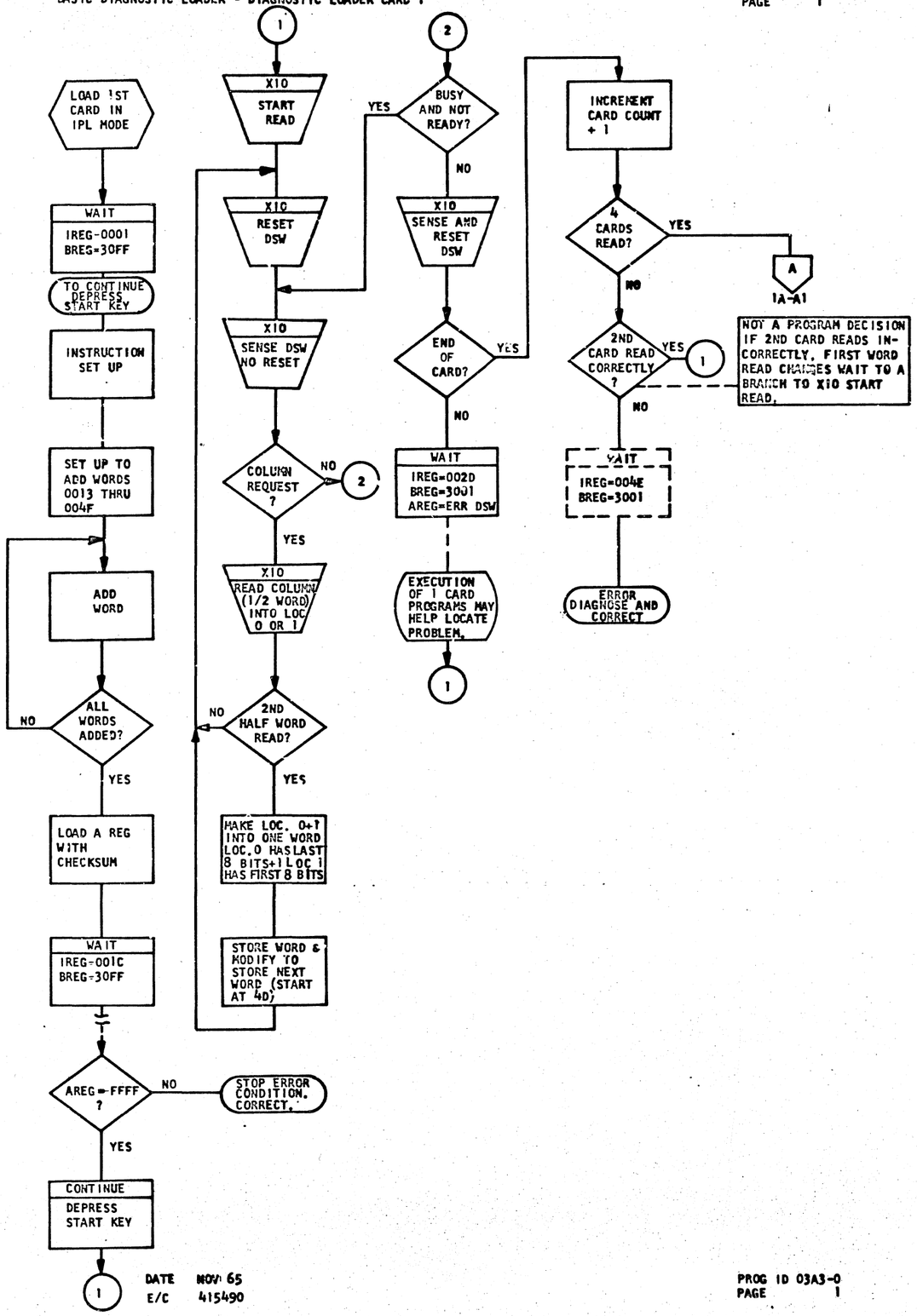
DATE NOV 65
E/C 415490

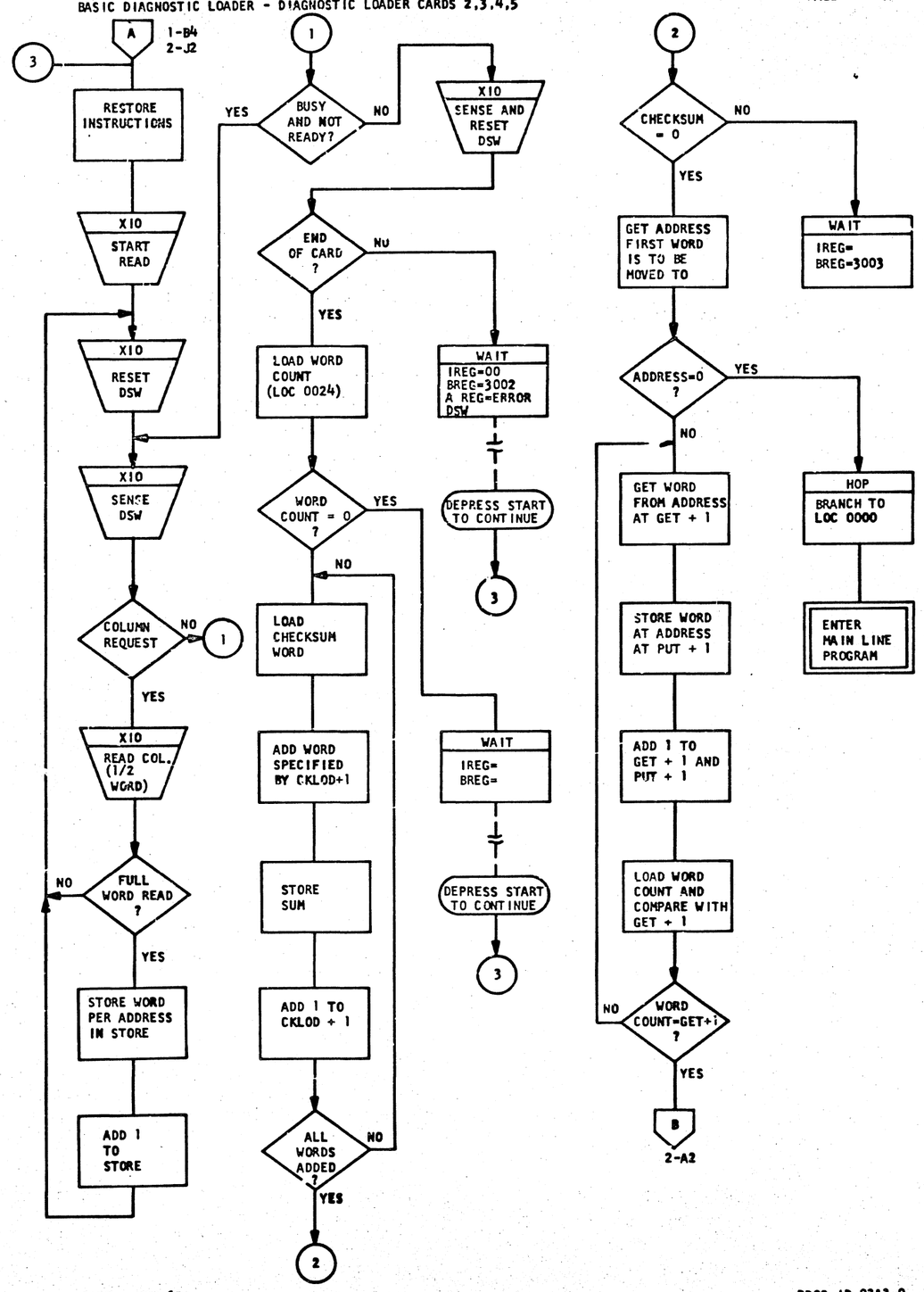
CORE ADJUSTMENT

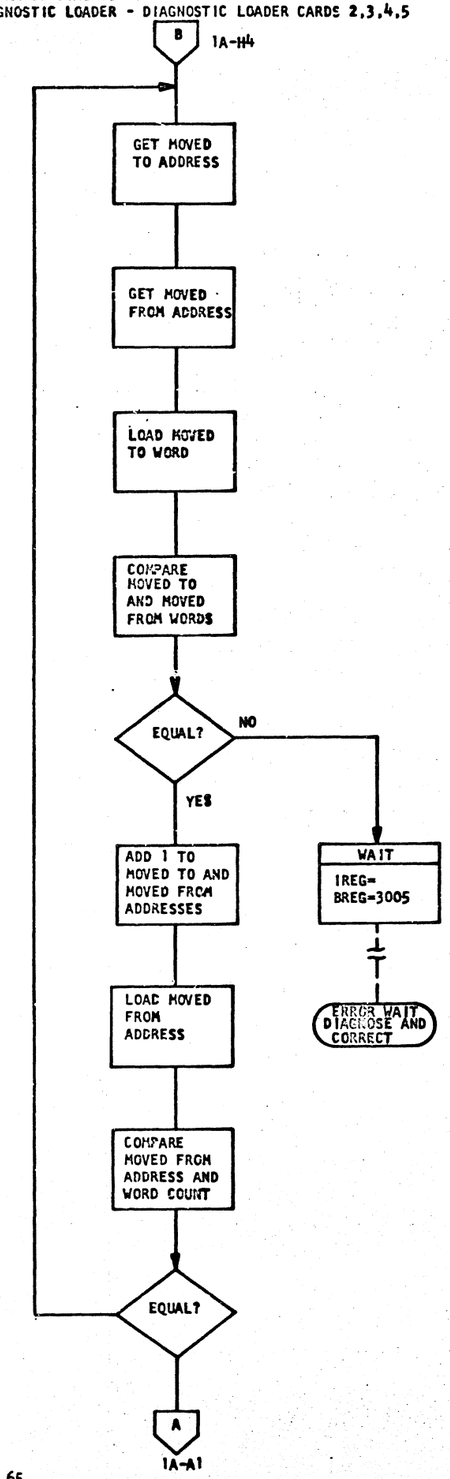


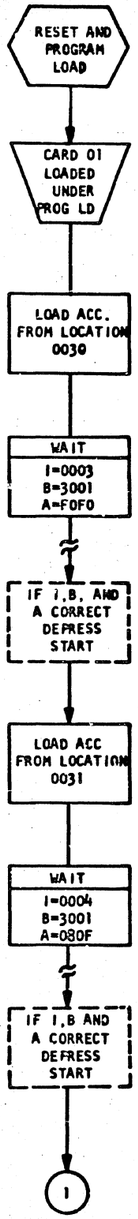
METER TEST

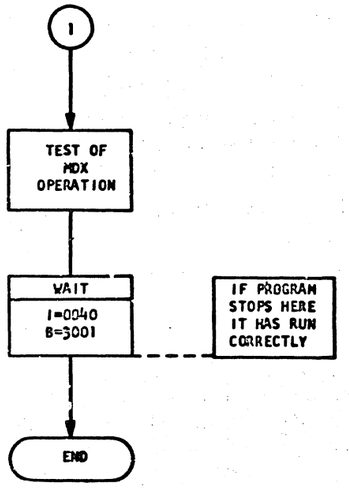

START
LOAD PROG
WAIT 1
SET SYSTEM
CONFIGURATION
IN CON SWS
READ
CONSOLE
SWITCHES
DOES
SYS HAVE
A DISK
?
NO
YES
DISK
READY ?
NO
YES
SEEK
HOME
WAIT 6
WAIT 2
SET NUMBER
OF LOOPS IN
CONSOLE SWS
READ
CONSOLE
SWITCHES
DOES
SYS HAVE
A 1442
?
NO
1
YES
START
1442
2
RESP
FROM
1442
?
NO
YES
:
WAIT 3
DOES
SYS HAVE
A 1132
?
NO
YES
START
1132
RESP
FROM
1132
NO
YES
STOP 1132
EMIT
INTERRUPTS
WAIT 4
DOES
SYS HAVE
A DISK
?
NO
YES
DELAY
7.2 SEC
WITH DISK
DELAY
6A.8 SEC
WITH THE
ACCUM.
LOOP
COUNT =
ZERO ?
NO
YES
DELAY
7.2 SEC
WITH THE
ACCUM.
LOOP
COUNT =
ZERO ?
NO
YES
WAIT 5
TEST END

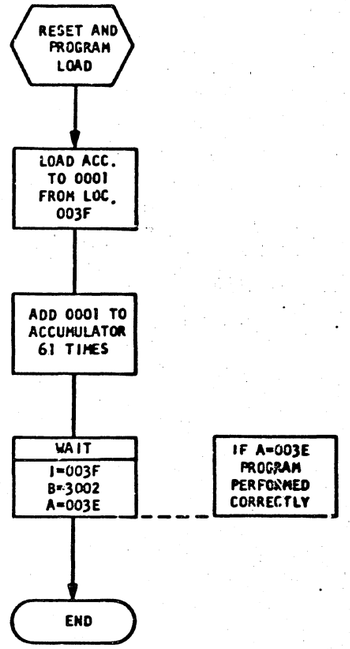

LOAD 1ST CARD IN IPL MODE
WAIT
IREG-0001
BREG=30FF
