IPLCD listing

for DIGI 24/5/72

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0000 0000          IDENT   IPLCD
0001 0001 ASR      EQU     /0010
0002 0002 PTR      EQU     /0020
0003 0003 S        EQU     1
0004 0004 H        EQU     0
0005 0005          LDK.L   A13,OUTMSG
0006 0006          LDK     A6,2
0007 0007 INR      INR     A2,0,PTR
0008 0008          RB(4)   *-2              INPUT  CKSUM
0009 0009          ANK     A2,/FF
0010 0010          SLL     A5,8
0011 0011          ADR     A5,A2
0012 0012          SUK     A6,1
0013 0013          RB(4)   INR
0014 0014          CIO     A2,H,PTR
0015 0015          SST     A2,PTR
0016 0016          RB(4)   *-2
0017 0017          LDK.L   A14,CFZON
0018 0018          XRR     A1,A5
0019 0019          RF(0)   CKOK             TEST  IF  CKSUM  0.K.
0020 0020 ERCKSM   LDK.L   A1,CKERMG
0021 0021          LDK     A2,12
0022 0022          CFR     A14,A13
0023 0023          HLT                      YOU BETTER RELOAD BY BOOTSTRAP
0024 0024 CKERMG   DATA    'BOOT CK ER'
0025 0025          DATA    /0D0A
0026 0026 SYSMSG   DATA    'SYSTEM TAPE ON READER,PLEASE'
0027 0027          DATA    /0D0A
0028 0028 STAD     EQU     *
0029 0029 ECMSG    DATA    'EC'
0030 0030          DATA    X'0D0A'
0031 0031 OFLMSG   DATA    '0VFL'
0032 0032          DATA    /0D0A
0033 0033          RES     4
0034 0034 CFZON    EQU     *-2
0035 0035 OUTMSG   LDK     A3,0             THIS ROUTINE OUTPUT A MESSAGE ON ASR
0036 0036          CIO     A3,S,ASR         CALL PARAMETERS : A1= ADDRASS OF BUFFER
0037 0037          LCR     A3,A1                              A2= CHARACTER NUMBER
0038 0038 OTR      OTR     A3,0,ASR
0039 0039          RB(4)   *-2
0040 0040          ADK     A1,1
0041 0041          SUK     A2,1
0042 0042          RB(4)   OTR-2
0043 0043          CIO     A3,H,ASR
0044 0044          SST     A3,ASR
0045 0045          RB(4)   *-2
0046 0046          RTN     A14
0047 0047 CKOK     LDK.L   A1,SYSMSG        'SYSTEM TAPE ON READER,PLEASE'
0048 0048          LDK     A2,30
0049 0049          CFR     A14,A13
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0050  0050            LDK.L   A9,/40      BASE ADDRESS FOR SYSTEM !
0051  0051            HLT
0052  0052            CF      A14,MNLD    CALL MNLD TO LOAD THE SYSTEN
0053  0053  *                             WHEN WE RETURN EOF HAS BEEN READ
0054  0054                                ON INPUT TAPE
0055  0055            ABI     COREND      GO TO SYSTEM INITIALISATOR PART
0056  0056  BADDR     DATA    0
0057  0057  ********************************************************************************
0058  0058  * THIS SEQUENCE READS THE OBJECT CODE IN THE 4-4-4-4 FORMAT  IN THE 8+8 FORMAT
0059  0059  RAFL      LDK     A3,0
0060  0060            LDK     A7,0
0061  0061            LDK.L   A5,BUFF
0062  0062            LDK     A6,0
0063  0063  * THIS SEQUENCE IS ONLY AVAILABLE ON THE PAPER READER
0064  0064            CIO     A6,S,PTR
0065  0065  INP2      INR     A2,0,PTR
0066  0066            RB(4)   *-2
0067  0067            RF(7)   SWITCH
0068  0068  OBJINP    CWR     A7,A1       > = max size of BUFF
0069  0069            RF(0)   END2
0070  0070            SCR     A2,A5
0071  0071            XRR     A4,A2
0072  0072            ADK     A5,1
0073  0073            CWK     A7,1
0074  0074            RF(4)   OBJIN1
0075  0075            LDK     A4,0
0076  0076            LDR     A1,A2
0077  0077            ADR     A1,A2
0078  0078            ADK     A1,3
0079  0079  OBJIN1    ADK     A7,1
0080  0080            RB(7)   INP2
0081  0081  FIRST     ANK     A2,/F       A2 = word count of the cluster
0082  0082            LDK     A1,80
0083  0083            RB(7)   OBJINP
0084  0084  END2      CIO     A2,H,PTR
0085  0085            SST     A1,PTR
0086  0086            RB(4)   *-2
0087  0087            ANK     A4,/FF
0088  0088            RF(0)   PROLO1+2    O.K.  NO ERROR
0089  0089            LDK.L   A1,ECMSG
0090  0090            LDK     A2,4
0091  0091            CF      A14,OUTMSG
0092  0092  STOP      HLT
0093  0093            RB(7)   RAFL        * IF YOU RESTART,YOU READ AGAIN
0094  0094  ASCINP    CWK     A2,/0D      * CR
0095  0095            RF(0)   END1
0096  0096            CWK     A7,68       > max size of BUFF -2 char
0097  0097            RB(0)   INP2
0098  0098            SCR     A2,A5
0099  0099            ADK     A5,1
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0100  0100            ADK       A7,1
0101  0101            RB(7)     INP2
0102  0102  END1      CIO       A2,H,PTR
0103  0103            SST       A2,PTR