TO CONTINUE DEPRESS START KEY
INSTRUCTION SET UP
SET UP TO ADD WORDS 0013 THRU 004F
ADD WORD
ALL WORDS ADDED?
NO
YES
LOAD A REG WITH CHECKSUM
WAIT
IREG=001C
BREG=30FF
AREG=FFFF ?
NO
STOP ERROR CONDITION. CORRECT.
YES
CONTINUE
DEPRESS START KEY
1
X10
START READ
X10
RESET DSW
X10
SENSE DSW NO RESET
COLUMN REQUEST ?
NO
2
YES
X10
READ COLUMN (1/2 WORD) INTO LOC 0 OR 1
2ND HALF WORD READ?
NO
YES
MAKE LOC. 0+1 INTO ONE WORD LOC.0 HAS LAST 8 BITS+1 LOC 1 HAS FIRST 8 BITS
STORE WORD & MODIFY TO STORE NEXT WORD (START AT 4D)
2
BUSY AND NOT READY?
YES
NO
X10
SENSE AND RESET DSW
END OF CARD?
YES
NO
WAIT
IREG=002D
BREG=3001
AREG=ERR DSW
EXECUTION OF 1 CARD PROGRAMS MAY HELP LOCATE PROBLEM.
1
INCREMENT CARD COUNT + 1
4 CARDS READ?
YES
NO
A
1A-A1
2ND CARD READ CORRECTLY ?
YES
1
NO
NOT A PROGRAM DECISION IF 2ND CARD READS INCORRECTLY, FIRST WORD READ CHANGES WAIT TO A BRANCH TO X10 START READ.
WAIT
IREG=004E
BREG=3001
ERROR DIAGNOSE AND CORRECT

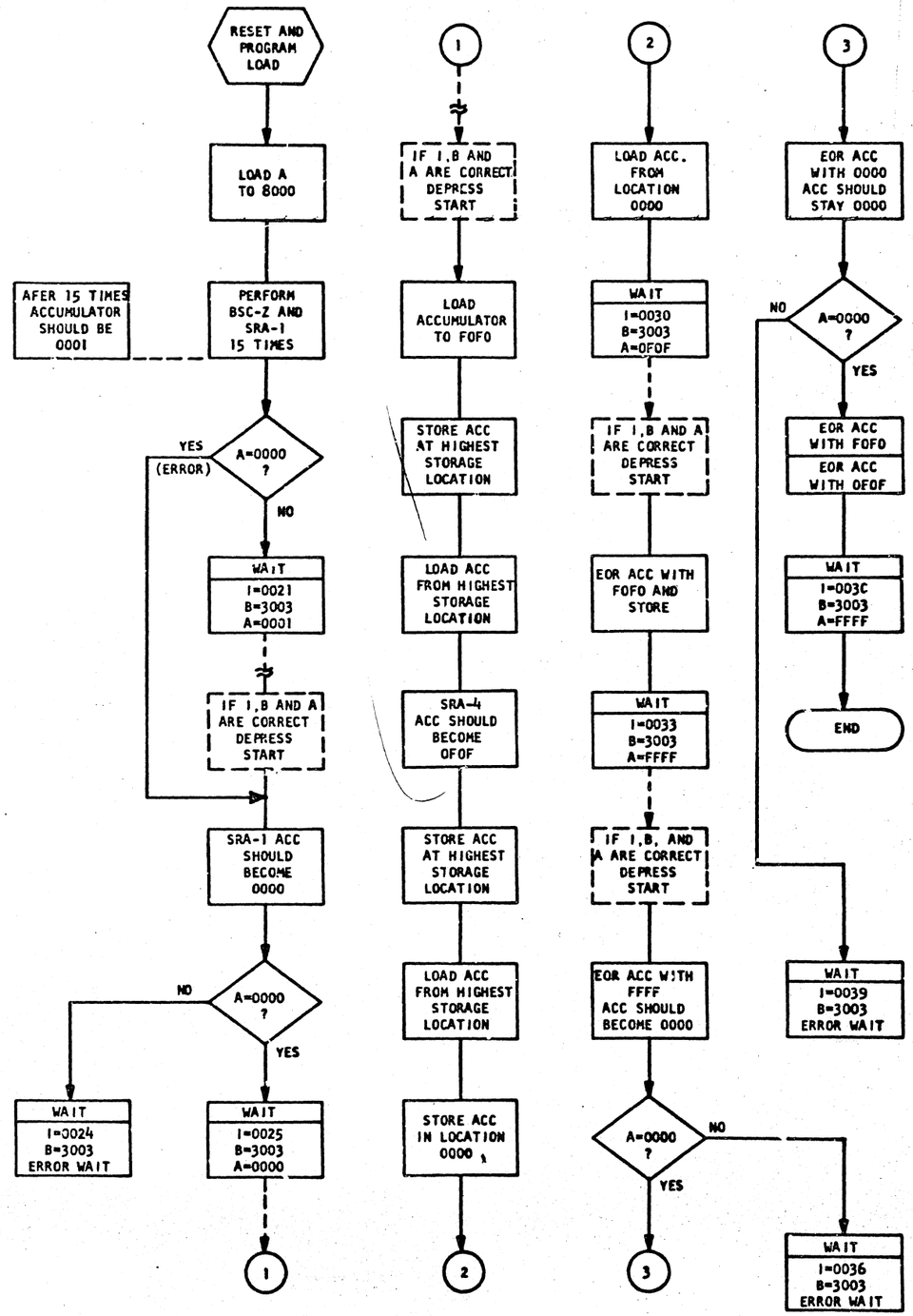

A
1-B4
2-J2
3
RESTORE INSTRUCTIONS
X10
START READ
X10
RESET DSW
X10
SENSE DSW
COLUMN REQUEST
NO
1
YES
X10
READ COL. (1/2 WORD)
FULL WORD READ ?
NO
YES
STORE WORD PER ADDRESS IN STORE
ADD 1 TO STORE
1
BUSY AND NOT READY?
YES
NO
X10
SENSE AND RESET DSW
END OF CARD ?
NO
YES
LOAD WORD COUNT (LOC 0024)
WORD COUNT = 0 ?
YES
NO
LOAD CHECKSUM WORD
ADD WORD SPECIFIED BY CKLOD+1
STORE SUM
ADD 1 TO CKLOD + 1
ALL WORDS ADDED ?
NO
YES
2
WAIT
IREG=00
BREG=3002
A REG=ERROR DSW
DEPRESS START TO CONTINUE
3
WAIT
IREG=
BREG=
DEPRESS START TO CONTINUE
3
2
CHECKSUM = 0
NO
YES
GET ADDRESS FIRST WORD IS TO BE MOVED TO
ADDRESS=0 ?
YES
NO
GET WORD FROM ADDRESS AT GET + 1
STORE WORD AT ADDRESS AT PUT + 1
ADD 1 TO GET + 1 AND PUT + 1
LOAD WORD COUNT AND COMPARE WITH GET + 1
WORD COUNT=GET+1 ?
NO
YES
B
2-A2
WAIT
IREG=
BREG=3003
HOP
BRANCH TO LOC 0000
ENTER MAIN LINE PROGRAM