0104  0104            RB(4)     *-2
0105  0105            LDK.L     A1,BUFF
0106  0106            LDR       A2,A7
0107  0107            LDK.L     A3,/0D0A
0108  0108            ST        A3,BUFF,A2
0109  0109            ADK       A2,2
0110  0110            CFR       A14,A13
0111  0111            LDK.L     A2,BUFF
0112  0112            LDR*      A3,A2
0113  0113            CWK       A3,/3A45          *:E
0114  0114            RB(4)     RAFL
0115  0115            ADK       A2,2
0116  0116            LDR*      A3,A2
0117  0117            CWK       A3,/4F46     *OF
0118  0118            RB(4)     RAFL
0119  0119            RTN       A14          EOF READ , RETURN
0120  0120  SWITCH    ADK       A3,0
0121  0121            RB(1)     OBJINP
0122  0122            ANK       A2,/7F  → 1FF
0123  0123            RB(0)     INP2 → 165 ← NUL
0124  0124            CWK       A2,/7F → 1FF
0125  0125            RB(0)     INP2  ← DELETE
0126  0126            ADK       A3,0
0127  0127            RB(2)     ASCINP  → 11F ?
0128  0128            CWK       A2,/18
0129  0129            RF(1)     ASCII
0130  0130            CWK       A2,/14 — XOFF ?
0131  0131            RF(1)     OBJEC
0132  0132            CWK       A2,5
0133  0133            RF(2)     OBJEC
0134  0134            CWK       A2,/10
0135  0135            RB(4)     INP2
0136  0136  OBJEC     ADK       A3,1          * OBJECT
0137  0137            RB(7)     FIRST
0138  0138  ASCII     SUK       A3,1
0139  0139            RB(7)     ASCINP → 194
0140  0140  *
0141  0141  *
0142  0142  *PROCESS LOADING  :  THIS  MODULE  READ A  CLUSTER
0143  0143  *         AND BRANCH ACCORDING TO  THE  CLUSTER  TYPE
0144  0144  *
0145  0145  *         ON  EXIT    A1= BUFF ADDRESS  PLUS ONE
0146  0146  *                     A2= WORD COUNT
0147  0147  *                     A3= TYPE
0148  0148  *         THE  TYPE  MUST BE    3,4,7   IF NOT THIS : HALT
0149  0149  ************************************************************************************
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0150  0150  PROLO    LDK.L    A10,STAD      END ADDRESS 1ST CELL NON FREE
0151  0151           LDK.L    A13,OUTMSG
0152  0152  ABA      EQU      0
0153  0153           ST       A9,BADDR      BADDR = BASE ADDRESS  (1ST CELL FREE)
0154  0154  PROGLD   INH
0155  0155  PROL01   RB(7)    RAFL          READ A CLUSTER
0156  0156           LDK.L    A1,BUFF
0157  0157           LDK      A4,1
0158  0158           LCR      A3,A1         A3 = TYPE
0159  0159           ADK      A1,1
0160  0160           LCR      A2,A1         A2= WORD COUNT
0161  0161           ADK      A1,1
0162  0162           CWK      A3,3
0163  0163           RF(0)    CLCODE        BRANCH ON  CLUSTER CODE
0164  0164           CWK      A3,4
0165  0165           RF(0)    CLIMOD                      INTERNAL MODIFICATION
0166  0166           CWK      A3,7
0167  0167           RF(0)    CLEND                       END/START
0168  0168           RB(7)    PROL01
0169  0169  *
0170  0170  CLC01    RB(7)    STOP=10
0171  0171  *
0172  0172  *
0173  0173           EJECT
0174  0174  *
0175  0175  ********************************************************************************
0176  0176  ********************************************************************************
0177  0177  *CLUSTER CODE  (TYPE 3)
0178  0178  *          UPON ENTRY : A1=ADDRESS OF  BUFF+1 (RBK)
0179  0179  *                       A2= WORD COUNT
0180  0180  *                       A9= BADDRESS
0181  0181  *                       A10=ENDADDRESS
0182  0182  ********************************************************************************
0183  0183  *
0184  0184  *
0185  0185  CLCODE   LD       A3,BUFF+6
0186  0186           RB(4)    PROL01        EMBK SET SKIP THE CLUSTER
0187  0187  CLC01A   LD       A3,BUFF+4
0188  0188           TM       A3,A4         IS IT RELOCATABLE SECTION
0189  0189           RF(0)    CLC02         NO
0190  0190           ADR      A3,A9         YES
0191  0191           RF(7)    CLC04
0192  0192  CLC02    LDK.L    A9,ABA
0193  0193  CLC04    LDR*     A5,A1         A5 =(RBK)
0194  0194           ADK      A1,6          A1 = ADDRESS OF FIRST CODE WORD  IN BUFF
0195  0195           SUK      A2,3          A2 = NUMBER  OF  CODE  WORD
0196  0196  *                               A3 = STORAGE ADDRESS
0197  0197  *                               A4 = MASK  FOR RBK
0198  0198  *                               A6= CODE WORD
0199  0199  CLC05    SRC1     A4
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0200  0200            LDR*      A6,A1