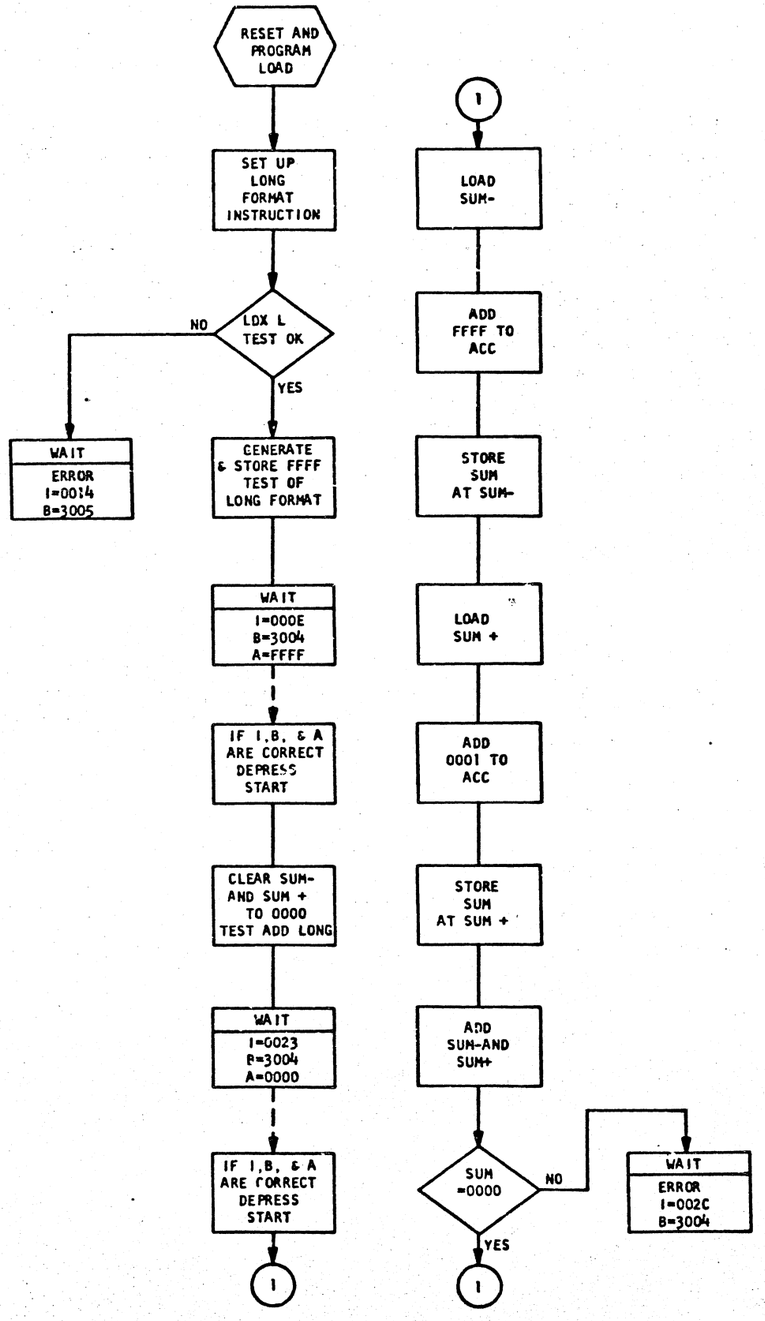

B
1A-H4
GET MOVED TO ADDRESS
GET MOVED FROM ADDRESS
LOAD MOVED TO WORD
COMPARE MOVED TO AND MOVED FROM WORDS
EQUAL?
NO
YES
ADD 1 TO MOVED TO AND MOVED FROM ADDRESSES
WAIT
IREG=
BREG=3005
ERROR WAIT DIAGNOSE AND CORRECT
LOAD MOVED FROM ADDRESS
COMPARE MOVED FROM ADDRESS AND WORD COUNT
EQUAL?
A
1A-A1

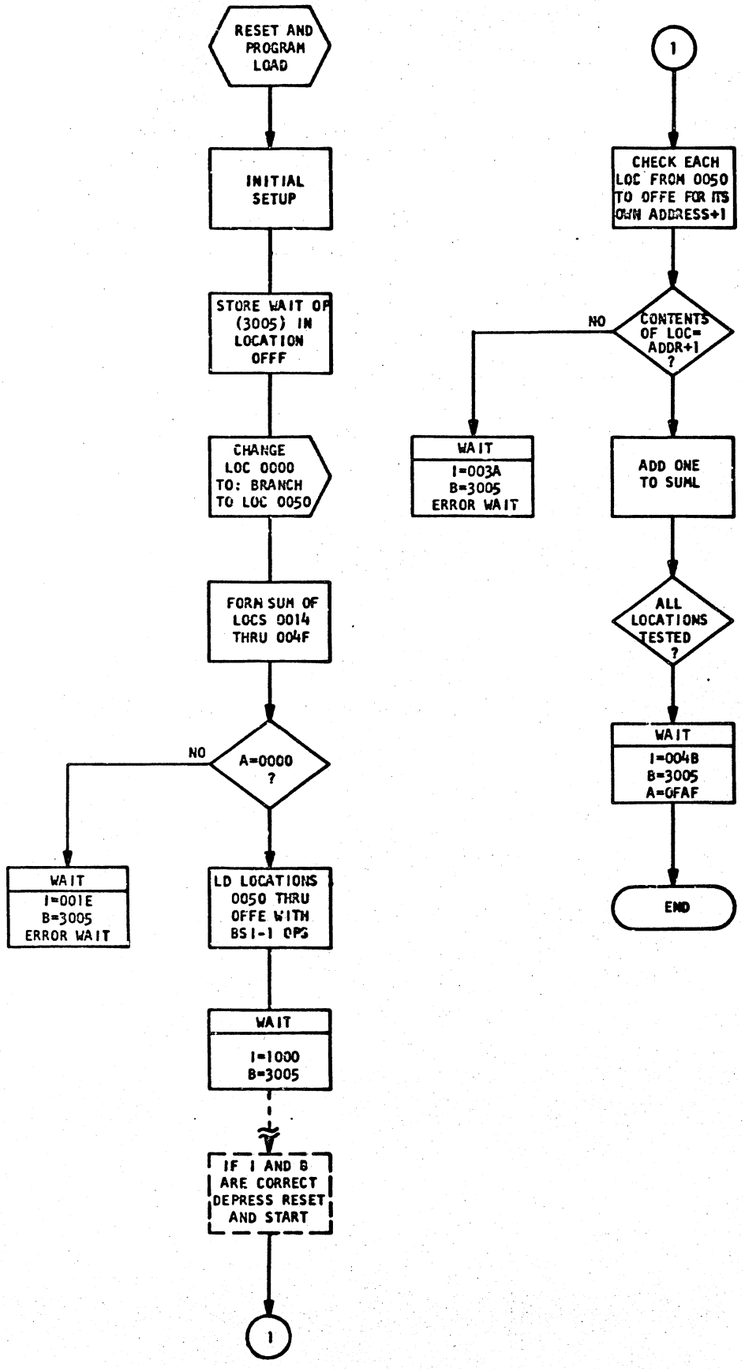

RESET AND PROGRAM LOAD
CARD 01 LOADED UNDER PROG LD
LOAD ACC. FROM LOCATION 0030
WAIT
I=0003
B=3001
A=F0F0
IF I,B, AND A CORRECT DEPRESS START
LOAD ACC FROM LOCATION 0031
WAIT
I=0004
B=3001
A=080F
IF I,B AND A CORRECT DEFRESS START
1

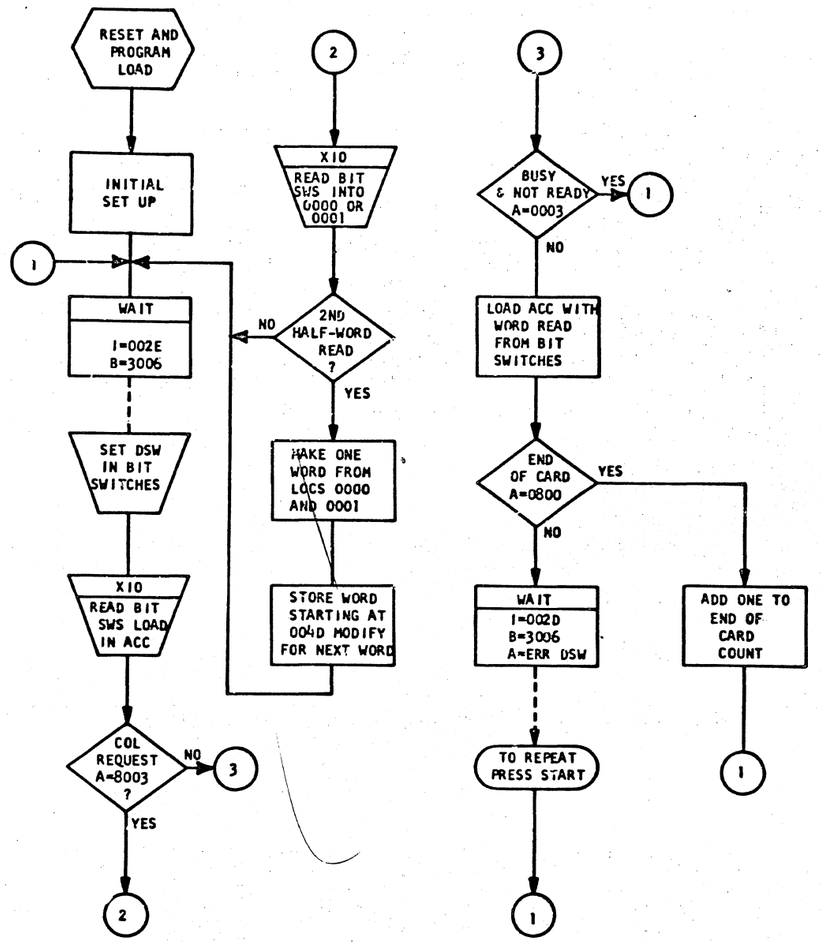

1
TEST OF MDX OPERATION
WAIT
I=0040
B=3001
IF PROGRAM STOPS HERE IT HAS RUN CORRECTLY
END

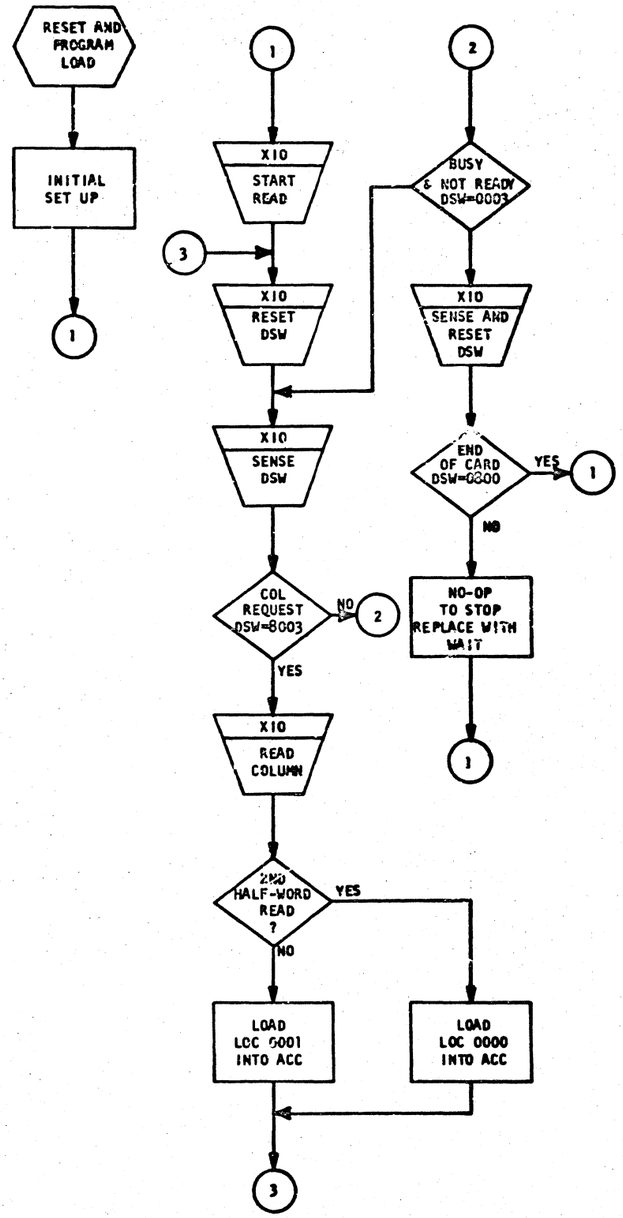

RESET AND PROGRAM LOAD
LOAD ACC. TO 0001 FROM LOC. 003F
ADD 0001 TO ACCUMULATOR 61 TIMES
WAIT
I=003F
B=3002
A=003E
IF A=003E PROGRAM PERFORMED CORRECTLY
END


RESET AND PROGRAM LOAD
LOAD A TO 8000
AFER 15 TIMES ACCUMULATOR SHOULD BE 0001
PERFORM BSC-Z AND SRA-1 15 TIMES
YES (ERROR)
A=0000 ?
NO
WAIT I=0021 B=3003 A=0001
IF I,B AND A ARE CORRECT DEPRESS START
SRA-1 ACC SHOULD BECOME 0000
NO
A=0000 ?
YES
WAIT I=0024 B=3003 ERROR WAIT
WAIT I=0025 B=3003 A=0000
1
1
IF I,B AND A ARE CORRECT DEPRESS START
LOAD ACCUMULATOR TO FOFO
STORE ACC AT HIGHEST STORAGE LOCATION
LOAD ACC FROM HIGHEST STORAGE LOCATION
SRA-4 ACC SHOULD BECOME 0F0F
STORE ACC AT HIGHEST STORAGE LOCATION
LOAD ACC FROM HIGHEST STORAGE LOCATION
STORE ACC IN LOCATION 0000
2
2
LOAD ACC. FROM LOCATION 0000
WAIT I=0030 B=3003 A=0F0F
IF I,B AND A ARE CORRECT DEPRESS START
EOR ACC WITH FOFO AND STORE
WAIT I=0033 B=3003 A=FFFF
IF I,B, AND A ARE CORRECT DEPRESS START
EOR ACC WITH FFFF ACC SHOULD BECOME 0000
A=0000 ?
NO
YES
WAIT I=0036 B=3003 ERROR WAIT
3
3
EOR ACC WITH 0000 ACC SHOULD STAY 0000
NO
A=0000 ?
YES
EOR ACC WITH FOFO
EOR ACC WITH 0F0F
WAIT I=003C B=3003 A=FFFF
END
WAIT I=0039 B=3003 ERROR WAIT

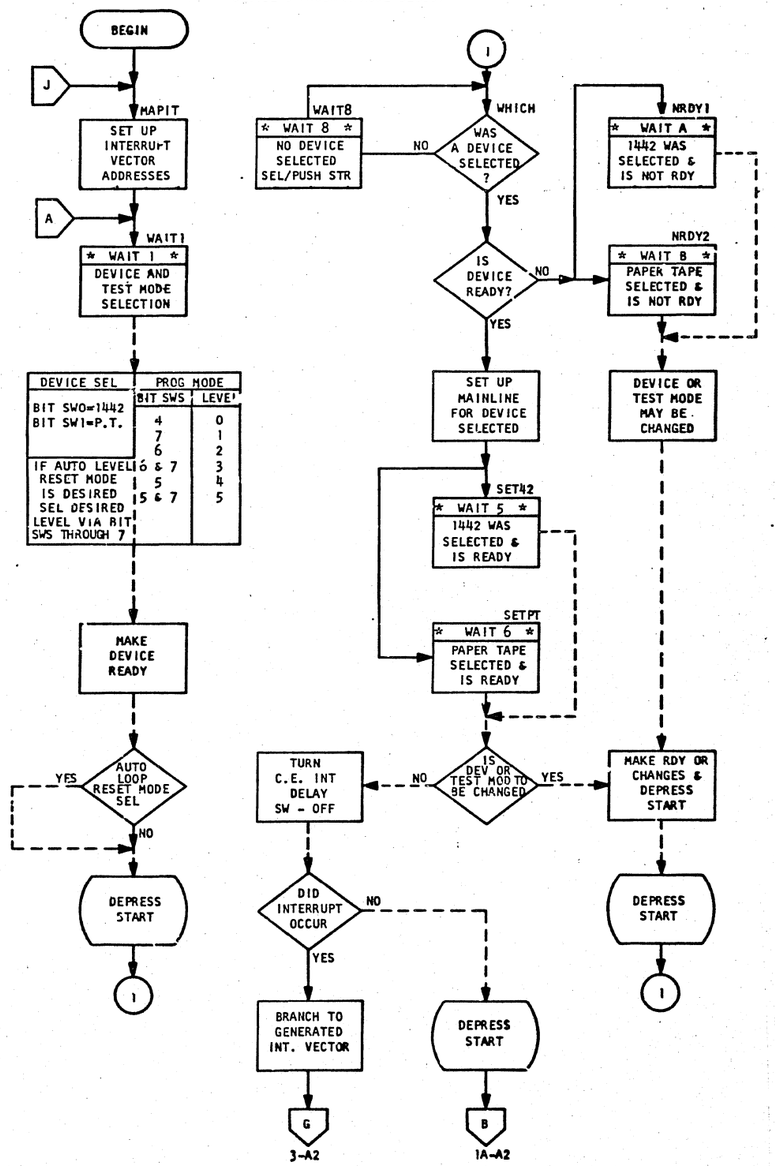

RESET AND PROGRAM LOAD
SET UP LONG FORMAT INSTRUCTION
NO
LDX L TEST OK
YES
WAIT ERROR I=0014 B=3005
GENERATE & STORE FFFF TEST OF LONG FORMAT
WAIT I=000E B=3004 A=FFFF
IF I,B, & A ARE CORRECT DEPRESS START
CLEAR SUM- AND SUM + TO 0000 TEST ADD LONG
WAIT I=0023 B=3004 A=0000
IF I,B, & A ARE CORRECT DEPRESS START
1
1
LOAD SUM-
ADD FFFF TO ACC
STORE SUM AT SUM-
LOAD SUM +
ADD 0001 TO ACC
STORE SUM AT SUM +
ADD SUM-AND SUM+
SUM =0000
NO
YES
WAIT ERROR I=002C B=3004
1