0201  0201            CWR       A3,A9         TEST IF
0202  0202            RB(2)     CLC01         ADDRESS  IS WITHIN
0203  0203            CWR       A3,A10        LIMITS  ,  YES   STORE
0204  0204            RB(6)     CLC01                    NO    HALT
0205  0205            TM        A5,A4
0206  0206            RF(0)     CLC07
0207  0207            ADR       A6,A9
0208  0208  CLC07      STR       A6,A3         YES STORE CODE WORDS
0209  0209            ADK       A1,2          UPDATE
0210  0210            ADK       A3,2
0211  0211  *                                   POINTERS
0212  0212            SUK       A2,1
0213  0213            RB(4)     CLC05
0214  0214            RB(7)     PROL0
0215  0215  *
0216  0216  *
0217  0217          EJECT
0218  0218  *
0219  0219  ********************************************************************************************
0220  0220  ********************************************************************************************
0221  0221  *INTERNAL MODIFICATION CLUSTERS
0222  0222  *
0223  0223  *         UPON ENTRY : A1 = ADDRESS OF  BUFF+1 (RBK)
0224  0224                          A2 = WORD  COUNT
0225  0225                          A9 = BASE  ADDRESS
0226  0226                          A10= END   ADDRESS
0227  0227  ********************************************************************************************
0228  0228  CLIMOD    LDK       A7,1          A7= MASK FOR ADDRESS
0229  0229            LDR*      A5,A1          A5= (RBK)
0230  0230            SUK       A2,1
0231  0231  CLIM1     SRC1      A4
0232  0232            ADK       A1,2
0233  0233            LDR*      A3,A1          A3 = ADDRESS
0234  0234            TM        A3,A7          IS IT RELOCATABLE
0235  0235            RF(0)     CLIM2          NO
0236  0236            ADR       A3,A9          YES  ADD  BASE
0237  0237            CWR       A3,A9
0238  0238            RB(2)     CLC01         TEST IF
0239  0239            CWR       A3,A10        ADDRESS  O.K.
0240  0240            RB(6)     CLC01         NO  HALT
0241  0241  CLIM2     ADK       A1,2          YES
0242  0242            LDR*      A6,A1         TAKE   CODE  VORD
0243  0243            TM        A5,A4         IS IT RELOCATABLE
0244  0244            RF(0)     CLIM3         NO
0245  0245            ADR       A6,A9
0246  0246  CLIM3     STR       A6,A3         YES  STORE  CODE WORD
0247  0247  *                                 UPDATE
0248  0248            SUK       A2,2          POINTERS
0249  0249            RB(4)     CLIM1         CONTINUE
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0250  0250          RB(7)    PROLO
0251  0251  *
0252  0252  *
0253  0253          EJECT
0254  0254  *
0255  0255  ********************************************************************************************
0256  0256  ********************************************************************************************
0257  0257  * CLUSTER   END/START
0258  0258  *         UPON  ENTRY      A1 = ADDRESS  OF BUFF+1  (START ADDRESS)
0259  0259  *                          A2 = WORD COUNT
0260  0260  *                          A9 = BADDRESS
0261  0261  *                          A10= ENDADDRESS
0262  0262  CLEND     LDR*     A3,A1
0263  0263          RF(0)    CLEN3A        FINISHED   NO  START ADDRESS
0264  0264          TM       A3,A4         IS START ADDRESS RELOCATABLE
0265  0265          RF(0)    CLEN1
0266  0266          ADR      A3,A9
0267  0267          CWR      A3,A9
0268  0268          RB(2)    CLCO1         TEST  IF  ADDRESS
0269  0269          CWR      A3,A10
0270  0270          RB(6)    CLCO1         CORRECT , NO HALT
0271  0271  CLEN1    ANK,L    A3,/FFFE
0272  0272          ST       A3,COREND
0273  0273  CLEN3A   LD       A1,BUFF+6     UPDATE BASE ADDRESS
0274  0274          AD,S     A1,BADDR
0275  0275          ADR      A9,A1
0276  0276          CWR      A9,A10
0277  0277          RB(2)    PROLO
0278  0278          LDK,L    A1,OFLMSG
0279  0279          LDK      A2,6
0280  0280          CFR      A14,A13
0281  0281          HLT                    OVERFLOW ON LENGTH
0282  0282
0283  0283  *
0284  0284  ********************************************************************************************
0285  0285  *
0286  0286  BUFF     RES      35
0287  0287          DATA     /FFFF
0288  0288  COREND   DATA     0
0289  0289  *
0290  0290  *
0291  0291  ********************************************************************************************
0292  0292  MNLD     EQU      PROLO
0293  0293          END
0294  0294  :EOS
0295  0295  :EOF
```