RESET AND PROGRAM LOAD
INITIAL SETUP
STORE WAIT OP (3005) IN LOCATION OFFF
CHANGE LOC 0000 TO: BRANCH TO LOC 0050
FORM SUM OF LOCS 0014 THRU 004F
A=0000 ?
NO
WAIT I=001E B=3005 ERROR WAIT
LD LOCATIONS 0050 THRU OFFE WITH BSI-1 OPS
WAIT I=1000 B=3005
IF I AND B ARE CORRECT DEPRESS RESET AND START
1
1
CHECK EACH LOC FROM 0050 TO OFFE FOR ITS OWN ADDRESS+1
CONTENTS OF LOC= ADDR+1 ?
NO
WAIT I=003A B=3005 ERROR WAIT
ADD ONE TO SUML
ALL LOCATIONS TESTED ?
WAIT I=004B B=3005 A=0FAF
END

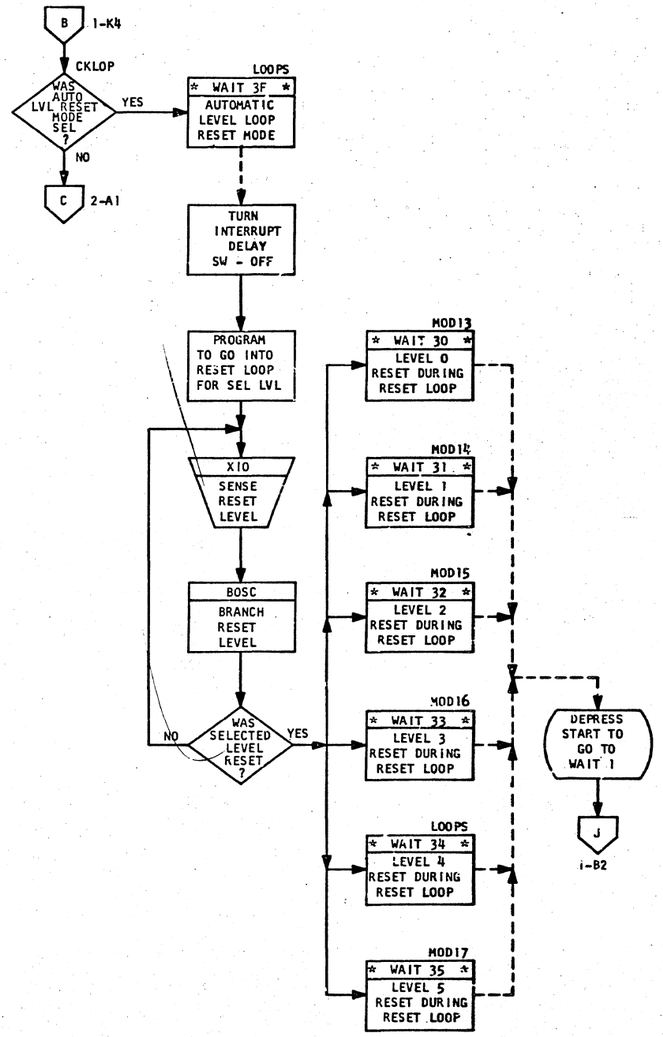

RESET AND PROGRAM LOAD
INITIAL SET UP
1
WAIT I=002E B=3006
SET DSW IN BIT SWITCHES
X10 READ BIT SWS LOAD IN ACC
COL REQUEST A=8003 ?
NO
3
YES
2
2
X10 READ BIT SWS INTO 0000 OR 0001
2ND HALF-WORD READ ?
NO
YES
MAKE ONE WORD FROM LOCS 0000 AND 0001
STORE WORD STARTING AT 004D MODIFY FOR NEXT WORD
3
BUSY & NOT READY A=0003
YES
1
NO
LOAD ACC WITH WORD READ FROM BIT SWITCHES
END OF CARD A=0800
YES
NO
WAIT I=002D B=3006 A=ERR DSW
TO REPEAT PRESS START
1
ADD ONE TO END OF CARD COUNT
1


RESET AND PROGRAM LOAD
INITIAL SET UP
1
X10 START READ
3
X10 RESET DSW
X10 SENSE DSW
COL REQUEST DSW=8003
NO
2
YES
X10 READ COLUMN
2ND HALF-WORD READ ?
YES
NO
LOAD LOC 0001 INTO ACC
LOAD LOC 0000 INTO ACC
3
2
BUSY & NOT READY DSW=0003
X10 SENSE AND RESET DSW
END OF CARD DSW=0300
YES
1
NO
NO-OP TO STOP REPLACE WITH WAIT
1

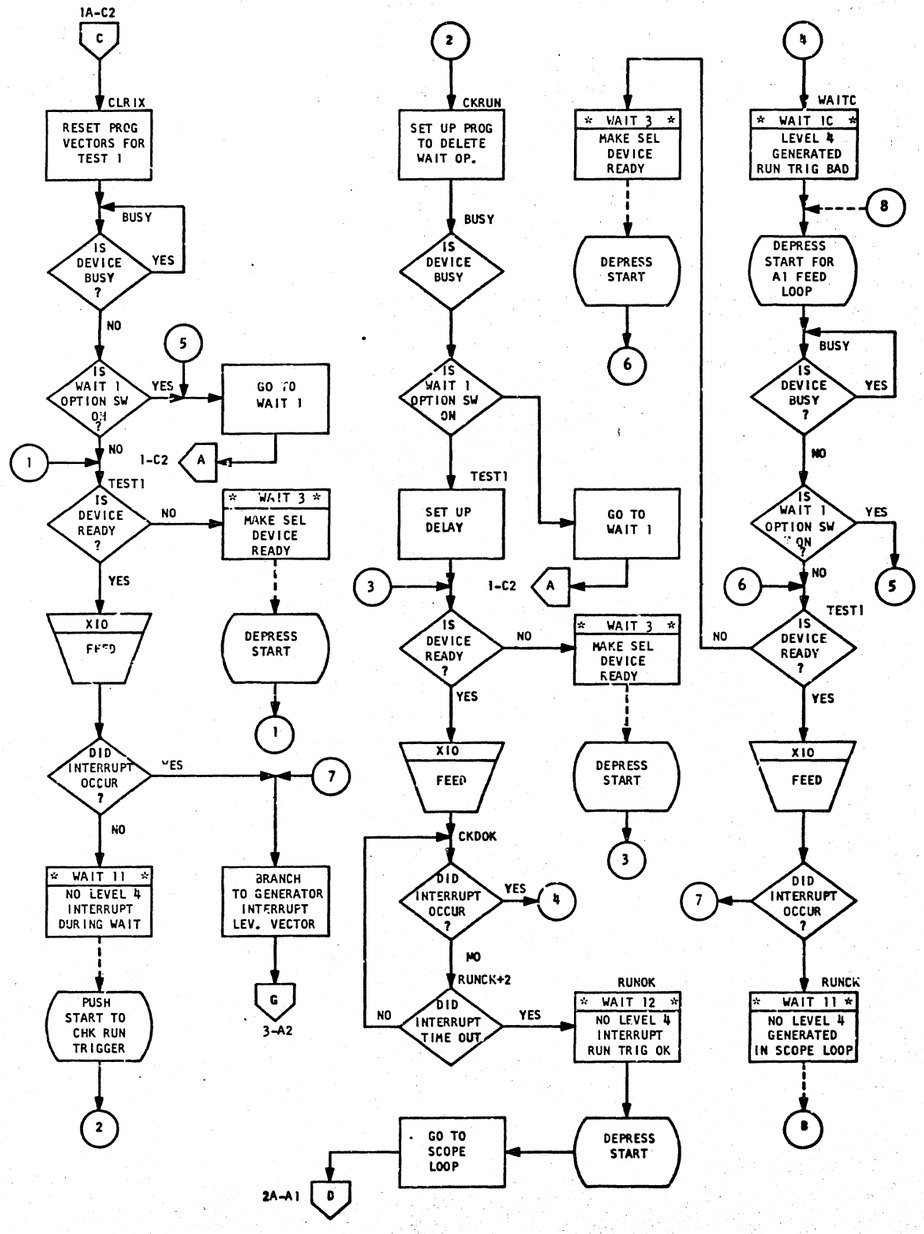
DEVICE & PROGRAM MODE SELECT



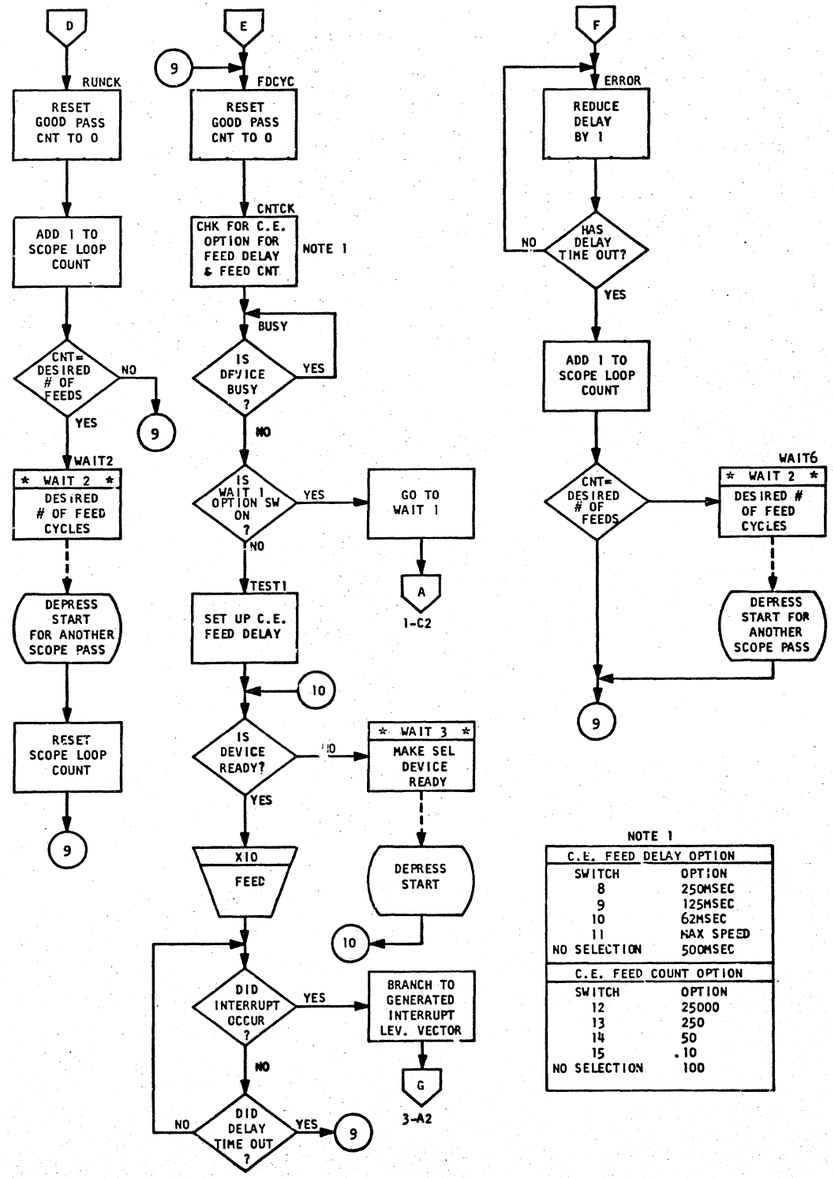
AUTOMATIC LEVEL RESET MODE



TEST 1 MAINLINE & NO INTERRUPT ROUTINE



TEST 1 SCOPE LOOP ROUTINE

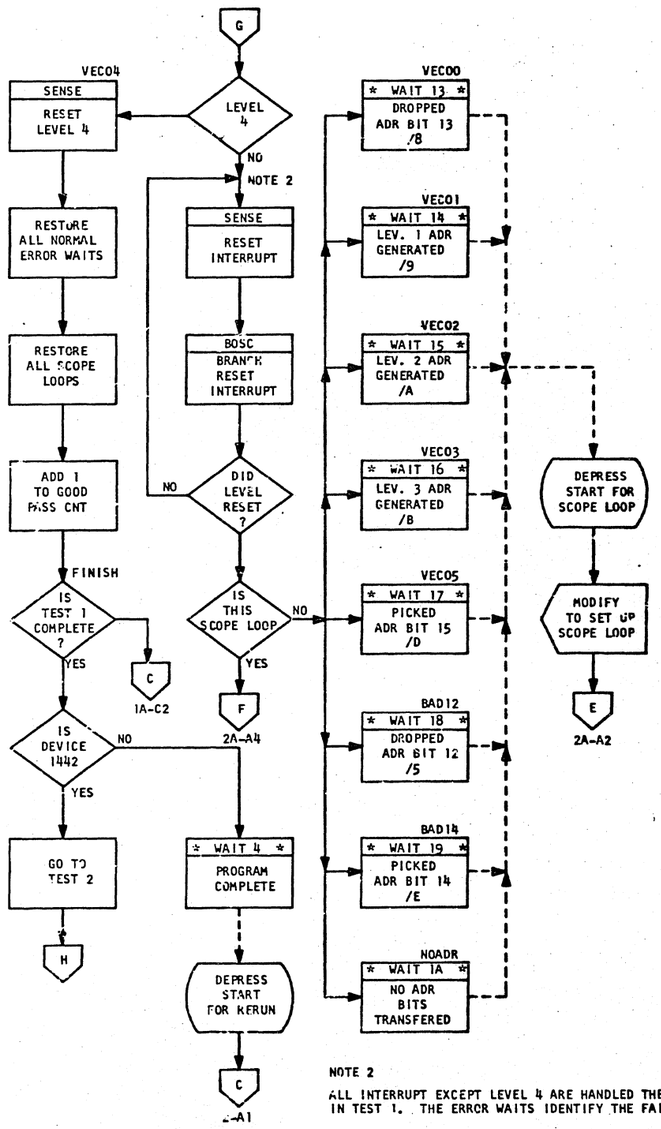


NOTE 1

C.E. FEED DELAY OPTION	
SWITCH	OPTION
8	250MSEC
9	125MSEC
10	62MSEC
11	MAX SPEED
NO SELECTION	500MSEC

C.E. FEED COUNT OPTION	
SWITCH	OPTION
12	25000
13	250
14	50
15	.10
NO SELECTION	100

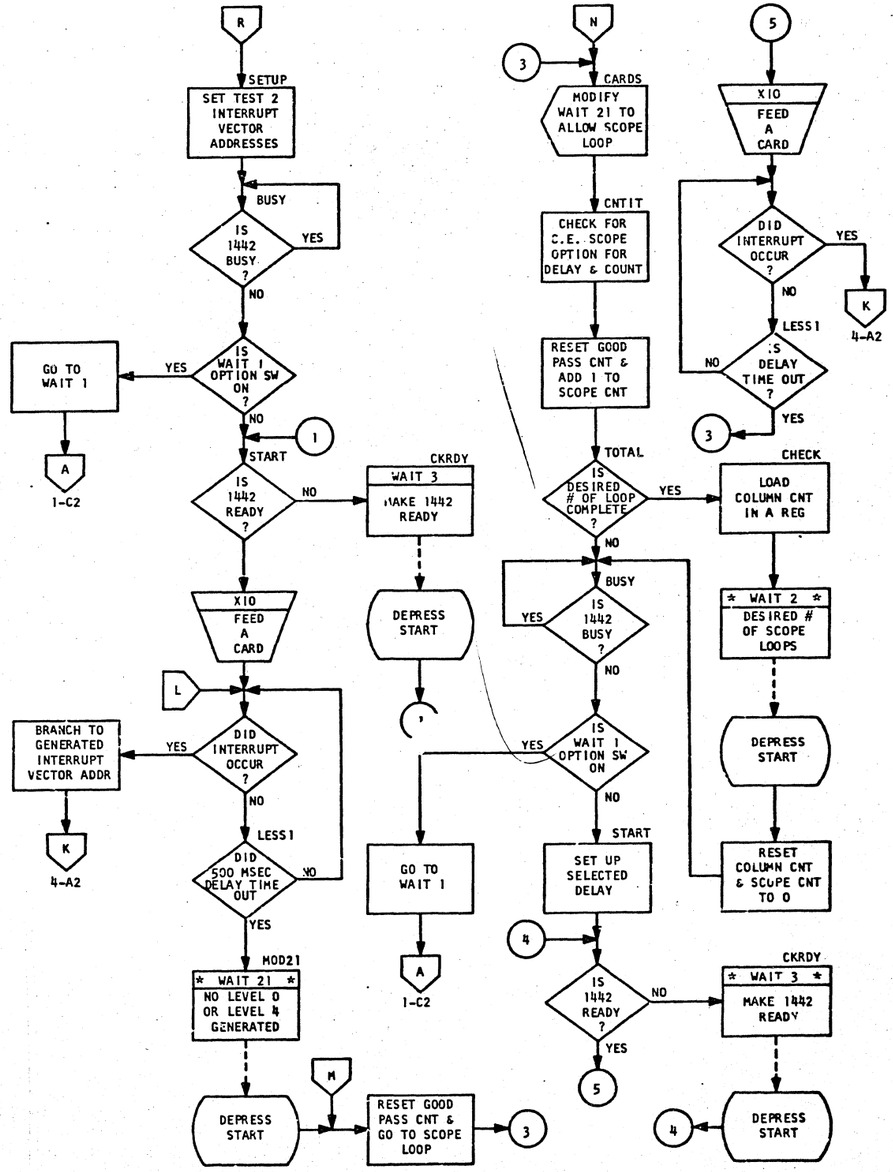
TEST 1 INTERRUPT ROUTINES



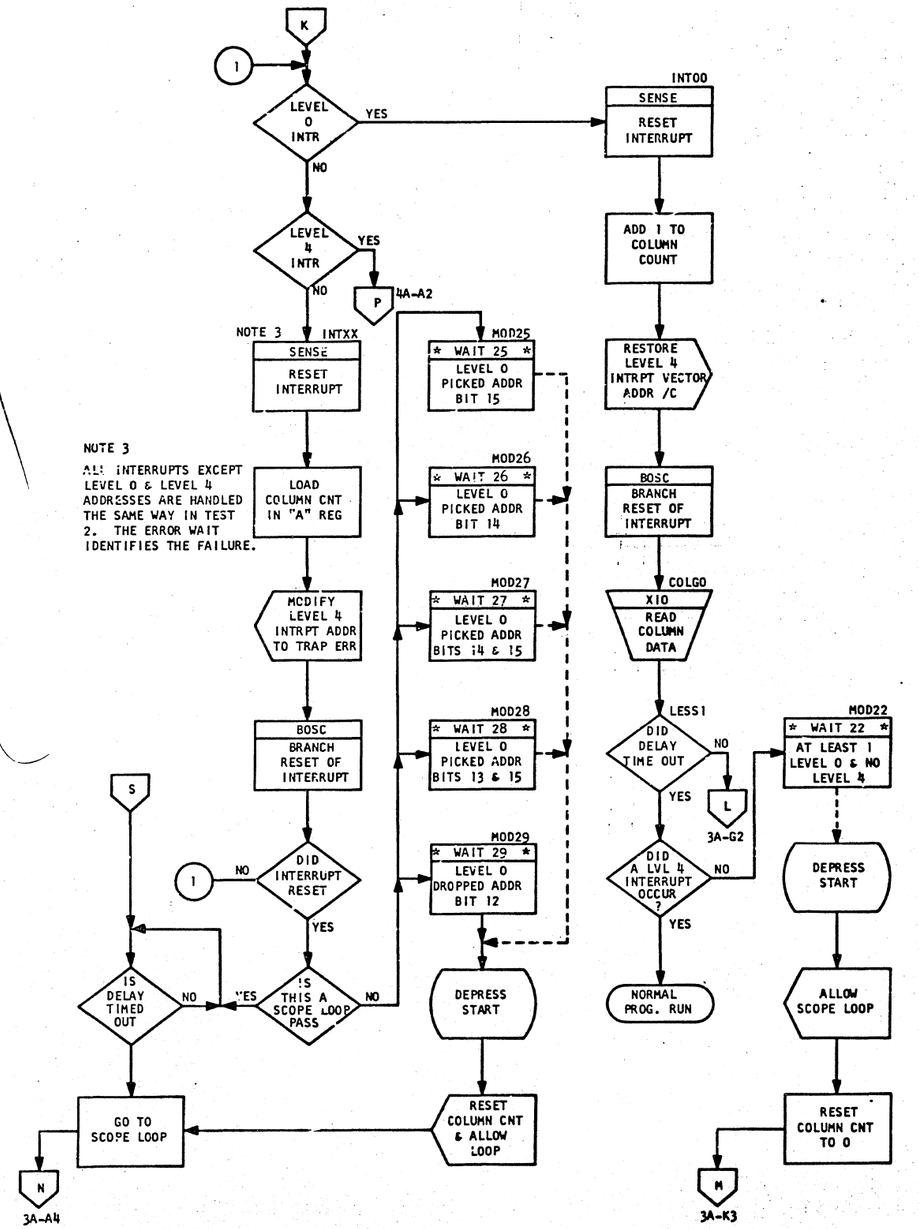
NOTE 2

ALL INTERRUPT EXCEPT LEVEL 4 ARE HANDLED THE SAME WAY IN TEST 1. THE ERROR WAITS IDENTIFY THE FAILURE.

TEST 2 MAINLINE SCOPE LOOP, & NO INTERRUPT ROUTINE



INTERRUPT ROUTINES



NOTE 3

ALL INTERRUPTS EXCEPT LEVEL 0 & LEVEL 4 ADDRESSES ARE HANDLED THE SAME WAY IN TEST 2. THE ERROR WAIT IDENTIFIES THE FAILURE.

INTERRUPT 4 & 80 COLUMN CHECK ROUTINES